

	Potentially Significant Impact	Less than Significant Impact With Mitigation Incorporated	Less than Significant Impact	No Impact
<p>II. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:</p>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

EXISTING SETTING

Several parcels within the annexation area are currently zoned Agriculture by Alameda County, including the Mohr-Fry Estate property in the West-Mohr island and four parcels on the west side of the Mohr-Depot island. Of these parcels, only the Mohr-Fry Estate property has existing agricultural uses, roughly comprising the northern half of the parcel. The four parcels on the west side of the Mohr-Depot island have existing single-family residential and industrial uses.

The City of Hayward is a highly urbanized community and, with the exception of the Mohr-Fry Estate property, the annexation area does not contain farmland, nor is it near to any other ongoing agricultural operations. The Hermann-Mohr (Horizon Services) property is not currently zoned Agriculture by Alameda County. However, the Hermann-Mohr and the Mohr-Fry Estate properties are both pre-zoned Agriculture by the City of Hayward for historic preservation purposes, as shown previously in **Figure 7**.

STANDARDS OF SIGNIFICANCE

Significance is based on current and historical land use in regard to agricultural operations as well as soil classifications to determine farmland importance. Significant impacts to agricultural resources could occur if parcels in the annexation area classified as farmland, were contracted under the Williamson Act, or were located near other agricultural operations.

IMPACT DISCUSSION

a, b, c) No Impact. The City of Hayward is a highly urbanized community with a well-established land use pattern that is unlikely to change in any significant way. The annexation area does not contain Prime Farmland, Unique Farmland or Farmland of Statewide Importance, or any land under a Williamson Act contract. The annexation area was previously used for agricultural purposes in the early 1900's, but with the exception of the Mohr-Fry Estate property (which has approximately nine acres of farmland), the annexation area does not contain farmland at this time, nor is it near to any ongoing agricultural operations. The Chabot College and Mohr-Fry properties and four parcels on the west side of the Mohr-Depot island are currently zoned Agriculture by Alameda County. However, the existing uses, with the exception of the acreage on the Mohr-Fry Estate property, are public facilities on the Chabot College property, and residential on the four parcels on the west side of the Mohr-Depot island. Therefore, the City of Hayward pre-zoned the annexation area parcels in a manner consistent with and appropriate to the existing and surrounding land uses.

The pre-zoning is also based on the *City of Hayward General Plan* land use designations and on the *Mt. Eden Neighborhood Plan*. The two properties within the annexation area that are pre-zoned Agriculture are the Mohr-Fry Estate property, which contains farmland, and Hermann-Mohr property, which contains the Horizon Services facilities. These properties are pre-zoned Agriculture to preserve the agriculturally-related potentially historic resources existing onsite, in compliance with Policy 5.b of the *Mt. Eden Neighborhood Plan*, which states, "*Mt. Eden's identity should be conserved through the active preservation of historic resources and landmarks.*" The Agricultural zoning reduces the development potential on the properties, allowing for ongoing protection of the historic buildings and uses onsite.

Horizon Services, located on the Hermann-Mohr property, is currently operating with a use permit issued by the County, and would continue operating under that permit once annexed by the City. Both the Hermann-Mohr property and the Mohr-Fry Estate property were evaluated for historic significance, and it was found that both could be locally significant resources. The City's Agriculture zoning district would allow for the protection of the potential resources for future restoration opportunities. No development is being proposed as a part of the annexation process, and therefore the existing structures located on both of the pre-zoned Agriculture properties are not anticipated to expand and the existing farmland located on the Mohr-Fry Estate property would maintain its current use. Therefore, implementation of the proposed project is anticipated to have no impact on agricultural resources.

	Potentially Significant Impact	Less than Significant Impact With Mitigation Incorporated	Less than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Would the project substantially increase greenhouse gas emissions or expose people to substantial impacts from global climate change	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

EXISTING SETTING

The proposed annexation area is located in Alameda County, which is under the jurisdiction of the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB is comprised of Alameda, Contra Costa, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma, and the southwestern portion of Solano County. The Bay Area Air Quality Management District (BAAQMD) is the primary local agency with respect to the maintenance of air quality conditions within the SFBAAB.

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, together with the current regulatory structure that applies to the San Francisco Bay Area Air Basin (SFBAAB) pursuant to the regulatory authority of the San Francisco Bay Area Air Quality Management District (BAAQMD).

AMBIENT AIR QUALITY

Ambient air quality is commonly characterized by climatological conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. Physical and meteorological conditions affecting pollutant concentrations and dispersion in the annexation area are discussed in more detail, as follows:

The annexation area is located within the Southwestern Alameda County subregion of the San Francisco Bay Area Air Basin. This region encompasses the low-lying area on the southeast side of the San Francisco Bay, from south of Hwy 580/Dublin Canyon to north of Milpitas. The region is bordered on the east by the 1,600-foot East Bay Hills, and on the west by the Bay. Most of the area is very flat. The cities in this region are San Lorenzo, Hayward, Union City, Newark, and Fremont (BAAQMD, 2009).

Situated between the western and eastern portions of the Coast Range, this region is protected from the direct effects of the marine air flow. Marine air entering through the Golden Gate is forced to diverge into northerly and southerly paths because of the blocking effect of the east bay hills. The southern flow is directed southeasterly down the bay, parallel to the hills, where eventually it passes over southwestern Alameda County. These sea breezes are strongest in the afternoon. The further from the ocean the marine air travels, the more it is modified. Thus, although the climate in this region is affected by sea breezes, it is affected less so than the regions closer to the Golden Gate, to the north (BAAQMD, 2009).

The climate of southwestern Alameda County is also modified by its close proximity to the San Francisco Bay. Evaporation from the bay will cool the air in contact with it during warm weather, while during cold weather; the bay can act as a heat source. The normal northwest wind pattern will then carry this air onshore. During periods of flat pressure gradients, the bay can generate its own circulation system. This bay breeze, similar to the sea breeze, pushes cool air onshore during the daytime and draws air from the land offshore at night. Bay breezes are common in the morning, before the sea breeze begins (BAAQMD, 2009).

Winds are predominantly out of the northwest quadrant in this region, particularly during summer months. In the winter, winds are equally likely out of the east. Cold air over land areas creates high pressure to the east, which forces air toward the west. Easterly surface flow into southern Alameda County passes through three major gaps: Hayward/Dublin Canyon, Niles Canyon, and Mission Pass. Areas north of the gaps then experience southeast winds, while areas south of the gaps experience northeast winds. Wind speeds are moderate in this region. Annual average wind speeds close to the bay are about 7 mph, while further inland at Fremont they are 6 mph (BAAQMD, 2009).

Air temperatures are moderated by both the proximity to the bay and to the sea breeze. Temperatures in this region are slightly cooler in the winter and slightly warmer than east bay cities to the north. Average daily maximum temperatures in winter at Newark are in the high 50's to 60 degrees. During the summer months, average daily maximum temperatures are in the mid 60's. Average minimum temperatures are in the low 40's in winter and mid-50's in the summer (BAAQMD, 2009).

Rainfall amounts in the region are lower than other east Bay sites to its north. Areas near the bay, such as Newark have lower rainfall amounts because of the rain shadow effect of the Santa Cruz Mountains. Newark annual rainfall is 14 inches. Areas closer to the hills have higher rainfall amounts because they are further from the Santa Cruz Mountains and because of orographic

effects. That is, air that is forced to ascend the mountains will cool and condense, leading to increased rain (BAAQMD, 2009).

Pollution potential is relatively high in this region during summer and fall months. When high pressure dominates the weather, low mixing depths and bay and ocean wind patterns can concentrate and carry pollutants from other cities to this area, adding to the locally emitted pollutants. The polluted air is then pushed up against the East Bay Hills. Flow eastward through the gaps is weak because winds in the Livermore Valley are usually from the east. Wintertime pollution levels are only moderate (BAAQMD, 2009).

Regulatory Setting

Criteria Air Pollutants & Standards

Pollutants subject to federal ambient standards are referred to as "criteria" pollutants because the United States Environmental Protection Agency (USEPA) publishes criteria documents to justify the choice of standards. One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term sensitive receptors refer to specific population groups, as well as the land uses where they would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses are residences, schools, playgrounds, childcare centers, retirement homes or convalescent homes, hospitals, and clinics. Criteria air pollutants, common sources, and associated effects are summarized in **Table III-1, Criteria Air Pollutants Summary of Common Sources and Effects**. The federal and state standards for the criteria pollutants and other state regulated air pollutants are shown in **Table III-2, Ambient Air Quality Standards & Bay Area Attainment Status**.

Federal Air Quality Regulations

The federal 1970 Clean Air Act authorized the establishment of national health-based air quality standards, and also set deadlines for their attainment. The federal Clean Air Act Amendments of 1990 (1990 CAAA) made major changes in deadlines for attaining National Ambient Air Quality Standards (NAAQS) and required actions in areas of the nation that exceeded these standards. The 1990 CAAA requires designated agencies in any area of the nation that does not meet the NAAQS to prepare a plan demonstrating the steps that will be taken to bring the area into compliance. The 1990 CAAA completely revised the federal statute for achieving attainment of NAAQS and a new set of guidelines and planning processes for carrying out the requirements of the Amendments. Provisions of Section 182, which relates to O₃ nonattainment areas, and Section 187, which relates to CO nonattainment areas, emphasize strategies for reducing vehicle miles traveled. Section 182 requires submission of a plan revision that "identifies and adopts specific enforceable transportation control measures to offset any growth in emissions from growth in vehicle miles traveled or number of vehicle trips in such an area to meet statutory requirements for demonstrating periodic emission reduction requirements."

State Air Quality Regulations

The California Clean Air Act (CCAA 1988) requires that all air districts in the State endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for O₃, CO, SO₂ and NO₂ by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with new authority to regulate indirect sources. Each district plan is to achieve a 5 percent annual reduction, averaged over consecutive three-year periods, in district-wide emissions of each nonattainment pollutant or its precursors.

**TABLE III-1
CRITERIA AIR POLLUTANTS SUMMARY OF COMMON SOURCES AND EFFECTS**

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
<p>Particulate Matter (PM) Airborne solid particle and liquid particles Grouped into 2 categories:</p>	<p>Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.</p>	<p>Increased respiratory symptoms, such as airway irritation, coughing, difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).</p>
<p>"Coarse Particles" (PM₁₀) - from 2.5 to 10 microns in diameter.</p>		
<p>"Fine Particles" (PM_{2.5}) - less than 2.5 microns in diameter.</p>		
<p>Ozone (O₃) (Smog) A colorless or bluish gas</p>	<p>Formed by a chemical reaction between VOC and NO_x in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints and landfills.</p>	<p>Irritates and causes inflammation of airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes.</p>
<p>Sulfur Dioxide (SO₂) A colorless, nonflammable gas</p>	<p>Formed when fuel containing sulfur, such as coal and oil, is burned; when gasoline is extracted from oil; or when metal is extracted from ore. Examples are petroleum refineries, metal processing, locomotives, large ships, and diesel fuel combustion.</p>	<p>Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel; damage crops and natural vegetation. Impairs visibility. Precursor to acid rain.</p>
<p>Carbon Monoxide (CO) An odorless, colorless gas.</p>	<p>Formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.</p>	<p>Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.</p>
<p>Nitrogen Dioxide (NO₂) A reddish-brown gas</p>	<p>Fuel combustion in motor vehicles and industrial sources. Motor vehicles; electric utilities, and other sources that burn fuel.</p>	<p>Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming, and nutrient overloading which deteriorates water quality.</p>
<p>Lead Metallic element</p>	<p>Metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.</p>	<p>Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.</p>

Source: ARB 2009, CAPCOA 2009.

TABLE III-2
SUMMARY OF AMBIENT AIR QUALITY STANDARDS & BAY AREA ATTAINMENT STATUS

Air Pollutant	Averaging Time	California Standards ⁽¹⁾		National Standards ⁽²⁾			
		Concentration	Attainment Status	Concentration ⁽³⁾	Attainment Status		
Ozone	8-Hour	0.070 ppm	N ⁽⁹⁾	0.075 ppm	N ⁽⁴⁾		
	1-Hour	0.09 ppm	N		-- ⁽⁵⁾		
Carbon Monoxide	8-Hour	9 ppm	A	9 ppm 35 ppm	A ⁽⁶⁾		
	1-Hour	20 ppm	A		A		
Nitrogen Dioxide	Annual Arithmetic Mean	0.030 ppm	A	0.053 ppm	A		
	1-Hour	0.18 ppm	A			--	
Sulfur Dioxide	Annual Arithmetic Mean	--	--	0.03 ppm	A		
	24-Hour	0.04 ppm	A			0.14 ppm	A
	3-Hour	--	--			0.50 ppm	A
	1-Hour	0.25 ppm	A			--	--
Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	N ⁽⁷⁾	--	--		
	24-Hour	50 µg/m ³	N			150 µg/m ³	U
Particulate Matter - Fine (PM _{2.5})	Annual Arithmetic Mean	12 µg/m ³	N ⁽⁷⁾	15 µg/m ³	A		
	24-Hour	--	--			35 µg/m ³ ⁽¹⁰⁾	N
Lead	Calendar Quarter	--	--	1.5 µg/m ³	A		
	30-Day Average	1.5 µg/m ³	A			--	--
	Rolling 3-Month Average	--	--			0.15	--
Sulfates	24-Hour	25 µg/m ³	A	--	--		
Hydrogen Sulfide	1-Hour	0.03 ppm	U	--	--		
Vinyl Chloride	24-Hour	0.01 ppm	No Information Available	--	--		
Visibility Reducing Particles	8-Hour (1000 to 1800 PST)	⁽⁸⁾ ⁽¹⁰⁾	U	--	--		

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter-PM₁₀, and visibility reducing particles are values that are not to be exceeded. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.

2 National standards, other than for ozone, particulates, and those based on annual averages, are not to be exceeded more than once a year.

3 National air quality standards set at levels determined to be protective of public health with an adequate margin of safety. Each

Air Pollutant	Averaging Time	California Standards ⁽¹⁾		National Standards ⁽²⁾	
		Concentration	Attainment Status	Concentration ⁽³⁾	Attainment Status

state must attain these standards no later than three years after the state's implementation plan is approved by the EPA.

4 In June 2004, the Bay Area was designated as a marginal nonattainment area of the national 8-hour ozone standard. US EPA lowered the national 8-hour standard in May 27, 2008. EPA will issue final designations based upon the new ozone standard by March 2010.

5 The national 1-hour ozone standard was revoked by US EPA on June 15, 2005.

6 In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.

7 In June 2002, CARB established new annual standards for PM_{2.5} and PM₁₀.

8 Statewide VRP Standard (except Lake Tahoe Air Basin): Particulates in sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

9 This standard was approved by the ARB on April 28, 2005 and became effective on May 17, 2006.

10 US EPA lowered the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³ in 2006. EPA issued attainment status designations for the 35 µg/m³ standard in December 22, 2008. EPA has designated the Bay Area as nonattainment for the 35 µg/m³ PM_{2.5} standard, The EPA designation will be effective 90 days after publication of the regulation in the Federal Register. President Obama has ordered a freeze on all pending rules; therefore, the effective date of the designation is unknown at this time.

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

A = Attainment; N = Nonattainment; U = Unclassified

Sources: BAAQMD 2009, ARB 2009.

Regional Air Quality Regulations

The BAAQMD periodically prepares and updates plans to achieve the goal of healthy air. Typically, a plan will analyze emissions inventories (estimates of current and future emissions from industry, motor vehicles, and other sources) and combine that information with air monitoring data (used to assess progress in improving air quality) and computer modeling simulations to test future strategies to reduce emissions in order to achieve air quality standards. Air quality plans usually include measures to reduce air pollutant emissions from industrial facilities, commercial processes, motor vehicles, and other sources. Bay Area plans are prepared with the cooperation of the Metropolitan Transportation Commission, and the Association of Bay Area Governments (BAAQMD, 2009).

Ozone Attainment Demonstrations are prepared for the national ozone standard and Clean Air Plans are prepared for the California ozone standard. The most recent Ozone Attainment Demonstration Plan and Clean Air Plan include the 2001 Ozone Attainment Plan (OAP) and the 2000 Clean Air Plan (CAP). In addition to these plans, the BAAQMD has also recently prepared the Bay Area 2005 Ozone Strategy. The Bay Area 2005 Ozone Strategy describes how the Bay Area will fulfill California Clean Air Act (CCAA) planning requirements for the State one-hour ozone standard and transport mitigation requirements through the proposed control strategy. The control strategy includes stationary source control measures to be implemented through Air District regulations; mobile source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with MTC, local governments, transit agencies and others (BAAQMD, 2009).

Air Quality Attainment Status

The attainment status for the Basin is summarized in **Table III-2**, as shown previously. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A nonattainment designation indicates that a pollutant

concentration violated the standard at least once, excluding those occasions when a violation(s) was caused by an exceptional event, as defined in the criteria.

Following years of declining emissions and ambient concentrations of ozone, the Bay Area in 1995 was redesignated as an attainment area for the national 1-hour ozone standard. However, unusual heat waves triggered new exceedances of the national ozone standard during the summers of 1995 and 1996. As a result, in 1998 US EPA redesignated the region back into nonattainment status for the national 1-hour ozone standard. The region also periodically exceeds State ambient air quality standards for ozone and particulate matter. As noted in **Table III-2**, the State standards for these pollutants are more stringent than the national standards. Exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights (for particulate matter) or hot, sunny summer afternoons (for ozone). As noted in **Table III-2**, the Basin is currently designated nonattainment for the State and National ozone standards, as well as the State PM₁₀ and PM_{2.5} standards. The Basin is designated either attainment or unclassified for the remaining federal and state ambient air quality standards (BAAQMD 2009).

Odors

Typically 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 the psychological (i.e. irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Within the basin, odorous emissions are subject to the BAAQMD's *Regulation 7, Odorous Substances*. This regulation places general limitations on odorous substances and specific emission limitations on certain odorous compounds. The applicability of this regulation to emission sources is based, in part, on odor complaints received from the public (BAAQMD, 2009). Neither the state nor the federal governments have adopted any rules or regulations for the control of odor sources. No major odor sources have been identified in the annexation area.

TOXIC AIR CONTAMINANTS

Toxic air contaminants (TACs) in California are primarily regulated through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). AB 1807 sets forth a formal procedure for the California Air Resources Board (ARB) to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB can designate a substance as a TAC.

Once a TAC is identified, the ARB then adopts an Airborne Toxics Control Measure (ACTM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate BACT to minimize emissions. AB 2588 requires that existing facilities that emit toxic substances above specified levels to:

- Prepare a toxic emission inventory;
- Prepare a risk assessment if emissions are significant;
- Notify the public of significant risk levels;
- Prepare and implement risk reduction measure.

The ARB works in partnership with the local air districts to enforce regulations that reduce toxic air contaminants (TACs) in the state. The ARB has authority for motor vehicles, fuels, and consumer products. The ARB identifies the TACs, researches prevention or reduction methods, adopts standards for control, and enforces the standards. Particulate Matter (PM) emissions from diesel-fueled vehicles and engines are the primary TACs of concern for mobile sources. Of all controlled TACs, diesel-exhaust PM emissions are estimated to be responsible for about 70 percent of the total ambient TAC risk. The ARB has made the reduction of the public's exposure to diesel PM one of its highest priorities, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles (ARB 2005).

At the local level, air pollution control or management districts may adopt and enforce ARB control measures. In accordance with BAAQMD Rules and Regulations, such as *Rule 2-5, New Source Review for Toxic Air Contaminants*, sources that possess the potential to emit TACs are required to obtain permits from the district. The BAAQMD prioritizes TAC-emitting stationary sources, based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. The BAAQMD requires a comprehensive health risk assessment for facilities that are classified in the significant-risk category, pursuant to Assembly Bill 2588 Program. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. No major TAC sources have been identified in the annexation area.

GREENHOUSE GAS EMISSIONS & CLIMATE CHANGE

The earth's climate has been warming for the past century. The Intergovernmental Panel on Climate Change (IPCC) and other scientific organizations provide substantial evidence that this warming trend is directly related to the release of certain gases into the atmosphere. Greenhouse gas (GHG) emissions are naturally occurring gases such as water vapor, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) that regulate the temperature on Earth by absorbing infrared energy that would otherwise escape from the earth. As the infrared energy is absorbed, the air surrounding the earth is heated. In addition to natural sources, human activities are exerting a major and growing influence on this warming effect by changing the composition of the atmosphere and by modifying the land surface. Particularly, the increased consumption of fossil fuels (natural gas, coal, gasoline, etc.) has substantially

increased atmospheric levels of GHGs. GHGs most typically associated with community development include emissions of CO₂ and, to a lesser extent, CH₄. Measured, global GHG emissions resulting from human activities, especially the consumption of fossil fuels, have grown since pre-industrial times, with an increase of 70% between 1970 and 2004 (California Climate Change Center, 2006; CEC, 2009, IPCC, 2007).

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth, and what the effects of clouds will be in determining the rate at which the mean temperature will increase. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, air pollution episodes, and the consequence of these effects on the economy (California Climate Change Center, 2006).

GHG emissions contributing to global climate change are largely attributable to human activities associated with industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO₂ to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO₂, CH₄, and N₂O have increased 31 percent, 151 percent, and 17 percent respectively since the year 1750 (CEC, 2009). GHG emissions are typically expressed in carbon dioxide-equivalents (CO₂e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH₄ has the same contribution to the greenhouse effect as approximately 21 tons of CO₂. Therefore, CH₄ is a much more potent GHG than CO₂.

Worldwide, California is ranked as the 12th largest emitter of GHGs (CEC, 2009). Based on the most recent GHG emissions inventory, California's gross annual emissions of GHGs in 2004 totaled approximately 497 million metric tons (MMT) of CO₂e. Most of California's emissions, approximately 81 percent, consist of carbon dioxide produced from fossil fuel combustion (CEC, 2006; CEC, 2007).

The transportation sector is the single largest category of California's GHG emissions, accounting for approximately 39 percent of the state's total GHG emissions, followed by electricity consumption (from both in-state and out-of-state providers), which accounts for a total of roughly 28 percent of the state's total GHG emissions. The contribution from each of the various other use sectors contribute roughly 6 to 10 percent each to the total GHG emissions inventory (CEC, 2009).

International and National Efforts

International and Federal legislation have been enacted to deal with climate change issues. The Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change (IPCC) to assess the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus around the evidence that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable (CAPCOA 2008).

In October 1993, President Clinton announced his Climate Change Action Plan, which had a goal to return greenhouse gas emissions to 1990 levels by the year 2000. This was to be accomplished through 50 initiatives that relied on innovative voluntary partnerships between the private sector and government aimed at producing cost-effective reductions in greenhouse gas emissions. On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change. Under the Convention, governments agreed to gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change. These efforts have been largely policy oriented. In addition to the national and international efforts described above, many local jurisdictions have adopted climate change policies and programs. However, thus far little has been done to assess the significance of the affects new development projects may have on climate change (CAPCOA 2008).

State of California

State of California

The State of California has been studying the impacts of climate change since 1988, when AB4420 was approved. This legislation directed the CEC, in consultation with the ARB and other agencies, to study the implications of global warming on California's environment, economy, and water supply. The CEC was also directed to prepare and maintain the state's inventory of GHG emissions. That bill directed the ARB to adopt regulations to achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles. ARB staff's proposal implementing these regulations was approved by the Air Resources Board in September, 2004. With implementation, the average reduction of greenhouse gases from new California cars and light trucks will be about 22 percent in 2012 and about 30 percent in 2016, compared to today's vehicles (California Climate Change Center. 2006).

Senate Bill 1771

Senate Bill 1771, chaptered in September of 2000, specified the creation of the non-profit organization, the California Climate Action Registry. The Registry helps various California entities' to establish GHG emissions baselines. Also, the Registry enables participating entities to voluntarily record their annual GHG emissions inventories.

Executive Order S-3-05

On June 1, 2005, Governor Schwarzenegger issued Executive Order S-3-05. It included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate with the Secretary of the Business, Transportation and Housing Agency, Secretary of the Department of Food and Agriculture, Secretary of the Resources Agency, Chairperson of the ARB, Chairperson of the CEC and President of the Public Utilities Commission on development of a Climate Action Plan. The Secretary of CalEPA leads a Climate Action Team (CAT) made up of representatives from the agencies listed above to implement global warming emission reduction programs identified in the Climate Action Plan and report on the progress made toward meeting the statewide greenhouse gas targets that were established in the Executive Order (CAPCOA 2008).

California Global Warming Solutions Act of 2006 (AB 32)

In 2006, the California State Legislature adopted Assembly Bill 32 (AB32), California Global Warming Solutions Act of 2006. AB32 establishes a cap on statewide greenhouse gas emissions and sets forth the regulatory framework to achieve the corresponding reduction in statewide emissions levels. AB32 charges the ARB, the state agency charged with regulating statewide air quality, with implementation of the act. The regulatory steps laid out in AB32 require ARB to: 1) adopt early action measures to reduce GHGs; 2) to establish a statewide greenhouse gas emissions cap for 2020 based on 1990 emissions; 3) to adopt mandatory reporting rules for significant source of greenhouse gases; and to adopt a scoping plan indicating how emission reductions will be achieved via regulations, market mechanisms and other actions; and 4) to adopt the regulations needed to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gases. In addition, AB32 requires that by January 1, 2008, the State Board shall determine what the statewide greenhouse gas emissions inventory was in 1990, and approve a statewide greenhouse gas emissions limit that is equivalent to that level, to be achieved by 2020. In December 2007, the ARB Board approved the amount of 427 million metric tonnes of carbon dioxide equivalent (MMTCO_{2e}) as the total statewide greenhouse gas 1990 emissions level and 2020 emissions limit (ARB 2009; CAPCOA 2008).

As required by AB32, ARB adopted a list of discrete early action measures in June 2007 to be adopted and implemented by January 1, 2010. These actions are part of the State's comprehensive plan for achieving greenhouse gas emission reductions. These three new proposed regulations meet the definition of "discrete early action greenhouse gas reduction measures," which include the following: a low carbon fuel standard; reduction of HFC-134a emissions from non-professional servicing of motor vehicle air conditioning systems; and improved landfill methane capture. ARB estimates that by 2020, the reductions from those three discrete early action measures would be approximately 13 to 26 MMT CO_{2e}. ARB evaluated over 100 possible measures identified by the CAT for inclusion in the list of discrete early action measures. On October 25, 2007 ARB gave final approval to the list of Early Action Measures, which includes nine discrete measures and 35 additional measures, all of which are to be enforceable by January 1, 2010 (CAPCOA 2008).

In October of 2008, ARB published its *Climate Change Scoping Plan (Scoping Plan)*, which is the State's plan to achieve GHG reductions in California required by AB 32. The *Scoping Plan* contains the main strategies California will implement to achieve a reduction of approximately 30% from the state's projected 2020 emission level under a business-as-usual scenario (this is a reduction of almost 10% from 2002-2004 average emissions). The *Scoping Plan* also includes ARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. The largest proposed GHG reduction recommendations are from improving emission standards for light-duty vehicles, implementation of the Low-Carbon Fuel Standard, energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems, and a renewable portfolio standard for electricity production. The *Scoping Plan* also states that land use planning and urban growth decisions will play an important role in the State's GHG reductions. ARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The *Scoping Plan* was approved by ARB in December 2008 (ARB 2008).

Senate Bill 97

Senate Bill 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of

Planning and Research to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010. This bill also protects projects funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1B or 1E) from claims of inadequate analysis of GHG as a legitimate cause of action. This latter provision will be repealed on January 1, 2010. Thus, this "protection" is highly limited to a handful of projects and for a short time period (CAPCOA 2008).

In June 2008, the Governor's Office of Planning and Research (OPR) published the *OPR Technical Advisory on CEQA and Climate Change*. The document, developed in collaboration with the California Resources Agency, the California Environmental Protection Agency, and ARB, provides informal, interim guidance to public agencies for addressing the issue of climate change in CEQA documents.

On April 13, 2009, OPR submitted their proposed amendments to the state CEQA Guidelines for greenhouse gas emissions, as required by SB97. These proposed amendments will provide guidance to public agencies regarding the analysis of mitigation and the effects of GHG emissions in CEQA documents. The Natural Resources Agency is required to certify and adopt the amendments before January 1, 2010 (OPR, 2009).

Senate Bill 375

SB 375 (Steinberg), signed into law in September 2008, builds on the goals of AB32 by attempting to control GHG emissions through limiting suburban sprawl. By September 2010, CARB will have assigned each region in California a target for reducing GHG emissions tied to land use. California Metropolitan Planning Organizations are required to address these targets in mandatory 'Sustainable Communities Strategies' (SCS) as part of the Regional Transportation Plan. The purpose of the SCS plans is to reduce GHG emissions associated with global climate change by improving the efficiency of land use and transportation patterns. In addition, SB 375 creates incentives for creating walkable, sustainable, transit-oriented communities, including funding conditions and certain exemptions from the California Environmental Quality Act. SB 375 attempts to tie together climate change, regional planning, transportation funding, and affordable housing (ARB 2009).

Local

The City of Hayward is taking a proactive approach to addressing climate change and greenhouse gas emissions at the local level. The City developed a Climate Action Plan in order to assess current (2005) levels of greenhouse gas emissions and create a strategy to reduce and adapt to the effects of climate change. The Climate Action Plan, approved by the City Council on July 28, 2009, found that activities within the jurisdictional boundaries of Hayward in calendar year 2005 were responsible for the release of 1,183,274 metric tons of CO₂e. This level of GHG emissions is approximately 0.2 percent of California's total GHG emissions in 2005 and less than 0.004 percent of the total global emissions.

The City developed the Climate Action Plan in order to reduce greenhouse gases attributable to the City and to reach compliance with AB 32. The Climate Action Plan identifies strategies and actions to reduce Hayward's GHG emissions by 12.5 percent below 2005 levels by 2020 and 82.5 percent below 2005 levels by 2050. The 60 actions range from offering energy efficiency financing programs to banning certain materials from landfills. They are organized under nine strategies to related to transportation, energy, solid waste, carbon sequestration, and climate

change adaptation. The measures encompass all best practices for GHG reductions, including those of OPR and the Attorney General (City of Hayward, 2009b).

SENSITIVE RECEPTORS

The term “sensitive receptors” refers to specific population groups as well as the land uses where they would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses are residences, schools, playgrounds, childcare centers, retirement homes or convalescent homes, hospitals, and clinics. Sensitive receptors located in the vicinity of the annexation area consist primarily of residential land uses and the rehabilitation facility (Horizon Services) located on the Hermann-Mohr property.

IMPACT DISCUSSION

CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF APPLICABLE AIR QUALITY PLAN

a) *Less than Significant with Mitigation Incorporated.* The emissions inventories contained in the BAAQMD’s CAP and OAP are based on projected population growth and vehicle miles traveled for the region based, in part, on the predicted growth identified in regional and community plans. The emissions inventories used in the plans also attribute some cumulative impact from all development projects. Projects that would result in an increases in population or employment growth beyond that identified in regional or community plans could result in increases in vehicle miles traveled (VMT) and, as a result, increases in mobile source emissions could conflict with the BAAQMD’s air quality planning efforts. Projects that are consistent with the local general plan and would not result in a significant project-related air quality impact would typically not be considered inconsistent with local air quality plans and attainment efforts.

Implementation of the proposed project would not result in an increased growth in population or employment beyond that already accounted for in the City’s General Plan, nor would implementation of the proposed project obstruct implementation of any of the proposed control measures contained in regional air quality plans. Consequently, implementation of the proposed project would not be anticipated to result in a long-term increase of regional criteria air pollutants that would conflict with or obstruct implementation of the BAAQMD’s CAP or OAP. Short-term air quality impacts would be considered **potentially significant** and subject to mitigation.

Mitigation Measure

Refer to Section III. Air Quality discussion **b)** below for additional discussion of short-term and long-term air quality impacts. The BAAQMD considers implementation of recommended mitigation measures under **MM III-1** to be sufficient to reduce air pollutant emissions from construction activities to a **less than significant** level (BAAQMD, 1999).

VIOLATE ANY AIR QUALITY STANDARD OR CONTRIBUTE SUBSTANTIALLY TO AN EXISTING OR PROJECTED AIR QUALITY VIOLATION

b) *Less than Significant with Mitigation Incorporated.* Increases in emissions attributable to the proposed project would occur during construction and long-term operation of the proposed project. Long-term operational emissions and short-term construction emissions associated with the proposed project are discussed separately, as follows:

Long-term Operational Impacts

The proposed project includes the annexation of the Mohr-Depot island and the West-Mohr island. From the analysis of development potential under the proposed pre-zoning for the annexation area, the proposed project could result in the potential development of 54 additional single-family dwelling units in the annexation area. Long-term operational emissions associated with future residential land uses would be primarily associated with increased motor vehicle use. Additional emissions would also be generated associated with natural gas consumption and use of architectural coatings and landscape maintenance equipment.

Based on the project screening criteria recommended by the BAAQMD, residential development projects consisting of less than 320 single-family dwelling units would not be anticipated to result in a significant air quality impact and a detailed air quality analysis would not be required (BAAQMD, 1999). Although the BAAQMD does not require preparation of a detailed air quality analysis for the proposed project, long-term operational emissions were quantified to provide greater detail and additional perspective concerning the proposed project's potential air quality impacts. Predicted increases in emissions were calculated using the URBEMIS2007 (version 9.2.4) computer program, based on trip generation rates obtained from the traffic analysis prepared for this project (DMJM Harris/AECOM, 2009). Predicted operational emissions are summarized in **Table III-3, Long-Term Operational Emissions Near-Term Project Conditions**.

As depicted in **Table III-3**, a majority of the emissions generated during the summer months would be from motor vehicle use. Additional increases in emissions associated with the use of wood-burning fireplaces and stoves would occur during the winter months. Predicted maximum daily and annual emissions would not exceed BAAQMD significance thresholds for ROG, NO_x, and PM₁₀. The BAAQMD has not adopted a recommended significance threshold for PM_{2.5}. Because emissions associated with the long-term operation of the proposed project would not exceed BAAQMD significance thresholds, long-term air quality impacts would be considered **less than significant**.

**TABLE III-3
LONG-TERM OPERATIONAL EMISSIONS NEAR-TERM PROJECT CONDITIONS**

Source	Estimated Emissions (lbs/day)			
	Reactive Organic Gas (ROG)	Nitrogen Dioxide (NO _x)	Particulate Matter - Coarse (PM ₁₀)	Particulate Matter – Fine (PM _{2.5})
Summer Conditions				
Natural Gas Use	0.05	0.68	--	--
Landscape Maintenance	0.45	0.02	0.01	0.01
Consumer Products	2.64	--	--	--
Architectural Coatings	0.77	--	--	--
Motor Vehicles	4.76	6.09	7.63	1.48

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Source	Estimated Emissions (lbs/day)			
	Reactive Organic Gas (ROG)	Nitrogen Dioxide (NOx)	Particulate Matter - Coarse (PM ₁₀)	Particulate Matter – Fine (PM _{2.5})
Total Daily Summer Emissions(lbs/day):	8.67	6.79	7.64	1.49
Winter Conditions				
Natural Gas Use	0.05	0.68	--	--
Consumer Products	2.64	--	--	--
Architectural Coatings	0.77	--	--	--
Wood-Burning Fireplaces/Stoves	7.65	0.74	4.43	4.26
Motor Vehicles	5.18	8.93	7.63	1.48
Total Daily Winter Emissions(lbs/day):	16.29	10.35	12.06	5.74
BAAQMD Daily Emissions Thresholds (lbs/day):	80	80	80	None
Maximum Daily Emissions Exceed Thresholds?:	No	No	No	
Annual Conditions (tons/year)				
Combined Annual Emissions (tons/year):	1.87	1.42	1.57	0.44
BAAQMD Annual Emissions Threshold (tons/year):	15	15	15	None
Annual Emissions Exceed Threshold?:	No	No	No	

Note: Emissions were estimated using the URBEMIS2007 (v9.2.4) computer program.

Short-term Construction Emissions

Construction emissions are described as “short term” or temporary in duration and have the potential to represent a significant impact with respect to air quality, especially in the case of PM₁₀. Fugitive dust emissions are associated primarily with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, and acreage of disturbance. Short-term construction-generated emissions would be primarily associated with initial site preparation (e.g., grading and grubbing). Facility construction occurring during subsequent phases of construction would result in additional emissions, primarily associated with the use of onsite motorized equipment, worker commute trips, and the application of architectural coatings and asphalt paving materials.

The BAAQMD emphasizes implementation of effective and comprehensive control measures rather than requiring a detailed quantification of construction emissions. The BAAQMD requires that all feasible control measures, which are dependent on the size of the construction area and the nature of the construction operations involved, shall be incorporated into the project design and implemented during all construction activities. Because the required control measures are

not currently incorporated into the proposed project, short-term construction-generated emissions could potentially result in or contribute to a violation of air quality standards. As a result, this impact would be considered **potentially significant**.

Mitigation Measure

MM III-1

In accordance with BAAQMD CEQA Guidelines (BAAQMD 1999), the following mitigation measures shall be implemented to reduce construction generated emissions to a less than significant level.

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
- Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.
- Install wheel washers for all exiting trucks, or wash off the tire or tracks of all trucks and equipment before leaving the site.
- Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
- Limit the area subject to excavation, grading, and other construction activity at any one time.
- Minimize idling time.
- Maintain properly tuned equipment.

- Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

Timing/Implementation: *Prior to/during construction.*

Enforcement/Monitoring: *City of Hayward Public Works and Development Services Departments*

The BAAQMD considers implementation of recommended mitigation measures under **MM III-1** to be sufficient to reduce air pollutant emissions from construction activities to a **less than significant** level (BAAQMD, 1999).

INCREASE IN CRITERIA POLLUTANT

c) *Less than Significant with Mitigation Incorporated.* Implementation of the proposed project would not be anticipated to result in a significant increase in operational emissions. However, the proposed project does not include BAAQMD's recommended mitigation measures for control of construction-generated emissions. Short-term increases in construction-generated emissions could contribute, on a cumulative basis, to existing nonattainment conditions. As a result, this impact is considered ***potentially significant***. Refer to Section III. Air Quality discussion **b)** above for additional discussion of short-term and long-term air quality impacts. The BAAQMD considers implementation of recommended mitigation measures under **MM III-1** to be sufficient to reduce air pollutant emissions from construction activities to a **less than significant** level (BAAQMD, 1999).

SENSITIVE RECEPTORS

d) *Less than Significant with Mitigation Incorporated.* Implementation of the proposed project could result in localized increases of pollutant concentrations associated with short-term construction activities. Onsite construction activities could result in short-term construction-generated fugitive dust due to ground-disturbance, which could contribute to short-term increases in localized concentrations of airborne particulate matter at nearby receptors. The generation of airborne particulate matter in any one area would be temporary and episodic and would cease when construction is completed in that area. However, because the proposed project does not include BAAQMD-recommended measures for the control of construction-generated emissions, short-term localized concentrations of airborne PM at nearby receptors would be considered ***potentially significant***.

In addition to short-term increases in localized concentrations of airborne particulate matter, localized concentrations of mobile-source carbon monoxide (CO) are also of potential concern. Under specific meteorological and operational conditions, CO concentrations near some intersections may reach unhealthy levels. Mobile-source emissions of CO near roadway intersections are a direct function of traffic volume, speed and delay. Transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions. For this reason, modeling of CO concentrations is typically recommended for sensitive land uses located near signalized roadway intersections that are projected to operate at unacceptable levels of service (i.e., LOS D or worse).

Implementation of the proposed project would not involve the long-term operation of any onsite stationary sources of TACs and no major stationary sources of TACs have been identified in the annexation area. Based on the traffic analysis prepared for this project, the potential future development within the West-Mohr island and Mohr-Depot island would result in an increase of 258 and 410 total daily trips, respectively. Therefore, the proposed project would result in a total

increase of 668 daily trips. Increases in vehicle trips would predominantly occur along segments of West Street and Hesperian Boulevard located near the West-Mohr island (Annexation Area 1); as well as, segments of Industrial Boulevard and Depot Road located near the Mohr-Depot island (Annexation Area 2). Based on the traffic analysis prepared for this project, the primarily affected intersections in the vicinity of the annexation area would not operate at unacceptable levels of service (DMJM Harris/AECOM, 2009). For this reason and given the relatively low background concentrations of CO in the annexation area, the proposed project would not be predicted to result in a significant contribution to localized mobile-source CO concentrations that would exceed applicable air quality standards.

Refer to Section III. Air Quality discussion **b)** above for additional discussion of short-term and long-term air quality impacts. The BAAQMD considers implementation of recommended mitigation measures under **MM III-1** to be sufficient to reduce air pollutant emissions from construction activities on sensitive receptors to a **less than significant** level (BAAQMD, 1999).

OBJECTIONABLE ODORS

e) *Less than Significant.* The occurrence and severity of odor impacts depends on numerous factors, including: the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

Construction of the anticipated 54 units and additional non-residential development would involve the use of a variety of gasoline or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel-exhaust, may be considered objectionable by some people. In addition pavement coatings and architectural coatings used during project construction would also emit temporary odors. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly within increasing distance from the source. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. Implementation of the proposed project would not involve the long-term operation of any major sources of odors and no major sources of odors have been identified in the annexation area. As a result, potential exposure of sensitive receptors to odors associated with proposed project would be considered ***less than significant***.

CONTRIBUTION TO GLOBAL CLIMATE CHANGE

f) *Potentially Significant.* As described above in the “Existing Setting” sub-section, increases in greenhouse gas emissions could contribute to increases in global average temperatures and climate change. Climate change in turn could lead to sea level rise and other changes in environmental conditions. To date, protocols for evaluating the effect of a specific local development project on a cumulative global temperature increase have not yet been established. The IPCC notes that “difficulties remain in attributing temperature on smaller than continental scales and over time scales on less than 50 years. Attribution at these scales, with limited exceptions, has not yet been established.” The following discussion focuses on the proposed project’s contribution to global climate change by quantifying GHG emissions and qualitatively discussing the project’s emission-reduction measures and consistency with the State’s goals and strategies for reducing GHG emissions.

Project Generated Emissions

Estimated greenhouse gas (GHG) emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO₂) from mobile sources. Emissions of CO₂ are anticipated to constitute more than 90 percent of total mobile-source GHGs commonly associated with future development. To a lesser extent, other GHG pollutants such as Methane (CH₄) generated by natural-gas combustion would be anticipated to have a minor contribution to overall project-generated GHG emissions.

Estimated emissions of GHGs associated with buildout of the proposed annexation area were calculated using the URBEMIS2007 computer program. To account for individual pollutants contribution to global warming, predicted emissions of GHGs are presented in CO₂ equivalent units of measure (CO₂e), expressed in metric tons/year. Based on the modeling conducted, implementation of the proposed project would result in combined net increases of approximately 863 metric tons/year of CO₂e. It is important to note that GHG emissions estimates are provided for informational purposes. Although no thresholds have been adopted by local, state, or federal agencies that pertain to the evaluation of a project's contribution to climate change, this information is useful to identify the sources contributing to project-generated GHG emissions.

Contribution to Global Warming and State GHG Reduction Efforts

Emissions of GHGs and their contribution to global climate change are inherently a cumulative impact and, therefore, should be evaluated in this context. For instance, based on the modeling conducted for this project, long-term operation of the proposed project would generate a total of approximately 863 metric tons/year of CO₂e. For comparison purposes only, this would constitute and increase of approximately 0.072 percent above the City's baseline (2005) emissions and 0.0002 percent of the total state-wide GHG emissions inventory. Although when evaluated in this context project-generated emissions would likely be considered nominal, the cumulative contribution from multiple such projects could conceivably result in a substantial overall contribution to the GHG inventory. However, to date, no air districts or state agencies in California, including the BAAQMD, have identified a significance threshold for GHG emissions or a methodology for analyzing increased GHG emissions related to climate change.

Although a project may result in increased GHG emissions, it is important to note that increased emissions would not necessarily result in an adverse effect with regard to climate change. Although emissions of GHGs can be quantified, it is typically not possible to determine the extent to which project-generated GHGs would contribute to global climate change or the physical effects often associated with global climate change (e.g., loss of snow pack, sea-level rise, severe weather events, etc.). In addition, to account accurately for GHGs attributable to the proposed project, it would be necessary to differentiate between new sources that otherwise would not exist but for the project, and existing sources that have simply relocated to the project area. For these reasons and lacking the necessary facts and analysis to support a conclusion as to the "significance" of a project's contribution to climate change, the effectiveness of potential mitigation measures in reducing a project's contribution to global climate change can also not be accurately quantified at this time. It is also not likely that the Project will negatively affect State efforts and recommendations to reduce GHG emissions, including the AB 32 Scoping Plan. Nonetheless, project-generated emissions of greenhouse gas (GHG) emissions could conflict with state objectives and goals to reduce GHG emissions and contribute to global climate change. As a result, this impact would be considered **potentially significant**.

Mitigation Measures

The following policies include specific performance standards and policy direction that address global climate change and State GHG reduction efforts. These mitigation measures were obtained from the City of Hayward Climate Action Plan, adopted by Council on July 28, 2009. As described in the 'Existing Setting' section, the Climate Action Plan was developed to address GHG emissions in a method consistent with AB 32 and to encompass best practices in GHG reductions, including the Attorney General and OPR recommended actions.

It should be noted that only the Climate Action Plan mitigations directly applicable to the Project are included below. For instance, actions to reduce greenhouse gas emissions from existing construction were omitted because they are not applicable to the Project area.

- MM III-2** Reduce Vehicle Miles Traveled (VMT) by encouraging residents to use alternative modes of transit, by improving the effectiveness of the transportation circulation system, and through land-use and zoning mechanisms.
- Assist businesses in developing and implementing commuter benefits programs. A commuter benefits program might consist of an offer to provide discounted or subsidized transit passes, emergency ride home programs, participation in commuter rideshare programs, parking cash-out or parking pricing programs, or tax credits for bike commuters.
 - Assist businesses in developing and implementing car sharing programs, such as Zip Car® or City Car Share, and encourage large employers such as the colleges and Hayward Unified School District (HUSD) to implement such programs.
 - Modify City parking ordinances to incentivize walking, biking, and public transit by employing parking strategies that include adding bicycle parking, increasing the number of parking spots with time limits, adjusting parking time limits to correspond with adjacent building uses, increasing the number of paid parking spaces, and making space location and fees consistent with demand targets.
 - Collaborate with BART and AC Transit to explore short- and long-term opportunities to expand services (for example, to extend rapid bus service from Bay Fair to the South Hayward BART Station and pursue a hydrogen fueling station for both buses and personal vehicle use, and improve transit stations by expanding amenities at stations.
 - Continue to implement and expand the City-wide bicycle master plan through aggressive pursuit of grants and other sources of funding which could be used to expand bike lanes and bike parking facilities. Assist businesses in creating or expanding bike-to-work incentive programs, including bike sharing, adequate secure bike parking, bike maps of the City, bike safety classes, and other incentives that reward bikers.
 - Develop and implement a City-wide pedestrian master plan that improves the convenience, safety, and attractiveness of and access to pedestrian ways. Update the plan on a regular basis to ensure that walkability improves over time.

- Update the City's Circulation Element of the General Plan to locate, evaluate appropriate transit modes such as street car, bus rapid transit, or other modes that eventually decrease the need for personal vehicles for travel within the City. The Plan should integrate pedestrian, bicycles, and transit modes with motor and other vehicles. When proposing changes to the transportation system, the City should consider the climate impacts and give preference to solutions that reduce auto dependency and minimize GHG emissions.
- Improve traffic flow and reduce vehicle idling by means of synchronized signals, transit and emergency signal priority, and other traffic flow management techniques. When developing the program, Hayward should work with the Metropolitan Transportation Commission and the Alameda County Congestion Management Agency to expand roadway and intersection performance metrics to include pedestrian, bicycle, and level of service criteria to measure quantitative and qualitative metrics such as accessibility, intersection crossing times, and other relevant data. It is recommended that Hayward use evaluation criteria that consider costs and GHG reduction benefits of biking, walking, carpooling, and public transit.
- In order to encourage non-automotive modes of travel, continue to implement and update the General Plan Circulation and Land Use Elements pertaining to smart growth principles that support higher-density, mixed-use, and well-designed development in areas within ½ mile of transit stations and ¼ mile of major bus routes. Amend the Municipal Code Zoning, Subdivision, and Off-Street Parking Standards to incorporate smart growth principles, policies, and development standards consistent with recommendations provided in the Appendix H and I of the CAP.
- Explore the development of zoning and development standards that consider both the land uses and the urban design and form of buildings and public space, where the new standards will result in reduced GHG emissions.
- Explore potential strategies related to the creation of additional affordable housing to sell to buyers employed in Hayward but who currently reside in other areas and commute to work in Hayward. For example, consider implementing a community land trust to purchase and resell foreclosed properties. The program could potentially be coordinated with local businesses.
- Develop an incentive plan to maximize the number of residents that work within the City, and encourage filling local jobs first with local residents, to eliminate commutes.

Timing/Implementation: Ongoing.

Enforcement/Monitoring: City of Hayward.

MM III-3

Minimize greenhouse gas emissions associated with energy consumed in new buildings by setting minimum energy and environmental performance standards for all newly constructed buildings.

- Continue to implement the Private Development Green Building Ordinance for residential buildings. Evaluate the program on a regular basis to ensure new buildings are getting more efficient over time.
- Continue to implement the Private Development Green Building Ordinance for commercial and industrial buildings. Evaluate the program on a regular basis to ensure new buildings are getting more efficient over time.
- Continue to implement the Municipal Green Building Ordinance. Evaluate the program every 5 years to ensure buildings are becoming more efficient over time.

Timing/Implementation: Ongoing.

Enforcement/Monitoring: City of Hayward.

MM III-4

Reduce GHG emissions associated with the disposal of solid waste.

- Increase participation in existing commercial recycling services by hiring a consultant to contact businesses to offer assistance in implementing waste reduction and recycling programs or expanding current programs.
- Continue to implement and promote food scraps collection for single-family homes. Over time, expand food-scrap collection programs with the goal of minimizing organic waste in the landfill.
- Improve the City's construction and demolition debris recycling ordinance by evaluating other jurisdictions' provisions, as well as the processing capabilities of the various transfer stations and facilities in Alameda County and adjacent counties.
- Evaluate the viability of implementing a ban on certain materials from landfill, e.g., yard trimmings, untreated wood, cardboard, plastic bags, or polystyrene.
- Evaluate the viability of requiring that residents and/or businesses participate in the recycling programs offered through the City's franchisee.
- Develop program that encourages overall reduction of waste in residential and commercial sectors. This would include increasing participation in recycling services at multi-family properties and to eventually make recycling by commercial businesses mandatory.
- Advocate for waste management strategies that aim to maximize the useful value of solid waste by, for example, utilizing landfill gas to create electricity.

Timing/Implementation: Ongoing.

Enforcement/Monitoring: City of Hayward.

Implementation of the proposed Climate Action Plan policies above would ensure that future development is consistent with State of California goals and objectives for reducing emissions of GHG emissions. With mitigation, this impact would be considered **less than significant**.

	Potentially Significant Impact	Less than Significant Impact With Mitigation Incorporated	Less than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

EXISTING SETTING/BIOLOGICAL RESOURCES ASSESSMENT

METHODOLOGY

A background information search for previously documented occurrences of special-status species within the project vicinity was conducted utilizing the California Department of Fish and Game’s (CDFG) California Natural Diversity Data Base (CNDDDB) (CDFG, 2009b), CNDDDB QuickViewer (CDFG, 2009a), U.S. Fish and Wildlife Service (USFWS) online inventory (USFWS, 2009), and California Native Plant Society (CNPS) online species list (CNPS, 2009) for the *Hayward*,

California United States Geologic Survey (USGS) 7.5-minute quadrangle and surrounding quadrangles (*Oakland East, Las Trampas Ridge, Diablo, San Leandro, Dublin, Redwood Point, Newark, and Niles*). The results of these database searches are included in **Appendix B** and are summarized in **Table B-1** and **Table B-2**. **Figure IV.1, Project Study Area** shows the project study area PSA and **Figure IV.2, Special Status Species** illustrates the location of previously recorded special-status species occurrences within one mile of the PSA.

The project study area is the area that was surveyed during the pedestrian reconnaissance-level survey conducted by PMC biologist, Angela Calderaro, on March 1, 2008. Weather during the site visit was partly cloudy and windy at 59 degrees Fahrenheit. The site visit confirmed the disturbed nature of the PSA, delineated habitat types within the PSA, and assessed the habitat types for potential to support special-status species.

Aerial maps of the PSA were reviewed by PMC biologists to supplement the pedestrian reconnaissance-level survey. These maps were used to compare the proposed project plans with existing conditions in order to estimate the potential for any biological resources to be potentially affected by the proposed project, such as tree removal, special habitat features, or other biological resources of concern.

RESULTS

The PSA consists of two "islands," the West-Mohr and Mohr-Depot islands. The PSA consists of urban and ruderal habitats on developed subdivided parcels, traversed by local streets. The West-Mohr island includes a portion of the Chabot Community College property (recreational facilities and a newly constructed parking lot), smaller single-family homes on thirteen (13) large parcels, and the Mohr-Fry Estate property located along Hesperian Boulevard which includes a large 3.3-acre agricultural field. The Mohr-Depot island includes the Hermann-Mohr property (Cronin House) which is currently used as a treatment center by Horizon Services, as well as fifty-two (52) parcels with single-family homes. The PSA is predominantly flat with an elevation between approximately 33 to 47 feet (10 to 14 meters) above mean sea level.

Habitat Types

Urban

The majority of the PSA consists of an urbanized environment, including single-family homes, recreational facilities and a parking lot associated with Chabot Community College, and the two large estates (Mohr-Fry Estate and Hermann-Mohr properties). The California Wildlife Habitat Relationships (CWHHR) classifies urban habitat into five different vegetation types: tree grove, street strip, shade tree/lawn, lawn, and shrub cover (CDFG 2002). Tree groves refer to conditions typically found in city parks, green belts, and cemeteries. These areas vary in tree height, spacing, crown shape, and understory conditions; however, they have a continuous canopy. Street strip vegetation, located roadside, varies with species type, but typically includes a ground cover of grass. Shade trees and lawns refer to characteristic residential landscape, which is reminiscent of natural savannas. Lawns are composed of a variety of grasses, maintained at a uniform height with continuous ground cover through irrigation and fertilization. Shrub cover refers to areas commonly landscaped and maintained with hedges, as typically found in commercial districts.

Urban habitat is distinguished by the presence of both native and exotic species maintained in a relatively static composition within a downtown, residential, or suburbia setting. Species richness in these areas depends greatly upon community design (i.e., open space considerations) and proximity to the natural environment. Since the PSA is surrounded by a highly urbanized environment, species diversity is limited to those species adapted to a human habitation. Vegetation in these areas consists primarily of introduced ornamental trees and shrubs and manicured lawns as well as invasive weeds in disturbed areas. Urban/developed lands are generally not of high value for wildlife. Birds and mammals that occur in these areas typically include introduced species, including rock pigeon (*Columba livia*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), house mouse (*Mus musculus*) and Norway rat (*Rattus norvegicus*). Some native species persist in commercial development lands, including western toad (*Bufo boreas*), western fence lizard (*Sceloporus occidentalis*), Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Carpodacus mexicanus*), western scrub jay (*Aphelocoma californica*), and American crow (*Corvus brachyrhynchos*). Bats are often found in urban environments, roosting in attics, abandoned buildings, under bridges, under bark or in trees. Species expected to occur within the PSA include western mastiff bat (*Eumops perotis californicus*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), and Yuma myotis (*Myotis yumanensis*).

Ruderal

Ruderal (roadside) communities include areas of disturbances such as along roadsides, parking lots, and areas adjacent to the built environment. Ruderal communities also include areas that have been recently disturbed by human activity such as ground disturbance. Within the PSA, the ruderal environment includes areas adjacent to roadsides that are not maintained by the City or its residents. The large parcels within the West-Mohr island also have several areas of ruderal vegetation, including a large vacant parcel at the intersection of Barton Way and Eden Avenue.

A distinguishing characteristic of ruderal habitats is the mixture of native and exotic plant species. Ruderal habitat in these disturbed areas supports a diverse weedy flora. Plant species within these areas typically include field bindweed (*Convolvulus arvensis*), prickly sow thistle (*Sonchus asper*), and Mediterranean hoary-mustard (*Hirschfeldia incana*). Native and introduced wildlife species that are tolerant of human activities often thrive in ruderal habitats. Species observed within ruderal habitat include mourning dove (*Zenaida macroura*), Brewer's blackbird, rock pigeon, and house finch.

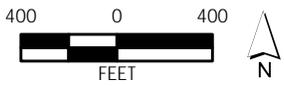
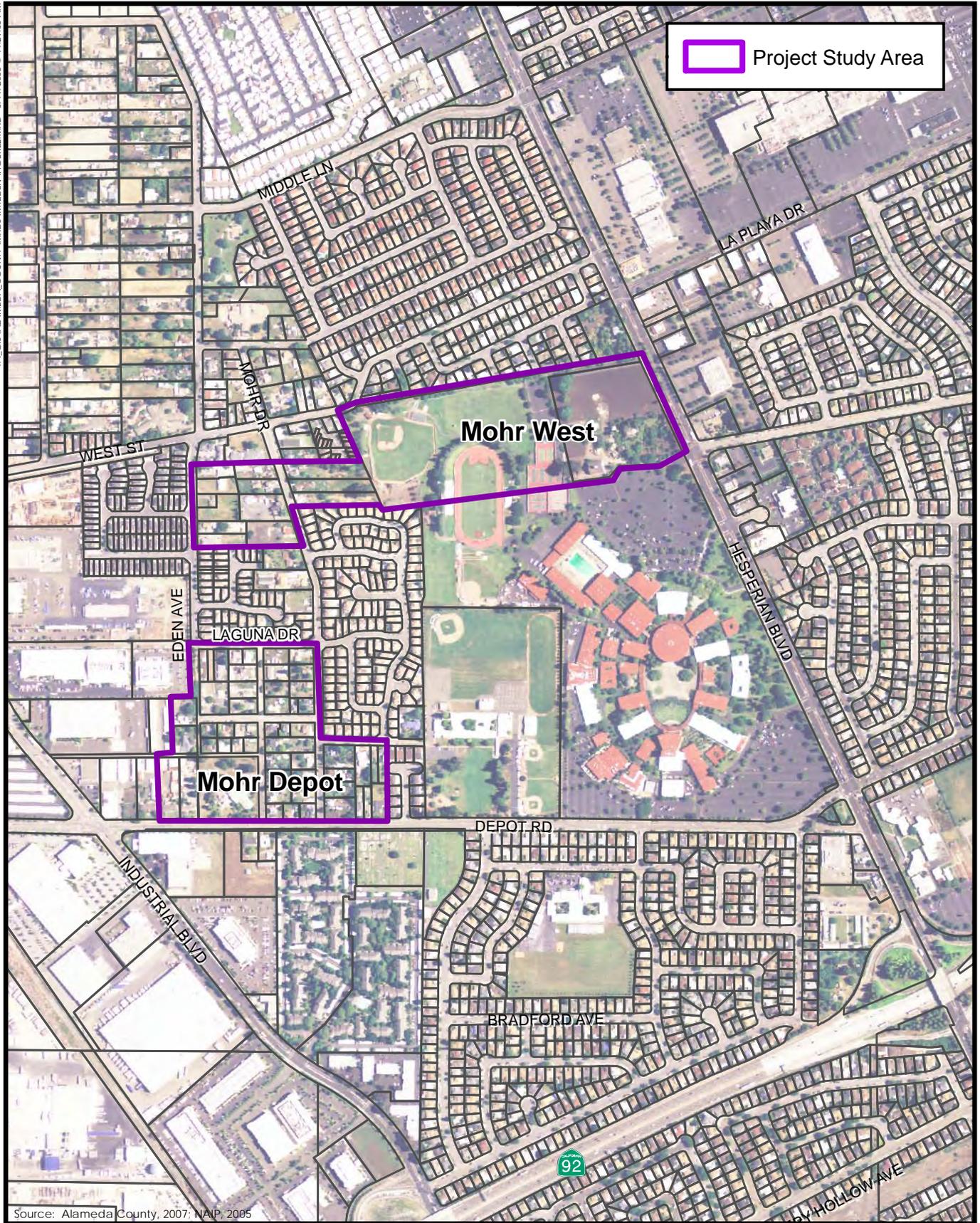


Figure IV.1
Project Location Map

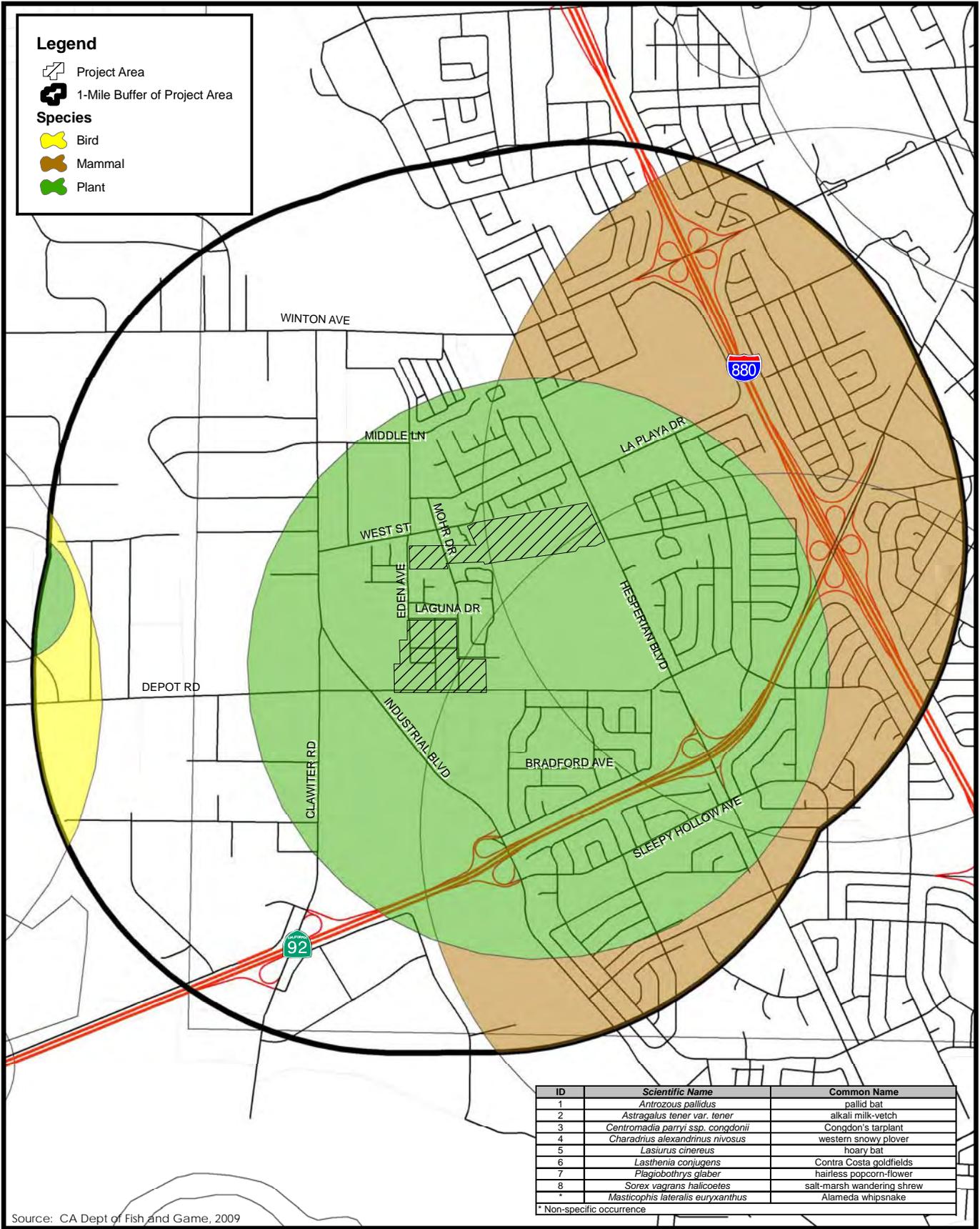


Figure IV.2
Previously Recorded Occurrences of Special-status species within a One Mile Radius of the PSA

Agricultural Field

Agricultural lands can be divided into four major categories: orchard, cropland, pasture, and irrigation channels. Agricultural lands generally occur in areas that once supported productive and diverse biological communities. The conversion of native vegetation to agricultural lands has greatly reduced the wildlife species diversity and habitat value. However, some common and agricultural “pest” species forage in these habitats, and cultivated vegetation can provide benefits such as cover, shade, and moisture for these and other species during hot summer months. Typical species found in agricultural lands include American crow, Brewer’s blackbird, and house finch. Many small herbivorous mammals, particularly rodents and lagomorphs, are able to establish seasonal populations in croplands because food is abundant and cover provided by crops is adequate. Tilling, flood irrigation, and rodent control tend to reduce these populations. Small herbivores expected to occur in agricultural fields include California ground squirrel (*Spermophilus beecheyi*), western harvest mouse (*Reithrodontomys megalotis*), Botta’s pocket gopher (*Thomomys bottae*), deer mouse (*Peromyscus maniculatus*), California vole (*Microtus californicus*), Norway rat, and house mouse. Carnivores and omnivores expected to forage in croplands include broad-footed mole (*Scapanus latimanus*), raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*). Bats also utilize agricultural fields for foraging during late spring, summer, and early fall.

Protected Trees

The PSA contains numerous trees that would qualify for protection under the City of Hayward Tree Protection Ordinance (Article 15 of Section 10 of the City Code). Several pine species (*Pinus* spp.), plum trees (*Prunus* spp.), quaking aspen (*Populus tremuloides*), Eucalyptus trees (*Eucalyptus* spp.), Cork oak (*Quercus suber*), and several other oak trees (*Quercus* spp.) are adjacent to roadways within the PSA or would otherwise qualify them as protected under the City’s Tree Protection Ordinance.

Sensitive Habitats

The CNDDDB search revealed previously recorded occurrences of the following sensitive habitats within the vicinity of the PSA: northern coastal salt marsh, northern maritime chaparral, serpentine bunchgrass, and valley needlegrass grassland. Surveys revealed that none of these sensitive habitats are present within the PSA.

SPECIAL-STATUS SPECIES

Special-status species are commonly characterized as species that are at potential risk or actual risk to their persistence in a given area or across their native habitat (locally, regionally, or nationally) and are identified by a state and/or federal resource agency as such. These agencies include governmental agencies such as, CDFG and USFWS, or private organizations such as the CNPS. The degree to which a species is at risk of extinction is the limiting factor on a species status designation. Risk factors to a species’ persistence or population’s persistence include: habitat loss, increased mortality factors (take, electrocution, etc.), invasive species, and environmental toxins.

In context of environmental review, special-status species are defined by the following codes:

- Species that are listed, proposed, or candidates for listing under the Federal Endangered Species Act (FESA) (50 CFR 17.11 – listed; 61 FR 7591,)

- Species that are listed or proposed for listing under the California Endangered Species Act (CESA) (Fish and Game Code 1992 §2050 et seq.; 14 CCR §670.1 et seq.)
- Species that are designated as Species of Special Concern by CDFG.
- Species that are designated as Fully Protected by CDFG (Fish and Game Code, §3511, §4700, §5050, §5515)
- Species that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA) (14 CCR §15380)
- Special-status plant and wildlife species were determined using the nine USGS quadrangle search for CNDDDB Rarefind program (CNDDDB 2008b), CNDDDB QuickViewer (CNDDDB 2008a), CNPS online inventory (CNPS 2009), and USFWS online inventory (USFWS 2009). Each special-status species identified within the database search has been addressed individually in **Appendix B** of this report.

Listed and Special-status Plants

The PSA consists of significantly disturbed environment. It is unlikely that any special-status plant species are present within the PSA, since the area has been urbanized for a number of years. Non-native species persist in the ruderal habitat and agricultural fields within the PSA making it unlikely that any native special-status plants are present.

Listed and Special-status Wildlife

Raptors and Other Migratory Birds

Many bird species are migratory and fall under the jurisdiction of the Migratory Bird Treaty Act (MBTA). Various migratory birds and raptor species, in addition to those described in detail above, have the potential to inhabit the project vicinity. Some raptor species, such as American kestrel (*Falco sparverius*) and red-tailed hawk (*Buteo jamaicensis*), are not considered special-status species because they are not rare or protected under Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA); however, the nests of all raptor species are protected under the Migratory Bird Treaty Act and Section 3503.5 of the California Fish and Game Code. Migratory birds forage and nest in multiple habitats such as ruderal habitat and agricultural fields. The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. The trees found within the PSA and in the vicinity provides potential nesting habitat for raptors and migratory birds that occur in the region. Consequently, raptor and migratory bird species are likely to forage and nest in the PSA.

Mammals

Pallid bat (*Antrozous pallidus*) is a California species of special concern. Pallid bats roost in rock crevices, tree hollows, mines, caves, and a variety of anthropogenic structures, including vacant and occupied buildings. Colonies are usually small and may contain 12 to 100 bats. There is one previously recorded occurrence within one mile of the PSA, and one additional occurrence within five miles of the PSA. This species may occur within buildings or other structures within the PSA.

Western mastiff bat (*Eumops perotis californicus*) is a California species of special concern. It is a large bat that is found mostly in the southern half of California, but ranges north to Butte County.

It prefers open, arid areas with high cliffs, but can also be found in bare rock, cliff, desert, herbaceous grassland, savanna, shrubland, chaparral, suburban, orchard, and conifer, hardwood and mixed woodlands. It roosts in small colonies and can also be found in caves and buildings. This bat catches strong flying insects such as dragonflies, moths, and beetles. There is one previously recorded occurrence within five miles of the PSA. This species may occur within buildings or other structures within the PSA.

Silver-haired bat (*Lasionycteris noctivagans*) is a California species of special concern. This species prefers forested (frequently coniferous) areas adjacent to lakes, ponds, and streams. Summer roosts and nursery sites are in tree foliage, cavities, or under loose bark, but sometimes it roosts in buildings. This species may occur within buildings or other structures within the PSA.

Hoary bat (*Lasiurus cinereus*) is a California species of special concern. This species is solitary, except for the mother-young association; however, during migration, groups of up to hundreds of individuals may form. Those migrating through the western U.S. in fall go south at least into Mexico. There is one previously recorded occurrence within one mile of the PSA. This species may occur within buildings or other structures within the PSA.

WILDLIFE MOVEMENTS

The area within the PSA does not constitute a wildlife movement corridor due to its small size, proximity to highly disturbed areas, and lack of topographic features (i.e. ridges, drainages, etc.) that would facilitate the movement of fish and wildlife.

REGULATORY FRAMEWORK

This section lists specific environmental review and consultation requirements and identifies permits and approvals that must be obtained from local, state, and federal agencies before implementation of the proposed project.

FEDERAL

The **Federal Endangered Species Act** (FESA) protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process. Procedures for addressing impacts to federally listed species follow two principal pathways, both of which require consultation with the United States Fish and Wildlife Service (USFWS), which administers the FESA for all terrestrial species. The first pathway, Section 10(a) incidental take permit, applies to situations where a non-federal government entity must resolve potential adverse impacts to species protected under the FESA. The second pathway, Section 7 consultation, applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval.

The **Migratory Bird Treaty Act** implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code (FGC).

All raptors and their nests are protected from take or disturbance under the MBTA (16 United States Code [USC], § 703 et seq.) and California statute (FGC § 3503.5). The golden eagle and

bald eagle are also afforded additional protection under the **Eagle Protection Act**, amended in 1973 (16 USC, § 669 et seq.).

Executive Order 13112 – The executive order addressing **invasive species** directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. The order further directs all federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species. Subsequent projects may require USFWS and USACE permits and therefore would be responsible for ensuring that the proposed action complies with Executive Order 13112 and does not contribute to the spread of invasive species.

STATE

Under the **California Endangered Species Act** (CESA), California Department of Fish and Game (CDFG) has the responsibility for maintaining a list of endangered and threatened species (Fish and Game Code - FGC 2070). Sections 2050 through 2098 of the FGC outline the protection provided to California's rare, endangered, and threatened species. Section 2080 of the FGC prohibits the taking of plants and animals listed under the CESA. Section 2081 established an incidental take permit program for state-listed species. CDFG maintains a list of "candidate species" which are species that CDFG formally notices as being under review for addition to the list of endangered or threatened species.

In addition, the **Native Plant Protection Act of 1977** (FGC Section 1900 et seq.) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered (as defined by CDFG). An exception to this prohibition in the Act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFG and give that state agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed (FGC, Section 1913 exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way"). Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

CDFG also maintains lists of "species of special concern" which serve as species "watch lists." The CDFG has also identified many "Species of Special Concern." Species with this status have limited distribution or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under CEQA and thereby warrant specific protection measures.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. The CEQA Guidelines Section 15065 ("Mandatory Findings of Significance") requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 ("Rare or Endangered Species") provides for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the California Native Plant Society's (CNPS) Lists 1A, 1B, and 2 would typically be considered under CEQA.

Sections 3500 to 5500 of the FGC outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these Sections may not

be taken or possessed at any time. The CDFG cannot issue permits or licenses that authorize the “take” of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock.

Under Section 3503.5 of the FGC it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project study area and determine whether the proposed project would have a potentially significant impact on such species. In addition, CDFG encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of the CESA. “Take” of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Authorization from CDFG would be in the form of an Incidental Take Permit.

LOCAL

Alameda County General Plan

The Alameda County General Plan policies serve as a baseline for the current condition of the PSA in regards to regulatory environment. However, once the propose project is adopted, and the land is annexed into the City of Hayward, all proposed projects would be subject to the City of Hayward General Plan policies and ordinances, which are discussed below.

City of Hayward General Plan

The City of Hayward General Plan outlines several policies to protect and enhance the City’s biological resources in the Conservation and Environmental Protection (Chapter 7) of General Plan (City of Hayward 2002).

4. Protect and enhance vegetative and wildlife habitat throughout the Hayward area.
 1. Avoid development that would encroach into important wildlife habitats, limit normal range areas, or create barriers that cut off access to food, water, or shelter.
 2. Support efforts to reestablish and maintain marsh habitats on the baylands.
 3. Preserve tidal flats and salt ponds of low salinity for the migratory waterfowl that depend on these areas.
 4. Preserve saltwater evaporation ponds to provide important habitats and/or enhance in a manner commensurate with continued salt production.
 5. Maintain environmental corridors across the bay plain such as creeks with native vegetation.

6. Utilize drought-tolerant plant materials in city landscaping.
7. Encourage the planting of native vegetation to preserve the visual character of the area and reduce the need for toxic sprays and groundwater supplements.
8. Preserve mature vegetation where possible to provide shade, break unwanted wind, and enhance the appearance of development.

City of Hayward Tree Protection Ordinance

The Tree Preservation Ordinance (Article 15 of Section 10 of the City Code) is intended to protect and preserve significant trees and control the re-shaping, removal or relocation of those trees that provide benefits for the neighborhood or the entire community while recognizing that there are rights to develop private property. The Tree Preservation Ordinance is applicable to all types of existing Industrial, Commercial, and Multi-family development, and to new development, under-developed properties, or undeveloped properties. On developed single family properties, only those trees that were required to be planted as part of the Zoning Ordinance or were required to be planted or protected in place as a condition of approval for development are Protected Trees that require a permit for trimming or cutting, relocation or removal. Trees required to be planted on a single family lot as part of the Zoning Ordinance include Street Trees or trees required to be planted in the front yard. Side yard trees on a corner lot outside of the fence are also Protected Trees under this Ordinance. Trees within the rear yard area of single-family properties are exempt unless they were required to be planted or protected in place as part of the conditions of approval or discretionary action. The Tree Preservation Ordinance prohibits the removal, destruction, or cutting of branches over one inch in diameter of any Protected Trees without a permit. Protected Trees are defined as:

- Trees having a trunk measuring at least eight inches in diameter at 54 inches above the ground;
- Street trees of any size;
- Recognized memorial or specimen trees;
- Trees of the following species, with trunk diameter of at least four inches: big-leaf maple (*Acer macrophyllum*), California buckeye (*Aesculus californica*), madrone (*Arbutus menziesii*), western dogwood (*Cornus sericea ssp. occidentalis*), California sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), canyon live oak (*Quercus chrysolepis*), blue oak (*Quercus douglasii*), oregon white oak (*Quercus garryana*), California black oak (*Quercus kelloggii*), valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), California bay (*Umbellularia californica*); and
- Trees of any size planted as a replacement for a protected tree.

Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area

Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area features 28 species of plants and animals that occur exclusively or primarily on serpentine soils and serpentine grasslands in the San Francisco Bay Area of California (USFWS, 1998). The Endangered Species Act mandates the preparation of recovery plans for listed species unless such a plan would not contribute to their conservation. Recovery plans detail the actions necessary to achieve self-sustaining, wild populations of listed species so they would no longer require protection under

the Federal Endangered Species Act. The ultimate goal of this recovery plan is to de-list six of the fourteen endangered and threatened species, improve the security of seven of the fourteen listed species, and ensure the long-term conservation of the fourteen species of concern. An interim goal is to down-list the endangered species to threatened status.

STANDARDS OF SIGNIFICANCE

Impacts to biological resources would be considered significant if the project would result in one or more of the following:

- An adverse impact to special status species, riparian habitats, or other sensitive natural community as listed in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service or their habitats.
- An adverse effect on federally protected wetlands.
- Interference with the movement of resident or migratory fish and wildlife species or the use of wildlife nursery sites.
- Conflict with local policies or ordinances protecting biological resources, including a Habitat Conservation Plan or Natural Community Conservation Plan.

The impact analysis was based on the project description (Section 3.0), information described in the existing setting, and the standards of significance described in the initial study checklist. The impact analysis assumes full build out of the PSA. Given the nature of the proposed project as an annexation of an already largely developed urban area, it is the resultant potential for the policies, capital projects, and development directly related to the annexation that was analyzed for project's potential to effect biological resources.

IMPACT DISCUSSION

SPECIAL STATUS SPECIES

Raptors and Other Migratory Birds

a) Less than Significant Impact with Mitigation. Habitat within the PSA provides suitable nesting and foraging opportunities for many avian species, including some raptors and migratory birds. Raptors and raptor nests are considered to be a special resource by federal and state agencies and are protected under the MBTA and California Code of Regulations. All nesting migratory birds, their nests, eggs, and chicks are also protected under the MBTA. Construction activities that require the disturbance of trees and vegetation could cause direct impacts to nesting raptors and migratory birds. Removal of habitat within the PSA would be considered a direct and significant impact if any of these species were taken or deterred from traditional nesting or foraging locations. Construction could also result in noise, dust, increased human activity, and other indirect impacts to nesting raptor or migratory bird species in the project vicinity. Potential nest abandonment, mortality to eggs and chicks, as well as stress from loss of foraging areas would also be considered potentially significant impact.

Mitigation Measures

MM IV.1 If proposed construction activities are planned to occur during the nesting season for avian species (typically March 1st through August 31st), the City or

developer shall retain a qualified biologist to conduct a focused survey for nesting raptors and migratory birds within 100 feet of the construction area no more than 30 days prior to ground disturbance or tree removal. If active nests are located during preconstruction surveys, USFWS and/or CDFG shall be notified regarding the status of the nests. Furthermore, construction activities shall be restricted as necessary to avoid disturbance of the nest until it is abandoned or a biologist deems disturbance potential to be minimal (in consultation with USFWS and/or CDFG). Restrictions may include establishment of exclusion zones (no ingress of personnel or equipment at a minimum radius around the nest of 100 feet for raptors and 50 feet for migratory birds. No action is necessary if construction will occur during the non-breeding season (generally September 1st through February 28th). Reference to this requirement, the MBTA, and Section 3503.5 of the California Fish and Game Code shall be included in the construction specifications.

Timing/Implementation: Prior to any site disturbance.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of the above mitigation measure MM IV-1 would reduce impacts to raptors and other migratory species to a less than significant level.

Mammals

a) Less than Significant Impact with Mitigation. Special-status bat species have been identified in as potentially occurring within the PSA. Precautions shall be taken to avoid the deliberate killing or injury of bats. The most common and effective method of avoiding impacts is to carry out the work at an appropriate time of the year. The great majority of roosts are used only seasonally, so there is usually some period when bats are not present. Although there are differences between species, maternity sites are generally occupied between March 1 and July 31 and hibernation sites between October and March, depending on the weather. An adequate survey and good understanding of the seasonal activity patterns of the particular species involved will help in determining the optimum time to carry out the proposed work. Bats are at their most vulnerable during the summer, when large numbers may be gathered together and young bats, unable to fly, may be present. Operations to known breeding sites should therefore be timed to avoid the summer months; work should be sufficiently advanced by May or June for returning bats to be dissuaded from breeding in that site for that year. The best times for building operations are spring and autumn.

Any construction activities within the PSA during the maternity roosting season could potentially result in adverse impacts to these species; this is considered a potentially significant impact. The implementation of mitigation measures identified below will reduce this effect to a less than significant level. The vacant and unoccupied buildings or other structures as well as trees within the PSA may provide habitat for resident and/or migratory bats. If demolition of these structures or removal of trees occurs when the site is actively being used as a roosting site, the proposed project may adversely impact special-status bat species. Additional mitigation measures are necessary to reduce impacts to special-status bat species to a less than significant level.

Mitigation Measures

MM IV.2 To ensure that there will be no adverse impacts to roosting special-status bat species, a survey shall be conducted between March 1 and July 31 by a qualified biologist immediately prior to the removal of any trees or vacant and unoccupied buildings.

If no bat roosts are detected, then no further action is required if the trees or buildings are removed prior to the next breeding season. If removal is delayed, then an additional pre-construction survey shall be conducted no more than 30 days prior to removal of any trees or buildings to ensure that a new colony has not established itself. If bats are found roosting within the PSA, then the following mitigation will be implemented to reduce the potential disturbance:

While unlikely, if a female or maternity colony of bats is found within the PSA, and the project can be constructed without the elimination or disturbance of the roosting colony (e.g., if the colony roosts in a large tree not planned for removal), a qualified biologist shall determine what physical and time-limited buffer zones shall be employed to ensure the continued success of the colony. Such buffer zones may include a construction-free barrier of 200 feet from the roost and/or the timing of the construction activities outside of the maternity roosting season (after July 31 and before March 1).

If an active nursery roost is known to occur within the PSA and the project cannot be conducted outside of the maternity roosting season, consultation shall be initiated with CDFG to determine appropriate exclusionary or removal methods. The bats shall be excluded from the roosting site after July 31 and before March 1 to prevent the formation of maternity colonies. Non-breeding bats shall be safely evicted, under the direction of a qualified biologist.

Timing/Implementation: Prior to any site disturbance.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of the above mitigation measure **MM IV.2** would reduce impacts to mammals to a less than significant level.

RIPARIAN OR OTHER SENSITIVE HABITAT

b) No impact. There is no riparian or other sensitive habitat present within the annexation area.

FEDERALLY PROTECTED WETLANDS OR OTHER JURISDICTIONAL WATERS

c) No Impact. No federally protected wetlands or other waters of the U.S. were identified within the PSA.

MIGRATORY CORRIDORS

d) No Impact. No movement corridors of any fish or wildlife species or native nursery sites were identified within the PSA.

CONFLICT WITH LOCAL POLICIES OR ORDINANCES

e) *Less than Significant with Mitigation Incorporated.* The proposed project is subject to the City of Hayward's Tree Protection Ordinance (Article 15 of Section 10 of the City Code). The PSA contains numerous trees that are protected under this ordinance. Removal of trees under this ordinance would constitute a significant impact. The following mitigation measures shall apply to the proposed street widening and installation of curbs and sidewalks, as well as future development projects on private properties within the PSA, in accordance with the City's Tree Protection Ordinance.

Mitigation Measures

MM IV.3a Prior to any ground-disturbing activities, in street right-of-ways or on private properties where, protected trees exist, an Arborist Report shall be prepared by a certified arborist and submitted to the City of Hayward Development Services Department for review. The report shall identify all trees four (4) inches diameter-at-breast-height (dbh) or larger that could be affected by the project. The report shall include the following minimum components:

- Tree species;
- Tree dbh (diameter at breast height);
- Tree dripline radius (measured from the trunk to the tip of the longest limb);
- Overall health and condition of each tree;
- Appraised value of each tree;
- A map of the project site showing the location of each tree; and
- Recommendations.

Based on this report, the City of Hayward Development Services Department will determine which trees would be suitable candidates for protection, and which trees will need to be mitigated if removed. Trees that would be removed or otherwise harmed by the project shall be mitigated for pursuant to the City's Tree Protection Ordinance. All protected trees shall be included on all future project plans.

Timing/Implementation: Prior to approval of plans.

Enforcement/Monitoring: City of Hayward Development Services Department.

MM IV.3b In accordance with Hayward's Tree Preservation Ordinance, any "protected" trees as defined by the City's Tree Preservation Ordinance that are to be removed as a result of the project shall be replaced with likesize, like-kind trees or trees equal in value to them, as determined by the City's Landscape Architect. Prior to any groundbreaking activity, a Replacement Tree Planting Plan shall be prepared by a certified arborist or landscape architect and shall

be submitted to the City of Hayward Development Services Department for review and approval. The Replacement Tree Planting Plan(s) shall include the following minimum elements:

- a) Species, size, and locations of all replacement plantings;
- b) Method of irrigation;
- c) A tree planting detail;
- d) Planting, irrigation, and maintenance schedules; and
- e) Identification of the maintenance entity and a written agreement with that entity to provide care and irrigation of the trees for a 5-year establishment period and to replace any of the replacement trees which do not survive during that period.

Mitigation trees planted as replacements for those removed during the street widening and installation of curbs and sidewalks may be planted on private properties (with owner permission/cooperation) and/or within street right-of-ways where possible).

If tree(s) cannot be preserved or replaced onsite, off-site mitigation shall be provided in accordance with the provisions of the City Tree Preservation Ordinance.

Timing/Implementation: Prior to any site disturbance.

Enforcement/Monitoring: City of Hayward Development Services Department.

MM IV.3c

For trees that will be protected onsite, the following protective measures are recommended to avoid damage during construction to trees proposed for preservation:

1. Unless otherwise specifically stated by a certified arborist in a report prepared for the project, a circle with a radius measurement from the trunk of the tree to the tip of its longest limb shall constitute the dripline protection area of each tree. Limbs must not be cut back in order to change the dripline. The area beneath the dripline is a critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs that make up the dripline does not change the protected area.
 - a. Protective fencing shall be installed at the driplines of the protected trees prior to the start of any construction work (including grading or placement of vehicles on site), in order to avoid damage to the trees and their root systems. This fencing may be installed around the outermost dripline of clusters of trees proposed for protection, rather than individual trees. Fencing shall be shown all project plans.
 - b. No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within

the driplines of protected trees. A laminated sign indicating such shall be attached to fencing surrounding trees on-site.

- c. No grading (grade cuts or fills) shall be allowed within the driplines of protected trees.
 - d. Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any protected tree.
 - e. No trenching shall be allowed within the driplines of protected trees. If it is absolutely necessary to install underground utilities within the dripline of a protected tree, the utility line shall be bored and jacked under the supervision of a certified arborist.
 - f. The construction of impervious surfaces within the driplines of protected trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system shall be installed under the supervision of a certified arborist. Wherever possible, pervious concrete shall be used as an alternative to traditional concrete, when it is required under tree driplines.
 - g. No sprinkler or irrigation system shall be installed in such a manner that sprays water or requires trenching within the driplines of protected trees. An above ground drip irrigation system is recommended.
 - h. Landscaping beneath protected trees may include non-plant materials such as bark mulch or wood chips. The only plant species that shall be planted within the driplines of protected trees are those that are tolerant of the natural environs of the trees. Limited drip irrigation approximately twice per summer is recommended for the understory plants.
- 2. Any protected trees on the site, which require pruning, shall be pruned by an arborist prior to the start of construction work. All pruning shall be in accordance with the American National Standards Institute (ANSI) A300 pruning standards and the International Society of Arboriculture (ISA) "Tree Pruning Guidelines."
 - 3. No signs, ropes, cables (except those which may be installed by an arborist to provide limb support) or any other items shall be attached to the protected trees.

Timing/Implementation: Prior to and during any site disturbance.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of the above mitigation measures **MM IV.3a**, **MM IV.3b**, and **MM IV.3c** would reduce potential impacts to protected trees to a **less than significant** level.

CONFLICT WITH HABITAT CONSERVATION PLAN OR NATURAL COMMUNITY CONSERVATION PLAN

f) No impact. There is no adopted Habitat Conservation Plan or Natural Community Conservation Plan that covers the PSA. Although the PSA is within the area covered by the

adopted Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area, no serpentine soils are present within the PSA. No provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan apply to the PSA, and therefore the proposed project would not conflict.

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

	Potentially Significant Impact	Less than Significant Impact With Mitigation Incorporated	Less than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

PREHISTORY

Intensive investigation of the San Francisco Bay region dates to the early 1900s, and is highlighted by the work of Max Uhle (1907) and N.C. Nelson (cf., Nelson 1907, 1909a, 1909b). Uhle began excavations at Emeryville shellmound near Berkeley and Nelson was the first archaeologist to recognize the Bay area as a discrete archaeological area. Nelson documented over 100 shellmounds in the littoral zone along the bayshore of Alameda and Contra Costa counties, and identified a pattern of intensive use of shellfish during his investigations in the area.

Archaeological work in the San Francisco Bay area generated a significant amount of data, and by the 1940s there was sufficient information for Beardsley (1948, 1954) to expand his Central California Taxonomic System (CCTS) and correlate archaeological cultures in the Delta with those in the Bay. Three horizons, Early, Middle and Late, were identified for the archaeological cultures in central California and the San Francisco Bay region. The CCTS concentrated on material culture (e.g., burial practices) and the development of chronologies based on differences in the composition of assemblages rather than issues related to subsistence, settlement strategies, social organization, and trade.

Frederickson (1973, 1974) addressed the issues associated with the CCTS and proposed a new taxonomic system. He recognized specific adaptive modes or *patterns* (i.e., specific economic and/or technological characteristics that are restricted in space, but do not imply a temporal sequence). Fredrickson (1973) defined five patterns (i.e., Windmiller, Berkeley, Borax Lake, Augustine, and Houx) for the North Coast Ranges, the San Francisco Bay and the lower Sacramento Valley, and assigned them to six periods: Paleo-Indian (10,000 to 6,000 B.C.); Lower, Middle, and Upper Archaic (6,000 B.C. to A.D. 500); and Upper and Lower Emergent (A.D. 500 to 1800). The most relevant patterns to the archaeology of the annexation area are the Windmiller,

Berkeley, and Augustine Patterns. The Windmill Pattern or Early Horizon extended from 3,000 to 1,000 B.C., the Berkeley Pattern or Middle Horizon from 1,000 B.C. to A.D. 500, and the Augustine Pattern or Late Horizon from A.D. 500 to the historic period.

ETHNOGRAPHY

At the time of Euroamerican contact (ca. 1769), Native Americans identified as Costanoans occupied the area from San Francisco Bay to southern Monterey Bay and the lower Salinas River. Costanoans lived in an area extending from San Francisco Bay to the Salinas Valley. This large area was subdivided among several individual tribelets occupying specific territories. Each tribelet, such as the Chochenyo, consisted of approximately 200 individuals who were grouped into clans and moieties. A headman controlled the clans and moieties (Harrington 1933, 1942; Levy, 1978). Tribelet political organization also included a council of elders, official speakers, and shamans (Levy, 1978).

HISTORY

The arrival of the Spanish in the San Francisco Bay area in 1775 initiated a rapid decline of native populations in the area. The disruption of Native American culture was due to factors such as the introduction of diseases, a declining birth rate, and missionization. The decline of both Native American populations and culture was exacerbated by the discovery of gold in California in 1848 and the subsequent influx of large numbers of Euroamericans into California. Costanoan populations, which historically were small, experienced dramatic reductions in the latter half of the 19th century through the early 20th century. Indeed, Costanoan languages were probably extinct by 1935 (Levy, 1978). Remaining Costanoan descendants united in 1971 as a corporate entity identified as the Ohlone Indian Tribe.

The site of the City of Hayward was originally part of *Rancho San Lorenzo*, a large area of land granted by the Mexican government to Guillermo Castro in 1840 (Hoover et al. 2002). The latter half of the nineteenth century witnessed a growing immigration of Euroamericans into California because of the discovery of gold in 1848. The population growth in the area was accompanied by regional cultural and economic changes. These changes are highlighted by the development of towns across the San Francisco Bay area.

Hayward, originally known as 'Haywards', is named for William Hayward (City of Hayward, 2008). Hayward came to California from New England in 1849 during the California Gold Rush. After spending several frustrating years in the gold fields, Hayward returned to the Bay area. He squatted on Castro's ranch near Palomares Canyon for some time and eventually bought 40 acres of land from Castro. Hayward established a store and post office on the land. Subsequently, Hayward purchased additional land from Castro built a resort hotel in the area. The area surrounding the hotel soon became known as "Hayward's" because of the name of the hotel. Hayward died in 1891.

The Town of Hayward grew steadily throughout the late 19th century, fueled by an economy based on agriculture and tourism. Growth of the area was also fostered by the South Pacific Coast Railroad that provided service between Oakland and San Jose and subsequently the Southern Pacific and Western Pacific railroads (City of Hayward, 2008). During the 1940s workers and their families were attracted to the area by the opening of factories to manufacture war materials. Many of these workers and their families stayed in the area after the war and there was a need for residential housing. Two suburban tract housing pioneers, Oliver Rousseau and David Bohannon built most of the postwar housing in the Hayward area. Since the late 1940s the

San Francisco Bay area and the City of Hayward has experienced dramatic increases in population and economic development.

The first Euroamerican settlers in Mt. Eden were a group of pioneers from Mt. Eden, Kentucky who came to California during the Gold Rush. The party disbanded upon reaching the San Francisco Bay, but a few of them settled at a road crossing. They nailed a sign reading "Mt. Eden" to two trees at the road crossing and the area became known as Mt. Eden. Eventually, a town developed at this site. The historic center of Mt. Eden (currently a freeway interchange) was around Telegraph Avenue (currently Hesperian Boulevard) between Depot Road and Jackson Street. The town became part of the City of Hayward in the late 1950s, although the post office and town name continued to be used until 1984 when the U. S. Postal Service decommissioned the Mt. Eden post office.

METHODOLOGY AND KNOWN CULTURAL AND PALEONTOLOGICAL RESOURCES

PMC conducted archaeological and historical investigations for the annexation area in January 2008. These investigations included: a records search conducted by the Northwest Information Center at Sonoma State University, Rohnert Park, California; a sacred lands search completed by the Native American Heritage Commission (NAHC); Native American consultation; architectural review of the Mohr-Fry Estate property and Hermann-Mohr Residence; and a search of the University of California Museum of Paleontology, Berkeley (UCMP).

The sacred lands search did not identify any sensitive Native American cultural resources within the annexation area. All Native American groups and or individuals identified as having knowledge of the annexation area by the NAHC were contacted by letter regarding the annexation. PMC did not receive any comments regarding the proposed project from the Native American community.

A search of the University of California Museum of Paleontology, University of California, Berkeley database was completed for the annexation area. The database search identified paleontological resources in Alameda County, but did not identify any paleontological resources within the annexation area.

Archaeological and historical investigations identified that approximately 10% of the annexation area is previously surveyed. These investigations identified the Eastshore-Grant Transmission Line built circa 1922, the Mohr-Fry Estate property, and Hermann-Mohr Residence. Alameda County hired Carey & Co. in 2008 to conduct an architectural inventory of unincorporated Alameda County areas. This inventory resulted in a list of 50 properties throughout the unincorporated Alameda County areas, including two in the Mt. Eden area. The Mohr-Fry Estate property is eligible for inclusion in the California Register of Historical Resources (CRHR) and the Hermann-Mohr Residence may be eligible for inclusion in City of Hayward local register of historic resources (cf., Carey & Company, 2008; PMC, 2008).

Historic buildings in Hayward are regulated by the Historic Preservation Ordinance found in the Hayward Municipal Code (Chapter 10, Article 11). The Ordinance governs structures, districts and neighborhoods that contribute to the cultural and aesthetic heritage of Hayward. The Ordinance includes sections about the designation of historic structures, sites or districts, and altering, demolishing and maintaining of significant structures. The Historic Preservation Ordinance's purpose, among other things, is to "designate, preserve, protect, enhance, and perpetuate those historic structures, districts, and neighborhoods which contribute to the cultural and aesthetic heritage of Hayward."

At the present time, only 12 structures are officially designated as "historic structures." However, the City of Hayward is currently preparing a Historic Preservation Program, including a city-wide historic sites survey, incentives to property owners for participation in the preservation of historic properties, and an update of the Historic Preservation Ordinance. It is anticipated that adoption of the Program will occur in December 2009.

DISCUSSION OF IMPACTS

HISTORICAL RESOURCES

a) Less Than Significant Impact With Mitigation Incorporated. Historical resources, as defined in §15064.5, are located within the annexation area as discussed above and as discussed in **Appendix C**. These resources have been inventoried, but may not yet be on a local list of historical resources. As time passes, it is possible that more buildings and structures could be found to meet the criteria for designations as historical resources, and these resources should be analyzed for historical significance.

Mitigation Measure

MM V.1a Appropriate research (e.g. archival search and architectural inventories as appropriate) shall be conducted to identify the potential for historical resources to be present on a project site within the annexation area, as part of CEQA documents required for development projects that may be processed after the implementation of the proposed project. This research shall be conducted by an archaeologist and/or architectural historian that meets the Secretary of the Interior's Standards and Guidelines for Professional Qualifications in archaeology, architectural history, and/or history, as appropriate. The eligibility of the resource for designation shall be conducted following guidance at §15064.5. This is consistent with the Mt. Eden Neighborhood Plan (1990). Individual projects that may be implemented in the annexation area may require compliance with CEQA and mitigation measures shall be implemented for potential impacts to historical resources identified in future CEQA documents.

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

MM V.1b The City of Hayward shall pursue funding and other mechanisms (e.g., the update of the City's Historic Preservation Ordinance and may pursue implementing the Mills Act and other tax credit programs, applying for designation as a Certified Local Government, and identification of incentives for property owners to preserve potentially significant historic buildings such as waivers of permit application fees) to foster the preservation and rehabilitation of potentially significant historic buildings/structures. This is consistent with the Mt. Eden Neighborhood Plan (1990).

Timing/Implementation: Ongoing.

Enforcement/Monitoring: City of Hayward Development Services Department.

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Implementation of **MM V.1a and MM V.1b** would reduce potential impacts to potential historical resources to **less than significant**.

ARCHAEOLOGICAL RESOURCES

b) Less Than Significant Impact With Mitigation Incorporated. There are no known unique archaeological resources, as defined in §15064.5, within the annexation area. However, it is possible that cultural resources (e.g., archaeological sites) that meet the criteria for designations as an archaeological resources may be present.

Mitigation Measure

MM V.2a Appropriate research (e.g. archival search and archeological survey as appropriate) shall be conducted to identify the potential for archaeological sites to be present on a project site within the annexation area, as part of CEQA documents required for development projects that may be processed after the implementation of the proposed project.

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

MM V.2b If cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features) are inadvertently discovered during any ground disturbing activity associated with any projects within the project area shall be halted immediately within 50 feet of the discovery, the City of Hayward Development Services Department shall be notified, and a professional archaeologist that meets the Secretary of the Interior's Standards and Guidelines for Professional Qualifications in archaeology and/or history shall be retained to determine the significance of the discovery.

Timing/Implementation: During project construction.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of **MM V.2a and MM V.2b** would reduce potential impacts to any inadvertently discovered archaeological resources to **less than significant**.

UNIQUE PALEONTOLOGICAL OR GEOLOGICAL RESOURCES

c) Less Than Significant Impact With Mitigation Incorporated. There are no known paleontological or unique geological resources within the annexation area, but there are paleontological resources in Alameda County. It is possible that paleontological resources are present within the annexation area.

Mitigation Measure

MM V.3a Appropriate research (e.g. archival search) shall be conducted to identify the potential for paleontological resources to be present on a project site, as part

of CEQA documents required for development projects that may be processed after the implementation of the proposed project.

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

MM V.3b

If paleontological resources (i.e., fossils) are inadvertently discovered during any ground disturbing activity associated with any projects within the project area shall be halted immediately within 50 feet of the discovery, the City of Hayward Development Services Department shall be notified, and a professional paleontologist shall be retained to determine the significance of the discovery.

Timing/Implementation: During project construction.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of **MM V.3a** and **MM V.3b** would reduce potential impacts to any inadvertently discovered paleontological and geological resources to **less than significant**.

DISTURB HUMAN REMAINS

d) Less Than Significant Impact With Mitigation Incorporated. There are no known archaeological sites in the annexation area and human remains associated with Native American and/or Euroamerican occupation have not been discovered in the annexation area. Regardless, there are archaeological sites that contain human remains in Alameda County and it is possible that sites containing human remains may be present.

Mitigation Measure

MM V.4a

If human remains are inadvertently discovered during any ground disturbing activity associated with any projects that may be implemented as a result of approval of the Mt. Eden Annexation work shall be halted immediately within 50 feet of the discovery, the City of Hayward Development Services Department shall be notified, and the County Coroner must be notified according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.

Timing/Implementation: During project construction.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of **MM V.4a** would reduce potential impacts to any inadvertently discovered human remains to **less than significant**.

	Potentially Significant Impact	Less than Significant Impact With Mitigation Incorporated	Less than Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

EXISTING SETTING

Within the City of Hayward, the Hayward Fault is one of the most hazardous faults in the United States, because of its high slip rate, its demonstrated ability to generate a large earthquake and, most importantly, its location through the highly urbanized eastern San Francisco Bay area. The Hayward Fault is of particular significance to the City of Hayward because it traverses the most intensively developed portions the City and because it has generated a large, surface-rupturing earthquake in historic time.

Other potentially active faults within Hayward include the Chabot fault, the Carlos Bee fault, and several unnamed secondary faults adjacent to the Chabot and Hayward faults. In the Alquist-Priolo Special Studies Zone, which extends 100 feet on either side from known fault traces, geologic hazard investigations are required before development can be approved. However, all of the above-mentioned faults run through or near the Hayward Hills on the eastern side of the City and are more than 100 feet from the annexation area.

STANDARDS OF SIGNIFICANCE

An impact would be considered potentially significant if the proposed project would increase exposure to and adverse effects associated with fault rupture, strong seismic ground shaking, liquefaction, collapse and other soil instability characteristics, and expansive soils. An impact would be considered potentially significant if the project soils were unsuitable for septic systems or if the proposed project would result in substantial soil erosion or loss.

IMPACT DISCUSSION

RUPTURE OF A KNOWN EARTHQUAKE FAULT

a-i) *Less than Significant Impact.* The City of Hayward, as part of the Bay Area, is in one of the most active seismic regions in the United States. **Figure VI.1, Location of Alquist-Priolo Fault Zones** is a regional map of the Bay Area showing the approximate position of the major Alquist-Priolo Earthquake Fault Zones, and the location of these zones in relation to the City of Hayward. Each year, low and moderate magnitude earthquakes occurring within or near the Bay Area are felt by residents of the City. About twenty of these temblors caused moderate to substantial damage: those of 1868 and 1989 being the most destructive. The major fault zones of the San Andreas Fault System were the sources of these earthquakes, and are expected to be sources of future earthquakes. The nearest active fault is the Hayward Fault, which is located approximately four miles east of the annexation area. Additionally, the Working Group on California Earthquake Probabilities (1999) has estimated there is a 32% probability for the occurrence of a large earthquake in the next 30 years on the nearby Hayward-Rogers Creek fault system.

Because the annexation area is not located on a fault or along a fault trace, they are not directly susceptible to rupture of a known earthquake fault and associated impacts are considered **less than significant**. See the discussion under **items VI.a-ii), VI.a-iii), and VI.c)** for further discussion of geologic and seismic safety topics.

STRONG SEISMIC GROUND SHAKING

a-ii) *Less than Significant Impact with Mitigation Incorporated.* The severity of ground shaking at any location is a function of several factors, including the distance from the earthquake source, the earthquake magnitude, and the type, thickness and condition of underlying geologic materials.

According to *the Eden Area General Plan Draft Final EIR*, the annexation area is underlain primarily by Pleistocene alluvial fan deposits consisting of sand, silt, gravel and clay and the soils are classified as Danville- Botella series. These soils form on low terraces and alluvial fans and are nearly level to moderately sloping, well-drained loams and silty clay loams. The older alluvium is the oldest of the unconsolidated deposits, consisting of a mixture of clay, silt, sand and gravel of the Pleistocene Age. Younger unconsolidated deposits include Pleistocene Merritt Sand,

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

Holocene Bay Mud, Interfluvial Basin Deposits, Fluvial Deposits and Younger Alluvium, all from the Holocene Age (Alameda County, 2007b, 4.8-6).

During a major earthquake along a segment of the Hayward Fault or one of the other nearby faults, moderate to strong ground shaking can be expected to occur at the annexation area. Strong shaking during an earthquake could result in damage to buildings, roads, utility lines and other structures with associated risk to residents, employees and visitors in the area. However, through proper site design and location of site improvements, such impacts would be reduced to levels of insignificance through oversight and implementation of recommendations of a registered geotechnical engineer in accordance with the California Building Code (CBC) and standard geotechnical practices.

Mitigation Measure

MM VI.1 Site specific geotechnical reports shall be required for each building or group of buildings (such as in a subdivision) constructed in the annexation area. Investigations shall be completed by a geotechnical engineer registered in California. Design and construction of structures shall be in accordance with the recommendations contained in the reports. Generally, such recommendations will address compaction of foundation soils, construction types of foundations and similar items. Implementation of these evaluations shall be required to ensure consistency with the California Building Code and all other applicable seismic safety requirements.

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of **MM VI.1** would reduce the proposed project's potential impacts from seismic ground shaking to **less than significant**.

SEISMIC-RELATED GROUND FAILURE & LIQUEFACTION

a-iii) Less than Significant Impact with Mitigation Incorporated. Any major earthquake damage in the City of Hayward is likely to occur from ground shaking and seismically related ground and structural failures. Local soil conditions, such as topography, soil strength, thickness, density, water content, and firmness of underlying bedrock affect seismic response.

Ground shaking intensity associated with a characteristic earthquake of 7.3 magnitude, and peak horizontal ground accelerations between 0.5g and 0.7 g. is expected to be at least IX on the Modified Mercalli Intensity (MMI) Scale within the annexation area. As shown in Appendix L, Plate 4 of the City of Hayward General Plan, and as reflected in the State Seismic Hazard Zone Map (Hayward Quadrangle), the annexation area spans between very low and moderate liquefaction potential (City of Hayward, 2002a), with moderate liquefaction potential located primarily on the eastern end of the West-Mohr island and the western end of the Mohr-Depot island.

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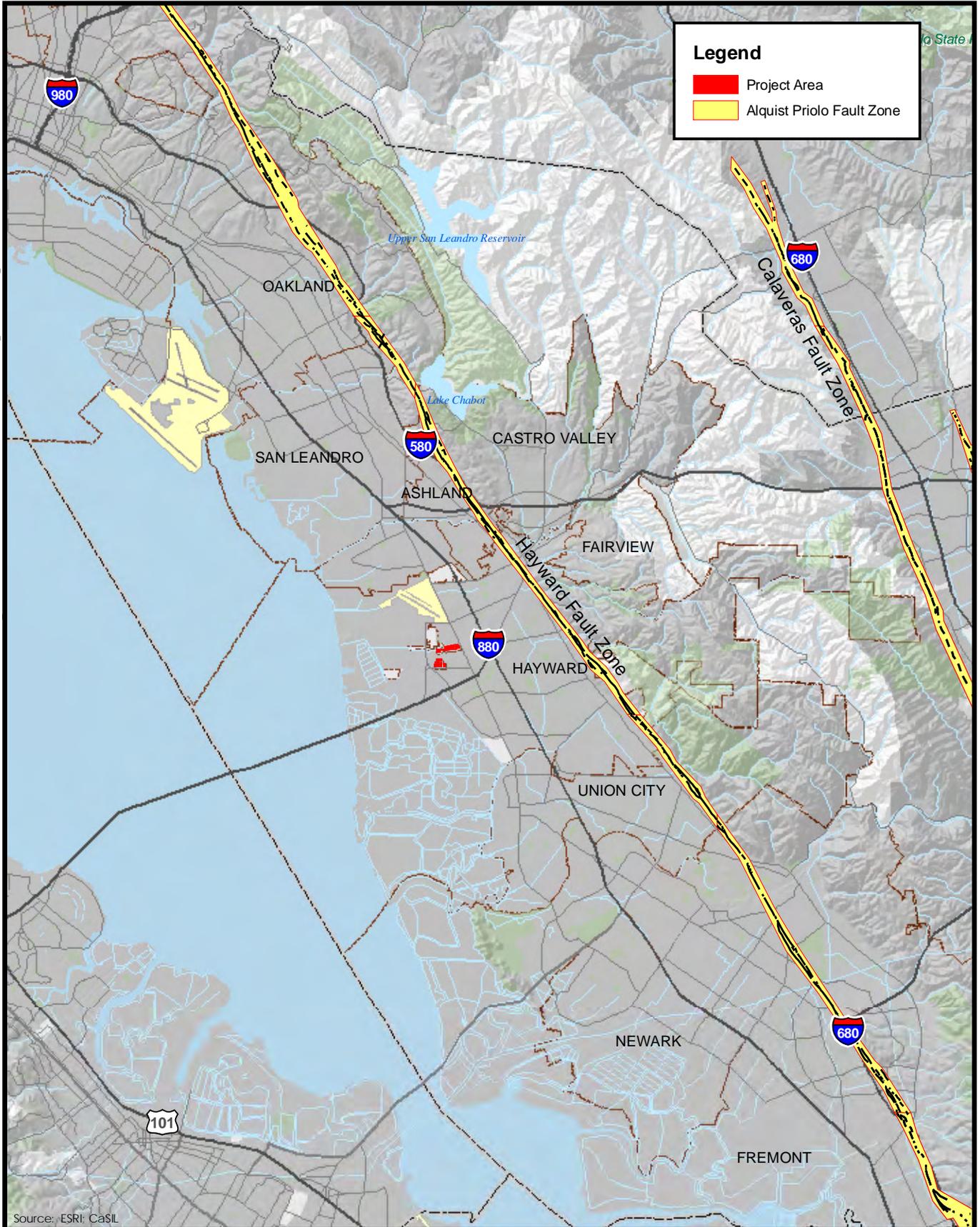


Figure VI.1
Location of Alquist Priolo Fault Zones

Damage to structures and other improvements in the annexation area could occur from seismically-induced ground failure and liquefaction, resulting in damage to improvements and harm to residents and visitors.

Mitigation Measure

MM VI.2 Site-specific geotechnical reports required as part of **MM VI-1** shall also address the potential for ground failure and liquefaction and include specific design and construction recommendations to reduce liquefaction and other seismic ground failure hazards to less-than- significant levels.

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of **MM VI.2** would reduce potential impacts from seismic-related ground failure and liquefaction to **less than significant**.

LANDSLIDES

a-iv) No impact. As shown in Appendix L, Plate 5 of the City of Hayward General Plan, the annexation area is not located within a landslide hazard area, as it is relatively flat and is in an area of geologic surficial deposits (City of Hayward, 2002a). Therefore, **no impact** in association with landslides would occur.

SOIL EROSION OR TOP SOIL

b) Less than Significant Impact with Mitigation Incorporated. New potential development of the annexation area would require grading and recontouring of existing topographic elevations to create building pads, underground utilities and improve drainage. Some soil erosion could be anticipated during construction, but given the flat terrain of the annexation area and vicinity, the amount of grading is anticipated to be minimal and slopes that cause water to erode soil are not a factor Please see the discussion in Section VIII. Hydrology and Water Quality for more information and mitigation measures **MM VIII.1**, **MM VIII.2**, and **MM VIII.3** that address drainage, water quality, and soil erosion. With these mitigation measures, the impact of the proposed project on soil erosion or top soil is **less than significant**.

EXPANSIVE SOIL AND ON OR OFF-SITE LANDSLIDE, LATERAL SPREADING, SUBSIDENCE, LIQUEFACTION OR COLLAPSE

c, d) Less than Significant Impact with Mitigation Incorporated. The proposed project would not result in land use changes or changes in underlying geologic material, groundwater, or other factor that would stimulate or exacerbate on or off site landslide, lateral spreading, subsidence, liquefaction, or other form of collapse. However, project-specific soil and geo-technical issues need to be addressed at each parcel in the annexation area as discussed in **items VI a-i)** through **a-iv)**. Soils in the area of the proposed project pose some soil structural issues, including slow permeability, low strength, and high-shrink swell potential (Alameda County, 2007b, 4.8-7). However, through proper site design and location of site improvements, such impacts would be reduced to levels of insignificance through oversight and implementation of recommendations of a registered geotechnical engineer in accordance with the CBC and standard geotechnical practices.

Mitigation Measure

MM VI.3 Site-specific geotechnical reports required as part of **MM VI-1** shall also address the potential for expansive soil and other soil structural issues and include specific design and construction recommendations to reduce these issues to less-than- significant levels.

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of **MM VI.3** would reduce potential impacts from expansive soil, other soil structural issues, and potential for on and off-site collapse to **less than significant**.

SEPTIC TANKS OR ALTERNATIVE WASTEWATER

e) *Less than Significant Impact.* The annexation area has historically utilized private septic systems for the treatment of wastewater. As a result of the proposed project, parcels currently utilizing private septic systems would be required to phase out these systems. The Hayward Municipal Code would be amended so that a property in the annexation area that is legally serviced by a private septic system up to 10 years after annexation to connect to the public sewer system, provided certain conditions are met. These conditions include:

- no changes in use on the property,
- no addition of facilities or other changes that increase the sewer discharge,
- evidence is submitted annually that indicates the septic system is operating properly, and
- a notice is recorded against the property indicating the property would be required to connect to the public sewer system if failure of the septic system occurs, if expansion of use resulting in increased sewer discharge occurs or when the 10-year timeframe expires, whichever first occurs.

No new septic systems would be allowed within the annexation area pursuant to the Hayward Municipal Code; any new development would be required to connect to the public sewer system. The proposed project does not exacerbate any existing problems that may occur regarding the use of private septic systems, and instead creates a mechanism by which public health and safety would be promoted through the connection of the parcels within the annexation area to the public sewer system. The proposed project would have a **less than significant** impact on the disposal of wastewater via septic systems or alternative wastewater disposal systems.

	Potentially Significant Impact	Less than Significant Impact With Mitigation Incorporated	Less than Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

EXISTING SETTING

Hazardous materials include substances that may be described as toxic, ignitable, corrosive, or reactive. In an urban area such as Hayward, most of the contaminated sites are related to the use or maintenance of fuels and motor vehicles, especially gas stations where underground fuel storage tanks have leaked. In addition to the various programs of federal, state and county regulatory agencies, the City has instituted a Hazardous Materials Program within the Fire Department to inventory, map, and regulate the storage and handling of specified materials. The inventory is part of the City's enforcement of a law passed to protect Hayward property and citizens, as well as the fire fighters who respond to emergency calls.

Aside from the commonly understood sources of contamination discussed above, a more widespread possibility of exposure to hazardous materials (particularly asbestos and lead-based paints) is during the use, remodeling or demolition of existing structures, including homes.

Household hazardous wastes include leftover paint, solvents, antifreeze, used oil and batteries, cleansers, pesticides and pool chemicals. Alameda County has implemented provisions of its Household Hazardous Waste Plan that called for the development of three permanent facilities for household waste collection and recycling, with one in Hayward.

STANDARDS OF SIGNIFICANCE

A significant impact would occur if any amount of hazardous material is released onsite, was encountered onsite during construction, or spills offsite during transport. A significant impact would also occur if the project is located within a designated airport or airstrip hazard area. A significant hazard would occur if the project located persons and structures that could harm persons and property within a known wildfire hazard area without adequate clearing and resource protection. In addition, the project would result in a significant hazard impact if it interferes or conflicts with the policies contained in an emergency response plan.

IMPACT DISCUSSION

TRANSPORT, USE, OR DISPOSAL OF HAZARDOUS MATERIAL

a) *Less than Significant.* The proposed project includes pre-zoning of the annexation area, annexation, and extension of street and utility system improvements. The potential new development reflected in the proposed pre-zoning are not large generators or utilizers of hazardous materials, with the exception of possibly the proposed light manufacturing zoning. This light manufacturing zoning is proposed because it reflects existing land use at the site (western edge of the Mohr-Depot island) and the zoning would serve as a buffer between higher intensity industrial uses and residential uses. In addition to land use and zoning protections, the City of Hayward implements development standards and the Fire and Building Codes, as well as implements the regulations by the Hazardous Materials Office of the Hayward Fire Department, the Bay Area Air Quality Management District, the State Department of Toxic Substances Control, the State Regional Water Quality Control Board, and other agencies with jurisdiction. Given the proposed pre-zoning and given the established procedures and regulations of these implementation agencies to ensure that a future significant hazard to the public is not created, the proposed project would have a less than significant impact on the creation of a hazard due to the transport, use, or disposal of a hazardous material in the annexation area.

UPSET AND ACCIDENT CONDITIONS OR RELEASE OF HAZARDOUS MATERIALS

b) *Less than Significant with Mitigation Incorporated.* Properties within the annexation area may contain contaminated soil. Construction of new residences and non-residential buildings may expose future residents, employees, visitors and construction personnel to soils and/or water-borne levels of contamination above acceptable regulatory levels, resulting in adverse health effects. Additionally, demolition of existing buildings, utility facilities and other older facilities could release hazardous and potentially hazardous material into the atmosphere including asbestos containing materials and lead-based paints, potentially resulting in health hazards to construction employees and local visitors and residents.

Mitigation Measures

MM VII.1 As part of environmental review for development projects, project applicants shall submit a Phase I Environmental Site Analysis to the City of Hayward. If warranted by the Phase I report, a Phase II report shall be completed and all recommendations included in the Phase II report shall be included in the development Plan. If remediation is required, a hazardous materials work program shall be submitted to the appropriate regulatory agency with a copy submitted to the Hayward Fire and Economic and Community Development Departments. Necessary permit(s) shall be obtained from the appropriate regulatory agency. Remediation workers safety plans shall be included within each work plan.

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

MM VII.2 Prior to commencement of demolition activities within the annexation area, project developers shall contact the Alameda County Environmental Health Department, Bay Area Air Quality Management District, California Department of Toxic Substances Control and the Hazardous Materials Division of the Hayward Fire Department, for required site clearances, necessary permits and facility closure with regard to demolition and removal of hazardous material from the site. All work shall be performed by licensed contractors in accord with State and Federal OSHA standards. Worker safety plans shall be included for all demolition plans.

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

MM VII.3 Prior to commencement of grading activities within the annexation area, project developers shall conduct investigations by qualified hazardous material consultants to determine the presence or absence of asbestos containing material in the soil. If such material is identified that meets actionable levels from applicable regulatory agencies, remediation plans shall be prepared and implemented to remediate any hazards to acceptable levels, including methods for removal and disposal of hazardous material. Worker safety plans shall be prepared and necessary approvals and

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

clearances shall be secured from appropriate regulatory agencies, including but not limited to the Hayward Fire Department, California Department of Toxic Substances Control and the Bay Area Air Quality Management District.

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of **MM VII.3, 2, and 3** would reduce potential impacts from potential release of hazardous materials to **less than significant**.

HAZARDOUS EMISSIONS OR HAZARDOUS MATERIALS WITH IN ONE-QUARTER MILE OF A SCHOOL

c) No Impact. The annexation area is within one-mile of the Ochoa Middle School and Chabot College. Both of these schools have full campuses, including outdoor recreation areas. These schools are within a public and quasi public land use designation, which does not allow use of hazardous materials. Additionally, these land uses are not associated with the generation of hazardous emissions or the usage of hazardous materials. Therefore, the proposed project would have **no impact** with respect to its proximity to schools.

HAZARDOUS MATERIAL SITE

d) No Impact. None of the parcels within the annexation area are included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 as of July 29, 2009, so the proposed project would have **no impact** on a hazardous materials site on this list.

LOCATED WITHIN TWO MILES OF AN AIRPORT

e) Less than Significant. The project is located approximately 0.5 miles from the Hayward Executive Airport, and within the Traffic Pattern Zone for the airport operations, but not the Runway Protection Zone, the Inner Safety Zone, the Inner Turning Zone, the Outer Safety Zone, or the Sideline Safety Zone (Alameda County, 2007b, 4.5-6 & 4.5-7). The annexation area is not in line with either end of the airport runways, and therefore is unlikely to impact the operations at the airport (Alameda County, 2007b, 4.5-15). The presence of the airport would have a less than significant impact on safety hazards for people residing or working in the annexation area and is an existing condition already known by current residents of the annexation islands. For new development, the lighting and painting conditions of any FCC and FAA approvals would further reduce any potential hazards.

LOCATED WITHIN THE VICINITY OF A PRIVATE AIR STRIP

f) No Impact. The annexation area is not within the vicinity of a private air field or air strip. The proposed project would have **no impact**.

IMPAIR OR INTERFERE WITH AN EMERGENCY RESPONSE PLAN

g) Less than Significant Impact. The proposed project would not impair the implementation of or physically interfere with an emergency response plan or emergency evacuation plan. Upon annexation, the annexation area would be subject to the provisions of these plans as prepared and implemented by the City of Hayward, specifically the Police and Fire Departments. Additionally, as the annexation area is completely surrounded by the City of Hayward, and the

land uses allowed in the proposed pre-zoning are in keeping with what land uses currently existing and have been previously anticipated by Alameda County and the City of Hayward, the annexation would not change the planning context for emergency response or evacuation. Because the existing well (previously operated by the Mohrland Mutual Water Association) will be available in case of an emergency, the proposed project would also result in the increased supplies and reliability of water in the annexation area in event of an emergency. The proposed project would have a beneficial and **less than significant** impact on emergency response.

WILDLAND FIRES

h) No Impact. The annexation area is located within an urbanized area and is currently provided fire protection service by the City of Hayward Fire Department. This service would continue regardless of the proposed project, and therefore the proposed project would have **no impact** on wildfire susceptibility.

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

	Potentially Significant Impact	Less than Significant Impact With Mitigation Incorporated	Less than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

EXISTING SETTING

Several creeks and numerous storm drainage channels pass through the City of Hayward, originating in the hills to the east and ultimately draining into San Francisco Bay. The discharge from these facilities may contain pollutants from rural and urban storm runoff, and illegal dumping into creeks. Pollutant levels are dependent on the pattern and frequency of storm events, local land uses, development activity, and the quality of pollution control measures and practices. The Regional Water Quality Control Board (RWQCD) Region 2 has prepared a comprehensive Water Quality Control Plan that includes water quality objectives and an implementation plan for the various waterways in the region. A National Pollutant Discharge Elimination System (NPDES) storm water discharge permit has been granted to the Alameda County Urban Runoff Clean Water Program, which was established to comply with the non-point source pollution control requirements mandated by the RWQCB. The Alameda County Flood Control and Water Conservation District is responsible for the overall coordination and implementation of the Storm Water Management Plan, which is designed to reduce the discharge of pollutants in storm water to the maximum feasible extent. The City of Hayward monitors the efforts of municipal storm water programs to implement the NPDES storm water permits and reviews the efforts of developers to reduce the impacts of proposed development to a less than significant level as part of the CEQA process.

Groundwater resources are most prevalent in the Bay Plain and the shoreline area. Water-bearing sand and gravel layers extend to a depth of approximately 1,000 feet below the Bay Plain and are divided into upper and lower zones. The upper zone contains two major aquifers that are located at depths of 60 feet and 250 feet. The lower zone occupies a depth below 400 feet and contains a much higher percentage of permeable material than the low yield upper zone. Nearly all of the high-yielding wells in the area utilize the deep zone. Replenishment of the aquifers is accomplished primarily through percolation from the streambeds of major creeks. Relatively high concentrations of nitrates and total dissolved solids were measured in local area groundwater as early as the 1950s. Contaminants such as nitrates can come from a variety of sources, including runoff from fertilizers applied to lawns and landscaped areas as well as from agricultural activities and improperly operated septic systems. Groundwater contamination can also be attributed to leaking underground storage tanks and inadvertent releases of hazardous materials.

STANDARDS OF SIGNIFICANCE

An impact would be considered significant if it resulted in flooding in areas that do not normally receive waters, or place structures within an area of known flooding or potential damage due to water hazards. An impact is also considered significant if the direction and rate of runoff is altered in a manner that negatively affects other surrounding structures or diverts water from the existing drainage pattern. This includes adding to the existing drainage system to a point in which the capacity of the runoff cannot be contained within existing drainage systems. Significant impacts to water quality may occur if hazardous materials are used and allowed to leak onsite or if runoff increases to a level that causes erosion and ultimately increased sedimentation. Excessive use of groundwater supplies so that recharge cannot meet demand or the installation of improvements that block the flow of groundwater are also considered significant impacts.

IMPACT DISCUSSION

WATER QUALITY AND WASTE DISCHARGE STANDARDS, FLOODING ON OR OFF-SITE, ON OR OFF-SITE SOIL EROSION OR SILTATION, RUNOFF WATER, AND OTHERWISE DEGRADE WATER QUALITY

a, c, d, e, f) *Less than Significant Impact with Mitigation Incorporated.* New potential development within the annexation area could potentially increase the amount of stormwater runoff in concert with any additional housing units or other forms of additional lot coverage. Existing drainage patterns could also be changed based on individual site grading operations, resulting in potential impacts to downstream drainage facilities. The proposed project also involves the installation of approximately 3,300 linear feet of 12 to 24-inch and 215 linear feet of 36-inch storm drain culverts to provide storm drainage improvements to the parcels. These improvements have also been specially designed and appropriately sized to accommodate the projected runoff from the annexation area. Please see the discussion under Section XVI), Utilities and Service Systems for information on the location and extent of the proposed improvements.

These new improvements would not substantially alter the existing drainage pattern in the annexation area in a manner that would result in on-site or off-site flooding, soil erosion, or siltation over the long term. However, during future construction that could be facilitated by annexation, short-term increases of soil erosion could potentially result due to exposure to wind and water erosion as individual properties are graded and developed. Construction of street and utility improvements could also potentially result in short term increases in localized soil erosion.

The proposed project does not facilitate an increase in land uses that are high generators of urban non-point source pollution, such as commercial land uses requiring parking lots or restaurants with outdoor cleaning procedures. However, the quality of stormwater runoff from the annexation area could be potentially reduced in concert with the addition of housing units or other forms of additional lot coverage that increase opportunities for the collection and dispersal of typical non-point source pollution.

Mitigation Measure

MM VIII.1 Individual development projects and public improvements within the annexation area that disturb 10,000 square feet or more of land area shall prepare a sedimentation control plan for implementation throughout project construction. For construction during the winter months, an erosion control plan is required. The plans must be prepared in accordance with the most current City of Hayward and Regional Water Quality Control Board design standards and provisions of the applicable National Pollutant Discharge Elimination System (NPDES) permit (e.g. C.3).

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

MM VIII.2 Any new development or redevelopment projects in the annexation area shall implement construction methods that comply with performance standards of Section C.3 of the new NPDES Permit. In addition, for development or redevelopment projects that disturb more than one acre of land, a Notice of Intent is required to be filed with the State of California

Water Resources Control Board (SWRCB). For disturbance of areas over one acre, a Stormwater Pollution Prevention Plan (SWPPP) is also required to be submitted to the SWRCB demonstrating use of specific best management practices during both construction and operational phases of such projects.

Timing/Implementation: Prior to project approval.

Enforcement/Monitoring: City of Hayward Development Services Department.

MM VIII.3

All new major development applications (involving 10,000 square feet of land area) within the annexation area shall be accompanied by a drainage and hydrology report prepared by a California-registered civil engineer. Each report shall document existing stormwater flow rates, quantities, and direction. Each report shall estimate increases in stormwater runoff from the proposed development project, identify existing and proposed downstream drainage facilities, identify the capacity of such systems to accept additional runoff, and the proposed development project's contribution to increasing the capacity of such systems, if needed. New development projects will be required to provide on-site detention, retention facilities, and/or other improvements required by such studies to ensure that no net increase in downstream rate of stormwater flows occurs. Reports shall be approved by the City of Hayward City Engineer and, if necessary, the Alameda County Flood Control and Water Conservation District staff prior commencement of construction.

Timing/Implementation: Prior to construction.

Enforcement/Monitoring: City of Hayward Development Services Department.

Implementation of **MM VIII.1, 2, and 3** would reduce potential impacts to drainage and to water quality to a **less than significant** level.

GROUNDWATER SUPPLIES AND RECHARGE

b) Less than Significant Impact. The proposed project would not increase utilization of existing groundwater supplies and would require existing and new development within the annexation area to connect to the public water system. The annexation area would remain as primarily residential, and as such there would still remain ample opportunities for groundwater infiltration in accordance with consistency with the City of Hayward's requirements for lot coverage.

HOUSING IN A 100-YEAR FLOOD HAZARD AREA

g) No Impact. As shown in the Drainage and Flooding Map in Appendix L of the City of Hayward General Plan, the annexation area is not located within the 100-year flood plain (City of Hayward, 2002a).

IMPEDE OR REDIRECT FLOWS WITHIN THE 100-YEAR FLOOD HAZARD AREA

h) *No Impact.* As shown in the Drainage and Flooding Map in Appendix L of the City of Hayward General Plan, the annexation area is not located within the 100-year flood plain (City of Hayward, 2002a).

DAM ASSOCIATED FLOOD HAZARDS AND INUNDATION BY SEICHE, TSUNAMI OR MUDFLOW

i, j) *No Impact.* As shown in Appendix L, Plate 6 of the City of Hayward General Plan, the annexation area is not located within a dam failure, seiche, mudflow, or tsunami inundation area (City of Hayward, 2002a).