7.0 ENVIRONMENTAL OVERVIEW

This overview provides a preliminary indication of the environmental factors involved with the implementation of the Preferred Alternative. This environmental review is conducted in accordance with the Airport Environmental Handbook, FAA Order 5050.4A with the assumption that an Environmental Impact Report/Environmental Assessment (EIR/EA) under the federal and California statutes would be accomplished for the Master Plan. This Chapter does not provide a complete investigation sufficient for obtaining environmental permits or compliance with environmental documentation under the requirements of the California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA), as amended. Previous environmental documentation and coordination with the relevant environmental regulatory agencies were used to identify potential impacts related to the implementation of the Preferred Alternative (Alternative 2). The purpose of this review is to summarize and identify environmental effects and the need for further environmental evaluation to support the EIR/EA and necessary environmental permits.

The environmental categories examined in this chapter include:

- Aircraft Noise
- Compatible Land Use
- Induced Socioeconomic Impacts
- Department of Transportation Act 4(f)
- Air Quality
- Water Quality
- Historic, Architectural, Archeological, and Cultural Resources
- Biotic Communities
- Endangered and Threatened Species of Flora and Fauna
- Wetlands
- Floodplains
- Wild and Scenic Rivers
- Prime and Unique Farmland
- Energy Supply and Natural Resources
- Construction Impacts
- Hazardous Materials
- Transportation and Traffic Impacts

7.1 AIRCRAFT NOISE

The effect of aircraft noise on people who live and work near airports is an issue of national concern. Expansion of U.S. airports to meet growing transportation demands, combined with increased residential development in many communities, has created the need to coordinate airport planning with community development planning.

Table 7.1-1 depicts the 2020 Community Noise Equivalent Level (CNEL) contours for the No-Build Alternative and the Preferred Alternative in terms of contour area, the number of dwelling units within the contours, and the population within each contour interval. The County of Sacramento compatible land use planning guidelines recommend striving to prevent new noise sensitive land uses from occurring within areas exposed to aircraft noise levels of 60 CNEL and higher.

There are approximately 11 residential dwelling units located within the Preferred Alternative 60 dB CNEL contour along the Sacramento River in both Sacramento and Yolo Counties. No schools, churches, or other sensitive uses would be located within the 60 dB CNEL contour with the Preferred Alternative. Housing and Population changes are also illustrated in Table 7.1-1.

TABLE 7.1-1

Sacramento International Airport

HOUSING AND POPULATION CHANGES

Alternative	Contour Range CNEL (dB)	Area (sq. miles)	Number of Dwelling Units[1]	Population[2]
(ASV 355,000)	75 & Greater	0.67	0	0
	70 – 75	1.43	0	0
	65 – 70	3.58	1	3
	60 – 65	9.96	10	26
No-Build	**Total**	**15.64**	**11**	**29**
(ASV 520,000)	75 & Greater	0.90	0	0
	70 – 75	1.72	0	0
	65 – 70	3.73	1	3
Preferred	60 – 65	8.95	17	44
Alternative	**Total**	**15.30**	**18**	**47**

Source: HMMH[1] Based on 2.56 persons per dwelling unit derived from SACOG 2000 Population Estimates and SACOG 2000 Housing Inventory.

To determine noise impacts, a report was prepared that describes the aircraft noise exposure resulting from the Year 2020 operations at SMF for the No-build scenario and the following three Master Plan Alternatives:

- **Alternative 2 – Outboard West Runway-1,200' Separation**
- Alternative 3 – Inboard West Runway
- Alternative 5 – Outboard West Runway-2,500' Separation

This noise analysis was prepared using standard aircraft noise modeling practices in accordance with Federal Aviation Regulation Part 150 utilizing Version 6.0a of the FAA-approved Integrated Noise Model (INM). The aircraft noise exposure is described in terms of the CNEL as prescribed by Title 21 of the California State Airport Noise Standards.

The number of aircraft operations for Year 2020 and fleet mix were held constant among all Master Plan Alternatives. **Table 7.1-2** through **Table 7.1-7** display the projected annual-average day operations by INM aircraft type broken down into the day (7 am to 7 pm), evening (7 pm to 10 pm), and night (10 pm to 7 am) categories used in the calculation of the CNEL. Small differences between total arrival and departure operations are due to rounding in the calculations.

The Preferred Alternative would not appreciably change noise impacts around the Airport. Due to the surrounding areas predominantly being agriculture land uses, there are only minor alterations to the noise contours for the future 2020, Preferred Alternative case.

TABLE 7.1-2

Sacramento International Airport

YEAR 2020 PROJECTED ANNUAL-AVERAGE DAY DEPARTURES – AIR CARRIER/COMMUTER

INM Type	Stage Length	Number of Daily Departures			
		Day	**Evening**	**Night**	**Total**
737400	2	6.942	1.692	0.000	8.634
737500	1	52.524	14.208	8.092	74.824
737500	2	17.404	1.291	4.007	22.702
737500	4	1.152	0.000	1.088	2.240
757PW	2	4.100	0.000	3.877	7.977
757PW	4	5.067	0.000	8.060	13.127
767CF6	7	1.421	0.000	0.000	1.421
A300	4	1.231	1.231	0.000	2.462
A320	1	14.120	2.786	4.200	21.106
A320	2	15.454	0.000	2.786	18.240
A320	4	11.369	0.000	8.033	19.402
CL601	1	3.471	1.042	0.268	4.781
DC1010	1	0.000	0.000	0.343	0.343
DC1010	4	0.000	0.000	0.565	0.565
DC1030	1	0.000	0.000	0.587	0.587
DC1030	4	0.000	0.000	0.966	0.966
DHC6	1	6.930	1.250	1.664	9.844
DHC8	1	17.355	5.211	1.339	23.905
F10062	1	2.370	0.467	0.520	3.357
F10065	1	2.370	0.467	0.520	3.357
GASEPF	1	17.326	3.126	4.159	24.611
SD330	1	2.888	0.521	0.693	4.102
Totals		**183.494**	**33.292**	**51.767**	**268.553**

Source: HMMH 2003

TABLE 7.1-3

Sacramento International Airport

YEAR 2020 PROJECTED ANNUAL-AVERAGE DAY ARRIVALS – AIR CARRIER/COMMUTER

INM Type	Number of Daily Arrivals			
	Day	Evening	Night	Total
737400	5.733	1.615	1.286	8.634
737500	75.821	21.537	2.407	99.765
757PW	7.956	9.455	3.693	21.104
767CF6	0.711	0.000	0.711	1.422
A300	0.485	0.000	1.977	2.462
A320	39.338	12.084	7.327	58.749
CL601	4.59	0.000	0.191	4.781
DC1010	0.565	0.000	0.343	0.908
DC1030	0.968	0.000	0.586	1.554
DHC6	8.171	0.423	1.250	9.844
DHC8	17.809	4.757	1.339	23.905
F10062	2.320	1.027	0.010	3.357
F10065	2.320	1.027	0.010	3.357
GASEPF	20.427	1.058	3.126	24.611
SD330	3.405	0.176	0.521	4.102
Totals	**190.619**	**53.159**	**24.777**	**268.555**

Source: HMMH 2003

TABLE 7.1-4

Sacramento International Airport

YEAR 2020 PROJECTED ANNUAL-AVERAGE DAY DEPARTURES – GENERAL AVIATION

INM Type	Stage Length	Number of Daily Departures			
		Day	Evening	Night	Total
BEC58P	1	1.746	0.181	4.884	6.811
CIT3	1	8.526	0.966	0.725	10.217
CNA441	1	1.540	1.155	6.160	8.855
GASEPV	1	7.508	0.780	21.002	29.290
LEAR35	1	0.569	0.064	0.048	0.681
Totals		**19.889**	**3.146**	**32.819**	**55.854**

Source: HMMH 2003

TABLE 7.1-5

Sacramento International Airport

YEAR 2020 PROJECTED ANNUAL-AVERAGE DAY ARRIVALS – GENERAL AVIATION

INM Type	Number of Daily Arrivals			
	Day	Evening	Night	Total
BEC58P	3.447	0.238	3.126	6.811
CIT3	5.170	0.358	4.690	10.218
CNA441	4.481	0.310	4.065	8.856
GASEPV	14.821	1.025	13.444	29.290
LEAR35	0.345	0.024	0.313	0.682
Totals	**28.264**	**1.955**	**25.638**	**55.857**

Source: HMMH 2003

TABLE 7.1-6

Sacramento International Airport

YEAR 2020 PROJECTED ANNUAL-AVERAGE DAY DEPARTURES - MILITARY

AC Type	INM Type	Stage Length	Number of Daily Departures			
			Day	Evening	Night	Total
C-5	74720B	1	0.533	0.000	0.000	0.533
KC-135	KC135R	1	0.533	0.000	0.000	0.533
T-38	LEAR25	1	0.710	0.000	0.000	0.710
Totals			**1.776**	**0.000**	**0.000**	**1.776**

The INM Aircraft were substituted for the military aircraft according to FAA and INM guidelines.
Source: HMMH 2003

TABLE 7.1-7

Sacramento International Airport

YEAR 2020 PROJECTED ANNUAL-AVERAGE DAY ARRIVALS - MILITARY

AC Type	INM Type	Number of Daily Arrivals			
		Day	Evening	Night	Total
C-5	74720B	0.533	0.000	0.000	0.533
KC-135	KC135R	0.533	0.000	0.000	0.533
T-38	LEAR25	0.710	0.000	0.000	0.710
Totals		**1.776**	**0.000**	**0.000**	**1.776**

The INM Aircraft were substituted for the military aircraft according to FAA and INM guidelines.
Source: HMMH 2003

7.2 COMPATIBLE LAND USE

A land use compatibility assessment determines the suitability of existing and planned land uses in the vicinity of the Airport. Non-compatible land uses generally include residential areas and noise sensitive facilities, such as schools, churches, hospitals, and libraries. Noise related impacts are discussed in Section 7.1.

On-site land uses on the developed portion of the airport (within the fenced area) currently includes two terminal buildings (Terminal A and B), which include passenger and cargo air carriers and passenger amenities (e.g., restaurants, retail shops, etc), rental car facilities, airline ground support facilities, parking and shuttle bus service areas, surface parking lots, a Host Marriott Hotel, and a service station. On-site land uses in the undeveloped portion of the Master Plan Area (outside the fenced area) north of Elverta Road include cultivated fields of rice and corn. South of Elverta Road there is grassland and cultivated fields of oats. An orchard and a few mature cottonwood trees are located adjacent to the Sacramento River, south of Delta Road.

In the southern portion of the Master Plan area, south of Interstate 5, land uses include cultivated fields of corn and safflower. Within this area there is a vacant house, a small orchard, a few oaks trees, and single-family residences located along the north side of Garden Highway.1

Adjacent land uses in Sutter County, north of the Master Plan Area boundary, include rice fields and a single-family residence located along Powerline Road. In the area north of Elverta Road there are numerous single-family residences located along the Sacramento River, west of Garden Highway. To the east the land is uncultivated agricultural.

To the south of Elverta Road (north of Interstate 5), land uses to the west of the Master Plan Area boundary include cultivated fields of alfalfa, sugar beets, and tomatoes. Single-family residences are located along Garden Highway along with a small golf course. The Natomas Fire Station is located on Elkhorn Boulevard along with numerous single-family residences. To the east of the Master Plan Area the land is uncultivated agricultural.

South of Interstate 5 and west of the Master Plan Area, land uses primarily include single-family residences located along the Garden Highway. Some agricultural land and a large farm are located along the east side of Garden Highway. South of the Master Plan Area, between Garden Highway and the Sacramento River, there are numerous residences. To the east the land is undeveloped, uncultivated agricultural land.

Adjacent land uses are designated and zoned in the Sacramento County General Plan for Agricultural Cropland and Intensive Industrial uses. The Sacramento Metropolitan Airport Comprehensive Land Use Plan (CLUP) was first adopted in October 1984 and last amended in January 1994. The CLUP contains land use compatibility guidelines for height, noise, and safety. The Airport Land Use Commission (ALUC) prepared the CLUP. The ALUC is responsible for adopting a basic Airport

Land Use Commission Policy Plan, adopting a CLUP, incorporating land use compatibility guidelines established in the CLUP into the general plan of the jurisdiction that has land use authority in areas subject to the CLUP, and reviewing development proposals and land use plans for areas around the airport.2

7.3 INDUCED SOCIOECONOMIC IMPACTS

Induced or secondary impacts are those factors that affect surrounding communities, such as shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity to the extent influenced by the airport development. Induced impacts will normally not be significant, except where they are also significant in other categories, especially noise, land use, or direct social impacts. Implementation of the Preferred Alternative would not result in any negative shifts in patterns of population movement or growth.

The Sacramento International Airport provides a total of 4,773 jobs on-site. Employers include passenger airlines (e.g., Alaska Airlines, America West Airlines, Delta Airlines, Southwest, etc.), cargo airlines (e.g., Federal Express, DHL, Continental, etc.), rental car companies (e.g., Hertz, Avis, Budget, National, etc.), a variety of retail stores, and restaurants (e.g., TCBY, Java City, La Salsa, etc.). No commercial uses exist within close proximity to the airport.

As previously mentioned above, the Preferred Alternative would have no negative socioeconomic impacts, but would have future positive impacts with the creation of new jobs from new facility development.

7.4 DEPARTMENT OF TRANSPORTATION ACT 4(F)

The Department of Transportation Act, Section 4(f) states that any program or project which requires the use of any publicly-owned land from a public park, recreation area, or any land from a historic site of national, state, or local significance shall not be approved unless there is no feasible and prudent alternative to the use of such land and such program includes all possible planning to minimize harm.

No public park or recreation lands would be directly effected by the development of the Preferred Alternative or are within the Master Plan boundaries. No known historic site of national, state, or local significance would be effected by the development of the Preferred Alternative. Not all of the land within the Master Plan area has not been surveyed; however, Section 106 review will be required to determine if any other previously unidentified historic, scientific, prehistoric, archaeological, or palentological resources would be effected by the project.

7.5 AIR QUALITY

Section 176(c) of the Clean Air Act Amendments of 1977 states in part that no Federal agency shall engage in, support in any way, or provide financial assistance for license or permit, or approve any activity which does not conform to a State Implementation Plan (SIP) after it has been approved or promulgated under section 110 of that Act. Air quality attainment is also an issue of importance. The Sacramento region ozone non-attainment area is a federally designated (severe) non-attainment area including all of Sacramento County and urbanized areas to the west, north, and east.

The Clean Air Act, as amended, deals primarily with ground transportation-related activities such as highway improvement projects. However, specific requirements for conforming to the Clean Air Act are detailed for all federally approved projects. The requirements define conforming to a SIP as:

- Conforming to the SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of such standards; and

- Not causing or contributing to a new violation, increasing the frequency or severity of an existing violation, delaying attainment of a standard, or delaying a required emission reduction.

The estimated annual emissions associated with motor vehicles traveling to and from the airport in 2020 are shown in **Table 7.5-1**. These emissions are applicable to all alternatives.

TABLE 7.5-1

Sacramento International Airport

ESTIMATED ANNUAL AIR EMISSIONS FROM AIRPORT MOTOR VEHICLE TRIPS

Alternative	Emissions in Tons Per year			
	(ROG)	NO_x	CO	PM_{10}
No Build and All Alternative	39.09	46.58	505.54	139.14

Source: EIP Associates

Climate and Meteorology

Geography plays a significant role in weather patterns throughout the Sacramento Valley, including the Master Plan area. The Sacramento Valley air basin, which extends from Sacramento County to Shasta County, is bounded by the Sierra Nevada Mountain Range on the east, the Coast Range on the west, and the Cascade Range on the north. These mountain ranges buffer the Sacramento Valley from the marine weather systems, which originate over the Pacific Ocean and are drawn inland by the jet stream. The primary breach in the Coast Range barrier is the Carquinez Strait, which allows the Pacific Coast marine weather inland. Compared to locations further inland to the Sacramento Valley, Sacramento County is affected by this marine influence, which moderates climatic extremes. Temperatures observed at the Sacramento Metropolitan Airport range from an average summertime high of between 90 and 100 degrees Fahrenheit to an average wintertime low of between 30 and 40 degrees Fahrenheit (NOAA, 1990).[3]

Prevailing winds are from the south and southwest with secondary winds from the north and northwest being more common in the winter. The prevailing winds tend to transport emissions generated near Sacramento to more inland portions of the Sacramento Valley. Pollution potential in the Sacramento Valley air basin is increased as a result of thermal inversions, which limit vertical spreading of contaminants. Air stagnation due to formation of surface and/or elevated inversions is common during any time of the year. Surface inversions are formed when cooler air is trapped close to the surface by a layer of warmer air above it. Elevated inversions occur when a layer of cool air is suspended between warm air layers above and below it. Thermal inversions limit vertical mixing of pollutants and cause pollutants emitted near the ground level to accumulate.

Ambient Air Quality Standards

Based on the authority of the federal Clean Air Act and the California Clean Air Act, federal and state regulatory agencies define upper limits on the airborne concentrations of six criteria pollutants. These are ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter, sulfur dioxide (SO_2), and lead. Particulate matter is regulated as inhalable

particulate matter less than ten microns in diameter (PM_{10}), and fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). Ozone is a secondary pollutant formed by the reactions of nitrogen oxides (NOx) and reactive organic gases (ROG). The health effects of the most problematic criteria pollutants in the Sacramento Valley air basin (ozone, CO, and particulate matter) are summarized in **Table 7.5-2**.

TABLE 7.5-2

Sacramento International Airport

SUMMARY OF HEALTH EFFECTS OF CRITERIA POLLUTANTS

Air Pollutant	Adverse Effects
Ozone	• Eye Irritation • Respiratory function impairment • Aggravation of respiratory and cardiovascular diseases
Carbon Monoxide	• Impairment of oxygen transport in the bloodstream • Aggravation of cardiovascular disease • Impairment of central nervous system function • Fatigue, headache, confusion, dizziness • Death at high levels of exposure • Aggravation of some heart diseases (angina)
Suspended Particulates	• Increased risk of chronic respiratory disease • Reduced lung function • With SO_2, may produce acute illness • Particulate matter 10 microns or less in size (PM_{10}) may lodge in and/or irritate the lungs

Source: South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993.

The federal and state ambient air quality standards for these pollutants are summarized in **Table 7.5-3**. The ambient air quality standards are designed to protect all segments of the population including those most susceptible to the pollutants' adverse effects (e.g., the very young, the elderly, people weak from illness or disease, or persons doing heavy work or exercise).

Toxic air contaminants, which may have the potential to cause cancer or may pose a present or potential hazard to human health, are also regulated through federal, state, and local programs. Unlike criteria pollutants, there are no ambient air quality standards for toxic air contaminants; this is primarily due to the localized nature of the potential health impacts and the ability of risks caused by toxic air contaminant exposure to accumulate. Indirect control of toxic air contaminants from mobile sources, including lead, is generally achieved through fuel efficiency standards and reformulation of fuels. Recently, direct control efforts for diesel particulate matter has resulted in performance standards for specific vehicle classes. Certain categories of stationary sources are also regulated through toxic air contaminant emission standards found in either federal or district-level regulations.

Attainment Status

Both the Federal Clean Air Act and the California Clean Air Act require designation of non-attainment status for areas where federal or state ambient air quality standards are not met. The Sacramento region ozone non-attainment area is a federally designated (severe) non-

attainment area including all of Sacramento County and urbanized areas to the west, north, and east. Surrounding the Airport Master Plan area, Yolo County and the southern portion of Sutter County are also included in the federal ozone non-attainment area. Sacramento County is also designated as a federal non-attainment area for PM_{10}, but the Sacramento Metropolitan Air Quality Management District (AQMD) has requested redesignation of the area to a status of attainment. The state ambient air quality standards for ozone and PM_{10} are exceeded in each of these three counties surrounding the Airport Master Plan area. The

TABLE 7.5-3

Sacramento International Airport

FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standard/a/	Federal Standard/b/
Ozone	1-hour	0.09 ppm	0.12 ppm
	8-hour	---	0.08 ppm
Carbon Monoxide	1-hour	20.00 ppm	35.00 ppm
	8-hour	9.00 ppm	9.00 ppm
Nitrogen Dioxide	1-hour	0.25 ppm	---
	Annual Average	---	0.053 ppm
Sulfur Dioxide	1-hour	0.25 ppm	---
	3-hour	---	0.5 ppm
	24-hour	0.04 ppm	0.14 ppm
	Annual Average	---	0.03 ppm
Particulate Matter (PM_{10})	24-hour	50 $\mu g/m^3$	150 $\mu g/m^3$
	Annual Geometric Mean	30 $\mu g/m^3$	---
	Annual Arithmetic Mean	---	50 $\mu g/m^3$
Fine Particulate Matter ($PM_{2.5}$)	24-hour	---	65 $\mu g/m^3$
	Annual Arithmetic Mean	---	15 $\mu g/m^3$
Lead (Pb)	30-day Average	1.5 $\mu g/m^3$	---
	Calendar Quarter	---	1.5 $\mu g/m^3$

Source: California Air Resources Board, 1999.

Notes:
ppm = parts per million by volume
$\mu g/m^3$ = micrograms per cubic meter
--- = No standard exists for this category
a. California standards for ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and particulate matter (PM_{10}) are values that are not to be exceeded.
b. The form of the federal standards (i.e., how the standard is applied) varies from pollutant to pollutant. For further information 40 CFR Part 50 includes the relevant form for each federal standard.

region meets all standards for carbon monoxide. For the counties in the vicinity of the Airport Master Plan area, **Table 7.5-4** summarizes the attainment status for these pollutants.

TABLE 7.5-4

Sacramento International Airport

ATTAINMENT STATUS OF COUNTIES SURROUNDING THE MASTER PLAN AREA

County	Ozone		CO		NO_2		PM_{10}	
	State	Federal	State	Federal	State	Federal	State	Federal
Sacramento	NA	Severe NA	A	U/A	A	U/A	NA	Moderate NA
Sutter	NA	Severe NA	A	U/A	U/A	U/A	NA	U/A
Yolo	Transitional NA	Severe NA	A	U/A	U/A	U/A	NA	U/A

Notes: A = Attainment; NA = Non-attainment; U = Unclassified
Source: 40 CFR 81.305 and California Air Resources Board, 1999.

Air Quality Management Plans

The federal Clean Air Act and the California Clean Air Act are the primary drivers for attaining and maintaining ambient air quality standards. For an area violating the ambient air quality standards, both acts require that air quality management plans be implemented to demonstrate the means by which the standards will be attained and maintained. The federal act contains conformity provisions that help to ensure that subsequent plans and projects throughout the region do not produce more emissions than are allowed by local air quality plans. These laws also provide the basis for implementing agencies to develop control strategies for mobile, stationary, and area-wide (e.g., construction) sources.

The AQMD is the primary agency responsible for planning, implementing, and enforcing the ambient air quality standards in the region. The AQMD's planning efforts to attain and maintain the ozone standards are contained within the Regional Ozone Attainment Plan, or State Implementation Plan (SIP).[4] The SIP is a compilation of measures and regulations that demonstrates how the region and state will comply with the federal Clean Air Act requirements to attain and maintain the ozone standard. The content of the SIP is coordinated with local, state, and federal agencies. The air quality trends anticipated in the SIP also rely on population and employment trends anticipated by the Sacramento Area Council of Governments.

The 1994 SIP accounts for emission reductions that would be caused by transportation control measures and land use measures adopted prior to 1994 providing anticipated emission reductions by 2005. More recent transportation control measures and land use measures provide additional emission reductions in the long-term. A review of regional transportation control measures published by the AQMD in 1999 shows that introduction of transit service to the Sacramento Metropolitan Airport from Yolo County reduces automobile commute trips by airport patrons and employees.[5]

The federal Airport and Airway Improvement Act requires assurance that certain airport development projects relying on funds from the Federal Aviation Administration (FAA) are designed, constructed, and operated in compliance with air quality standards. In California,

it is the responsibility of the state Air Resources Board (ARB) to provide air quality certification (AQC) prior to FAA approval of the project. During the AQC process, measures may be identified that require or encourage reducing emissions from airport operations.

Local environmental plans and policies also consider the regional goals for air quality. The County of Sacramento General Plan includes the Air Quality Element. The objectives of the Sacramento County Air Quality Element include minimizing emissions from County facilities and operations and coordinating County air quality planning efforts with other agencies.

Conformity Requirements

The conformity provisions of the federal Clean Air Act (Section 176(c)) require that federal actions in non-attainment areas conform to applicable implementation plans. A formal conformity determination is required for federal actions when the total direct and indirect emissions of non-attainment pollutants from a proposed project exceed specified thresholds. Because Sacramento County is a federal non-attainment area for ozone and PM_{10}, regionally significant highway or transit projects must demonstrate transportation conformity with regional transportation plans and other federal actions (including funding and approval actions) must demonstrate general conformity based on the emission changes caused by the action.

The general conformity rule emission thresholds for de minimis federal actions occurring in Sacramento County are set forth in 40 CFR 51.853 and summarized in **Table 7.5-5**. Categorically exempt federal actions and actions with emission levels below these thresholds are presumed to conform with the SIP.

TABLE 7.5-5

Sacramento International Airport

DE MINIMIS EMISSION THRESHOLDS FOR GENERAL CONFORMITY

County	Ozone	CO	NO_2	PM_{10}
Sacramento	25 ton/year	100 ton/year	Not Applicable	100 ton/year

Source: 40 CFR 51.853(b).

Ambient Air Quality Monitoring

The AQMD operated an air quality monitoring station on Earhart Drive within the airport Master Plan area until 1998. The ozone, CO, and PM_{10} concentrations recorded at this station in 1996 and 1997, and the concentrations recorded about five miles to the southeast of the Master Plan area at the Natomas Air Park in 1998, are summarized in **Table 7.5-6**.

TABLE 7.5-6

Sacramento International Airport

MONITORED AMBIENT AIR QUALITY CONDITIONS

Pollutant	Averaging Time	Earhart Drive 1996	Earhart Drive 1997	Natomas Air Park 1998
Ozone	1-hour 8-hour	0.111 ppm 0.088 ppm	0.097 ppm 0.082 ppm	0.127 ppm 0.093 ppm
Carbon Monoxide	1-hour 8-hour	3.5 ppm 2.24 ppm	3.1 ppm 2.04 ppm	6.0 ppm 5.0 ppm
Particulate Matter (PM_{10})	24-hour Annual Arithmetic Mean	59 $\mu g/m^3$ 27.1 $\mu g/m^3$	36 $\mu g/m^3$ 19.2 $\mu g/m^3$	93 $\mu g/m^3$ 31.0 $\mu g/m^3$

Source: California Air Resources Board, 1999.
Notes:
ppm = parts per million by volume
$\mu g/m^3$ = micrograms per cubic meter

Sensitive Receptors

Air quality-sensitive receptors are defined as those locations that are expected to house people that may experience adverse effects from air pollutants (AQMD, 1994). This definition includes residences, schools, and hospitals. There are no schools or hospitals in the vicinity of the Master Plan area.

No occupied residences are within the Master Plan area; however, scattered residential uses and occupied farms are located around the Master Plan area as follows:

- North and east of the Master Plan area, along Power Line Road;
- East, south, and west of the Master Plan area, along Garden Highway and the Sacramento River; and
- West of the existing runways, along Elkhorn Boulevard.

Inventory of Emission Sources

Airport operations cause emissions from a wide variety of sources. Aircraft, ground access vehicles, and most ground support equipment (GSE) are examples of mobile sources. Common stationary sources include boilers, heaters, emergency power generators, and fuel storage tanks. About 8.6 million air passengers (MAP) either enplaned or deplaned at the airport during 2002. Along with the passenger traffic, airmail, airfreight, and military operations also occurred at the airport. Associated with these operations are aircraft emissions and emissions from ground support equipment operated independently by the airlines, the airfreight carriers, and the military.

The Department of Airports holds permits from the AQMD for emergency power generators, boilers, water heaters, and fuel storage tanks. Equipment that burns gasoline, diesel, compressed natural gas, or methanol fuel emits quantities of criteria pollutants such as NOx, CO, and PM_{10}. A list of emitting equipment operated by the Department of Airports is given in **Table 7.5-7**.

TABLE 7.5-7 *Sacramento International Airport* *DEPARTMENT OF AIRPORTS EMISSION SOURCES*	
Ground Support Equipment/Ground Access Vehicles	
Business Cars/Standard Passenger Vehicles	Road and Ramp Surface Maintenance Equipment
Special Application Vehicles	Pumps
Shop/Compact Trucks	Surface Rollers
Vans/Crew Cabs/Shuttle Buses	Scrapers
Two/Three Axle Trucks	Spray Rigs
Two/Three Axle Water Trucks	Steam Cleaners/Parts Washers
Tree/Brush Chippers	Paint Stripping Equipment
Portable Air Compressors/Pneumatic Tools	Sweeper Vehicles
Fork Lifts/Towing Tugs	Tractors/Backhoes
Boom Trucks	Welding Units
Generator Sets/Light Plants/APUs	Heavy Road Construction Equipment
Concrete Mixers	Aircraft Refueling Equipment
Ground Maintenance Equipment	Rescue Equipment
Stationary Sources	
Emergency Power Generators	Water Heaters
Boilers	Gasoline Tanks

Source: Department of Airports, 2000.

For future actions and projects at the airport, emissions can be generally split into direct and indirect. Direct emissions are those caused or initiated by the action or project occurring at the same time and place as the action or project. Indirect emissions may occur later in time or may be further removed in distance from the action itself. An example of direct emissions is emissions from utilization of construction equipment to construct a project. An example of indirect emissions is motor vehicle emissions from additional passenger traffic to the airport initiated by an action.

There are two areas of air quality impacts, operational and construction related. As far as construction related, the Preferred Alternative would require a minimal amount of demolition and approximately 6,450 sq. ft. of new pavement construction.

The estimated annual operational air emissions associated with ground-level aircraft operations in the year 2020 are shown in **Table 7.5-8**. As shown, the No Build Alternative causes substantially more air quality pollutants in the future compared to the Preferred Alternative. The addition of the new West Runway would maintain lower aircraft delays, reducing the aircraft idling time, therefore reducing air quality impacts.

TABLE 7.5-8 *Sacramento International Airport* *ESTIMATED ANNUAL AIR EMISSIONS FROM AIRCRAFT OPERATIONS*			
	Emissions in Tons Per year		
Alternative	**ROG**	**NO_x**	**CO**
No Build Alternative	58.11	69.83	414.77
Preferred Alternative	29.54	35.50	210.86

Source: EIP Associates

7.6 WATER QUALITY

The County of Sacramento Department of Airports developed a comprehensive approach to address the permitting of storm water discharges associated with industrial activity at Sacramento International Airport. This approach involved obtaining state general permit coverage for regulated discharges within the watershed boundary containing airport-related industrial activities.

The airport, categorized as a transportation facility, has many operations that involve multiple tenants that perform fueling, maintenance, and/or cleaning activities and that discharge storm water to the County maintained storm drain system. The Department of Airports is the principle permittee for the airport and the tenants who conduct industrial activities at the airport are included as co-permittees. This approach conforms to Federal regulations, is the preferred option of the State Water Resources Control Board (SWRCB), and allows the implementation of consistent storm water pollution prevention measures at each facility.

The Storm Water Pollution Prevention Plan (SWPPP) was prepared in accordance with requirements of the California general National Pollutant Discharge Elimination System (NPDES) permit. Information provided in the Sacramento International Airport SWPPP is summarized in the following sections.[6]

Drainage Patterns

As presented in Section 2.2.1 of the Airport's SWPPP, two major watersheds exist on the airport property (as depicted on Appendix B Drainage Map Figure 1 of the SWPPP). The northern airport watershed discharges into the Reclamation District 1000 P-Drain system to a pumping plant on the Sacramento River, north of Elverta Road. The northern watershed is currently used for primarily agricultural purposes, but also contains the Airport Rescue and Fire Fighting (ARFF), Airfield Maintenance, and Chevron Fuel Farm facilities. The southern watershed includes the airport terminal area and facilities, the runways and taxiways, and some agricultural land. The southern area includes the area south of Delta Road and has two subshed areas, which are roughly separated by the westerly portion of the Airport Boulevard loop.

The southeastern watershed drains into the Power Line Road ditch, which runs north-south along Power Line Road and drains south under I-5 through one five-by-four foot double box culvert. The water is ultimately conveyed to the Reclamation District 1000 system. The southwest watershed drains into the West Drainage ditch, which runs north-south adjacent to, and within, the airport's west property line. The northern portion of this watershed collects runoff from the west runway and the Aircraft Apron Facilities north and west of the terminals, where the principal airport related industrial activities occur. Runoff from these areas is collected by a drainage pipe system underneath the paved areas, which discharges to the West Drainage ditch. The southern portion of this watershed is vacant/agricultural land, and also drains into the West Drainage ditch, which transports Runoff to the West Drainage Canal. Runoff from both the east and west drainage ditch flows to Reclamation District 1000 pump station #5 and is pumped to the Sacramento River.

Standard Operating Procedures and Best Management Practices

Quality control Best Management Practices (BMPs) are designed to limit the types and concentrations of pollutants found in storm water runoff. Quality control BMPs can be subdivided into source control BMPs and treatment control BMPs. Source control BMPs are intended to prevent pollutants from entering surface waters by altering activities so as to eliminate or minimize pollution produced as a result of the activity. Source control BMPs are typically operational practices that prevent pollution by reducing potential pollutants at the source. A properly designed and implemented spill response program is also an effective source control BMPs. Spill response programs rely upon employee awareness and training to be effective. Examples of source control BMPs include:

- Moving an outdoor activity indoors
- Placing storage containers for recyclable oil under a cover out of the rain
- Storing hazardous materials/wastes in covered, contained areas
- Changing product brand to one without hazardous ingredients

Treatment control BMPs treat storm water to remove pollutants. Examples of treatment BMPs include:

- Catch basins with sumps
- Oil/water separators
- Grass swales

Quantity control BMPs are intended to control the runoff volume or peak discharge rate of storm water. Storm water detention/retention basins are an example of a quantity control BMPs. Properly designed and maintained detention/retention basins can also be an effective method of removing pollutants from storm water.

Existing Control Mechanisms

As summarized in the SWPPP, Sacramento International Airport tenants perform industrial activities related directly to aviation such as aircraft operations, maintenance, and cargo

handling. Tenants also perform general industrial activities such as vehicle maintenance, equipment storage, and facility maintenance. Utilizing information gathered during site visits and responses to the Sacramento International Airport tenant SWPPP questionnaire, the following outdoor activities were identified as actual or potential sources of pollutants:

Aircraft Maintenance
Aircraft Fueling
Aircraft Painting/Stripping
Aircraft Washing
Vehicle Maintenance
Vehicle Fueling
Vehicle Washing
Cargo Handling
Fuel Storage
Chemical Storage
Equipment Cleaning/Degreasing
Equipment Maintenance
Equipment Fueling
Equipment Storage
Building and Grounds Maintenance

Section 3.2 of the SWPPP, Potential Pollutants in Storm Water, describes the types and estimated quantities of potential pollutants, which may affect runoff quality as the result of Sacramento International Airport tenant operations. Half of the tenants who responded to an activities questionnaire indicated that there did exist the potential for small amounts of pollutants to come in contact with runoff. Of these positively responding tenants, the potential pollutants most commonly cited were oil, grease, and petroleum hydrocarbons generated from the washing of aircraft, equipment, and grounds.

7.7 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES

Research on historic sites was conducted utilizing historic maps at the California State Library, Bureau of Land Management, and California State Division of Mines and Geology Library. Additionally, several published texts were consulted for information on sites of recognized significance.

Records of previous cultural resource surveys and maps of recorded sites within the project area were reviewed by the North Central Information Center of the California Historical Resources Information System. The records search revealed that there are two archeological sites with both prehistoric period and historic period components recorded in the Master Plan Area, as well as eight historic period archeological sites. The historic period sites all appear to be the remnants of the residences torn down for the Sacramento Airport in the late 1980s.

Some of the land within the Master Plan Area has been systematically surveyed, representing about roughly 30 percent of the total area included in the Master Plan Area. Most of the survey work was completed in 1994 for the Corps of Engineers American River Watershed project (Nilsson et al. 1994).

Table 7.7-1 details the recorded sites within the Master Plan Area, with site type and evaluation status of each.

TABLE 7.7-1

Sacramento International Airport

CULTURAL RESOURCES ON PROJECT SITE

Site/Bridge #	Site Type	Status
CA-SAC-16	very large prehistoric period village site with burials	National Register of Historic Places
CA-SAC-485/H	prehistoric village with burials, historic occupation remnant	not evaluated
CA-SAC-486H	historic occupation remnant	not evaluated
CA-SAC-487H	historic occupation remnant	not evaluated
CA-SAC-488H	historic occupation remnant	not evaluated
CA-SAC-489H	historic occupation remnant	not evaluated
CA-SAC-490H	historic occupation remnant	not evaluated
CA-SAC-491H	historic occupation remnant	not evaluated
CA-SAC-492H	historic occupation remnant	not evaluated
CA-SAC-493H	historic occupation remnant	not evaluated
RD 1000	rural historic landscape district	National Register of Historic Places, HAER

Source: EIP Associates, 2000

For the purposes of CEQA, an historical resource is a resource listed in, or determined eligible for listing in the California Register of Historical Resources. When a project will impact an archeological site, it needs to be determined whether the site is an historical resource, which is defined as any site which:

(A) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and

(B) Meets any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. Has yielded, or may be likely to yield, information important in prehistory or history.

Significance of cultural resources is measured against the National Register of Historic Places (NRHP) criteria for evaluation:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
(b) that are associated with the lives of persons significant in our past; or
(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

Based on the National Historic Preservation Act of 1966 and the Archaeological and Historic Preservation Act of 1974, any undertaking which is federally funded, permitted or licensed is subject to Section 106 review to ensure that properties or data which have historic, scientific, prehistoric, archaeological, or paleontological significance are surveyed, recovered or preserved.

If a project proposed for the Master Plan Area is deemed a federal undertaking, Section 106 requires that federal agencies take into account the effect of their actions on properties that may be eligible for or listed in the NRHP. To determine if an undertaking could affect NRHP-eligible properties, cultural sites (including archaeological, historical and architectural properties) must be inventoried and evaluated for the NRHP. Compliance with Section 106 is the responsibility of the federal lead agency.

The Section 106 review process is implemented using a five step procedure: 1) identification and evaluation of historic properties; 2) assessment of the effects of the undertaking on properties that are eligible for the NRHP; 3) consultation with the State Historic Preservation Office (SHPO) and other agencies for the development of a memorandum of agreement (MOA) that addresses the treatment of historic properties; 4) receipt of Advisory Council on Historic Preservation comments on the MOA or results of consultation; and 5) the project implementation according to the conditions of the MOA.

The Section 106 compliance process may not consist of all the steps above, depending on the situation. For example, if identification and evaluation result in the documented conclusion that no properties included in or eligible for inclusion are present, the process ends with the identification and evaluation step.

Prehistoric Period Resources

There are two known sites with prehistoric components within the Master Plan Area, and others resources may exist on the unsurveyed portions. Surveys should be required for all of the Master Plan Area for any specific project that may be proposed. There are two recorded sites:

- CA-SAC-16/H is a site of recognized significance. It is subject to annual disturbance through on-going agricultural activities at the site by the Airport's tenants.

- CA-SAC-485/H is also a significant site, and will prove to be eligible for the National Register of Historic Places as well as eligible for the California Register of Historical Resources.

Protection/preservation measures need to be developed for both sites. Leaving the sites open with no protection allows vandalism and artifact collection to occur. Agricultural activities should be prohibited within or near site areas. A long-term preservation plan needs to be developed for the resources, or data recovery excavations of the sites conducted. If development is proposed in or near site areas, excavation would be necessary. Any excavation in the vicinity of the sites would need to be coordinated with the Native American community, particularly in light of the known presence of human remains at both sites.

7.8 BIOTIC COMMUNITIES

A reconnaissance level field survey was conducted on August 10, 2000 by EIP Associates biologists to determine presence of suitable habitat for sensitive plant and animal species. The Master Plan Area is characterized by highly disturbed flat land used for airport and agricultural practices.

The Master Plan Area is primarily flat agricultural land with occasional wetlands, irrigation and drainage ditches, and a few agricultural related structures and rural residences. The Master Plan Area is located in the 55,000-acre Natomas Basin. The Master Plan Area consists of the large tract of land bounded on the north by the Sutter County boundary, on the south by the Sacramento River, and on the east by Powerline Road, located in northwest Sacramento County. The Master Plan Area lies in sections 1 and 12, T9NR3E; 6 and 7, T9NR4E; 12, 13, 23, 24, 25, and 36, T10NR3E; and 7, 18, 19, 30, and 31, T10NR4E, mapped on the Taylor Monument USGS topographic quadrangle (Map 1). Due to its proximity to the Sacramento and American Rivers, and the relatively low elevation of the land, this basin has historically been prone to flooding. Reclamation projects over the years have transformed Natomas into a highly productive agricultural area. In the past 20 years, however, urban development has begun to encroach into the basin. As of 1990, approximately 47,700 acres have remained undeveloped in Natomas.

Of this acreage, approximately 39,000 acres were under cultivation, mostly in rice. The majority of unincorporated Sacramento County in the Natomas Basin is in agricultural production or is lying fallow or vacant.

Developed portions of the airport inside the fence line include, runways, parking lots, terminals, offices, maintenance areas, and various other airport facilities. Sewage disposal ponds are also located within the fence line, south of the developed areas. Undeveloped habitat inside the fence line consists of non-native grassland that is mowed several times a year to discourage bird use near runways.

Habitat outside of the airport's current fence line predominately consists of agriculture in the form of rice, safflower, corn, grain, and alfalfa. More specifically, habitat north of the fence line is primarily rice, grain, corn, and a probable freshwater marsh. Habitat south of the current fence line is predominately safflower and corn. The master plan boundary does not continue east of the fence line, however, dominant habitat west of the fence line consists of corn, alfalfa, as well as an orchard. There are also associated farmhouses and riparian areas to the north, south, and west of the fence line.

7.9 ENDANGERED AND THREATENED SPECIES OF FLORA AND FAUNA

Section 7 of the Endangered Species Act, as amended, requires each Federal agency to insure that "any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee".

Based on a review of literature, and the California Natural Diversity Database (CNDDB), 11 special-status plant species, 20 special-status animal species, and five special-status habitats were considered, by virtue of their distribution and habitat

requirements, to have the potential to occur within a five-mile radius of the project area (**Table 7.9-1**).

TABLE 7.9-1

Sacramento International Airport

SPECIAL-STATUS SPECIES RECORDED OCCURRENCES WITHIN A FIVE MILE RADIUS OF AIRPORT MASTER PLAN STUDY AREA

Scientific Name	Common Name	Status	Habitat
PLANTS			
Astragalus tener var. *tener*	Alkali milk vetch	1B	alkali flats, vernal pools
Atriplex cordulata	Heartscale	1B	alkali flats, grasslands
Atriplex depressa	Brittlescale	1B	alkali meadows, vernal pools
Atriplex joaquiniana	San Joaquin saltbush	1B	alkali wetlands, ditch banks
Cordylanthus palmatus	Palmate-bracted bird's-beak	1B	grasslands
Downingia pusilla	Dwarf downingia	2	vernal pools, grasslands
Gratiola heterosepala	Boggs lake hedge-hyssop	1B	marshes, vernal pools
Hibiscus lasiocarpus	Rose-mallow	2	marshes
Legenere limosa	Legenere	1B	vernal pools
Lepidium latipes var. *heckardii*	Heckard's pepper-grass	1B	vernal pools, grasslands
Sagittaria sanfordii	Sanford's arrowhead	1B	marshes
INVERTEBRATES			
Branchinecta lynchi	Vernal pool fairy shrimp	FT	vernal pools
Lepidurus packardi	Vernal pool tadpole shrimp	FE	vernal pools
Linderiella occidentalis	California linderiella	----	vernal pools
Desmocercus californicus dimorphus	Valley elderberry longhorn beetle	FT	in association with elderberries
AMPHIBIANS AND REPTILES			
Clemmys marmarata marmorata	Northwestern pond turtle	FSC, CSC	creeks and ponds with perennial water and aquatic vegetation
Thamnophis gigas	Giant garter snake	FT, CT	freshwater marshes, low-gradient streams
BIRDS			
Accipiter cooperii	Cooper's hawk	CSC	woodlands
Buteo swainsoni	Swainson's hawk	CT	large trees with adjacent grasslands (nesting)
Elanus caeruleus	White-tailed kite	----	woodland, grassland (nesting)
Athene cunicularia	Burrowing owl	FSC, CSC	dry grasslands, burrows (nesting)
Agelaius tricolor	Tricolored blackbird	FSC, CSC	marsh, grassland
Ardea alba	Great Egret	----	large trees (nesting)
Ardea herodias	Great blue heron	----	large trees (nesting)
Egretta thula	Snowy egret	----	dense tules, large trees (nesting)
Nycticorax nycticorax	Black-crowned night heron	----	dense tules, large trees
Plegadis chihi	White-faced ibis	FSC, CSC	shallow, freshwater marsh (nesting)
Charadrius alexandrinus nivosus	Western snowy plover	FT	shores next to alkali ponds or lakes (nesting)
Charadrius montanus	Mountain plover	FPT, CSC	short vegetation, flat topography (wintering)

TABLE 7.9-1 (continued)

Sacramento International Airport

SPECIAL-STATUS SPECIES RECORDED OCCURRENCES WITHIN A FIVE MILE RADIUS OF AIRPORT MASTER PLAN STUDY AREA

Scientific Name	Common Name	Status	Habitat
Riparia riparia	Bank swallow	CT	riparian with vertical banks (nesting)
FISH			
Pogonichthys macrolepidotus	Sacramento splittail	FT, CSC	Central Valley lakes and rivers
SENSITIVE HABITAT TYPES			
Elderberry Savanna			
Great Valley Cottonwood Riparian Forest			
Great Valley Mixed Riparian Forest			
Northern Claypan Vernal Pool			
Northern Hardpan Vernal Pool			

Federal Designations

FE	Federally listed, Endangered
FT	Federally listed, Threatened
FPE	Formally Proposed for federal listing as Endangered
FPT	Formally Proposed for federal listing as Threatened
FC	USFWS has sufficient information to justify listing as Threatened or Endangered
FSC	USFWS Species of Concern

State Designations

CE	California listed Endangered
CT	California listed Threatened
CR	California listed Rare
CCE	California Candidate for listing as Endangered
CCT	California candidate for listing as Threatened
CFP	California DFG Fully Protected Species
CSC	California DFG Species of Special Concern

California Native Plant Society

1A	Plants presumed extinct in California
1B	Rare or endangered in California and elsewhere
2	Rare and endangered in California, more common elsewhere
3	Plants about which we need more information - a review list
4	Plants of Limited Distribution

Source: EIP Associates, 2000

Suitable habitat exists within the master plan boundary for the giant garter snake (Thamnophis gigas), Swainson's hawk (Buteo swainsoni), valley elderberry longhorn beetle (Desmocerus californicus dimorphus), and Sanford's arrowhead (Sagittaria sanfordii).

The giant garter snake is an aquatic species that inhabits slow moving water with mud bottoms, vegetated banks, areas for basking, and uplands with hibernaculae. More

specifically, they utilize ditches, canals, flooded rice fields, sloughs, and low-gradient streams in the vicinity of the project area.

The Swainson's hawk requires large nesting trees such as valley oaks (Quercus lobata), cottonwoods (Populus fremontii), and willows (Salix spp.). The Swainson's hawk prefers to nest within one mile of riparian areas[7] and requires adjacent grasslands, low growing crops, or open fields for foraging.

The valley elderberry longhorn beetle (VELB) is completely dependant on elderberry shrubs (Sambucus mexicana and S. caerulea) for its entire life cycle. Elderberry shrubs with evidence of past VELB occupancy were located along a riparian area next to reservoir road during the field reconnaissance survey.

Sanford's arrowhead is associated with shallow, slow moving freshwater marshes, ponds, and ditches. Suitable habitat for this species exists in the probable wetland north of the fence line, periphery edges of rice fields, and certain locales along the ditches within the master plan boundary.

Removal of canals, ditches, and wetlands would remove giant garter snake, western pond turtle, and Sanford's arrowhead habitat. The potential habitat acreage lost for these species would be equivalent to the potential wetlands/waters of the U.S. acreage impacted by the Preferred Alternative. The potential habitat acreage lost to burrowing owls and Swainson's hawk foraging habitat would be equivalent to the prime agricultural land that would be converted by the development of the Preferred Alternative. Removal of trees would remove nesting sites for Swainson's hawk. The number of trees to be removed was estimated using the proposed alternative maps and data collected during surveys of the Master Plan Area. A total of 46 Valley oaks and one cottonwood tree would be removed with construction of the runway under the Preferred Alternative. The Preferred Alternative would not directly impact the VELB, however, perimeter fencing, or other boundary markers that would need to be facilitated, may encroach on the area.

7.10 WETLANDS

Department of Transportation Order 5660.1A, Preservation of the Nation's Wetlands, implements Executive Order 11990, Protection of Wetlands. The identification of wetlands is partially based upon soils identified as hydric by the National Resources Conservation Service (formerly known as Soil Conservation Service). The U.S. Army Corps of Engineers define a wetland as having three characteristics:

- Wetland Hydrology
- Hydric Soils
- Characteristic Wetland Vegetation

In general, Section 10 of the Rivers and Harbors Act of 1899 prohibit work in navigable water of the U.S. without a Department of the Army (DA) permit. Section 404 of the Clean Water Act prohibits the discharge of dredged and/or fill materials into waters of the United States, including wetlands, without first obtaining a DA permit.

Wetland delineation was not conducted on the probable freshwater marsh north of the current fence line; however, two of the three requisites for a wetland were present. The three requirements that determine the presence of a wetland are wetland vegetation, wetland hydrology, and hydric soils. Wetland vegetation was present including, bulrush (Scirpus spp.), cattails (Typha spp.), and rushes (Juncus spp.). Wetland hydrology was also evident by the presence of standing water. Although the presence of hydric soils was not determined, existing conditions convey evidence that wetland delineation would conclude the presence of hydric soils.

The potential wetlands/waters of the U.S. in the Master Plan Area consist mainly of irrigation canals, ditches, and ponds. In addition, there are seasonal wetlands, natural drainages, and ponds. Linear feet of canals, ditches, and drainages were estimated based on maps of the irrigation system managed by Reclamation District 1000 and the Natomas Mutual Water Company. The canals, ditches, and drainages in the Study Area provide habitat for giant garter snake, western pond turtle, and Sanford's arrowhead.

Approximately 20,000 linear feet or 1.83 acres (assuming an average width of affected ditch is four feet) of potential wetlands/waters of the US would be impacted by construction of the runway under the Preferred Alternative. The north and south roadway access modifications would impact approximately 21,001 linear feet or 1.46 acres of potential wetlands/waters of the US broken out as follows:

- Ditch north of Elverta Road - 2,333 linear feet or 0.21 acres.
- Ditch west of Power Line Road - 10,667 linear feet or 0.98 acres.
- Canal adjacent to access road west of Power Line Road - 5,334 linear feet or 0.03 acres.
- Ditch along Bayou Road - 2,667 linear feet or 0.24 acres.

7.11 FLOODPLAINS

Executive Order 11988, Floodplain Management, defines floodplains as "the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year;" i.e., the area that would be inundated by a 100-year flood.

Based on a review of the FEMA Digital Q3 Flood Data displayed on Environmental Systems Research Institute, Inc.'s (ESRI) web site, the property identified as the Airport Master Plan is within the 100-year flood plain. No portion of the site is indicated as being within the 500-year flood plain.[8]

7.12 WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act of 1968 preserves selected rivers in a free-flowing condition. Designated rivers possess outstanding scenic, recreation, geologic, fish and wildlife, historic, or cultural values. No Wild and Scenic Rivers are located within the Master Plan Area. The only river near the site is the Sacramento River. According to the National Park Service, who maintains the National Wild and Scenic Rivers System list, the Sacramento River is not designated.

7.13 PRIME AND UNIQUE FARMLAND

The Farmland Protection Policy Act (FPPA), P.L. 97-98, authorizes the U.S. Department of Agriculture (USDA) to develop criteria for identifying the effects of federal programs on the conversion of farmland to nonagricultural uses. According to the Important Farmland Map for Sacramento County prepared by the Department of Conservation (DOC), Farmland Mapping and Monitoring Program, the agricultural land within the Master Plan Area is designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

Approximately 613 acres of land proposed for runway/taxiway development under the Preferred Alternative is designated by the DOC as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. The total agricultural land impacted by the Preferred Alternative is approximately 332.2 acres; this is the total amount of land that is currently in agricultural production that would be converted to non-agricultural uses. Impacts resulting from the construction of a new roadway from the Airport Boulevard/Interstate 5 Interchange to Del Paso Road at Power Line Road would include the conversion approximately 0.2 acres of land to non-agricultural uses, this land is classified as Prime Farmland by the FMMP. Agricultural uses that would be affected by the Preferred Alternative include cropland, orchards and walnut trees.

The agricultural land adjacent to the Master Plan Area boundaries within Sacramento County is primarily designated Prime Farmland with an area designated as Urban Land south of Reservoir Road. In Sutter County, north of the Master Plan Area, agricultural land is designated as either Prime Farmland or Farmland of Statewide Importance.[9]

7.14 ENERGY SUPPLY AND NATURAL RESOURCES

The proposed development is not expected to have a significant impact on the demand for stationary facilities (airfield lighting, terminal heating and air conditioning, etc.). There would be a few minor increases in energy demand due to additional runway

and taxiway lighting as well as heating, cooling, and lighting additional terminal space. However, this increase would be minimal in the total system usage. There would be no need for unusual natural resources or materials in short supply at the site during construction activities.

7.15 CONSTRUCTION IMPACTS

Impacts associated with construction activities include noise from equipment, air pollution from dust, water pollution and soil erosion from grading, and traffic impacts from construction vehicles.

Prior to any construction activities, a Maintenance of Traffic Plan should be developed to minimize short-term inconveniences to the public. The pollution control provisions of FAA Advisory Circular 150/5370-10 Standards for Specifying Construction of Airports should be adhered to where other construction impacts surface.

The Teal Bend Golf Club, a 52-acre, privately owned golf course, is located directly west of the airport would not be directly impacted by the construction of the Preferred Alternative, however, access routes to the golf course would be altered.

7.16 HAZARDOUS WASTE

Any hazardous substances encountered would be appropriately controlled in accordance with applicable federal, state, and local laws. This would include the containment and transfer of substances to a certified receiving agent and only by a licensed and bonded remediation contractor.

The Sacramento International Airport lies in the Natomas Area of Sacramento, northwest of the confluence of the Sacramento and American Rivers. Topography of the area, as shown on the project boundary site map (Taylor Monument and Grays Bend USGS 7.5-Minute Topographic Quadrangles), is very flat, with elevations throughout the site ranging from 15 to 20 feet above mean sea level (msl). Groundwater flow direction has not been determined, however, surface drainage at the Airport can be typified as sheet

flow to either an open channel or piped conveyance system, with discharge to an open or piped channel. For specific information regarding drainage and hydrological characteristics of the site, reference the Hydrology and Water Quality section.

Documented Site Contamination at the Sacramento International Airport

Environmental Database Review

An environmental review of various federal, state, and county regulatory databases was performed by VISTA Information Solutions, Inc. (VISTA) on July 26, 2000, to determine whether or not locations within the Airport Master Plan boundaries are identified as having site contamination. A custom database search for the Airport Master Plan was conducted by providing a detailed map to VISTA indicating the Master Plan boundaries. VISTA identified and mapped locations within the Master Plan boundaries, as well as locations within varying distances from the boundaries.

The following databases were able to provide information for properties within the Master Plan boundary.

- **Leaking Underground Storage Tank Information System** (State LUSTIS) maintained by the California Environmental Protection Agency (Cal EPA) - updated January 2000.
- **Region 5 Leaking Underground Storage Tanks List** (Regional LUST) maintained by the Regional Water Quality Control Board, Region #5 (RWQCB) - updated April 2000.
- **Cortese List - Hazardous Waste Substances Site List** (Cortese) maintained by the California Office of Environmental Protection, Office of Hazardous Materials (updated April 1998). The Cortese List is a listing of potential and confirmed hazardous waste sites throughout the State of California under Government Code Section 65962.5, and is a compilation of 14 different regulatory databases.
- **Underground Storage Tank List** (State UST) maintained by the State Water Resources Control Board (SWRCB), Office of Underground Storage Tanks (updated January 1994).
- **Aboveground Storage Tank List** (State AST) maintained by the SWRCB (updated December 1999).
- **Sacramento County Underground Storage Tank List** (County UST) maintained by the County of Sacramento Environmental Management Department (updated July 1999).
- **Facility Index System** (FINDS) maintained by the U.S. Environmental Protection Agency (USEPA) - updated February 1999. The FINDS report is an inventory of all facilities that are regulated or tracked by the USEPA.
- **RCRIS Small Quantity Generator** (RCRA-SQG) maintained by the USEPA's Resource Conservation and Recovery (RCRA) Program (updated December 1999).

- **USGS Water Wells** (USGS Wells). The Ground Water Site Inventory is maintained by the U.S. Geological Survey (updated March 1998).

TABLE 7.16-1

Sacramento International Airport

SUMMARY OF REGULATORY DATABASE REVIEW

Site Address	Facility/ Owner	Site Contamination Information	Site Status Information	UST and AST Information	Other Regulatory Information and Notes
Sites Located Within the Airport Master Plan Boundaries					
No Listed Site Address	FAA Metro Airport	Regional and State LUST List Diesel release Leak Date: 11/8/98 Soil Affected	Case Closed: 12/7/98 State ID: #340753	None	
No Listed Site Address	Sacramento Metro Airport - Chevron Tank Farm	None	None	State AST List - Not reported State UST List 2 Active/In Service USTs No Certificate #	
6900 Airport	Metro Airport	None	None	State UST List 2 Closed/Removed USTs (G,D) 1 Active/In Service UST (D) No Certificate #	USGS Well #384010121352301
7001 Airport	Shell Oil Co. (SWIMS Shell-Former)	State LUST List Gasoline release Leak Date: 2/13/90 Aquifer Affected	Case Closed: 10/27/97 Method: Excavate and Dispose State ID: #340505 County ID: 0269 Closure Letter Available	State UST List 4 Closed/Removed UST (3G,O) No Certificate #	Cortese-Leaking Tank Site FINDS RCRA-SQG EPA ID: CAD981460504
5850 Citation Way	Cessna Citation Service	Regional and State LUST List Jet Fuel release Leak Date: 11/20/98 Soil Affected	Leak Being Confirmed State ID: #341201	State UST List 1 Active/In Service UST (J) Certificate # 12802 (1 tank)	
Earhart Dr.	Sacramento Metro Airport	State LUST List Diesel release Leak Date: 2/2/95 Soil Affected	Leak Being Confirmed State ID: #340998	None	
6640 Earhart	Dollar Rent-a-Car	State LUST List Gasoline release Leak Date: 5/12/94 Soil Affected	Case Closed: 4/16/98 State ID: #340926	State UST List 1 Active/In Service UST (G) No Certificate #	Cortese-Leaking Tank Site
6650 Earhart	Budget Rent-a-Car (Former)	State LUST List Gasoline release Leak Date: 6/9/94	Leak Being Confirmed State ID: #340934	None	Cortese-Leaking Tank Site

TABLE 7.16-1 (continued)

Sacramento International Airport

SUMMARY OF REGULATORY DATABASE REVIEW

Site Address	Facility/ Owner	Site Contamination Information	Site Status Information	UST and AST Information	Other Regulatory Information and Notes
Sites Located Within the Airport Master Plan Boundaries					
6710 Earhart	National Car Rental (Former)	Regional and State LUST List Gasoline release Leak Date: 9/11/96 Soil Affected	Case Closed: 10/8/86 (?) Method: Excavate and Dispose State ID: #341042	State UST List 1 Active/In Service UST (G) No Certificate #	Cortese-Leaking Tank Site
6720 Earhart	Avis (Former)	Regional and State LUST List Gasoline release Leak Date: 5/9/95 Soil Affected	Case Closed: 7/31/96 State ID: #341022	State UST List 2 Active/In Service USTs (G) No Certificate #	
6740 Earhart	Hertz Rent-a-Car (Former)	Regional and State LUST List Hydrocarbon release Leak Date: 11/15/94	No Action State ID: #340964	State UST List 2 Active/In Service USTs (G) No Certificate #	Cortese-Leaking Tank Site USGS Well #384125121352001
7201 Earhart	Sacramento International Airport Maint. Facility	None	None	County UST List 5 Unknown USTs Certificate #15279 (5 tanks) State UST List 1 Active/In Service UST (O) No Certificate #	FINDS RCRA-SQG EPA ID: #CAD981977523
5868 Flight Line	Sacramento Jet, Inc.	None	None	County and State UST List 1 Active/In Service UST (J) Certificate #15276 (1 tank)	
5910 Flight Line	Beneto, Inc.	None	None	County UST List 1 Unknown UST Certificate #15430 (1 tank)	
6349 Lindbergh	DOT FAA SAC FIFO	None	None	State UST List 1 Active/In Service UST (P) Certificate #15445 (1 tank)	USGS Well #384125121353801
6701 Lindbergh (6702 Lindbergh on VISTA)	United Airlines Air Cargo Facility	Regional and State LUST List Gasoline release Leak Date: 2/11/86 Aquifer Affected	Case Closed 10/8/99 Method: Pump and Treat State ID: #340052 Closure Letter Available	None	Cortese-Leaking Tank Site

TABLE 7.16-1 (continued)

Sacramento International Airport

SUMMARY OF REGULATORY DATABASE REVIEW

Site Address	Facility/ Owner	Site Contamination Information	Site Status Information	UST and AST Information	Other Regulatory Information and Notes
6130 McNair	Hertz Rent-a-Car	None	None	County UST List 2 Unknown USTs Certificate #15274 (2 tanks)	
6230 McNair	National Car Rental	None	None	County UST List 1 Unknown UST Certificate #15273 (1 tank)	
6320 McNair	Alamo Rent-a-Car	None	None	County UST List 1 Unknown UST Certificate #15272 (1 tank)	
6420 McNair	Budget Rent-a-Car	None	None	County UST List 1 Unknown UST Certificate #15271(1 tank)	
6520 McNair	Avis Rent-a-Car	Regional and State LUST List Hydrocarbon Release Leak Date: 4/25/94 Undefined Contamination	No Action Taken State ID: #340917	County UST List 2 Unknown USTs Certificate #15270 (2 tank)	Cortese-Leaking Tank Site
5191 Garden Hwy.	UC River Ranch	Regional and State LUST List Gasoline release Leak Date: 12/22/92 Aquifer Affected	Case Closed: 7/18/96 Method: Excavate and Treat State ID: #340687 County ID: #466	State UST List 2 Closed/Removed USTs No Certificate #	
0.7-mile east of Maintenance Facility	USGS Water Well	None	None	None	USGS Well #384159121343901
Sites Located Outside the Airport Master Plan Boundaries					
5870 Garden Hwy.	IHDE-L-ACRES	None	None	State UST List 1 Active/In Service UST (D) No Certificate #	
11000 Garden Hwy.	El Rio Farms	None	None	State UST List 1 Active/In Service UST (G) No Certificate #	
10000 Garden Hwy.	Rio Ramaza Marina	None	None	State UST List 3 Active/In Service USTs (G) No Certificate #	

G = Gasoline
D = Diesel
O = Oil
Note: UST Certificates are Sacramento County Certificate Numbers
Source: VISTA Information Solutions, Inc.

Information gathered from review of the VISTA report is summarized in **Table 7.16-1**. The table indicates the address of the site, the identified owner or potentially responsible party of the site, and the nature of past or present contamination, as well as the number (and type if available) of registered USTs or ASTs on the property.

Former Rental Agency Car Lot

As indicated in Table 7.16-1, 5 of the 11 addresses identified as having had leaking USTs within the Airport Master Plan boundary are located at the former rental car area along the east side of Earhart Drive, north of the current rental car area. The UST releases were probably observed during their excavations prior to, or after, the rental agencies were moved to their present locations along McNair Circle. However, based on information disclosed by the SWRCB, Office of Underground Storage Tanks, the USTs at each of the former rental car agency locations, with the exception of the former Budget Rent-a-Car facility at 6650 Earhart Drive and the former Hertz Car Rental facility at 6740 Earhart Drive, are still listed as "Active/In Service." Information should be provided to the state to have the tanks listed as "Closed/Removed" if they have, in fact, been decommissioned.[10]

The following locations are indicated as having contamination issues resolved by the RWQCB, the County of Sacramento Environmental Management Department (SCEMD), and/or Cal EPA. Each of these sites is listed as having had release of gasoline that impacted only soil.

- 6640 Earhart Drive, Dollar Rent-a-Car (Former) - Case Closed
- 6710 Earhart Drive, National Car Rental (Former) - Case Closed
- 6720 Earhart Drive, Avis Rent-a-Car (Former) - Case Closed
- 6740 Earhart Drive, Hertz Rent-a-Car (Former) - No Further Action Required/In Process of Being Closed

The following locations at the former rental car lot area are indicated as having "active" site contamination files. As indicated in Table 7.16-1, either "no action" was taken or was not required after the UST leak was reported, or the leak is still being confirmed.

- 6650 Earhart Drive, Budget Rent-a-Car (Former) - Leak Being Confirmed

In order to ensure that the site contamination was properly remediated, or that a release has actually occurred, a comprehensive LUSTIS file review should be conducted at the office of the California Underground Storage Tank Program.[11] Each of the sites mentioned above, with the exception of the former Avis site at 6720 Earhart Drive, are also located on the Cortese List for having a leaking tank. A file review should be

conducted at the California Department of Toxic and Substance Control (Cal DTSC) office to determine the content of the Cortese List files.

Present Rental Agency Car Lot

The rental car agencies are currently located along McNair Circle. The following rental car company is listed as having had contamination associated with a UST that has not been resolved:

- 6520 McNair Circle, Avis Rent-a-Car - No Action Taken

Avis Rent-a-Car is listed on the Regional and State Leaking UST lists, as well as the Cortese List, for having had a gasoline release from a UST where no action was taken and the contamination was undefined. Each of the five car rental companies (Hertz, National, Alamo, Budget, and Avis) have registered USTs, which are properly permitted with the SCEMD. With the exception of the Avis location, as described above, no contamination is known to have occurred at the car rental facilities.

Other Documented Sites Having Contamination

The following sites are listed as having had contamination originating from leaking USTs, but have had contamination issues resolved by the RWQCB and/or Cal EPA.

- 7001 Airport Blvd., Shell Oil Co. (Former) - Case Closed
- 6701 Lindbergh Drive, United Airlines Air Cargo Facility - Case Closed
- FAA - Metro Airport (no address) - Case Closed

An agency file review would need to be conducted to determine the actual location and nature of the release of the FAA - Metro Airport release.

The remaining two locations that have unresolved contamination issues associated with USTs include the following:

- 5850 Citation Way, Cessna-Citation Service - Leak Being Confirmed
- Earhart Drive, Sacramento Metro Airport (no address) - Leak Being Confirmed

An agency file review should be conducted to determine the current status of the sites, and to identify the location and extent of the diesel contamination, if any, on Earhart Drive.

Off-Site Properties with Documented Contamination

The only site not associated with airport operations but identified within the Airport Master Plan boundary that has had contamination associated with a leaking UST includes the following:

- 5191 Garden Highway, University of California River Ranch - Case Closed

According to the VISTA report, contamination from this site has been resolved by the RWQCB and/or Cal EPA. This site is also listed as having two closed or removed USTs.

Potentially Contaminated Sites Not Documented on Regulatory Databases

Based on review of documentation provided by Sacramento County Airport System and a "drive-by" site reconnaissance performed on August 10, 2000, several sites within the Airport Master Plan boundaries were identified as having the potential for site contamination. Most of these sites are localized to the area along Earhart Drive, north of the taxiway connecting the east and west runways, surrounding the airfield equipment maintenance shops. Brief descriptions of the areas are described below.

Chevron Tank Farm

The bulk fuel facility, better known as the Chevron Tank Farm, consists of 10 ASTs of varying usable volumes (11,100-gallons to 325,000-gallons) containing Jet-A fuel and kerosene. In addition, the VISTA database indicated that there are two "active/in service" USTs permitted to the Chevron Tank Farm. According to the Airport Rescue and Fire Fighting Department (ARFF), there have been historical spills at this facility, as well as other areas around the airport (see Table 3-1 in Section 3.2 of the SWPPP), of varying amounts. The most recent spill at the Chevron facility, described during site reconnaissance, came from one of the two 25,000-gallon Jet-A fuel tanks located on the east side of the tank farm.

These two tanks are currently situated inside containment berms that seem to be constructed of earthen materials and gravel on bare ground. Soil impacted during this incident was reportedly excavated and placed on plastic sheeting northwest of the tank farm and was aerated to reduce contaminant concentrations. Information from SCAS, Planning and Development Department describes a current groundwater remediation and monitoring system in place at the tank farm. The remediation and monitoring activities are reported on a quarterly basis by Cambria Environmental Technology, Inc. The last quarterly report available was completed on April 25, 2003. According to this report, the groundwater at the tank farm is contaminated with hydrocarbons related to jet fuel and diesel fuels. The report indicated that the underlying contamination plumes are well defined and are currently being removed by a variety of remediation technologies.

Former Burn Pit

A former "burn pit" was located west of the Chevron Tank Farm, between the tank farm and the west runway. This location was formerly used by ARFF to practice firefighting techniques. It was common practice for fuel to be spread out onto the soil surface and ignited until it was extinguished during the training exercises. Soil from the burn pit was excavated during the early 1990s and was aerated on-site. Upon remediation by aeration, the previously excavated soil was placed back into the pit. This was the only reported

burn pit or landfill on the airport property. Firefighting practice activities are currently performed at Beale Air Force Base.

Kleinfelder, Inc. of Sacramento completed remediation and testing of the soil in the former burn pit to confirm remediation of hydrocarbons in the soil. Upon review of the facts submitted by Kleinfelder, Inc., the SCEMD issued a letter on February 22, 1993, stating that "no further action" was required at the site, providing the basis for site closure. Upon receiving this letter, the SCAS gave permission to Airfield Maintenance to backfill the pit. However, the closure letter from the SCEMD indicated that changes at the burn pit site could require further characterization and mitigation upon review by SCEMD of future site use.

Maintenance Area

The maintenance area consists of the facilities located along Earhart Drive, north of the terminals and taxiways. Facilities located here include the airfield maintenance shop, equipment maintenance shop, materials and equipment storage yard, and the airport firefighting and airfield operations office (ARFF Headquarters). Examples of storage areas throughout these areas include latex paint storage, crack sealer storage, waste oil storage, and hazardous waste storage, as well as underground fuel tanks and a vehicle wash area.

Information regarding facilities that store and use hazardous materials is available in business plans required by the Certified Unified Program Agency (CUPA). Three sets of forms describing the above-mentioned facilities have been completed, which characterize the business activities, the business owner/operator information, and the hazardous materials inventory, including chemical descriptions and quantities of the hazardous materials used. Site maps showing the locations of buildings and fuel tanks are also include with these forms. The surfaces of these maintenance and chemical storage areas are paved with concrete, however, there does not seem to be a method of preventing potential or past aboveground spills from running off onto the bare ground.

In addition, the County of Sacramento, Hazardous Materials Division, requires the submission of a Consolidated Contingency Plan (safety plan), which, in addition to describing employee safety training procedures, identifies areas and mechanical systems that are vulnerable to releases and/or spills should the site be subjected to seismic activity. The following specific locations were identified as being potential sites for contamination:

- **Airfield Maintenance Facility** - the outside hazardous materials/waste storage area;

- **Airfield Maintenance Shop** - the piping associated with the fuel facility and the hazardous materials storage area west of the equipment shop, as well as the mechanical systems associated with the shop area, fuel facility, welding shop, and sprinkler systems; and

- **Airport Firefighting and Airfield Operations** - hazardous materials/waste storage area at the south end of the Airfield Maintenance storage yard and the pressurized containers in Bay 8.

Although activities and storage procedures throughout the maintenance area are highly regulated by the Airport's hazardous materials team, there exists the potential that the soil surrounding these areas has been impacted by the materials stored and used at these facilities.

Greenhouse Area

Also in the vicinity of the equipment and airfield maintenance shops is the greenhouse chemical room. An intra-departmental document lists the maximum amounts and types of pesticides and herbicides that are stored at the Airport's greenhouse chemical room. During the site reconnaissance, an area southeast of the greenhouse building was indicated as being the "equipment wash area." Based on visual observations of the wash area, and from descriptions provided during the site reconnaissance, equipment seems to be sprayed with water on the bare ground, allowing any residual herbicides, pesticides, fuels, or lubricants to impact the soil surface. Although this action would provide runoff of small amounts of materials, many repeated actions would compound the amounts and concentrations of chemicals at this site. There exists the potential that the soil surface has been impacted by chemicals used and stored at the greenhouse.

Wastewater Treatment Pond Site

A future proposed project by the SCAS would connect the current wastewater operations to a future sewer line proposed for the adjacent Metro Airpark development project, located east of the airport across Power Line Road. The SCAS would then be able to discharge all treated wastewater to the proposed sewer line and reduce the use of the existing discharge ponds. However, current construction of the Metro Airpark project is unknown. Based on the health issues associated with wastewater and the chemicals used to treat wastewater, any significant development in the vicinity of the wastewater treatment ponds would require further site investigation and/or remediation.

Existing known contaminated sites within the Master Plan Area include airport facilities, the Shell and Chevron Stations, a former burn pit, the hazardous materials storage area, the airfield maintenance area, the greenhouse, the former rental car area, the current rental car area, and the sewage treatment ponds. The Preferred Alternative proposes runway/taxiway construction on the site of the existing greenhouse.

7.17 TRANSPORTATION AND TRAFFIC

The Preferred Alternative would include the following;

- construction of a new roadway from the Airport Boulevard/I-5 Interchange to Del Paso Road at Power Line Road,
- an upgrade to the existing Bayou Way,
- a partial closure of both Elkhorn Boulevard and Meister Way to the west of the airport.

Elverta Road would be closed between Garden Highway and Power Line Road, it is estimated that this roadway currently accommodates fewer than 1,000 vehicles per day. The primary effect of the closure of Elverta Road would be on local users, including patrons of the Teal Bend Golf Club. Alternative local routes exist including North Bayou Way, Garden Highway to Power Line, Del Paso, and San Juan Roads, and Riego Road. No additional impacts are expected from the partial closure of Elkhorn Boulevard and Meister Way because the existing uses currently being served by those roads would be replace by the airport.

7.18 SUMMARY

The above overview of environmental considerations has indicated that implementation of the Preferred Alternative with the 20-year planning period has the potential to impact the following environmental categories:

- Historic, Architectural, Archeological, and Cultural Resources
- Endangered and Threatened Species
- Wetlands
- Prime and Unique Farmland
- Hazardous Materials

A record's search revealed two archeological sites with both prehistoric period and historic period components recorded in the Master Plan Area, as well as eight historic period archeological sites. The Preferred Alternative has the potential to impact these resources. If the project is a federal undertaking, Section 106 review would be required to determine if it would affect properties eligible for the National Register of Historic Places.

Based on a review of literature, and the California Natural Diversity Database (CNDDB), 11 special-status plant species, 20 special-status animal species, and five special-status habitats were considered, by virtue of their distribution and habitat requirements, to have the potential to occur within a five-mile radius of the project area. Development of the Preferred Alternative has the potential to impact these endangered and threatened species, which would remove giant garter snake, western pond turtle, and Sanford's arrowhead habitat. Potential burrowing owl habitat and Swainson's hawk foraging habitat would also be lost.

Land within the Master Plan area is designated through the FMMP as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Approximately 613 acres of designated farmland would be converted due to development of the Preferred Alternative resulting in the conversion of farmland and an environmental impact.

With regards to hazardous materials a comprehensive LUSTIS file review, as the office of the California Underground Storage Tank Program, is recommended to ensure that contaminated sites have been remediated.

ENDNOTES

1. Windshield survey conducted by EIP Associates biologists, August 10, 2000.

2. Sacramento Metropolitan Airport, Comprehensive Land Use Plan, Airport Land Use Commission. Last amended January 1994.

3. The NOAA-CIRES (National Oceanic and Atmospheric Administration - Cooperative Institute for Research in Environmental Studies) Climate Diagnostics Center. Sacramento Airport observations compiled between 1961-1990.

4. Sacramento Area Regional Ozone Attainment Plan, adopted by the Sacramento Metropolitan Air Quality Management District, November 15, 1994.

5. Sacramento Area, Regional 1999 Milestone Report, Sacramento Metropolitan Air Quality Management District, April 2000.

6. County of Sacramento, Department of Airports, International Airport Storm Water Pollution Prevention Plan, revised July 2000.

7. Estep, James A. 1989. Biology, Movements, and Habitat Relationships of the Swainson's Hawk in the Central Valley of California, 1986-87.

8. ESRI Web site is located at http://www.ersi.com/hazards The zip code 95837 was entered into the mapping system to view the Sacramento International Airport.

9. Department of Conservation, Farmland Mapping and Monitoring Program, Important Farmland Maps for Sacramento and Sutter Counties.

10. The SWRCB's UST list was dated January 1994. An updated list was not included on the SWRCB's internet site.

11. The California Underground Storage Tank Program's internet site (http://www.swrcb.ca.gov/cwphome/ust/usthmpg.html) was consulted to confirm the regulatory database information provided by VISTA.