6.8 PUBLIC HEALTH AND HAZARDS

6.8.1 INTRODUCTION

This section of the EIR addresses potential impacts related to hazardous materials and hazards associated with historic and current land use of the project site and surrounding uses, including hazards associated with operations at Sacramento International Airport, which is located approximately 1 mile west of the project site. The potential for impacts on emergency response plans is also addressed in this section; service levels by fire personnel and other emergency responders are addressed in Section 6.5, "Public Services," of this EIR. Potential hazards and associated impacts related to toxic air contaminant emissions are discussed in Section 6.2, "Air Quality" and potential impacts on groundwater are discussed in Section 6.10, "Hydrology, Drainage, and Water Quality."

6.8.2 ENVIRONMENTAL SETTING

DEFINITIONS OF TERMS

For purposes of this section, the term "hazardous materials" refers to both hazardous substances and hazardous wastes. A "hazardous material" is defined in the Code of Federal Regulations (CFR) as "a substance or material that … is capable of posing an unreasonable risk to health, safety, and property when transported in commerce" (49 CFR 171.8). California Health and Safety Code Section 25501 defines a hazardous material as follows:

> "Hazardous material" means any material that, because of its quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous wastes" are defined in California Health and Safety Code Section 25141(b) as wastes that:

> … because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause, or significantly contribute to an increase in mortality or an increase in serious illness [, or] pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

LAND USES AND CONDITIONS ON THE PROJECT SITE

Introduction and Historical Context

At the time of the Notice of Preparation (NOP) for this EIR, the project site consisted of undeveloped fallowed farmlands. Wallace Kuhl & Associates completed a Phase 1 Environmental Site Assessment (ESA) for the site in January 2004 (Wallace Kuhl & Associates 2004). During completion of the Phase 1 ESA, Wallace Kuhl & Associates reviewed historical U.S. Geological Survey (USGS) topographic maps dated 1903–1910, 1950, and 1980 with coverage of the project area. No evidence was observed on the maps to suggest that the property was disturbed by human activities such as quarrying, subsurface or surface mining or dredging, or construction of agricultural water wells or historical buildings. Wallace Kuhl & Associates also reviewed historic aerial photos of the property dating back to 1961. As early as the 1961 photo the property appeared to be farmed in rice; the photos taken before 1981 showed no aboveground storage tanks (ASTs) or underground storage tank (UST) fueling islands.

In 1981 a facility known as Two Jakes Park was constructed on approximately 162 acres in the northern portion of the project site. Two Jakes Park was used to train horses for harness racing and included a dirt racetrack and

facilities where the public could board horses. At the time that Wallace Kuhl & Associates conducted the Phase 1 ESA (January 2004) this facility was still located on the site (Exhibit 3-3). However, by the date of the NOP for this EIR (June 17, 2005), all buildings and the on-site septic system formerly on-site had been demolished and removed from the site, although the gravel access road from Elkhorn Boulevard, foundations of some of the buildings, and the dirt racetrack were visible during a June 2005 field reconnaissance by EDAW staff. All ASTs associated with the facility had also been removed from the site. Miscellaneous abandoned or discarded items (e.g., tires, small appliances) could be found in this general area and appeared to have been illegally dumped at the site. There was no obvious evidence of soil contamination during the June 2005 visit.

Although the buildings associated with the Two Jakes Park site had been removed at the time of the Notice of Preparation for this EIR, land uses associated with Two Jakes Park and conditions throughout the site at the time of the Phase 1 ESA are described here to allow evaluation of the potential for residual effects related to hazardous materials. Conditions at Two Jakes Park are discussed first, and are followed by a discussion of conditions elsewhere on the project site and conditions noted throughout the site. Except where otherwise noted, the conditions described below are based on the evaluation included in the Phase 1 ESA (Wallace Kuhl & Associates 2004).

Two Jakes Park

Located at 3822 West Elkhorn Boulevard, Two Jakes Park contained at least 14 structures at the time of the Phase 1 ESA, including horse and storage barns, groomer's quarters, a shop building, a single-story residence, and a mobile home. The single-story residence was connected to a septic system tied to two septic ponds. No waste fluids from vehicle maintenance were generated at the shop building, with the exception of occasional unauthorized oil changes by groomers. There were two ASTs, one containing gasoline and the other diesel, on metal stands. A recreational vehicle (RV) dump and septic sump area were also located on the site; the sump collected waste from the facility and a pump moved the waste into the first of two holding ponds, which were operated under Central Valley Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements Order No. 5-00-061. There were also two groundwater wells. Wallace Kuhl & Associates encountered two 1-quart plastic bottles containing waste oil, but the bottles were capped and did not appear to be leaking, and the soil beneath the bottles was clean and did not contain spilled oil.

Remainder of Property

At the time of the Phase 1 ESA (January 2004), the remaining portion of the property was fallow and agricultural land. The agricultural land was planted in rice; the rice fields contained irrigation canals and dirt roads. During their assessment, environmental specialists from Wallace Kuhl & Associates did not observe any agricultural supply wells on this portion of the property, nor did they encounter areas that would have been used to store pesticides or that would have been used for equipment maintenance. Wallace Kuhl & Associates did not notice any stained or odoriferous soils or areas of stressed vegetation on the property surface or within the canals. This portion of the property had no history of prior development.

Wallace Kuhl & Associates observed three pole-mounted electrical transformers along Elkhorn Boulevard in conjunction with a 12-kilovolt electrical line originating west of the property; however, the transformers were tagged "non-PCB," indicating that they did not contain polychlorinated biphenyls (PCBs) (see "Regulation of PCBs" in Section 6.8.3, "Regulatory Setting," below). These transformers remained in place at the time of the site visit by EDAW staff in June 2005. There were no capacitors or overhead high-voltage electrical transmission lines on steel towers on, adjacent to, or near the project site.

Overall Site Observations

No farm operations hubs, farm or earthwork equipment staging areas, tractor maintenance areas, agricultural chemical mixing or storage locations, old building foundations, evidence of USTs, mechanic's pits, oil/water separators, or hydraulic lifts were observed on the project site by Wallace Kuhl & Associates. (As mentioned previously, however, in June 2005 EDAW staff observed foundations from the buildings at Two Jakes Park,

which by that time had been demolished.) Similarly, Wallace Kuhl & Associates (2004) observed no surface manifestations of dry wells, septic tank lids, leaking aboveground pipes, noxious odors from surface waters, or agricultural burn or scrap piles. No signs, vent pipes, or other surface evidence of buried liquid petroleum pipelines, hazardous materials, or hazardous waste pipelines were observed on or within 1,500 feet of the property (Wallace Kuhl & Associates 2004).

USE OF AGRICULTURAL CHEMICALS ON THE PROJECT SITE

The Sacramento County (County) Agricultural Commissioner's Office has Pesticide Use Reports on file for 1994 through the present. Wallace Kuhl & Associates discussed past agricultural operations on the Greenbriar property with County Agricultural Commissioner's Office biologist Daniel Sarracino. The property vicinity has historically supported rice and possibly sugar beets, but only rice has been grown on the property for at least the past 10 years. No cease and desist orders or notices of violation in reference to pesticide use were on file for the Greenbriar property at the time that the Phase 1 ESA was completed (Wallace Kuhl & Associates 2004). In addition, based on review of pesticide use reports for the project site for the past several years, Mr. Sarracino concluded that the chemicals that were used on the property are not considered persistent in the soil (Sarracino, pers. comm., 2004); that is, they do not leave residues that remain in the environment without breaking down.

Wallace Kuhl & Associates (2004) found Mr. Sarracino's determination to be consistent with other rice crop properties assessed by Wallace Kuhl & Associates within the vicinity of the project site. Because of concern about the potential for residual concentrations of persistent pesticides (e.g., organochlorine pesticides such as dichlorodiphenyltrichloroethane [DDT]) in the soil in portions of Natomas undergoing development, Wallace Kuhl & Associates had been retained previously to conduct soils sampling and testing programs on hundreds of acres in the Natomas area. These soils sampling and testing programs in the project region showed insignificant to nondetectable concentrations of persistent pesticide residuals (Wallace Kuhl & Associates 2004). Wallace Kuhl & Associates noted that rice and sugar beets (the crops believed to have been historically farmed on the project site) and dry-farmed crops generally require little to no applications of persistent pesticides. In addition, Wallace Kuhl & Associates encountered no definitive evidence that the Greenbriar property contained any agricultural chemicals manufacturing, warehousing, mixing, storage, or disposal facility, where pesticide residuals could accumulate in soils at concentrations greater than those that can occur as a result of normal cultivated field applications (Wallace Kuhl & Associates 2004).

To confirm any activity occurring between January 2004 and June 2005 and confirm the findings of the Phase 1 ESA (Wallace Kuhl & Associates 2004), EDAW consulted the U.S. Environmental Protection Agency's (EPA's) Envirofacts database and EnviroMapper. The Envirofacts database contains a variety of environmental information maintained by EPA, such as the locations of releases of more than 650 toxic chemicals; EDAW used the EnviroMapper to depict graphically whether EPA maintains any information in Envirofacts regarding the project site. No records of any toxic releases, hazardous waste, or other violations were found (EPA 2005).

RESULTS OF RECORDS SEARCH FOR HAZARDOUS MATERIALS

To determine the potential for hazardous materials contamination on or near the project site, Wallace Kuhl & Associates (2004) reviewed databases regarding hazardous materials prepared by the following agencies:

- EPA,
- California Environmental Protection Agency (Cal/EPA),
- Cal/EPA Department of Toxic Substances Control (DTSC),
- Cal/EPA Office of Environmental Health Hazard Assessment,
- Central Valley RWQCB,
- California Integrated Waste Management Board,
- California Department of Health Services (DHS),
- DHS Office of Drinking Water,

- California Division of Oil and Gas (DOG), and
- County Environmental Management Department (EMD).

No potential or confirmed, state or federal "Superfund" sites were identified within 1 mile of the property and the site was not listed on any county, state, or federal government lists as a contaminated site. There were no known contaminated municipal groundwater wells, active or inactive landfills, or producing California Division of Oil and Gas (DOG) petroleum wells located on, adjacent to, or within 0.5 mile of the proposed site. Three abandoned DOG wells were found to exist within 0.5 mile of the proposed site (one to the north and two to the west), but they had been abandoned in accordance with DOG environmental guidelines. A review of various state databases, including the County Environmental Management Department's (EMD's), revealed that no registered USTs are located within 0.5 mile of the proposed project site.

As mentioned previously, EDAW consulted EPA's Envirofacts database and used the EnviroMapper to confirm any activity occurring between January 2004 and June 2005. No records of any toxic releases, hazardous waste, or other violations were found (EPA 2005).

HAZARDS ASSOCIATED WITH SURROUNDING LAND USES

Sacramento International Airport is located approximately 1 mile west of the proposed project site. The airport is located 12 miles north of downtown Sacramento off Interstate 5. The airport was constructed in 1967. The County owns approximately 5,407 acres of land surrounding the airport. Of this amount, approximately 2,940 acres are considered to be part of the airport's day-to-day activities and operation; the remaining acreage is buffer area, most of it in agricultural use (Sacramento County Airport System 2004). The airport currently has two primary passenger terminals (plus a renovated commuter terminal now used for international arrivals) and two runways, each 8,600 feet long by 150 feet wide, which are oriented in a north-south direction. The project site is located 1.22 miles (approximately 6,440 feet) east of the departure end of the eastern runway (Leonard, pers. comm., 2005). Further, the site is directly below the flight training pattern for the airport. This area receives overflights from northbound commercial flights as well as overflights from military training flights, some of which can be as low as 500 feet above ground level (Newhouse, pers. comm., 2005).

The Sacramento Airport Land Use Commission (ALUC) prepared a Comprehensive Land Use Plan (CLUP) in 1984 (last amended January 1994). The CLUP establishes planning boundaries for the airport and defines compatible types and patterns of future land use. The purpose of the CLUP is to provide the Sacramento International Airport land area with compatibility guidelines for height, noise, and safety. As described in the CLUP, the Greenbriar property lies within an airport safety zone, where population densities are restricted because of the statistical likelihood of aircraft accidents in the area. The CLUP and airport safety zones are discussed in more detail in Section 6.8.3, "Regulatory Setting."

Hazards associated with being within the Sacramento International Airport's overflight zone generally involve the remote potential for emergency aircraft landings or crashes. Other hazards include features that would attract wildlife (e.g., rice fields), which could increase the potential for aircraft bird strikes. Historically, the project site has been devoted to rice cultivation, which is a water-intensive use that generally serves as an attractant to birds and other waterfowl. As much as 100% of the site has been in rice production at one time over the past 7 years. As such, the project site, in its historical context, has occasionally been an attractant to birds and other waterfowl, which would have increased the hazard potential to aircraft compared with other, non-rice farmed/urban areas located within the Sacramento International Airport's safety overflight zone.

HAZARDS ASSOCIATED WITH MOSQUITOES

The project site historically has been devoted to rice crop cultivation, which is a water intensive land use that has resulted in large pools of standing water that could serve as breeding grounds for mosquitoes. In addition to being

a nuisance pest, mosquitoes are vectors (i.e., carriers) of many diseases including West Nile virus, malaria, and dengue.

Mosquitoes are blood-sucking insects whose biting habits can create irritating and unpleasant conditions for outdoor activities. In addition, some types of mosquitoes have the ability to transmit organisms that cause diseases in humans. To reduce mosquito populations and, consequently, the likelihood of disease transmission to humans, the Sacramento-Yolo Mosquito and Vector Control District (MVCD) uses a combination of various abatement procedures, each of which may have maximum effectiveness under specific habitat conditions or periods of the mosquito life cycle. Mosquito control methods used by the MVCD can include use of biological agents (e.g., mosquito fish which are predators on mosquito larvae) in mosquito breeding areas, source reductions (e.g., drainage of water bodies that produce mosquitoes), pesticides, and ecological manipulations of mosquito breeding habitat.

In the project area, mosquito abatement efforts are primarily focused on controlling mosquitoes that can transmit malaria and several types of encephalitis or cause a substantial nuisance in surrounding communities. The encephalitis mosquito (*Culex tarsalis*) breeds in areas that pond fresh water. This species is the primary carrier in California of western equine encephalitis, St. Louis encephalitis, and California encephalitis, and is considered the most important disease vector in the state (USACE 1998).

Mosquito control in the United States has evolved from reliance on insecticide application for control of adult mosquitoes (adulticide) to integrated pest management programs that include surveillance, source reduction, larvicide, and biological control, as well as public relations and education (CDC 2006). Biological control includes use of many predators (dragonfly nymphs and other indigenous aquatic invertebrate predators such as predacious mosquitoes) that eat larvae and pupae; however, the most commonly used biological control adjuncts are mosquito fish (CDC 2006). Mosquito fish are easily reared and therefore have become the most common supplemental biological control agent used in mosquito control (CDC 2006).

All species of mosquitoes require standing water to complete their growth cycle; therefore, any body of standing water represents a potential mosquito breeding area. Water quality also affects the productivity of a potential mosquito breeding areas. Typically, greater numbers of mosquitoes are produced in water bodies with poor circulation, higher temperatures, and higher organic content (i.e., poor water quality) than in water bodies having good circulation, lower temperatures, and lower organic content. In addition, irrigation and flooding practices may influence the level of mosquito production associated with a water body. Typically, greater numbers of mosquitoes are produced in water bodies with water levels that slowly increase or recede than in water bodies with water levels that are stable or that rapidly fluctuate. Mosquito larvae prefer stagnant water and the protected microhabitats provided by stems of emergent vegetation (USACE 1998).

FIRE PROTECTION, EMERGENCY RESPONSE, AND DISASTER PLANNING

Fire Protection and Emergency Response Services

The City of Sacramento Fire Department (SFD) provides fire protection and emergency response services within the City of Sacramento. The City Fire Department also provides service to the Natomas Fire Protection District, the Fruitridge Fire Protection District, and the Pacific Fire Protection District (City of Sacramento 2005). The project site is located within the unincorporated area of Sacramento County, within the City Fire Department's Natomas District. Although the site is outside the City limits, the City Fire Department has a contractual agreement to provide fire protection to the North Natomas area.

Fire protection services for the project site and surrounding areas are provided primarily by City Fire Department Station 30, which opened in June 2005 at Regency Park Circle and Club Center Drive in North Natomas, approximately 3 miles east of the project site. The next closest station, City Fire Department Station 3, located at 7208 West Elkhorn Boulevard just west of Sacramento International Airport and approximately 4 miles west of

the project site, could also provide service to the project area. A mutual aid agreement exists between the City Fire Department, the Sacramento Metropolitan Fire District, and the Sacramento International Airport Emergency Response Unit. In addition to City Fire Department Stations 30 and 3, Engine 111 from the Sacramento Metropolitan Fire District would also respond to calls in the vicinity of the project area (King, pers. comm., 2005).

The City Fire Department has three Hazardous Materials Response Teams (HMRTs) and one Decontamination Team, each staffed with four specialists. These teams respond to hazardous materials incidents in addition to other calls. Through contractual agreements, the HMRTs and Decontamination team provide 24-hour emergency response to incidents within the City of Sacramento and unincorporated Sacramento County, incorporated cities within Sacramento County, and the City of West Sacramento. One of the fire stations housing HMRT and Decontamination team specialists is Station 30 (City of Sacramento 2005). As mentioned above, Station 30 is the first responder to the project site.

Disaster Planning

The City's Office of Emergency Services, a division of the City Fire Department, is responsible for disaster planning. It provides intra- and interagency coordination for disaster planning; presentations on disaster preparedness to public service organizations; and coordination for the preparation and execution of disaster exercises, such as an exercise simulating a smallpox outbreak. (Sacramento City Fire Department 2003).

6.8.3 REGULATORY SETTING

HAZARDOUS MATERIALS MANAGEMENT

Federal

U.S. Environmental Protection Agency

EPA is the agency primarily responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Applicable federal regulations pertaining to hazardous materials are contained mainly in CFR Titles 29, 40, and 49. Hazardous materials, as defined in the CFR (see "Definitions of Terms" above), are listed in 49 CFR 172.101. Management of hazardous materials is governed by the following laws:

- Resource Conservation and Recovery Act of 1976 (RCRA) (42 U.S. Code [USC] 6901 et seq.);
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also called the Superfund Act) (42 USC 9601 et seq.); and
- Superfund Amendments and Reauthorization Act (SARA) of 1986 (Public Law 99–499).

These laws and associated regulations include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. EPA provides oversight and supervision for federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

Hazardous Substances

Hazardous substances are a subclass of hazardous materials. They are regulated under CERCLA and SARA (and the federal Clean Water Act for water resources; see Section 6.10, "Hydrology, Drainage, and Water Quality"). Under CERCLA, EPA has authority to seek the parties responsible for releases of hazardous substances and ensure their cooperation in site remediation. CERCLA also provides federal funding (the "Superfund") for

remediation. SARA Title III, the Emergency Planning and Community Right-to-Know Act, requires companies to declare potential toxic hazards to ensure that local communities can plan for chemical emergencies. EPA maintains a National Priority List of uncontrolled or abandoned hazardous waste sites identified for priority remediation under the Superfund program. EPA also maintains the CERCLIS database, which contains information on hazardous waste sites, potential hazardous waste sites, and remedial activities across the nation.

Hazardous Wastes

Hazardous wastes, although included in the definition of hazardous materials and hazardous substances, are regulated separately under RCRA. A waste can legally be considered hazardous if it is classified as ignitable, corrosive, reactive, or toxic. Title 22, Section 66261.24 of the California Code of Regulations (CCR) (i.e., 22 CCR 66261.24) defines characteristics of toxicity. Under RCRA, EPA regulates hazardous waste from the time that the waste is generated until its final disposal ("cradle to grave"). RCRA also gives EPA or an authorized state the authority to conduct inspections to ensure that individual facilities are in compliance with regulations, and to pursue enforcement action if a violation is discovered. EPA can delegate its responsibility to a state if the state's regulations are at least as stringent as the federal ones. RCRA was updated in 1984 by the passage of the federal Hazardous and Solid Waste Amendments, which required phasing out land disposal of hazardous waste.

Regulation of Pesticides

The federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 USC 136 et seq.) provides federal control of pesticide distribution, sale, and use. EPA was given authority under FIFRA not only to study the consequences of pesticide usage but also to require users (farmers, utility companies, and others) to register when purchasing pesticides. Later amendments to the law required users to take exams for certification as applicators of pesticides. All pesticides used in the United States must be registered (licensed) by EPA. Registration assures that pesticides will be properly labeled and that if used in accordance with specifications, they will not cause unreasonable harm to the environment.

Regulation of Polychlorinated Biphenyl (PCBs)

The Toxic Substances Control Act of 1976 (15 USC 2605) banned the manufacture, processing, distribution, and use of PCBs in totally enclosed systems. PCBs are considered hazardous materials because of their toxicity; they have been shown to cause cancer in animals, along with effects on the immune, reproductive, nervous, and endocrine systems, and studies have shown evidence of similar effects in humans (EPA 2004). The EPA Region 9 PCB Program regulates remediation of PCBs in several states, including California. 40 CFR Section 761.30(a)(1)(vi)(A) states that all owners of electrical transformers containing PCBs must register their transformers with EPA. Specified electrical equipment manufactured between July 1, 1978, and July 1, 1998, that does not contain PCBs must be marked by the manufacturer with the statement "No PCBs" (Section 761.40[g]). Transformers and other items manufactured before July 1, 1978, containing PCBs must be marked as such.

Occupational Health and Safety Administration

The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor is responsible for enforcement and implementation of federal laws and regulations pertaining to worker health and safety. Workers at hazardous waste sites must receive specialized training and medical supervision according to the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations (29 CFR 1910.120).

State

California Environmental Protection Agency

The DTSC, a division of Cal/EPA, has primary regulatory responsibility over hazardous materials in California, working in conjunction with the federal EPA to enforce and implement hazardous materials laws and regulations. DTSC can delegate enforcement responsibilities to local jurisdictions.

The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which is implemented by regulations described in CCR Title 26. The state program thus created is similar to, but more stringent than, the federal program under RCRA. The regulations list materials that may be hazardous and establish criteria for their identification, packaging, and disposal.

Environmental health standards for management of hazardous waste are contained in CCR Title 22, Division 4.5. In addition, as required by California Government Code Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the state, called the Cortese List. The project site is not included on this list (DTSC 2005).

California's Secretary for Environmental Protection has established a unified hazardous waste and hazardous materials management regulatory program (Unified Program) as required by Senate Bill 1082 (1993). The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental programs:

- hazardous waste generator and hazardous waste on-site treatment programs;
- Underground Storage Tank program,
- hazardous materials release response plans and inventories;
- California Accidental Release Prevention Program (CalARPP);
- Aboveground Petroleum Storage Act requirements for spill prevention, control, and countermeasure plans; and
- California Uniform Fire Code (UFC) hazardous material management plans and inventories.

The six environmental programs within the Unified Program are implemented at the local level by local agencies—Certified Unified Program Agencies (CUPAs). CUPAs carry out the responsibilities previously handled by approximately 1,300 state and local agencies, providing a central permitting and regulatory agency for permits, reporting, and compliance enforcement (Cal/EPA 2003). The Hazardous Materials Division of the County EMD is the designated CUPA in Sacramento County. The County EMD's service area includes not only the unincorporated parts of the county, but incorporated cities as well (Chu, pers. comm., 2005).

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) has primary responsibility to protect water quality and supply. The Greenbriar site is located within the jurisdiction of the RWQCB. As described in Section 6.10, "Hydrology, Drainage, and Water Quality," the RWQCB is authorized by the Porter-Cologne Water Quality Control Act of 1969 to protect the waters of the state. The RWQCB provides oversight for sites where the quality of groundwater or surface waters is threatened. Extraction and disposal of contaminated groundwater due to investigation/remediation activities or due to dewatering during construction would require a permit from the RWQCB if the water were discharged to storm drains, surface water, or land (see Section 6.10, "Hydrology, Drainage, and Water Quality").

California Department of Industrial Relations, Division of Occupational Health Administration

The California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal/OSHA), assumes primary responsibility for developing and enforcing workplace safety regulations within the state. Cal/OSHA standards are more stringent than federal OSHA regulations, and are presented in CCR

Title 8. Standards for workers dealing with hazardous materials include practices for all industries (General Industry Safety Orders); specific practices are described for construction, and hazardous waste operations and emergency response. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

Local

County of Sacramento Enforcement

The County enforces state regulations governing hazardous substance generators, hazardous substance storage, and the inspection, enforcement, and removals of USTs in both the City of Sacramento and Sacramento County. The *Area Plan for Emergency Response to Hazardous Materials Incidents in Sacramento County* (County of Sacramento Environmental Management Department 2003) was published by the County EMD as required under Chapter 6.95, Section 25500 et seq. of the California Health and Safety Code. The area plan details the duties and responsibilities of governmental and other responsible agencies in a hazardous materials incident.

In 1983, the County adopted the Hazardous Material Disclosure Ordinance. This ordinance requires firms using or handling significant amounts of hazardous materials to disclose to the County the nature, quantity, and location of those chemicals. This information is provided to fire crews responding to emergencies. The Hazardous Materials Division of the County EMD regulates the storage, use, and disposal of hazardous materials in Sacramento County by issuing permits, monitoring regulatory compliance, and investigating complaints. EMD oversees remediation of certain contaminated sites resulting from leaking USTs, reviews technical aspects of hazardous substance site cleanups, and provides assistance to public and private operations seeking to minimize the generation of hazardous substances. The project site was not included on the County's list of facilities with potentially hazardous materials (EMD 2005).

The County Agricultural Commissioner regulates agricultural uses and issues use permits for pesticides on agricultural land. The commissioner's staff conducts routine inspections to ensure that farm operations are in compliance with the requirements set forth in the Hazardous Material Disclosure Ordinance and FIFRA (see "Regulation of Pesticides" in the discussion of federal regulations above).

City of Sacramento Enforcement

The City has established a Toxic Substances Commission whose task it is to develop long-range plans for issues related to toxic substances (hazardous materials) in the City of Sacramento. The Sacramento County Hazardous Waste Management Plan is considered a part of the *City of Sacramento General Plan* (City General Plan) (City of Sacramento 1988) (see below) to ensure that suitable locations are available for needed hazardous waste facilities and that land uses near the facilities, or proposed sites for facilities, are compatible with their operation.

AIRSPACE SAFETY

Federal

Obstructions and Airport Land Use Compatibility

Part 77 of the Federal Aviation Regulations (FAR), "Objects Affecting Navigable Airspace," has been adopted as a means of monitoring and protecting the airspace required for safe operation of aircraft and airports. Objects that exceed certain specified height limits constitute airspace obstructions. FAR Section 77.13 requires that FAA be notified of proposed construction or alteration of certain objects within a specified vicinity of an airport, among them the following:

> (1) Any construction or alteration of more than 200 feet in height above the ground level at its site. (2) Any construction or alteration of greater height than an imaginary surface extending outward and upward

at [a slope of] 100 to 1 for horizontal distance of 20,000 feet from the nearest point of the nearest runway of each [public-use airport, public-use airport under construction, or military airport] with at least one runway more than 3,200 feet in actual length, excluding heliports.

Wildlife Hazards

FAA is responsible for enforcement of 14 CFR 139, which prescribes rules regarding operation of airports used by aircraft with seating capacity of more than 30 passengers. FAA roles and responsibilities relating to wildlife hazards and their associated human health and safety concerns are addressed in 14 CFR 139.337, "Wildlife Hazard Management." An ecological study must be prepared by the certificate holder and submitted to FAA when multiple birds or other wildlife are struck by aircraft or ingested into aircraft engines, or if sufficient birds or other wildlife are present in an airport flight pattern as to result in such hazards. FAA determines whether a wildlife hazard management plan is needed. FAA's Office of Airport Safety and Standards has published Advisory Circulars and Program Policy and Guidance Directives that further clarify this information. An Advisory Circular dated July 27, 2004, titled "Hazardous Wildlife Attractants on or Near Airports," provides guidance on locating certain land uses having the potential to attract hazardous wildlife to or in the vicinity of public-use airports. FAA recommends the following separations when siting wildlife attractants (e.g., waste disposal operations, wastewater treatment facilities, wetlands) (FAA 2004):

- 5,000 feet from airports serving piston-powered aircraft,
- 10,000 feet from airports serving turbine-powered aircraft, and
- 5 statute miles from airports where the wildlife attractant may cause hazardous wildlife movement into or across the approach or departure airspace.

Hazardous wildlife species or groups expected to use the project site for foraging include rock pigeon, blackbirds, European starling, sparrows, hawks, geese, and egrets. These species and groups have been identified by FAA as among those that present the highest risk for aircraft-wildlife strikes in the United States (FAA 2003). Other hazardous wildlife species could also be present on-site. Species considered hazardous are expected to be present throughout the year, but the diversity and abundance of hazardous wildlife is likely to be highest between October and April, when the inactive agricultural fields, grasslands, and wetlands on the project site provide foraging habitat for a wide diversity of resident and migratory birds.

State

The state regulates airports under the authority of the Airport Land Use Commission Law, Section 21670 et seq. of the California Public Utilities Code. *The California Airport Land Use Planning Handbook* published by the California Department of Transportation (Caltrans) Division of Aeronautics (Caltrans 2002) supports this law by providing compatibility planning guidance to ALUCs, counties and cities having jurisdiction over airport area land uses, and airport proprietors.

The Airport Land Use Commission Law is implemented through ALUCs, which are required in every county with a public use airport or with an airport served by a scheduled airline. Under the provisions of the law, the ALUC has certain responsibilities conferred upon it and specific duties to perform. Among these are preparing airport land use plans for each of the airports within its jurisdiction (California Public Utilities Code Sections 21674[c] and 21675[a]). The Sacramento Area Council of Governments (SACOG) has been designated the ALUC for Sacramento County (see discussion of local regulations below).

The *California Airport Land Use Planning Handbook* (Caltrans 2002) describes six airport safety compatibility zones. These airport safety zones have been developed to reflect the geographic pattern of aircraft accident risks. One of the airport safety zones described by Caltrans, Zone 6 (Traffic Pattern Zone), is applicable to the proposed project. The risk factors and basic compatibility qualities of the Traffic Pattern Zone are summarized below.

- *Risk Factors/Runway Proximity:* Areas of regular traffic patterns and pattern entry routes. Generally low likelihood of accident occurrence; risk concern primarily is with uses for which potential consequences are severe. On a long general-aviation runway (i.e., with a runway length of 6,000 feet or more) like the ones at Sacramento International Airport, this zone extends 6,000 feet from each side of the runway, and somewhat smaller distances on either end of the runway.

- *Basic Compatibility Qualities:* Residential uses and most nonresidential uses allowed; outdoor stadiums and similar uses with very high intensities are prohibited.

Local

Sacramento International Airport Comprehensive Land Use Plan

The Sacramento International Airport CLUP (Airport Land Use Commission 1994) establishes planning boundaries for the airport and defines compatible types and patterns of future land use. The purpose of the CLUP is to provide the Sacramento International Airport land area with compatibility guidelines for height, noise, and safety. The current Sacramento International Airport CLUP is more than 11 years old; in the time since publication of the CLUP, the level of growth in North Natomas and expansion of operations at the airport has indicated the need for an update to the plan. An updated version of the CLUP is expected by 2006 or 2007, following environmental review for the airport (Chew, pers. comm., 2005).

The CLUP outlines airport area height restrictions necessary to ensure that objects will not impair flight safety or decrease the operational capability of the airport. The ALUC has adopted FAR Part 77 imaginary surfaces (see the description of federal airspace safety regulations above) to determine height restrictions for natural and artificial objects. Penetration of these imaginary surfaces by permanent structures would endanger pilots and passengers of aircraft operating at the airport and would pose a hazard to persons occupying those structures.

The CLUP also outlines the State of California noise standards. Airport land use compatibility regarding noise standards is discussed in this EIR in Section 6.3, “Noise.”

Additionally, the CLUP designates airport safety zones to the land surrounding the airport to minimize the number of people exposed to aircraft crash hazards. This is accomplished by enforcing land use restrictions in the safety zones. The CLUP designates three safety zones:

- the clear zone, which is near the runway and is the most restrictive;

- the approach/departure zone, which is located under the takeoff and landing slopes and is less restrictive; and

- the overflight zone, which is the area overflown by aircraft during the normal traffic pattern and is the least restrictive.

These areas are identified generally in Exhibit 6.8-1. As shown more specifically in Exhibit 6.8-2, about 75% of the project site is within the overflight zone. Certain uses are compatible with the overflight zone only if they do not result in a large concentration of people. The CLUP defines a large concentration of people as “a gathering of individuals in an area that would result in an average density of greater than 25 persons per acre per hour during any 24-hour period ending at midnight, not to exceed 50 persons per acre at any time.” Among the land uses prohibited from the overflight zone are regional shopping centers, elementary and secondary schools, hospitals, communitywide and regional parks, theaters, and stadiums and arenas. (Airport Land Use Commission 1994.)

It should be emphasized that the risk of any type of aircraft accident at the project site is extremely low. The safety zone represents the general area in proximity to an airport where, if an accident were to occur, there would be an elevated chance of the accident happening compared to areas more distant from the airport.

Because the project site is located within the airport overflight zone, the City would be required to submit the project's application to the ALUC for a determination of the project's consistency with the CLUP. ALUC would review the application for height, noise, and safety issues related to operations at the Sacramento International Airport and would issue a consistency determination to the City. If the ALUC determines that the project would be inconsistent with certain standards or provisions of the CLUP, the City can review the determination and decide whether it intends to override the decision. If a decision to override is made, the City will send notice to ALUC of the proposed override. ALUC would then review the City's notice to override and would issue findings on the matter. The override decision would then be subject to two-thirds approval by the City Council.

Sacramento International Airport Master Plan

The County has developed a Master Plan for Sacramento International Airport (Sacramento County Airport System 2004). This plan represents the first full-scale master planning effort for the airport since the mid-1970s. The Master Plan includes an evaluation of current conditions; definition of objectives, obstacles, and alternatives; an extensive public involvement program; and an implementation plan. The Master Plan is intended to guide airport development for at least the next 20 years. Among the future plans for the airport described in the Master Plan are the following (Sacramento County Airport System 2004):

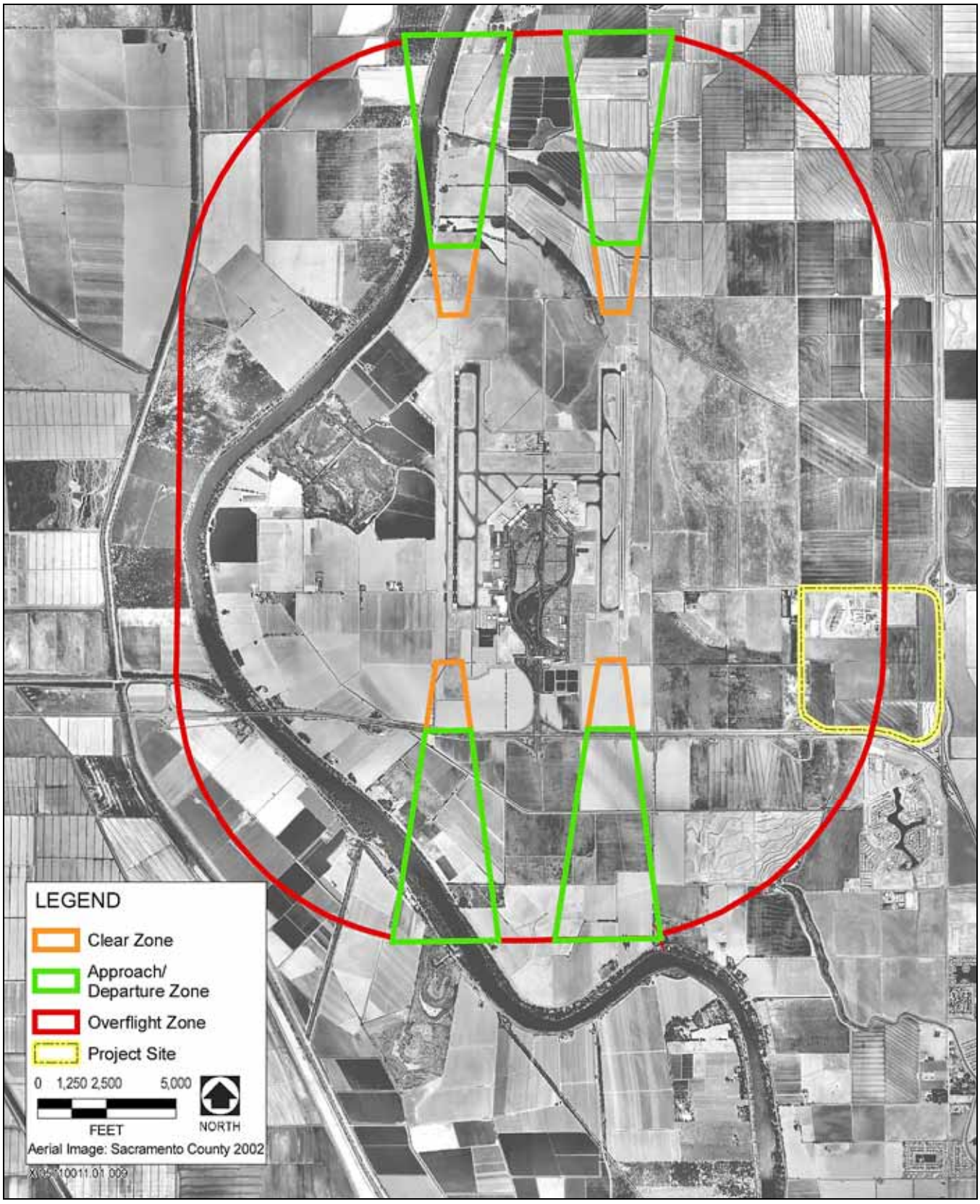
- extension of the east runway (i.e., the runway closest to the proposed project area) from the current 8,600 feet to 11,000 feet to accommodate nonstop transcontinental flights;
- construction of a new, 8,600-foot-long north-south runway 1,200 feet to the west of the current west runway;
- construction of additional taxiways;
- replacement of the existing Terminal B;
- construction of a new concourse from the replacement Terminal B, with a capacity of 23 contiguous gates;
- improvement of off-airport roadway access to the airport, including extension of Elkhorn Boulevard to the airport, where it would connect to the airport road system;
- extension of the proposed Downtown-Natomas-Airport light rail line to the airport (through the proposed project area), with a light rail stop at one of the airport terminals; and
- construction of new airport support facilities, such as a new air traffic control tower.

MOSQUITO ABATEMENT DISTRICTS

Local

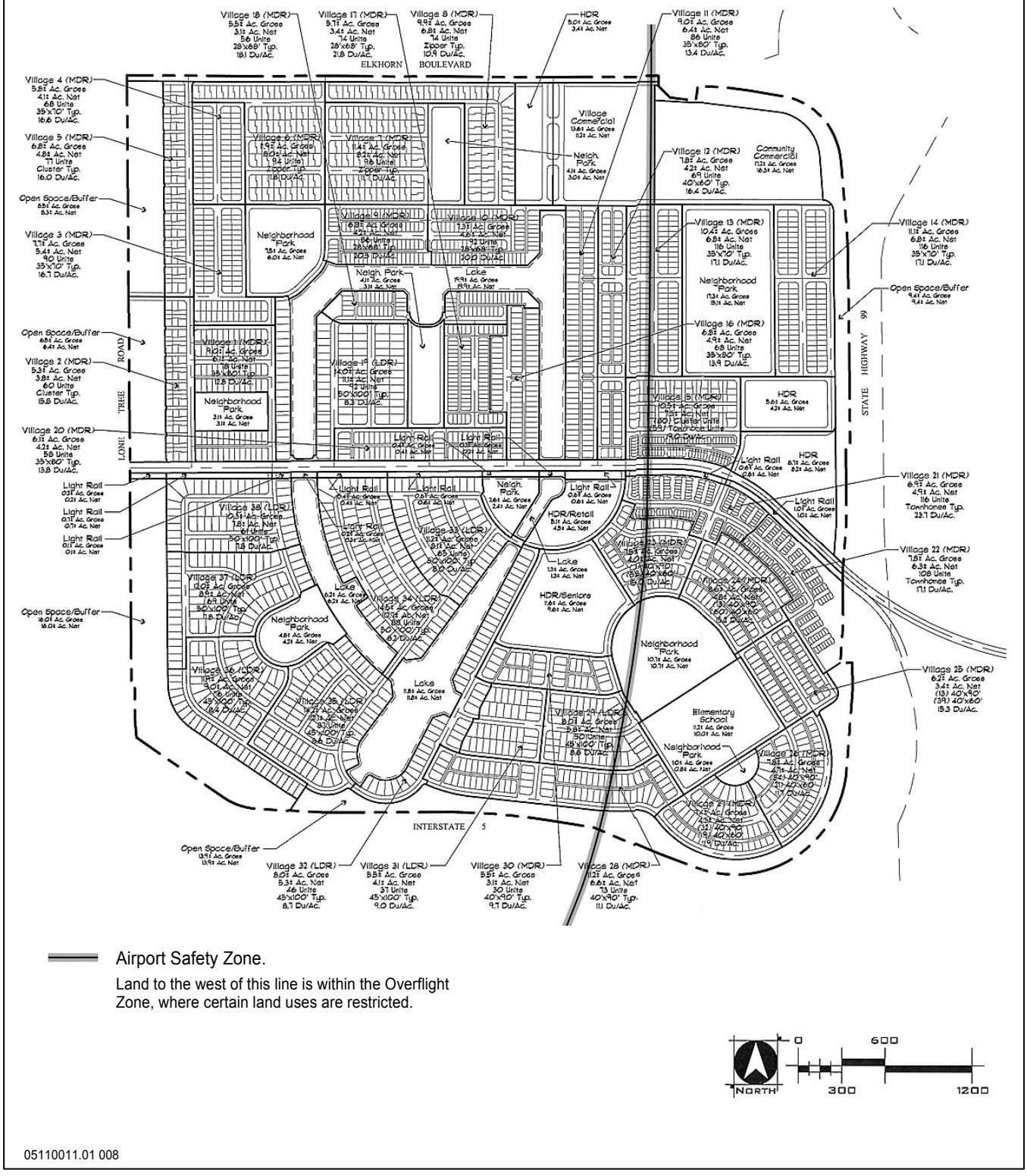
In 1915, the California Legislature adopted the "Mosquito Abatement Act" (now incorporated into the State Health and Safety Code, Chapter 5 of Division 3) which formed the basis for the creation, function, and governing powers of Mosquito Abatement Districts. In 1946, the Sacramento County-Yolo County Mosquito Abatement District was formed. The motivating force for the formation of the District was the desire of the people for protection against mosquito-borne diseases and relief from serious pest nuisance (Sacramento-Yolo Mosquito and Vector Control District [MVCD] 2006). In 1990, the district changed names to MVCD to better reflect the expanded services and responsibilities the District assumed regarding ticks, yellow jackets, and other vectors. The project area is in the jurisdiction of MVCD.

Mosquito abatement districts are governmental organizations formed at the local level that are responsible for controlling specific disease vectors within their jurisdiction. These districts receive most of their revenue from



Sources: Airport Land Use Commission 1994, data compiled by EDAW in 2005

Sacramento International Airport CLUP Airport Safety Zones **Exhibit 6.8-1**



Sources: Airport Land Use Commission 1994, information provided by Wood Rodgers in 2005

Airport Safety Zone and Proposed Land Uses in the Project Area **Exhibit 6.8-2**

property taxes and are primarily responsible for controlling mosquitoes as pest species and as disease vectors. California law requires that if a problem source of mosquito production exists as a result of human-made conditions, the party responsible for those conditions is liable for the cost of abatement. The law is enforced at the discretion of the responsible mosquito abatement districts (California Health and Safety Code Section 2000 et seq.).

OTHER HAZARDS AND EMERGENCY RESPONSE PLANS

State

OES issued the *State of California Multi-Hazard Mitigation Plan* (Multi-Hazard Mitigation Plan) (OES 2004) in September 2004. The federal Disaster Mitigation Act required all state emergency services agencies to issue such plans by November 1, 2004, for the states to receive federal grant funds for disaster assistance and mitigation under the Stafford Act (44 CFR 201.4). The overall intent of the Multi-Hazard Mitigation Plan is to reduce or prevent injury and damage from natural hazards in California, such as earthquakes, wildfires, and flooding. The plan identifies past and present hazard mitigation activities, current policies and programs, and mitigation goals, objectives, and strategies for the future (OES 2004).

Local

County of Sacramento

The County's principal emergency response plan is the *Sacramento County Multi-Hazard Mitigation Plan* (County of Sacramento 2004). The purpose of the plan is to meet the requirements of the Disaster Mitigation Act and thereby maintain continued eligibility for certain hazard mitigation (or disaster loss reduction) programs from the Federal Emergency Management Agency (FEMA). The plan lays out the strategy that will enable Sacramento County to become less vulnerable to future disaster losses. The plan reviews the County's capabilities with regard to reducing impacts of natural hazards (e.g., flooding, dam failure, wildfires, drought) and includes recommended action items to reduce vulnerability to these hazards. The plan includes the unincorporated County as well as the City, plus other incorporated cities and special districts within the County.

City of Sacramento

Similar to the County, the City operates under a Multi-Hazard Emergency Plan. The City Fire Department updated this plan during fiscal year 2004–05, adding a new section to this document to address response to events involving weapons of mass destruction. On May 17, 2005, the City Council adopted a resolution to adopt the *Sacramento County Multi-Hazard Mitigation Plan* as an official plan for updating existing plans and/or completing or creating new activities that mitigate or limit the impact of natural disasters (Action No. CC2005-327).

Most planning documents related to emergency response in Sacramento pertain to flooding potential and utilities. For example, the *City of Sacramento Comprehensive Flood Management Plan* (February 1996) includes flood emergency evacuation plans for levee failure scenarios in 17 evacuation areas. This plan provides guidance for development within the 100-year floodplain. Other emergency management plans published by the City Department of Utilities include the *Water Distribution Emergency Management Plan, Multi-Hazard Emergency Management Plan, Water Sewer Overflow Emergency Response Plan,* and *Water Production Emergency Management Plan,* and *Business Recovery Plan* (County of Sacramento 2004).

Section 17.56.050 of the City Code states that new subdivisions in flood areas (as defined in the *City of Sacramento Comprehensive Flood Management Plan*) shall have two or more vehicular ingress and egress points designed to facilitate evacuation and other emergency services where geographically feasible.

6.8.4 IMPACTS AND MITIGATION MEASURES

METHOD OF ANALYSIS

This analysis is based primarily on review of the Phase 1 ESA conducted by Wallace Kuhl & Associates (2004), review by Wallace Kuhl & Associates of the Sacramento County Agricultural Commissioner's Pesticide Use Reports, review by EDAW of the CLUP for Sacramento International Airport (Airport Land Use Commission 1994), and consultation with the City Fire Department.

THRESHOLDS OF SIGNIFICANCE

An impact is considered significant, as identified by the State CEQA Guidelines (Appendix G), if the proposed project or alternatives would:

- expose people (e.g., residents, pedestrians, construction workers) to hazardous contamination during construction activities and after construction;
- result in an airport safety hazard for people residing or working in the project area or introduce a safety hazard to airport operations; or
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

IMPACTS AND MITIGATION MEASURES

IMPACT 6.8-1

Potential for Health Hazards Caused by Contaminated Soil. *Although the project site has historically been used for agricultural purposes and there is the potential that soil on the site has been contaminated by the on-site use of agricultural pesticides, chemicals used on the project site are not considered to be persistent in the soil, and no evidence of high concentrations of pesticides in on-site soils was found. The potential for health hazards associated with past use of pesticides at the project site would be* ***less than significant****.*

The project site has been used for agricultural purposes as early as 1961. During that time period pesticides have been applied to the project site in conjunction with rice production. Given the length of time that the site has been used for agriculture, there is the potential that soil on the site has been contaminated by agricultural chemicals. Soil-disturbing activities during construction could expose workers to contaminated debris, elevated levels of chemicals that could be hazardous, or hazardous substances that could inadvertently spread.

EDAW consulted EPA's Envirofacts database to confirm any activity occurring between January 2004 and June 2005. No records of any toxic releases, hazardous waste, or other violations were found (EPA 2005).

Based on review of Pesticide Use Reports for the property that are available at the County Agricultural Commissioner's Office, however, agricultural chemicals used on the proposed project site are not believed to persist in site soils (Sarracino, pers. comm., 2004). In addition, the Phase 1 ESA for the project site concurred with this determination, indicating that soils sampling and testing programs elsewhere in Natomas showed insignificant to nondetectable concentrations of persistent pesticide residuals and that the crops historically farmed on the site generally require little to no applications of persistent pesticides (Wallace Kuhl & Associates 2004). Further, Wallace Kuhl & Associates (2004) found no definitive evidence of any agricultural chemicals manufacturing, warehousing, mixing, storage, or disposal facility, where pesticide residuals

could accumulate at greater concentrations. Therefore, potential persistent pesticide residuals at the Greenbriar site are not expected to exceed health-based criteria for unrestricted future development or the "hazardous waste" criteria for soils disposal contained in 22 CCR 66261.24. For these reasons, the potential for health hazards associated with past use of pesticides at the project site would be ***less than significant***.

No mitigation is required.

IMPACT 6.8-2

Potential for Health Hazards from Soils Contaminated by Previously Unknown USTs or by Other Sources at Former Two Jakes Park Site. *According to the Phase 1 ESA performed for the project site, there are no registered USTs, ASTs, or records of hazardous materials on-site, and no evidence of soil contamination was found at the horse training facility, Two Jakes Park. However, unknown USTs could be discovered during construction, potentially resulting in exposure to contaminated soils. While no soil contamination was immediately evident during a June 2005 site visit, the scope of the examination was limited. Search of an EPA database by EDAW revealed no contamination, but it is possible that some residual soil contamination could be present on the former site of Two Jakes Park, resulting in the potential for exposure of construction workers to associated health hazards. For these reasons, this impact would be potentially significant.*

The January 2004 Phase 1 ESA conducted at the proposed project site (Wallace Kuhl & Associates 2004) found that there are no registered USTs or ASTs, business plan submittals, or records of hazardous materials stored at the project site. However, given the site's agricultural history, unknown and undocumented USTs may exist that could be discovered during construction and grading activities. Uncovering an undocumented UST could expose construction workers to contaminated soils, potentially resulting in health hazards.

In addition, while activities at Two Jakes Park included the storage and spreading of horse manure and storage ponds, no evidence of soil contamination was found at the horse training facility when the Phase 1 ESA was completed. However, buildings associated with Two Jakes Park had been demolished and removed from the site by the time the Notice of Preparation for this EIR was issued in June 2005; only the gravel access road from Elkhorn Boulevard, some building foundations, and the dirt racetrack remained visible. No soil contamination was immediately evident during a June 2005 site visit by EDAW staff; however, the scope of the visit was limited to site reconnaissance, with no detailed exploration of the condition of site soils. In addition, miscellaneous abandoned or discarded items such as tires and small appliances appeared to have been illegally dumped in the area. Although these items would be removed from the site before construction begins, it is not known how long they have been on the site, and they have the potential to result in contamination of site soils. As mentioned above, EDAW consulted EPA's Envirofacts database to confirm any activity occurring between January 2004 (the date of the Phase 1 ESA) and June 2005 (when the Notice of Preparation for this EIR was issued). No records of any toxic releases, hazardous waste, or other violations were found (EPA 2005). However, it is possible that some residual soil contamination could be present on the former site of Two Jakes Park, and soil-disturbing activities could result in health hazards for construction workers. For the reasons described above, this impact would be ***potentially significant***.

Mitigation Measure 6.8-2: (City of Sacramento)

In the event of discovery of an undocumented or unknown UST or residual soil contamination (e.g., stained or odiferous soil) on the project site, construction activities adjacent to the UST or in the area of the soil contamination shall cease and the County EMD shall be contacted immediately. Any USTs discovered during

construction shall be removed and any contaminated soils shall be excavated and treated according to County EMD procedures before the resumption of construction.

Significance After Mitigation

Implementation of this mitigation measure would remove any unknown UST's and contaminated soil from the site in accordance with County standards and would reduce the potential hazards associated with unknown USTs and potential residual contamination at the former Two Jakes Park to a ***less-than-significant*** level.

IMPACT 6.8-3

Potential for Safety Hazards from Proximity of Airport to Proposed Land Uses. *The project's residential land uses would be compatible with safety standards outlined in the Sacramento International Airport CLUP. However, the proposed parks and light rail station located within the overflight zone (a safety zone of the Sacramento International Airport) could result in densities that exceed 50 persons per acre at any one time, which would exceed density standards allowed by CLUP. Therefore, this impact would be considered significant.*

The western boundary of the project site is located 1.22 miles (approximately 6,440 feet) east of the departure end of the eastern runway of the Sacramento International Airport (Leonard, pers. comm., 2005). Sacramento County Airport System (SCAS) staff reviewed the Greenbriar development for consistency with the Sacramento International Airport CLUP height and safety policies and determined that about 75% of the property is located within the existing CLUP aircraft overflight zone (Exhibit 6.8-2). The overflight zone is one of three safety zone designations in the CLUP. Safety zone designations are assigned to lands surrounding the airport to minimize the number of people exposed to aircraft crash hazards. Although the overflight zone is the least restrictive of the CLUP safety zones, the risk of aircraft crash hazard is inherently considered greater within the overflight zone than outside of the CLUP safety zones. Therefore, potential aircraft crash hazards are considered greater within the 75% of the property located within the overflight zone than within the 25% of the project site located entirely outside of the CLUP safety zones (Exhibit 6.8-2). Although, the potential for a crash to occur is still considered extremely remote.

Certain land uses are compatible with the overflight zone only if they do not result in a large concentration of people. The CLUP defines a large concentration of people as "a gathering of individuals in an area that would result in an average density of greater than 25 persons per acre per hour during any 24-hour period ending at midnight, not to exceed 50 persons per acre at any time.") Elementary schools are among the land uses prohibited from the overflight zone (Airport Land Use Commission 1994); however, the proposed elementary school would be located within the portion of the project site that is outside of the overflight zone, so there would be no conflict with the CLUP. The proposed residential and commercial land uses within the overflight zone total approximately 405 acres. The project is estimated to generate an average of 4,823 residents within this portion of the project site and an average occupation rate of 3,545 persons for the commercial areas (Appendix L). The CLUP allows an average density of 25 persons per acre or a total of 10,125 persons (25 x 405 acres) within the overflight zone. The project would result in an average density of 21 persons per acre, which is below the CLUP standard. Similarly, the project would result in a maximum density of 6,431 residents and a maximum occupancy of 6,112 persons within the commercial areas resulting in a maximum density of 31 persons per acre, which is below the CLUP's maximum allowable density of 50 persons per acre. See Appendix L for detailed calculations.

The proposed project would include right-of-way for a light rail line, including a passenger station that would be located within the overflight zone (Exhibit 6.8-2). The light rail line and

station could result in a density of more than 50 persons per acre during peak commute periods. The CLUP states that passenger light rail lines are compatible with the overflight zone, and it contains no restrictions on the density associated with this use; therefore, the light rail line itself would not be incompatible with the overflight zone. However, the CLUP specifies that passenger terminals and stations are incompatible with the overflight zone. (Airport Land Use Commission 1994.) The passenger light rail station has been proposed within the overflight zone because existing siting constraints make it infeasible to site the station further to the east. The light rail line would be located along the proposed Meister Way shortly after this roadway reaches ground level from the overpass to the east. Regional Transit standards for siting of passenger terminals require that the station be located on a straight path at ground level. The proposed location of the projected light rail station would provide the minimum straight-line distance needed for safe operation. Therefore, the light rail station could not be relocated farther east (i.e., outside the overflight zone) without jeopardizing the ability of trains to stop safely. As a result, the light rail station would be incompatible with the CLUP.

The project would also construct seven neighborhood parks either partially or wholly within the overflight zone and a community park outside the safety zone. Outdoor activities associated with parks could result in a concentration of people that exceeds 50 persons per acre. While the proposed parks would serve the surrounding neighborhoods and the proposed residential uses would not result in an exceedance of the CLUP's maximum density standard of 50 persons per acre, it is likely that events could occur at the parks, which could attract residents within the community and could result in an exceedance of the 50-persons-per-acre density standard at any one time. Therefore, the location of neighborhood parks within the overflight zone would be incompatible with the CLUP.

Because of the incompatibility of the proposed project's park uses and the proposed light rail station with the Sacramento International Airport CLUP, this impact would be ***significant***.

Mitigation Measure 6.8-3: (City of Sacramento and LAFCo)

a. Prior to City pre-zoning and prior to annexation, the City shall request a consistency determination of proposed land use with the CLUP from Sacramento County ALUC. The consistency determination shall describe the specific land uses that would be allowable and consistent with the CLUP in accordance with ALUC standards.

b. Prior to City pre-zoning and prior to annexation, if the consistency determination by ALUC comes to the conclusion that certain proposed land uses would be inconsistent with the CLUP the City shall review the decision of the ALUC and determine whether to override the ALUC's decision. The City shall submit its notice to override the consistency to the ALUC for review before approving the override.

Because of the nature of activities that occur at park facilities and light rail stations (i.e., gathering of people attracted to the particular use), there is no feasible mitigation available to restrict the number of persons gathering at these proposed land uses to less that 50 persons per acre. Restricting the number of persons or relocating park facilities and/or the light rail station could affect the overall viability (e.g., low revenue for commercial uses, low ridership numbers on light rail, and lack of facility use for park facilities) of proposed facilities and would not meet the applicant's, City's, SRTD's objectives for these facilities. Therefore, this would remain a ***significant and unavoidable*** impact.

Significance After Mitigation

Because no feasible mitigation is available to restrict the maximum density of individuals at the park facilities and light rail station to less than 50 persons per acre, this impact would remain ***significant and unavoidable.***

IMPACT 6.8-4

Potential for Airspace Safety Hazards Associated with Project Water Feature. *The proposed project would include an on-site lake/detention basin, which could attract large numbers of birds, thereby potentially creating a flyway between the site and the Sacramento River and interfering with existing aircraft flight routes. Birds are recognized by the Sacramento International Airport CLUP as a potential hazard to aircraft because of the remote potential for high-speed collisions with birds, as well as the ingestion of birds into aircraft engines. This impact would be* ***significant****.*

Hazards to existing flight operations at Sacramento International Airport could result from project features that could attract birds. The proposed project would include a 39-acre lake/detention basin that could attract birds to the area, thereby potentially affecting existing aircraft flight routes. This facility would be located approximately 1.5 miles (7,920 feet) east of the aircraft runways, which is short of the FAA's recommended siting distance for such facilities (i.e., 10,000 feet). As mentioned under "Surrounding Land Uses Associated with Hazards" in Section 6.8.2, "Environmental Setting," wildlife species or groups expected to use the project site for foraging include rock pigeon, blackbirds, European starling, sparrows, hawks, geese, ducks, and egrets. These species and groups have been identified by the FAA as among those that present the highest risk for aircraft-wildlife strikes in the United States (FAA 2003). SCAS has expressed concern that locating the lake/detention basin on the property would cause a flyway between the site and the Sacramento River, which would create a very high safety concern for the airport system (Newhouse, pers. comm., 2005). The Sacramento International Airport CLUP does not support any land uses that could attract large numbers of birds, recognizing birds as a potential hazard to aircraft. In addition to damage resulting from high-speed collisions with birds, the ingestion of birds into aircraft engines is a hazard. Damage caused by birds and other wildlife is termed a "strike" or "strike hazard." To reduce strike hazards, the CLUP has placed restrictions on the land uses in the influence area of Sacramento International Airport, or the area within the compatibility zones defined by the CLUP. The CLUP states that any uses that attract large flocks of birds shall not be permitted within the airport's influence area.

As stated previously, the FAA discourages land uses that could potentially increase aircraft strike hazards by attracting birds into airport overflight zones. Urban lakes, such as those being constructed as part of urban developments in the Natomas Basin, have the potential to attract waterfowl including geese, gulls, and other species known be involved in aircraft strikes. However, the Natomas Basin has historically supported waterfowl because of its low position in the watershed and its tendency to flood (Berryman Ecological 2006).

To gain a greater understanding of the numbers of waterfowl in the Natomas Basin, Berryman Ecological surveyed three man-made lakes and three rice fields between the dates of January 2, 2006 and January 17, 2006 (Appendix M). The surveys consisted of an observer surveying both the lakes and rice fields and recording the number of birds observed for each species at specific observation points. The number of birds observed per observation point was significantly higher for rice fields as compared to urban lakes. For rice fields, the total number of birds observed per point ranged between 1 and 2,652, and for urban lakes the total number of birds observed per point ranged between 0 and 37. Overall, the study resulted in a mean number of birds per observation point of 224.12 birds for rice fields and 12.12 birds for urban lakes (Berryman Ecological 2006). The study suggests that rice fields likely serve as a greater attractant to birds and waterfowl than lakes. The project would convert former rice fields (sometimes, but not

always, in rice production) to urban development. Thus, the project would not introduce a new hazard to aircraft, and would reduce the density of expected waterfowl compared with historic use of the site. The project would, nonetheless, result in the construction of a lake/detention basin at a location less than the minimum FAA-recommended siting distance for such facilities and could result in potential airspace hazards to aircraft.

Because of the potential for airspace safety hazards from birds attracted to the project site because of the on-site lake/detention basin, this impact would be ***significant***.

Mitigation Measure 6.8-4 (City of Sacramento and LAFCo)

a. To ensure that the final location and design of the lake/detention basin is consistent with the recommendations of the ALUC regarding wildlife hazards to aviation, the project applicant shall prepare a design and management plan for this proposed water feature. This plan shall be prepared in coordination with the Sacramento International Airport Operations Manager before commencement of construction. The plan shall determine an appropriate size for the lake/detention basin and incorporate specific design measures deemed sufficient by SCAS and the ALUC to minimize bird strikes and other wildlife-related airspace safety hazards in the vicinity of the project area. The plan shall include information sufficient to satisfy requirements for preparation of a Wildlife Hazard Management Plan and shall be prepared by a qualified wildlife hazard damage biologist. The project applicant shall submit a detailed design drawing of the proposed lake/detention basin to SCAS for review.

b. To reduce bird attractants associated with the lake/detention basin, the Wildlife Hazards Management Plan for the lake/detention basin and surrounding landscape shall include the following:

    i. To minimize growth of aquatic vegetation that attracts waterfowl, the lake shall be sufficiently deep to prevent growth of cattails and other aquatic plants. Lake edges shall be lined and maintained to prevent vegetation growth;

    ii. Concrete bulkheads approximately 1 to 2 feet high shall be constructed along the lake's perimeter. A detailed description of the design of the bank edge shall be submitted to SCAS for review;

    iii. Any vegetation planted in the vicinity of the lake shall consist of plant species that do not provide birds with opportunities for cover, nesting, perching, or feeding. A detailed design plan for landscaping surrounding the lake/detention basin shall be submitted to SCAS for review;

    iv. Barriers (e.g., walls, fences) shall be constructed a minimum of 48 inches high and be located between the lake and nearby grassy areas to dissuade geese or other waterfowl from walking to the lake.

    v. Signs shall be placed at regular intervals around the perimeter of the lake prohibiting the public from feeding birds. The project proponent shall maintain such signs in good order and replace such signs as necessary. This responsibility shall transfer to the Homeowner's Association (HOA) and shall be articulated in the covenants, conditions, and restrictions (CC&Rs).

    vi. Trash receptacles with covers shall be placed at regular intervals around the lake and be designed to prevent access to refuse by birds. The CC&Rs shall specify that the project proponent and HOA shall be responsible for ensuring trash receptacles with covers are provided and properly emptied on a regular basis and replaced as necessary.

    vii. Installation of structures near the lake that could serve as perches for gulls and other birds shall be minimized. The CC&Rs shall prohibit the future installation of such structures.

viii. The project applicant shall prohibit all activities and uses that could conflict with implementation of the wildlife hazard management program.

c. An Adaptive Management Plan shall be prepared and incorporated into the Wildlife Hazard Management Plan. The Adaptive Management Plan shall provide for the long-term management of nuisance birds around the lake. The management plan shall involve perpetual monitoring and employment of various techniques for controlling birds using adaptive information and bird control products. The Homeowner's Association shall be responsible for ensuring the implementation and continued enforcement of the Adaptive Management Plan and provision of adequate funding. This requirement shall be specified in the CC&Rs. The Adaptive Management Plan shall include the following components:

   i. Bird control program that involves use of the most efficient and effective bird control techniques available that are practicable and compatible with surrounding land uses and recreational uses of the lake,

   ii. Monitoring program that involves patrolling of the lake and assessment of the effectiveness of bird control measures, the presence of potential bird attractants, and the need for modifying or increasing bird control measures,

   iii. Funding mechanism such as use of an endowment fund or assessment district to fund the long-term monitoring and adaptive management program.

   iv. Any use of the lake that conflicts with the wildlife control program shall be prohibited.

d. The Adaptive Management Plan shall include the best available information on various bird control techniques, an explanation of the situations in which various techniques are best employed, and instructions for implementing such techniques. The entity responsible for implementing the management plan shall employ a qualified and experienced Wildlife Damage Biologist/Manager (Manager) who shall be responsible for determining which bird control techniques to implement based on information provided in the management plan and the best scientific and commercial information available. The Manager shall be trained in bird control techniques by the U.S. Department of Agriculture-Wildlife Services (USDA). The initial cost of such training shall be borne by the project proponent. The cost of subsequent training shall be borne by the HOA. The Manager shall have the discretion to use new technologies or information regarding bird control provided they are practicable and within the management budget, and do not conflict with surrounding land uses or the recreational and flood control functions of the lake.

e. The monitoring and maintenance portion of the Adaptive Management Plan shall include the following:

   i. patrol to ensure the lake area is kept clean and free of refuse and other such material that may attract birds;

   ii. patrol to ensure the public is abiding by rules prohibiting feeding of birds;

   iii. control of vegetative growth around the lake to minimize any vegetation that would attract birds for purpose of cover, nesting, perching, or food;

   iv. remove all nesting material prior to completion of nest if any birds attempt to nest in areas surrounding the lake. All nest removal activities must comply with provisions of the Migratory Bird Treaty Act, the California Endangered Species Act, and the federal Endangered Species Act;

   v. inspect the lake area to determine whether additional measures are needed to reduce bird use of the lake; and

vi. aggressively haze wildlife to discourage use of the lake.

f. If monitoring efforts reveal that additional control efforts are necessary, the Bird Control Program Manager may implement one or more control techniques outlined in the Adaptive Management Plan, or other techniques based on best available scientific and commercial information. Bird control techniques currently being used at airports, on agricultural lands, and in other areas where birds pose a hazard or nuisance shall be described in the Adaptive Management Plan. The Bird Control Program Manager shall have discretion of using any one or more of the techniques based on the need, practicability, and land use compatibility. These techniques may include, but are not limited to:

   i. Allowing grass to grow over 20 centimeters in height (currently being employed at some airports).

g. In addition to these control techniques, the Adaptive Management Plan shall outline an education program for the Homeowner's Association to implement ensuring that the public is aware of the importance of eliminating bird attractants from the area around the lake. The public shall be prohibitive from feeding birds around the lake and engaging in any other activities within the boundaries of the development project which may attract wildlife hazards to aircraft operations. The public shall be made aware of the purpose and importance of various bird control measures being implemented by the Bird Control Program Manager.

h. Prohibited Uses of Lake: all activities and uses of the lake/detention basin that may conflict with the wildlife control program shall be expressly prohibited.

i. Post signs prohibiting swimming in the lake/detention basin.

j. Review by Sacramento County Airport System: If the SCAS determines that conditions in the Greenbriar/ Arbor Landing Development are not consistent with the above listed Management Program, SCAS may take the following actions:

   i. notify the property owner that the wildlife control measures are out of compliance;

   ii. that the County Airport System may, at its option, initiate control measures at the site, with the costs of such measures billed to the owner; and

   iii. in the event of an immediate threat to aircraft safety, County Airport System personnel can take immediate action to remedy the air hazard emergency.

k. To reduce attractants for Canada geese, American coots, or gulls associated with the lake/detention basin and surrounding landscape the Management Plan shall include the following:

   i. Signs shall be posted and identify that feeding birds is prohibited.

   ii. A 30-foot barrier strip of tall grass (6 inches or more) adjacent to the lakeshore; or a fence or other barrier (e.g., dense hedges) shall be constructed between the lakeshore and surrounding grasslands.

   iii. Any nest building activity associated with birds shall be removed including all nesting materials.

l. To prevent the establishment of resident populations of Canada geese on the project site, the Bird Control Program Manager shall take the following, but not limited to, actions:

   i. Chase birds from site,
   ii. Use of noise generators (e.g., pyrotechnic devices, blank cartridges),
   iii. Use of visual devices (e.g., flags, scarecrows, water sprays)
   iv. Use of chase dogs,

v. Live trapping or netting, and/or
vi. Use of chemical repellants.

Significance After Mitigation

With implementation of this mitigation measure, potential hazards associated with the lake/detention basin and its potential to attract hazardous wildlife would be reduced to the maximum extent practicable and consistent with FAA guidelines. Therefore, this impact would be reduced to a ***less-than-significant*** level.

IMPACT 6.8-5

Interference with an Adopted Emergency Response or Emergency Evacuation Plan. *Development of the proposed project would not interfere with emergency plans. Sufficient ingress and egress routes would be provided to ensure public safety in the event of an emergency. Moreover, residential areas for the proposed project would be designed in a grid street pattern, which would reduce the potential for adverse effects on access to the site by emergency service vehicles. This impact would be* ***less than significant****.*

The Greenbriar development would be required to obtain permits through the City that ensure that the project provides sufficient fire water flow, hydrant locations, street width, circulation, and project access for fire and emergency response units. One of the City Fire Department's four fire stations housing Hazardous Materials Response Team (HMRT) and Decontamination team specialists is Station 30, the station with first-responder status to the project site.

The proposed project would not conflict with any adopted emergency response plans or evacuation plans; of the area's primary emergency plans, the County *Multi-Hazard Mitigation Plan* mostly discusses following National Flood Insurance Program standards about where subdivisions are built (while the Project area is not located in a designated flood hazard area), and the City's *Multi-Hazard Emergency Plan* does not address specifics related to evacuation from subdivisions (King, pers. comm., 2005).

Section 17.56.050 of the City Code states that new subdivisions in flood areas (i.e., those with less than 100-year flood protection as identified in the *City of Sacramento Comprehensive Flood Management Plan* [February 1996]) shall have two or more vehicular ingress and egress points designed to facilitate evacuation and other emergency services where geographically feasible. The proposed project area is not in a 100-year flood zone as defined by FEMA (see Section 6.10, "Hydrology, Drainage, and Water Quality") and therefore is not a flood area as defined by the City's flood management plan. Further, ingress to and egress from the proposed Greenbriar development would be available from both Elkhorn Boulevard and Meister Way. Moreover, residential areas for the proposed project would be designed in a grid street pattern, which would reduce the potential for adverse effects on access to the site by emergency service vehicles. This impact would be ***less than significant***.

IMPACT 6.8-6

Potential for Public Health Hazards from Mosquitoes Associated with Project Water Feature. *The proposed project would include an on-site lake/detention basin, which could attract mosquitoes and other water-borne vectors, thereby potentially creating a public health hazard. This impact would be* ***potentially significant****.*

Hazards to public health could result from project features that could perpetuate mosquito populations. The project is designed to develop urban uses around a 39-acre lake/detention basin that could provide suitable habitat for breeding of mosquitoes. The lake/detention basin would be designed to provide continuous circulation and positive flow in all portions of the lake/detention basin. Design features of the lake/detention basin would include:

- Maintaining a depth of between 8 and 12 feet which would keep water temperatures low and discourage growth of algae.
- Long and narrow shape of the lake/detention basin would encourage water circulation and flow.
- Change in depth of the lake/detention basin from the north end (highest elevation, lowest depth) to the southern outfall (lowest elevation, highest depth) to induce water circulation.
- Construction and operation of two groundwater wells adjacent to the lake/detention basin to maintain adequate water levels (minimum 8-foot depth) throughout the year.

To reduce the threat from mosquito-borne threats to human health, the MVCD requests projects designed with permanent wetlands to incorporate best management practices (BMPs) or other preventive biological measures to reduce mosquito populations, production rates, or the timing of mosquito hatching. The project does not incorporate any BMPs that would control mosquitoes. Because the potential for mosquito-borne health hazards would occur with development of the project and the project does not include any mosquito prevention BMPs, this impact would be ***potentially significant***.

Mitigation Measure 6.8-6 (City of Sacramento)

a. To ensure that operation and design of the lake/detention basin is consistent with the recommendations of the MVCD regarding mosquito control, the project applicant shall prepare a Vector Control Plan. This plan shall be prepared in coordination with the MVCD and shall be submitted to the MVCD for approval before issuance of the grading permit for the lake/detention basin. The plan shall incorporate specific measures deemed sufficient by MVCD to minimize public health risks from mosquitoes. The plan shall include the following:

    1. Description of the project
    2. Description of lake/detention basin and all facilities that would control on-site water levels
    3. Goals of the plan
    4. Description of the water management elements and features that would be implemented:
        a. Best management practices that would implemented on-site
        b. Public education and awareness
        c. Sanitary methods used (e.g., disposal of garbage)
        d. Mosquito control methods used (e.g., fluctuating water levels, biological agents, pesticides, larvacides, circulating water)
        e. Stormwater management (consistent with Stormwater Management Plan)
    5. Long-term maintenance of the lake/detention basin and all related facilities (e.g., specific ongoing enforceable conditions or maintenance by a homeowner's association)

b. To reduce the potential for mosquitoes to reproduce in the lake/detention basin, the project applicant shall coordinate with the MVCD to identify and implement BMPs based on their potential effectiveness for

project site conditions. Potential BMPs that the applicant could implement include, but not limited to, the following:

- Stock the lake/detention basin with mosquito fish, guppies, backswimmers, flatworms, and/or other invertebrate predators.

- Maintain a stable water level the lake/detention basin to reduce water level fluctuation resulting from evaporation, transpiration, outflow, and seepage.

Significance After Mitigation

With implementation of this mitigation measure, potential health hazards associated with the lake/detention basin serving as an attractant to mosquitoes would be reduced to the maximum extent practicable and consistent with MVCD guidelines. Therefore, this impact would be reduced to a ***less-than-significant*** level.