3A.8 HAZARDS AND HAZARDOUS MATERIALS - LAND

This section contains a program-level evaluation of hazards and hazardous materials. However, impacts related to hazards and hazardous materials would be the same under each individual development phase as under the program (entire SPA) analysis.

3A.8.1 AFFECTED ENVIRONMENT

TERMINOLOGY

For purposes of this section, the term "hazardous materials" refers to both hazardous substances and hazardous wastes. A "hazardous material" is defined by Federal regulations as "a substance or material that … is capable of posing an unreasonable risk to health, safety, and property when transported in commerce" (49 Code of Federal Regulations [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.

Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific criteria listed in the California Code of Regulations (CCR) Title 22. Cleanup requirements are determined on a case-by-case basis by the agency with lead jurisdiction over the project.

A few of the specific terms related to cleanup activities are defined below:

- **Remedial Investigation**—An in-depth study designed to determine the nature and extent of contamination at a site (e.g., what hazardous substances are present, how much there is, where it is).
- **Baseline Risk Assessment**—A study performed to provide risk managers with an understanding of the actual and potential risks to human health and the environment posed by the site, and any uncertainties associated with the assessment.
- **Feasibility Study**—An in-depth study designed to evaluate the effectiveness and costs of various remedial alternatives for the conditions defined by the Remedial Investigation and Baseline Risk Assessment.
- **Remedial Action Plan**—A plan, approved by the California Department of Toxic Substances Control (DTSC), that outlines a specific program leading to the remediation of a contaminated site. Once the draft Remedial Action Plan is prepared, a public meeting is held and comments from the public are solicited for a period of no less than 30 days. After the public comment period has ended and public comments have been

responded to in writing, DTSC will generally approve the final remedy for the site (the final Remedial Action Plan). This plan is generally used for large, long-term projects.

- **Removal Action Workplan—**A plan that is similar to the Remedial Action Plan described above, but that is generally used for small, short-term projects.

- **Certificate of Completion**—A DTSC document that confirms that the Remedial Action Plan has been completed.

- **No Further Action**—The decision by DTSC that remedial actions are not necessary because environmental contamination is not present at a site.

Remedial investigations provide information related to current site conditions, wastes found on site, human health and ecological risks, and evaluation of potential treatment technologies. The feasibility study is the mechanism for the development, screening, and detailed evaluation of alternative remedial actions. Remedial actions may include:

- institutional controls (e.g., deed restrictions);
- monitoring;
- physical containment; and
- mass reduction (e.g., biological or chemical treatment).

REGULATORY AND ENVIRONMENTAL HISTORY

Historical land uses include agricultural activities (primarily livestock grazing) and mining activities. (Sacramento Local Agency Formation Commission [LAFCo] 1998.) During the 1960s and 1970s, a portion of the southeastern corner of the SPA was used to separate and burn chemicals associated with aerospace activities conducted by the Aerojet-General Corporation (Aerojet). This portion of the site is currently undergoing remediation (see discussion below). The Aerojet Superfund site is located immediately west of the SPA. One portion of the Aerojet Superfund site (Area 40) is located in the SPA itself, in the Island Operable Unit (OU) (see discussion below). An approximately 54-acre area at the northwest corner of the SPA was formerly included in the Aerojet Superfund site, but is part of a "carve-out" area that has been removed from the site by regulatory agencies. The proposed off-site detention basin (located west of Prairie City Road) would be located within the Eastern OU of the Aerojet site.

Aerojet Superfund Site

Aerojet has owned and operated a facility for aerospace testing activities in Rancho Cordova since the early 1960s. The facility consists of approximately 8,500 acres, approximately 5,900 of which were designated as a Superfund site in 1983 by the U.S. Environmental Protection Agency (EPA). Previous activities conducted at the site included solid rocket motor manufacturing and testing, liquid rocket engine manufacturing and testing, chemical manufacturing, and disposal of materials. During the development of rocket propulsion systems, various chemicals were used at the Aerojet facility, including solvents, propellants, fuels, oxidizers, metals, and explosives. In addition to the use of these chemicals, Aerojet operated two chemical plants at the facility, which manufactured various herbicides, pesticides, and pharmaceutical-related compounds. Historical disposal methods included burning, landfilling, surface impoundment, and deep well injection. Several plumes of contaminated groundwater have been identified. The major contaminants found in the groundwater and vadose zone (the area between the land surface and the water table) include n-nitrosodimethylamine (NDMA), perchlorate, and trichloroethylene (TCE). In 1989, Aerojet, EPA, the Central Valley Regional Water Quality Control Board (RWQCB), and DTSC entered into a Partial Consent Decree, which established specified procedures and obligations to achieve the goals delineated in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, generally referred to as Superfund) and the National Oil and Hazardous Substances Pollution Contingency Plan. One such requirement included performing Remedial Investigations/Feasibility Studies (RI/FSs) on the entire 8,500-acre facility. In July 1998, the Partial Consent

Decree was modified to include removal of certain areas (referred to as "carve-out" lands) from the Aerojet Superfund site and division of the site into OUs to facilitate completion of the RI/FSs. An approximately 53-acre area at the northwest corner of the SPA (Prairie City Business Park, illustrated in Exhibit 3A.8-1) is included in this carve-out area (Area 40), which is no longer a part of the Superfund site.

Before any portion of the Aerojet Superfund site can be made available for new uses, EPA must issue a record of decision (ROD) or similar certification indicating that remedial actions have been completed, and that no unacceptable risks would be posed to human health or the environment.

Area 40

Area 40, which is part of the Island OU of the Aerojet Superfund site, is located in the SPA, a short distance east of Prairie City Road, approximately half way between U.S. 50 and White Rock Road. The RI/FS prepared by Aerojet (Aerojet General Corporation 2007, included as Appendix G1) discusses the site history, sources of hazardous materials, and field sampling activities, and site management. The contents of the RI/FS are summarized briefly below.

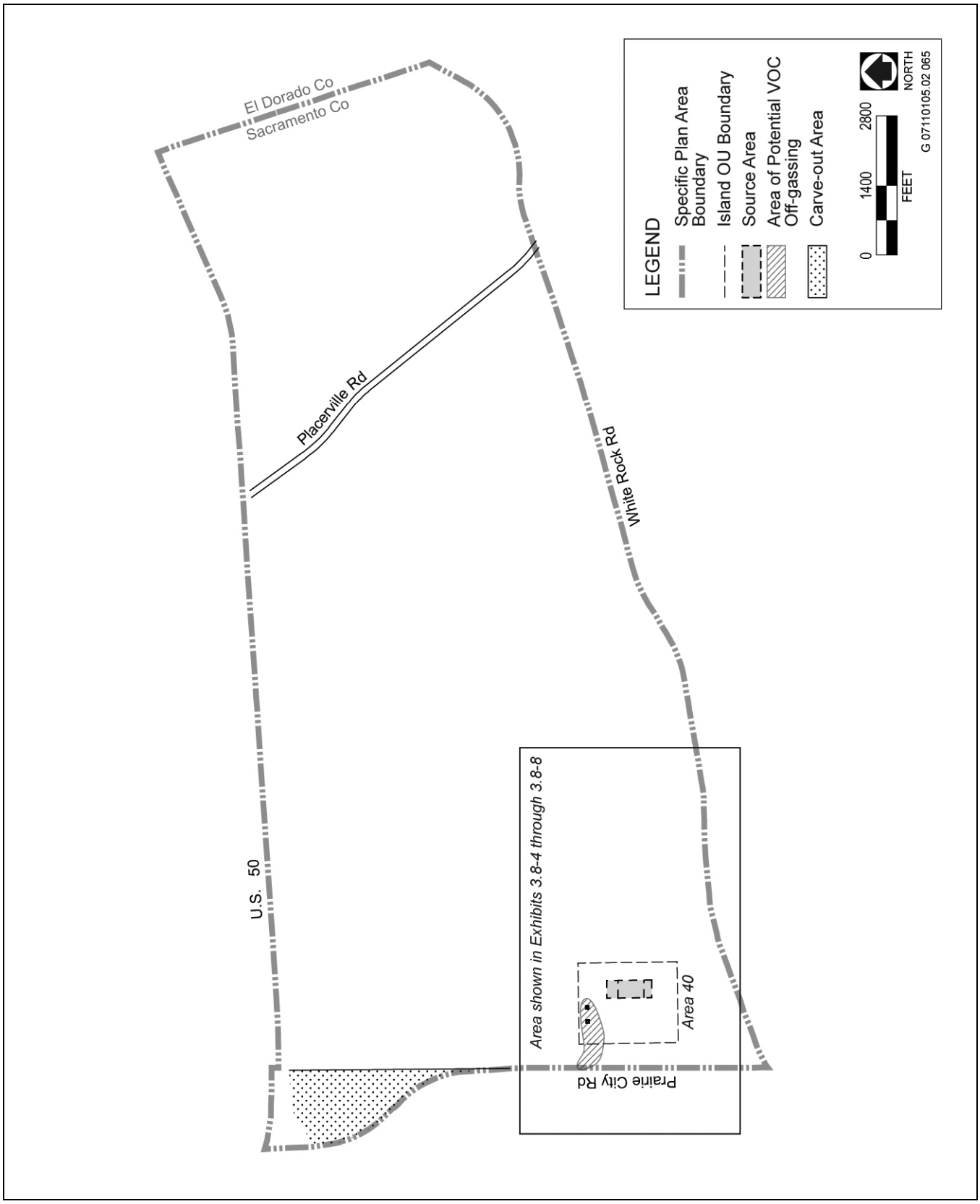
Aerojet leased Area 40 from 1960 to the early 1970s and used the land as a waste disposal site. There are five "source areas" (locations where toxic substance entered the environment), which are identified as 36B –40B, located within Area 40. Exhibit 3A.8-2 illustrates the Area 40 boundary, and the locations of all five source areas in the SPA, which are discussed separately below.

Source Areas 36B and 37B consist of chemical management sumps. These are composed of two gunite-lined sumps where solvents, including TCE, were separated from rocket propellant (see Exhibit 3A.8-2). Following separation, TCE was shipped to another facility for reprocessing. Before final abandonment, the sumps were filled with waste propellant, the propellant was burned, and then the sumps were buried. A groundwater plume containing volatile organic compounds (VOCs), metals, and perchlorate at concentrations in excess of human health screening levels extends from the sump location west underneath Prairie City Road towards the main Aerojet facility.

Source Areas 38B, 39B, and 40B are located within the Eastern Burn Area (see Exhibit 3A.8-2). Each location was used for disposal (i.e., burning) of test lab waste, propellant, and flammable liquids. Soil from the Eastern Burn Area has been removed and disposed of within the main Aerojet facilities, west of Prairie City Road. However, VOCs and perchlorate concentrations that could potentially pose a risk to human health and ecological receptors may be present in the soil and bedrock at two locations within the Eastern Burn Area, as shown in Exhibit 3A.8-2 (ERM 2008).

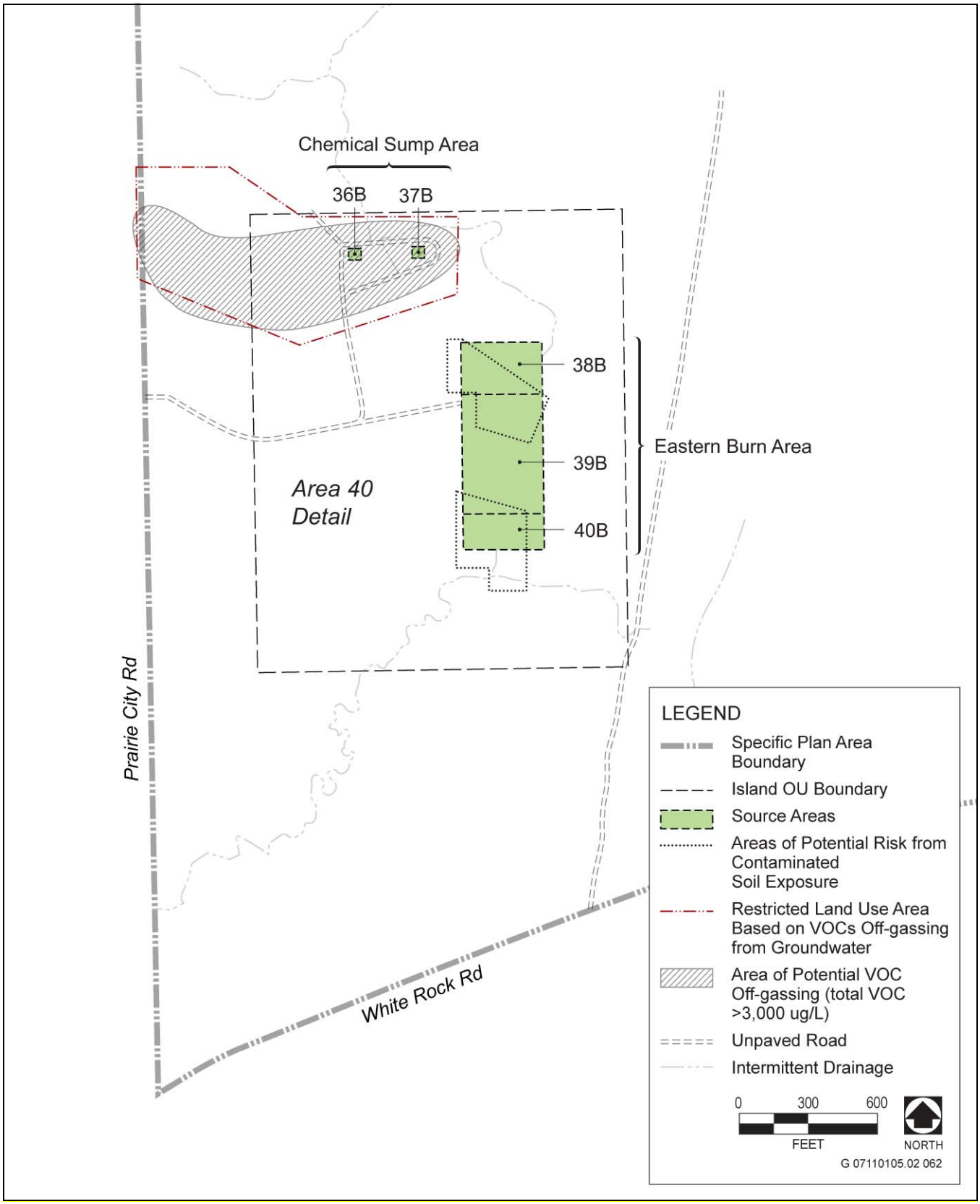
In 2007, Aerojet released a RI/FS for the Island OU, which includes scattered sites across the Aerojet facility, including Area 40. The RI/FS summarizes data from monitoring wells installed in 1985 and 1992. This report discloses that levels of VOCs, metals, and perchlorate in the groundwater plume associated with the chemical management sumps exceed human health screening levels. Aerojet delineated areas where VOC concentrations in soil and/or groundwater pose the potential for off-gassing of VOCs into ambient air (these areas are shown in Exhibit 3A.8-2, and overlaid on the land use plans for the project alternatives in Exhibits 3A.8-4 through 3A.8-8 in the "Impact Analysis" subsection below) (Aerojet General Corporation 2007, included as Appendix G2). Health effects associated with VOC exposure range from short-term effects such as headaches, dizziness, memory impairment, and eye and respiratory tract irritation, to long-term effects such as cancer. Off-gassing from contaminated soils and groundwater is of particular concern in areas where buildings are constructed, because studies have concluded that many VOCs will accumulate in indoor air at concentrations up to five times higher than the ambient outdoor conditions (EPA 2009).

In 2007, Arcadis evaluated existing groundwater data from Area 40 to determine probable human health risks associated with the potential land uses in the vicinity of Area 40. The groundwater data were provided by Aerojet, and included only data collected since 2006, and excluded samples from bedrock. The purpose of the evaluation was to determine probable human health risks associated with the potential land uses in the vicinity of Area 40.



Source: Aerojet General Corporation 2007, Adapted by AECOM in 2009

Area 40 and Carve-Out Area **Exhibit 3A.8-1**



Source: Aerojet General Corporation 2007, Adapted by AECOM in 2009

Area 40 Detail **Exhibit 3A.8-2**

Arcadis concluded that development of the area of potential VOC off-gassing into ambient air (as shown in Exhibit 3A.8-2) as parks or open space would not pose a substantial risk to human health. These conclusions were based on an understanding that the EPA would ensure that contaminated soils are remediated appropriately in accordance with future land use designations (ARCADIS 2007, included as Appendix G3).

Eastern Operable Unit

An off-site detention basin is proposed east of Prairie City Road. This detention basin would be located within the Eastern OU of the Aerojet Superfund site. The Eastern OU includes 91 source areas on approximately the eastern one-third of the Aerojet facility, and generally includes Aerojet's liquid rocket test areas.

The land identified for the proposed detention basin is not within an identified source area as defined in the Partial Consent Decree (Partial Consent Decree entered June 23, 1989 [and modifications thereto] in the consolidated actions Nos. CIVS-86-0063-EJG and CIVS-86-0064-EJG) and was not identified as an area of concern in the Eastern Operable Unit Sampling Plan (Aerojet General Corporation 2008).

PHASE 1 ENVIRONMENTAL SITE ASSESSMENTS

The Phase I Environmental Site Assessments discussed below were prepared following the requirements of ASTM Standard E 1527-05, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Phase I Environmental Site Assessments within the project that have been completed at the time of release of this EIS/EIR include:

- *Phase I Environmental Site Assessment, Folsom Sphere of Influence , Northern and Southern Lots, Folsom, CA* (ERM 2008, included as Appendix G4).
- *Phase I Environmental Site Assessment, Approximate 80-Acre Property Portion of APN 072-0060-029, White Rock Road, East of Prairie City Road. Sacramento County, California* (Ramcon 2003a, included as Appendix G5).
- *Addendum – Prospect Pit Investigation, Phase I Environmental Site Assessment Approximate 80-Acre Property Portion of APN 072-0060-029, White Rock Road, East of Prairie City Road. Sacramento County, California* (Ramcon 2003b, included as Appendix G6).
- *Phase I Environmental Site Assessment, Carpenter Ranch, Three Additional Parcels, US Highway 50 and Scott Road, Sacramento County, California* (Versar 2006, included as Appendix G7). This area is referred to as "Carpenter Ranch East" below.
- *Environmental Site Assessment Folsom 138 Property* (Wallace, Kuhl & Associates 2004, included as Appendix G8).
- *Environmental Site Assessment Folsom Heights Property* (Wallace, Kuhl & Associates 2005, included as Appendix G9).
- *Phase I Environmental Site Assessment for Russell Ranch South El Dorado Hills Area* (Youngdahl & Associates, Inc. 1995, included as Appendix G10). The Russell Ranch property is a portion of the Folsom South property.
- *Phase I Environmental Site Assessment, Carpenter Ranch, Sacramento County, California* (Versar 2005, included as Appendix G11). This area is referred to as "Carpenter Ranch West" below.
- *Phase I Environmental Site Assessment for Mangini Property* (Youngdahl Consulting Group, Inc., 2007, included as Appendix G12). The Mangini property is a portion of the Folsom South property.

The purpose of a Phase I Environmental Site Assessment is to evaluate and identify recognized environmental conditions (RECs), which are the presence or likely presence of petroleum products or hazardous substances on the property under conditions that indicate an existing release, a past release, or a material threat of a release into structures on the property, or into the ground, groundwater, or surface water of the property. The Phase I Environmental Site Assessments base their site evaluations on sources including site reconnaissance, interviews, database searches, and evaluation of aerial photographs. Portions of the SPA that were evaluated in the Phase I Environmental Site Assessment are illustrated on Exhibit 3A.8-3.

Carpenter Ranch (East)

Carpenter Ranch (east) consists of undeveloped land used for agricultural purposes (Assessor Parcel Numbers (APNs) 072-0270-129, 072-0270-133, and 072-0270-147). It is bisected by Old Placerville Road and a decommissioned Southern Pacific Railroad track. A search of relevant agency databases, including the Cortese List maintained by DTSC, did not include records associated with this property. Based on this finding, and in combination with personal interviews and site reconnaissance, Versar concluded that there were no RECs with respect to this site, and no further investigation was recommended (Versar 2006).

Folsom 138 Property

The Folsom 138 property, APN 072-0070-006, is used as rangeland. This site is not listed on relevant agency databases, including the Cortese List, EPA, or the State Water Resources Control Board (SWRCB). In addition, there was no indication of potentially hazardous conditions discovered during field reconnaissance. No RECs were identified for this property and no further investigation was recommended. (Wallace, Kuhl & Associates 2004.)

Folsom Heights Property

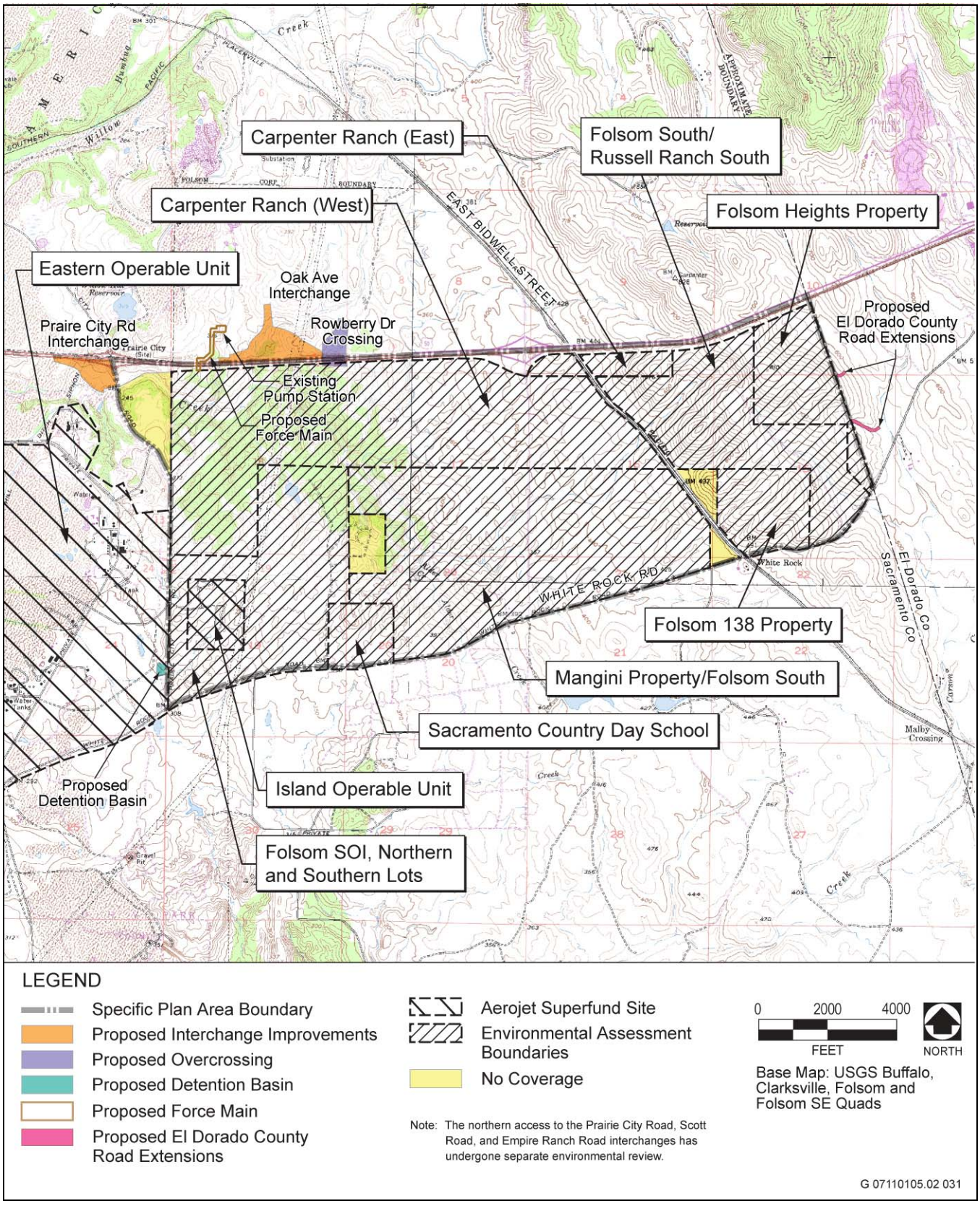
The Folsom Heights property consists of undeveloped land used for cattle grazing land (APNs 072-0070-001 and 072-0270-028). A review of agency databases, including the Cortese List, did not identify any records associated with this property. There was no evidence of RECs for this site and no further investigation was recommended. (Wallace, Kuhl & Associates 2005.)

Russell Ranch South

Russell Ranch South, which is primarily used for cattle grazing purposes, is located in the eastern portion of the SPA. This property (which is the eastern portion of the Folsom South property) consists of three parcels: 072-0070-032, 072-0270-070, and 072-0272-071. There are five large radio/utility towers with associated buildings and chain-link fencing in addition to electrical power poles and lines located in the northern portion of the site. Database searches, including the National Priorities List, Cortese List, and Sacramento County Environmental Health Department lists, did not identify records related to this property. Although no RECs were identified, Youngdahl & Associates did recommend a further investigation of potential electromagnetic fields (EMFs) from the radio towers and asbestos within the associated buildings. (Youngdahl & Associates 1995.)

Sacramento Country Day School

The Sacramento Country Day School parcel is currently used for cattle grazing, and has historically been used for this purpose. The Phase I Environmental Site Assessment reported that there is a potential for “prospect pits” from historic mining activities on this parcel. Ramcon (2003a) recommended additional limited testing for mercury within the soil due to possible presence of the prospect pits and suggested that since the property is proposed for use as a school site, a Phase I Environmental Site Assessment that meets the requirements of the California Education Code should be completed and submitted to DTSC (Ramcon 2003a). Ramcon then performed further testing of soil for mercury related to previous mining activities, and their results indicated that residual mercury levels were below levels that would pose a risk to human health (Ramcon 2003b).



Source: Arcadis 2007; ERM 2008; Wallace, Kuhl & Associates 2004, 2005; Versar 2006; Youngdahl & Associates 1995; Adapted by AECOM in 2009

Environmental Site Assessment Coverage **Exhibit 3A.8-3**

Carpenter Ranch (West)

Carpenter Ranch (west) consists of 1,005 acres of dry grassland currently used for cattle grazing, with several high-voltage power lines bisecting the property from north to south. This property includes parcels 072-0060-048 and 072-0060-045. Versar observed a limited area of apparent mining activity (piles of gravel and cobbles and an old cable) on the property, on the south side of Alder Creek west of the power lines. There was no evidence of RECs for this site, and no further investigation was recommended. (Versar 2005.)

Mangini Property

The Mangini Property includes the western portion of the Folsom South property (parcels 072-0060-038 and 072-0060-069). Youngdahl & Associates identified the potential for adverse impacts from gold processing chemicals as a REC for this property based on identified past mining uses of the property. A total of four open, vertical mine shafts were identified on the northwest portion of the property (near Alder Creek, west of Scott Road). Waste rock tailing piles and hummocky land were observed near the open mine shaft. Stamp mills were not likely used at the site. Youngdahl & Associates recommended that the four mine shafts and mine features should be properly mitigated, and an abandoned well should be properly destroyed and abandoned. Debris piles located near the exploration holes should be removed and properly disposed of. (Youngdahl & Associates 2007.)

ABANDONED MINE SHAFTS

In spring 2009, AECOM surveyed the SPA for biological resources. While conducting these surveys, it was noted that an abandoned mine shaft and associated barbed wire fencing are located on the northwest portion of the SPA. (Youngdahl & Associates also identified four abandoned mine shafts on the Mangini Property.) Improper closure of mine shafts can result in hazards from accidents such as cave-ins or exposure to toxic gases. Similar structures, which may not have been abandoned in accordance with Federal, state, and local regulations, may be located in the SPA.

ASBESTOS AND LEAD

An existing on-site residence and auxiliary buildings associated with radio/utility towers on the eastern portion of the SPA may have been constructed when asbestos-containing materials (ACMs) and lead-based paints were used. Asbestos is designated as a hazardous substance when the fibers have potential to come in contact with air because the fibers are small enough to lodge in the lung tissue and cause health problems. The presence of ACMs in existing buildings poses an inhalation threat only if the ACMs are found to be in a friable state. If the ACMs are not friable, there is no inhalation hazard because asbestos fibers remain bound in the material matrix. Emissions of asbestos fiber to the ambient air, which can occur during activities such as renovation or demolition of structures made with ACMs (e.g., insulation), are regulated in accordance with Section 112 of the Federal Clean Air Act.

Human exposure to lead has been determined by EPA and the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) to be an adverse health risk, particularly to young children. Demolition of structures containing lead-based paint requires specific remediation activities regulated by Federal, state, and local laws.

PCBs

Electrical transformers that could contain polychlorinated biphenyls (PCBs) may be associated with the electrical power lines. PCBs are considered hazardous materials and have been banned because of their toxicity. Although PCBs are no longer manufactured or used, release into the environment can occur from leaks or releases from pre-1979 electrical transformers. 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 2009).

MOSQUITO/VECTOR CONTROL

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 (U.S. Army Corps of Engineers [USACE] 1998).

The SPA contains natural mosquito breeding habitat, including cattails, tree holes, woodland pools, intermittent streams, vernal pools, and ponds. In addition to being a nuisance pest, mosquitoes are vectors (i.e., carriers) of many diseases, including West Nile virus, malaria, and dengue. West Nile virus, which can cause symptoms ranging from fever to paralysis and death, is considered to be the most prevalent mosquito-borne disease in the United States (Sacramento-Yolo Mosquito and Vector Control District 2009). In 2008, Sacramento County reported West Nile Virus cases in 13 humans, 9 horses, 130 dead birds, 277 mosquito samples, 7 sentinel chickens, and 1 squirrel (California Department of Public Health 2009).

The SPA is located in the Sacramento-Yolo Mosquito Abatement District. Although the off-site roadway connections in El Dorado County are outside the District's jurisdiction, no water or drainage features are planned in this area, and therefore the project would not affect mosquito breeding habitat in El Dorado County.

The Sacramento-Yolo Mosquito Abatement District (District) applies chemicals at extremely low rates, as recommended by EPA. Pesticides in use include biological controls, such as *Bacillus* sp.; methoprene, an insect growth regulator; and pyrethrins and pyrethroids, all of which have been evaluated and are regulated by EPA. Biological larvicides include *Bacillus thuringiensis israelensis (Bti)* and *Bacillus sphaericus (B)*, which are naturally occurring bacteria. EPA indicates that the microbial pesticides *Bti* and *B. sphaericus* have undergone extensive testing before registration. They are essentially nontoxic to humans, so there are no concerns about human health effects with *Bti* or *B. sphaericus* when they are used according to label directions. EPA testing also indicates that there are no risks to wildlife, nontarget species, or the environment associated with these microbial pesticides, when used according to label directions (EPA 2007a). Only mosquitoes, black flies, and certain midges are susceptible to these bacteria. Other aquatic invertebrates and nontarget insects are unaffected. Larvicidal oils and monomolecular films are used to drown the mosquito larvae in their later aquatic stages, when they are not feeding, by forming a thin coating on the surface of the water. For example, methoprene is an insect growth regulator that is target-specific and is designed not to harm mammals, waterfowl, or beneficial predatory insects.

According to the EPA, pyrethroids can be used for public health mosquito control programs without posing unreasonable risks to human health when applied according to the label. They also do not pose unreasonable risks to wildlife or the environment, although pyrethroids are toxic to fish and to bees. For that reason, EPA has established specific precautions on the label to reduce such risks, including restrictions that prohibit the direct application of products to open water or within 100 feet of lakes, streams, rivers, or bays (EPA 2002). The District uses pyrethrins and pyrethroids for its adult mosquito fogging program in and around populated areas. Pyrethrins are insecticides that are derived from an extract of chrysanthemum flowers, and pyrethroids are synthetic forms of pyrethrins. These are generally applied by truck-mounted or handheld foggers. These materials used to control both adult and larval mosquitoes are registered with EPA, which evaluates safe use by assessing potential human health and environmental effects associated with use of each product (EPA 2007b).

ELECTROMAGNETIC FIELDS

EMFs are invisible energy fields that surround any electrical device, including electrical transmission lines. Electric fields may be shielded or weakened by materials that conduct electricity, such as trees, buildings, and human skin. However, magnetic fields are more difficult to shield because they pass through most materials. Both electric and magnetic fields decrease rapidly as the distance from the source increases. The frequency of the electrical field is usually expressed in terms of a unit called a hertz (Hz), while the strength of the magnetic field is often expressed in terms of a unit called the gauss (G). A milligauss (mG) is 1/1,000 of a gauss. Different forms of EMFs are produced by different sources, including electrical energy facilities such as substations and power transmission lines, as well as common household appliances and office equipment.

Most public attention and scientific research has been focused on EMFs generated by electric energy transmission facilities, partially because some studies have reported an increased cancer risk associated with exposure to these types of magnetic fields. These facilities generate power frequencies in the range of 50 to 60 Hz (referred to as extremely low frequency [ELF]), and may generate magnetic fields that range from 86 mG to 0.2 mG, depending on the type of power line and the distance from the line. The National Institute of Environmental Health Sciences (NIEHS) summarized the results of monitoring studies that indicate most people in the United States are exposed to magnetic fields that average less than 2 mG (NIEHS 2002).

A variety of epidemiological and laboratory studies, including those sponsored and funded by international, Federal, and state organizations and agencies, have been carried out regarding EMF exposure and its potential human health risks. (For a summary of some of these studies, see NIEHS 2002 and National Cancer Institute 2005.) Some of these studies have concluded that there is a weak link between the development of childhood leukemia and proximity to EMFs generated by electric power transmission facilities, while other studies have concluded there is no direct link. Scientific research in this area is ongoing in various countries throughout the world. Because of the potential that there may be a relationship between cancer and EMFs among children, the California Department of Education (CDE) has taken the position that K–12 schools may not be constructed within 150 feet of an easement for a 230-kilovolt (kV) transmission line (approximately 200 feet from the power line itself). However, because so many studies have concluded that evidence for a direct link is "weak," the state of California has not adopted any laws or regulations requiring an additional setback from electric power transmission facilities beyond the utility right-of-way easement, which is generally 50 feet on either side of a 230-kV line.

Both the Sacramento Municipal Utility District (SMUD) and Pacific Gas and Electric Company (PG&E) operate electrical transmission lines in the SPA. There are four high-voltage transmission lines (one 69 kV, one 115 kV, and two 230 kV) that run in an approximate north to south direction through the western portion of the SPA, within an approximately 400-foot-wide easement (Capitol Utility Specialists 2009, included as Appendix G13).

The eastern edge of the SPA contains cell phone towers registered with the Federal Communications Commission (FCC) by Verizon Wireless and AT&T Mobility, LLC, and antenna towers registered with the FCC by Spectrasite Communications, Inc. and American Towers, Inc. Registration with the FCC requires compliance with FCC maximum exposure limits for EMF protective of human safety.

3A.8.2 REGULATORY FRAMEWORK

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Hazardous Materials Handling

At the Federal level, the principal agency regulating the generation, transport, and disposal of hazardous substances is EPA, under the authority of the Resource Conservation and Recovery Act (RCRA). RCRA established an all-encompassing Federal regulatory program for hazardous substances that is administered by

EPA. Under RCRA, EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. RCRA was amended in 1984 by the Hazardous and Solid Waste Amendments of 1984, which specifically prohibits the use of certain techniques for the disposal of various hazardous substances. The Federal Emergency Planning and Community Right to Know Act of 1986 imposes hazardous-materials planning requirements to help protect local communities in the event of accidental release of hazardous substances. EPA has delegated many of the RCRA requirements to DTSC. Use and safety considerations related to blasting activities are regulated by OHSA under the Construction Safety and Health Outreach Program. Storage or explosives and blasting agents is regulated by the Bureau of Alcohol, Tobacco, and Firearms (27 CFR Part 55, *Commerce in Explosives*).

Worker Safety Requirements

OSHA is responsible at the Federal level for ensuring worker safety. OSHA sets Federal standards for implementation of workplace training, exposure limits, and safety procedures for the handling of hazardous substances (as well as other hazards). OSHA also establishes criteria by which each state can implement its own health and safety program.

Comprehensive Environmental Response, Compensation, and Liability Act

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) created a trust fund to provide broad Federal authority for releases or threatened release of hazardous substance that could endanger public health or the environment.

Superfund Amendments and Reauthorization Act

The CERCLA Act of 1980 created the Superfund hazardous substance cleanup program (CERCLA, Public Law [PL] 96-510, enacted December 11, 1980). It was enlarged and reauthorized by the Superfund Amendments and Reauthorization Act of 1986 (SARA, PL 99-499). EPA compiles a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories, known as the National Priorities List. These locations are commonly referred to as "Superfund sites."

National Oil and Hazardous Substances Pollution Contingency Plan

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) is the Federal plan for responding to oil spills and hazardous substances releases. The NCP establishes the National Response Team and its roles in the National Response System, which include planning and coordinating response to major discharges of oil or hazardous waste, providing guidance to Regional Response Teams, coordinating a national program of preparedness planning and response, and facilitating research to improve response activities.

Clean Air Act

The Federal Clean Air Act (CAA) was enacted in 1970. The most recent major amendments made by Congress were in 1990. The CAA required EPA to establish primary and secondary national ambient air quality standards. The CAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). Section 112 of the CAA defines hazardous air pollutants and sets threshold limits. As discussed above in Section 3A.8.1, "Affected Environment," asbestos-containing substances are regulated by the EPA under the CAA. Additional information about CAA is contained in Section 3A.4, "Air Quality - Land."

Electromagnetic Field Exposure Limits

The FCC adopted the National Council of Radiation Protection's recommendations for human exposure to radio-frequency EMFs in 1996. These regulations provide a maximum permissible exposure level to the general public.

The FCC also provides guidelines for evaluating compliance with FFC exposure limits, methods for controlling exposure, and information on EMF measurement techniques.

Regulation of Polychlorinated Biphenyls

The Toxic Substances Control Act of 1976 (Title 15 of the United States Code [USC], Section 2605) banned the manufacture, processing, distribution, and use of PCBs in totally enclosed systems. The EPA Region 9 PCB Program regulates remediation of PCBs in several states, including California. Title 40 of 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 and containing PCBs, must be marked as such.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Hazardous Materials Handling

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires preparation of hazardous materials business plans and disclosure of hazardous-materials inventories. A business plan includes an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the State. Local agencies, including the Sacramento County Environmental Health Department, administer these laws and regulations.

The California Education Code contains various provisions governing the siting of new public schools (e.g., California Education Code Sections 17211, 17212, and 17212.5). In addition, to help focus and manage the site selection process, CDE's School Facilities and Planning Division has developed screening and ranking procedures based on criteria commonly affecting school selection (California Education Code Section 17251[b], 5 CCR Section 14001[c]). The foremost consideration in the selection of school sites is safety. Certain health and safety requirements are governed by state statute and CDE regulations. In selecting a school site, a school district should consider the factors including proximity to airports, proximity to high-voltage power transmission lines, presence of toxic and hazardous substances, hazardous air emissions, and facilities within one-quarter mile, and proximity to railroads.

CDE requires that any school district that plans to purchase property using state funds must obtain a Phase I Environmental Site Assessment evaluating the suitability of the soil on that site for use as a school. The Phase I Environmental Site Assessment must be submitted to DTSC for review and approval before CDE will approve purchase of the site. If toxic or hazardous substances, including pesticides, naturally occurring asbestos, or other regulated hazardous materials, are found to be present, DTSC will require the school district to perform a Phase II Preliminary Endangerment Assessment to determine the level of risk and identify procedures for limiting the risk and/or cleaning up the contamination. In instances of substantial contamination, a Phase III remedial action may be required before the property is deemed safe for use as a school site.

Sections 12101 through 12103 of the California Health and Safety Code require that permits be obtained by those manufacturing, transporting, possessing, or using explosives, and endorsed by the jurisdiction(s) in which the transportation or use would occur.

Worker Safety Requirements

California OSHA (Cal-OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations within California. Cal-OSHA regulations pertaining to the use of hazardous materials in the workplace

(Title 8 of the CCR) include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and preparation of emergency action and fire prevention plans. Cal-OSHA enforces hazard communication program regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous-waste sites. The hazard communication program requires that employers make Material Safety Data Sheets available to employees and document employee information and training programs.

Emergency Response to Hazardous Materials Incidents

California has developed an emergency response plan to coordinate emergency services provided by Federal, state, and local governments and private agencies. Response to hazardous-material incidents is one part of this plan. The plan is managed by the Governor's Office of Emergency Services (OES), which coordinates the responses of other agencies, including Cal-EPA, California Highway Patrol (CHP), California Department of Fish and Game, Central Valley RWQCB, and the City of Folsom Fire Department.

Hazardous Materials Transport

The U.S. Department of Transportation (USDOT) regulates transportation of hazardous materials between states. State agencies with primary responsibility for enforcing Federal and state regulations and responding to hazardous materials transportation emergencies are CHP and the California Department of Transportation (Caltrans). Together, these agencies determine container types used and license hazardous-waste haulers for transportation of hazardous waste on public roads, including explosives that may be used for blasting.

The USDOT Federal Railroad Administration (FRA) enforces the Hazardous Materials Regulations, which are promulgated by the Pipeline and Hazardous Materials Safety Administration for rail transportation. These regulations include requirements that railroads and other transporters of hazardous materials, as well as shippers, have and adhere to security plans and also train their employees involved in offering, accepting, or transporting hazmat on both safety and security matters.

Government Code Section 65962.5 (Cortese List)

The provisions of Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the Legislator who authored the legislation that enacted it). The Cortese List is a planning document used by the State and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires Cal-EPA to develop an updated Cortese List annually, at minimum. DTSC is responsible for a portion of the information contained in the Cortese List. Other California state and local government agencies are required to provide additional hazardous material release information for the Cortese List.

Asbestos Abatement

The California Air Resources Board (ARB) Asbestos Program oversees implementation of and compliance with the National Emission Standard for Hazardous Air Pollutants (NESHAP) for asbestos, and investigates all related complaints, as specified by the California Health and Safety Code Section 39658(b)(1). The Sacramento Metropolitan Air Quality Management District enforces Rule 902 which regulates asbestos abatement in commercial structures, and enforces NESHAP for asbestos.

Mosquito Abatement

The Mosquito Abatement Act, passed in 1915, allowed local governments the authority to obtain revenues and form special districts to protect the public from mosquito-related hazards (i.e., West Nile Virus) (see California Health and Safety Code Sections 2000-2805, 2877-2878, 106925, 116110-116112, and 116175-116183).

The SPA is located within the Sacramento-Yolo Mosquito and Vector Control District. The District employs technicians certified by the Vector-Borne Disease Section of the California Department of Health Services (DHS) in pesticide usage, and mosquito and vector identification. The District solves mosquito problems using Integrated Pest Management techniques, which include surveillance and monitoring of mosquito breeding sources, reduction of mosquito breeding sites, community outreach and public education, and the use of chemical and biological methods to control both mosquito larvae and adult mosquitoes. The District's mosquito control program is contained in its *Mosquito and Mosquito-Borne Disease Management Plan* (Sacramento-Yolo Mosquito and Vector Control District 2005).

California Public Resources Code Section 21151.4

School-aged children are considered to be particularly sensitive to adverse effects resulting from exposure to hazardous materials, substances, or waste. For this reason, California PRC Section 21151.4 requires that lead agencies evaluate projects proposed within a quarter-mile of a school to determine whether release of hazardous air emissions or hazardous substances, resulting from implementation of any of the action alternatives, would pose a human health or safety hazard.

Electromagnetic Field Exposure Limits

As described above in Section 3A.8.1, "Affected Environment," the State of California has not established standards for EMF exposure related to high-voltage power transmission. However, CDE, in consultation with DHS has established siting policies for school property lines near the edge of easements of high-voltage power transmission lines. These separation distances, which assume that the easements themselves provide an additional 50 feet of separation from the lines, are intended to be protective with respect to EMF exposure:

- 100 feet from the edge of an easement for a 50-133 kV line (150 feet from the line itself),
- 150 feet from the edge of an easement for a 220-230 kV line (200 feet from the line itself), and
- 350 feet from the edge of an easement for a 500-550 kV line (400 feet from the line itself).

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Sacramento County General Plan

The following goals and policies of the Sacramento County General Plan (Sacramento County 2007) are applicable only to the No Project Alternative. There are no goals or policies that would apply to the Proposed Project or the other four action alternatives.

Emergency Response Goal: An Emergency Preparedness System that can effectively respond in the event of a natural or manmade disaster.

Public Health and Safety Objective: Protect the residents of Sacramento County from the effects of a hazardous material incident via the implementation of various public health and safety programs.

- **Policy HM-4:** The handling, storage, and transport of hazardous materials shall be conducted in a manner so as not to compromise public health and safety standards.

- **Policy HM-8:** Continue the effort to prevent ground water and soil contamination.

- **Policy HM–9:** Continue the effort to prevent surface water contamination.

- **Policy HM-10:** Reduce the occurrences of hazardous material accidents and the subsequent need for incident response by developing and implementing effective prevention strategies.

- **Policy HM-11:** Protect residents and sensitive facilities from incidents which may occur during the transport of hazardous materials in the County.

Enforcement Objective: Enforce all Federal, state, and local regulations and if necessary prosecute those cases involving the mismanagement of hazardous materials.

Sacramento County Multi-Hazard Mitigation Plan

The Sacramento County Multi-Hazard Mitigation Plan (MHMP) is designed to meet the requirements of the Disaster Mitigation Act of 2000, which allows for eligibility for certain Hazard Mitigation (i.e., disaster loss reduction) programs for the Federal Emergency Management Agency (FEMA). Formulation of the MHMP was based on: hazard identification and risk assessment of potential natural hazards that could impact Sacramento County, a review of the County's capability to reduce hazards impacts, and recommendations to further reduce vulnerability to potential disasters. On March 21, 2005, FEMA approved the current MHMP, and on May 24, 2005 it was adopted by Sacramento County.

El Dorado County General Plan

The following goals and policies of the El Dorado County General Plan (2004) are applicable only to the two roadway connections from the Folsom Heights property off-site into El Dorado Hills under the Proposed Project Alternative. There are no El Dorado County goals and policies that are applicable to the No Project Alternative or the other four action alternatives.

Health, Safety and Noise Element

- **Policy 6.1.1.1**: The El Dorado County Operational Area Multi-Hazard Emergency Operations Functional Plan shall serve as the implementation program for the coordination of hazard planning and disaster response efforts within the County. The County will ensure that the El Dorado County Operational Area Multi-Hazard Emergency Operations Functional Plan is updated on a regular basis to keep pace with the growing

- **Policy 6.2.1.1:** Implement Fire Safe ordinance to attain and maintain defensible space through conditioning of tentative maps and in new development at the final amp and/or building permit stage

- **Policy 6.2.3.2:** As a requirement of new development, the applicant must demonstrate that adequate access exists, or can be provided to ensure that emergency vehicles can access the site and private vehicle can evacuate the area.

- **Policy 6.2.3.4:** All new development and public works projects shall be consistent with applicable State Wildland Fire Standards and other relevant State and Federal fire requirements.

- **Policy 6.6.1.1:** The Hazardous Waste Management Plan shall serve as the implementation program for management of hazardous waste in order to protect the health, safety, property of residents and visitors, and to minimize environmental degradation while maintaining economic viability.

- **Policy 6.6.1.2:** Prior to the approval of any subdivision of land or issuing of a permit involving ground disturbance, a site investigation, performed by a Registered Environmental Assessor or other person experienced in identifying potential hazardous wastes, shall be submitted to the County for any subdivision or parcel that is located on a known or suspected contaminated site included in a list on file with the

Environmental Management Department as provided by the State of California and Federal agencies. If contamination is found to exist by the site investigations, it shall be corrected and remediated in compliance with applicable laws, regulations, and standards prior to the issuance of a new land use entitlement or building permit.

El Dorado County Blasting Ordinance

Chapter 8.56 of the El Dorado County Code regulates blasting activities within El Dorado County. Blasting operations within the County require permits issued by the El Dorado County Sheriff's Department, and notification to that department prior to detonations.

City of Folsom General Plan

The following goals and policies of the City of Folsom General Plan (1993) are applicable to the Proposed Project and the other four action alternatives under consideration. There are no City of Folsom goals and policies that are applicable to the No Project Alternative, since under the No Project alternative the SPA would remain under the jurisdiction of Sacramento County.

Safety Element

- **Policy 29.5:** The City shall prepare, publish, and coordinate an emergency response plan which addresses medical care, escape routes, mutual aid agreements, temporary housing and communications.

Hazardous Materials Element

- **Policy 41.7:** The City shall support a household hazardous waste disposal program.

Sacramento Local Agency Formation Commission Regulations

Sacramento Local Agency Formation Commission Resolution 1196:

- 10: Any application to annex Aerojet General Corporation property, or a portion of such property, within the Sphere of Influence Amendment area, must include information sufficient to demonstrate the on-site surface contamination has been remediated to standards determined to be acceptable by Federal and state regulatory agencies and that either the groundwater contamination has been remediated or that measures to remediate the contamination are in place and working satisfactorily. In addition, the City of Folsom shall provide evidence of any covenants and restrictions limiting the surface or subsurface use of the property.

3A.8.3 Environmental Consequences and Mitigation Measures

Thresholds of Significance

The thresholds for determining the significance of impacts for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines. These thresholds also encompass the factors taken into account under NEPA to determine the significance of an action in terms of its context and the intensity of its impacts. The proposed project or alternatives under consideration were determined to result in a significant impact related to hazards and hazardous materials if they would do any of the following:

- create a significant hazard to the public or the environment through routine transport, use or disposal of hazardous materials;

- create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials to the environment;

- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- for a project located within an airport land use plan or within two miles of a public airport, result in a safety hazard for people residing or working in the project area;
- for a project located in the vicinity of a private air strip, result in a safety hazard for people residing or working in the project area;
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or residences are intermixed with wildlands;
- create a significant hazard to the public through use of explosive materials in grading or earth-moving activities;
- create public health hazards from increased exposure to mosquitoes by providing substantial new habitat for mosquitoes or other vectors; or
- expose project residents to excessive electrical or magnetic fields.

ANALYSIS METHODOLOGY

This analysis is based primarily on review of the Phase 1 Environmental Site Assessment conducted by ERM (2008), Wallace Kuhl & Associates (2004, 2005), Versar 2006, and Youngdahl & Associates (1995); review of a Supplemental RI/FS prepared for the Island OU of the Aerojet Superfund site (Aerojet General Corporation 2007); review of a site remediation feasibility study of the Island OU of the Aerojet Superfund site (ARCADIS 2007); a site visit conducted by EDAW/AECOM (now AECOM) in 2007; a review of aerial photographs of the SPA; and a review of the State Water Resources Board Geotracker online database. Site-specific documents used in the impact analysis are included in Appendix G1 through Appendix G11 of this EIR/EIS.

ISSUES NOT DISCUSSED FURTHER IN THIS EIR/EIS

Hazards within Two Miles of an Airport: The SPA is not located within 2 miles of a public, public-use, or private airport. The nearest airport, Sacramento Mather Airport, is located approximately 7 miles southwest of the SPA. Therefore, impacts related to airport or private airfield safety are not discussed further in this EIS/EIR.

Wildland Fire Hazards: California PR Code Sections 4201-4204 and Government Code 51175-51189 require identification of fire hazard severity zones within the state of California. Fire hazard severity zones are measured qualitatively, based on: vegetation, topography, weather, crown fire potential (a fire's tendency to burn upwards into trees and tall brush), and ember production and movement within the area of question. Fire prevention areas considered to be under state jurisdiction are referred to as "state responsibility areas." In state responsibility areas, the California Department of Forestry and Fire Protection is required to delineate three hazard ranges: moderate, high, and very high "local responsibility areas," which are under the jurisdiction of local entities (e.g., cities, counties), are required to only identify very high fire hazard severity zones. The SPA is located within a state responsibility area designated as a moderate fire hazard severity zone. It is not near an area of high or extremely high fire hazard severity. Therefore, project implementation would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or

residences are intermixed with wildlands. Therefore, this issue area is not discussed further in this EIR/EIS. Should future surveys identify a portion or portions of the SPA in a very high fire hazard severity zone, the Wildland-Urban Interface building code regulations would be imposed in accordance with State law.

Safety Hazards Related to Private Airstrips: The SPA is not in the vicinity of a private airstrip, within an airport land use plan, or within two miles of a public airport or public use airport; thus, project implementation would not result in a safety hazard for people residing or working in the project area. Therefore, this issue is not discussed further in this EIR/EIS.

IMPACT ANALYSIS

Impacts that would occur under each alternative development scenario are identified as follows: NP (No Action/No Project), NCP (No USACE Permit), PP (Proposed Project/Action), RIM (Resource Impact Minimization), CD (Centralized Development), and RHD (Reduced Hillside Development). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

IMPACT 3A.8-1 Accidental Spill from Routine Transport, Use, or Disposal of Hazardous Materials. *Accidental spills of hazardous materials in the SPA could result during routine transport, use, or disposal activities.*

On-Site Elements

NP

Under the No Project Alternative, development of up to 44 rural residences could occur under the existing Sacramento County agricultural zoning classification AG-80. Construction of these rural residences, and the related transport, use, and disposal of hazardous materials, would be required to conform with existing regulations. Transport of hazardous materials is regulated by the CHP and Caltrans, and use of hazardous materials is regulated by DTSC (Title 22 of the CCR). No off-site water facilities would be constructed. **Direct** and **indirect** impacts related to transport, use, and disposal of hazardous substances would be **less than significant** because the regulations have been designed to include steps that substantially reduce the risk of accidental hazardous materials release. ***[Lesser]***

On-Site and Off-Site Elements

NCP, PP, RIM, CD, RHD

Increased residential development would result in increased use, storage, and disposal of household hazardous materials within the SPA. Increased commercial and industrial development may result in increased use, storage, and/or disposal of hazardous materials during routine operations. Of particular concern are facilities with USTs or other methods of storage that could accidentally leak into the soil, water, or air. Such facilities include gas stations, automotive repair shops, and dry cleaners. Groundwater could become contaminated from these impairments. In addition, construction of the Proposed Project Alternative would involve the storage, use, and transport of hazardous materials (e.g., asphalt, fuel, lubricants, paint) during construction activities.

The amount of hazardous materials transported through the SPA on major arterials and regional highways is likely to increase as a result of development of the SPA. The project applicant(s), builders, contractors, business owners, and others would be required to use, store, and transport hazardous materials in compliance with local, state, and Federal regulations during project construction and operation. Transportation of hazardous materials on area roadways is regulated by CHP and Caltrans, and use of these materials is regulated by DTSC, as outlined in Title 22 of the CCR. Facilities that would use hazardous materials on-site after the project is constructed would be required to obtain permits and comply with appropriate regulatory agency standards designed to avoid hazardous waste releases. Because the project is required by law to implement and comply with existing hazardous material

regulations, **direct** and **indirect** impacts related to the creation of significant hazards to the public through routine, transport, use, disposal, and risk of upset are considered **less-than-significant**. ***[Similar]***

Mitigation Measure: No mitigation measures are required.

IMPACT 3A.8-2 Potential Human Health Hazards from Possible Exposure of Existing On-site Hazardous Materials. *Construction workers and future residents could be exposed to hazardous materials known to exist within the SPA.*

On-Site Elements

NP

Under the No Project Alternative, development of up to 44 rural residences could occur under the existing Sacramento County agricultural zoning classification AG-80. As discussed above in Section 3A.8.1, "Affected Environment," potential sources of hazards and hazardous materials include structures that may contain ACM and lead paint, PCBs, and chemicals from mining activities. Hazards associated within Area 40 are discussed separately in Impact 3.5-3 below.

Because no existing structures would be demolished under the No Project Alternative, alteration of existing electric distribution lines would not be expected, and no off-site water facilities would be constructed, the **direct** impact related to ACM, lead paint, and PCBs would be **less than significant**. **No indirect** impacts would occur. However, at least one mine shaft exists on site, and others are suspected to exist. It is unknown whether mines located within the SPA have been properly abandoned in accordance with Federal, state and local regulations. Because future residents in the SPA under the No Project Alternative could be exposed to hazards related to open mine shafts or chemicals such as mercury related to past mining activities, this **direct** impact would be **potentially significant. No indirect** impacts would occur. ***[Greater]***

On-Site and Off-Site Elements

NCP, PP, RIM, CD, RHD

As discussed above in Section 3A.8.1, "Affected Environment," potential sources of hazards and hazardous materials include structures that may contain ACM and lead paint, PCBs, abandoned mine shafts, and chemicals from mining activities. Hazards associated with development of Area 40 and the Aerojet Superfund site (including the proposed off-site detention basin) are discussed separately in Impact 3.5-3 below.

The Russell Ranch South Phase I Environmental Site Assessment detailed concerns related to radio/utility towers and associated buildings that may contain asbestos (Youngdahl & Associates 1995). Demolition activities can cause asbestos fibers to become airborne and potentially inhaled, which can lead to a variety of health problems. However, demolition and removal of these structures is not defined as part of the Proposed Project or action alternatives. Because there is no project-related mechanism for exposure to potential sources of asbestos within the structures, there would be no impact associated with project implementation.

Because the existing on-site residence could contain ACM and lead paint, demolition activities could expose construction workers to asbestos fibers and lead particles. In addition, electrical transformers are likely to be located within the SPA. If not properly dismantled, transported, and disposed, PCBs could be released into the environment during potential removal of these transformers.

Completed Phase I Environmental Site Assessments within the SPA cover the majority of the total area (Exhibit 3A.8-3) and do not include the full extent of an abandoned railroad track that runs parallel to Old Placerville

Road. According to Geotracker and the Federal Railroad Administration, no accidental releases of petroleum products or other hazardous materials associated with the railroad track have been reported (SWRCB 2008).

As discussed above in Section 3A.8.1.2, "Phase I Environmental Site Assessments," dredger mining activities have historically occurred in the SPA. Mercury and other metals are often associated with mining activities, and may exist in areas that would require earthmoving activities, which could expose construction workers to hazardous materials (Ramcon 2003a). In addition, at least one mine shaft exists on site, and others may be present. It is unknown whether mines located within the SPA have been properly abandoned in accordance with Federal, state and local regulations.

Four small areas of the SPA were not assessed through the Phase I Environmental Site Assessment process, and information about former land uses or potential hazardous materials use or disposal is not available for these areas (see Exhibit 3A.8-3). In the absence of this information, it is possible that former land uses may have resulted in a release of hazardous materials onto the SPA. Therefore, for the reasons stated above, this **direct** impact is considered to be **potentially significant**. **No indirect** impacts would occur. ***[Similar]***

Mitigation Measure 3A.8-2: Complete Investigations Related to the Extent to Which Soil and/or Groundwater May Have Been Contaminated in Areas Not Covered by the Phase I and II Environmental Site Assessments and Implement Required Measures.

The project applicant(s) of all project phases shall conduct Phase I Environmental Site Assessments (where an Phase I has not been conducted), and if necessary, Phase II Environmental Site Assessments, and/or other appropriate testing for all areas of the SPA and include, as necessary, analysis of soil and/or groundwater samples for the potential contamination sites that have not yet been covered by previous investigations (as shown in Exhibit 3A.8-1) before construction activities begin in those areas. Recommendations in the Phase I and II Environmental Site Assessments to address any contamination that is found shall be implemented before initiating ground-disturbing activities in these areas.

The project applicant(s) shall implement the following measures before ground-disturbing activities to reduce health hazards associated with potential exposure to hazardous substances:

- Prepare a plan that identifies any necessary remediation activities appropriate for proposed on- and off-site uses, including excavation and removal of on-site contaminated soils, redistribution of clean fill material in the SPA, and closure of any abandoned mine shafts. The plan shall include measures that ensure the safe transport, use, and disposal of contaminated soil and building debris removed from the site. In the event that contaminated groundwater is encountered during site excavation activities, the contractor shall report the contamination to the appropriate regulatory agencies, dewater the excavated area, and treat the contaminated groundwater to remove contaminants before discharge into the sanitary sewer system. The project applicant(s) shall be required to comply with the plan and applicable Federal, state, and local laws. The plan shall outline measures for specific handling and reporting procedures for hazardous materials and disposal of hazardous materials removed from the site at an appropriate off-site disposal facility.

- Notify the appropriate Federal, state, and local agencies if evidence of previously undiscovered soil or groundwater contamination (e.g., stained soil, odorous groundwater) is encountered during construction activities. Any contaminated areas shall be remediated in accordance with recommendations made by the Sacramento County Environmental Management Department, Central Valley RWQCB, DTSC, and/or other appropriate Federal, state, or local regulatory agencies.

- Obtain an assessment conducted by PG&E and SMUD pertaining to the contents of any existing pole-mounted transformers located in the SPA. The assessment shall determine whether existing on-site electrical transformers contain PCBs and whether there are any records of spills from such equipment. If equipment containing PCB is identified, the maintenance and/or disposal of the transformer shall be

subject to the regulations of the Toxic Substances Control Act under the authority of the Sacramento County Environmental Health Department.

Mitigation for the off-site elements outside of the City of Folsom's jurisdictional boundaries must be coordinated by the project applicant(s) of each applicable project phase with the affected oversight agency(ies) (i.e., Sacramento County).

Implementation: Project applicant(s) of all project phases.

Timing: Before and during earthmoving activities

Enforcement:

1. For all project-related improvements that would be located within the City of Folsom: City of Folsom Community Development Department.
2. For the off-site detention basin west of Prairie City Road: Sacramento County Environmental Management Department.
3. Other regulatory agencies, such as California Department of Toxic Substances Control, or Central Valley Regional Water Quality Control Board, as appropriate.

Mitigation Measure: Implement Mitigation Measure 3A.9-1.

Implementation of Mitigation Measure 3A.8-2 would reduce significant impacts from potential human health hazards from possible exposure to hazardous materials under the No USACE Permit, Proposed Project, Resource Impact Minimization, Centralized Development, and Reduced Hillside Development Alternatives to a **less-than-significant** level because the entire SPA would be evaluated through the Phase I and/or Phase II Environmental Site Assessment processes, a site plan identifying remediation activities and setting forth procedures to appropriately handle hazardous materials (if any are encountered) would be prepared, and hazardous substances that are encountered would be removed and properly disposed of by a licensed contractor in accordance with Federal, state, and local regulations. Implementation of Mitigation Measure 3A.9-1 would require use of erosion- and sediment-control best management practices, reducing the potential for runoff and release of soils, including legacy sources of mercury from project-related construction sites. However, the off-site detention basin in Sacramento County falls under the jurisdiction of Sacramento County; therefore, neither the City nor the project applicant(s) would have control over the timing or implementation.

IMPACT 3A.8-3 Potential Development Constraints Due to the Listing on the Cortese List. *The SPA contains Area 40, part of the Aerojet Superfund site, which has the potential to create a hazard to public health or the environment. Ongoing remediation activities could delay or limit project development on or near the site of those remediation activities.*

On-Site Elements

NP

Under the No Project Alternative, development of up to 44 rural residences could occur under the existing Sacramento County agricultural zoning classification AG-80. A portion of the Aerojet Superfund site (Area 40) is located in the SPA, and is undergoing investigation and remediation under the direction of EPA and DTSC. An approximately 54-acre portion of the SPA is part of a larger carve-out area that has been removed from the Superfund site. This carve-out area is no longer a Cortese-listed site. Area 40 and the carve-out area are illustrated on Exhibits 3A.8-1 and 3A.8-2.

Restrictions imposed by EPA, DTSC, and other regulatory agencies related to the Superfund listing of Area 40 require that remedial actions be completed prior to release of any portion of Area 40 for development. Because of these restrictions, development of land uses other than open space or recreational uses would not occur within the Cortese-listed site; furthermore, no off-site water facilities would be constructed. Thus, **no direct** or **indirect** impacts would occur. ***[Lesser]***

On-Site and Off-Site Elements

NCP, PP, RIM, CD, RHD

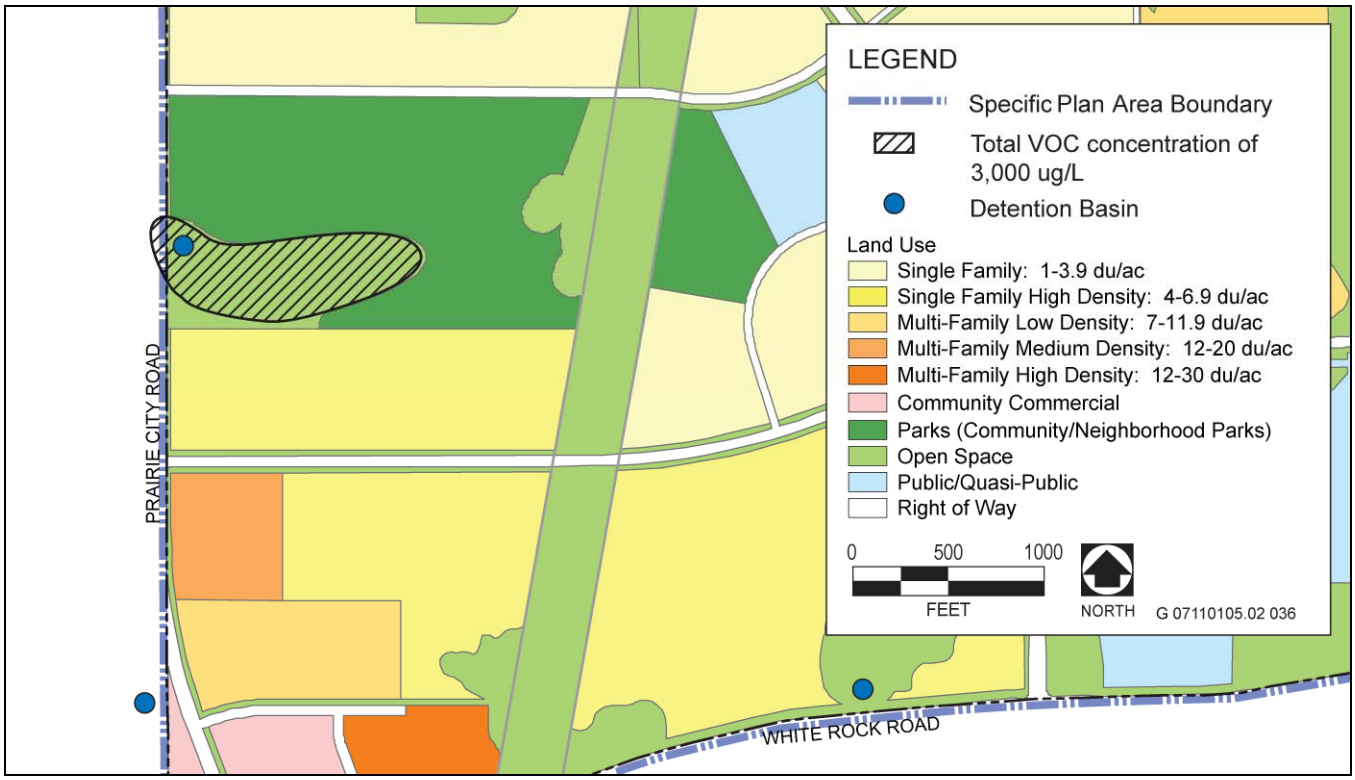
A portion of the Aerojet Superfund site (Area 40) is located in the SPA, and is undergoing investigation and remediation under the direction of EPA and DTSC. An approximately 54-acre portion of the SPA is part of a larger carve-out area that has been removed from the Superfund site. This carve-out area is no longer a Cortese-listed site. Area 40 and the carve-out area are illustrated on Exhibit 3A.8-1 and 3A.8-2.

Soil and groundwater investigations have been conducted at Area 40 since 1985. These investigations have identified the presence of soil and groundwater contamination in the SPA, including VOCs, metals, and perchlorate. Area 40 includes two areas of soil where concentrations of VOCs, metals, perchlorate, dioxins, and furans exceed human health or ecological screening levels (identified in Exhibit 3A.8-2). Compliance with Sacramento LAFCo Resolution 1196 would require demonstration that the on-site surface contamination has been remediated to standards determined to be acceptable by Federal and state regulatory agencies before Area 40 could be annexed into the City of Folsom.

Groundwater contamination at Area 40 includes VOCs, metals, and perchlorate at concentrations in excess of human health screening levels. Exhibit 3A.8-2 illustrates the location of an area where total VOC concentrations in the surface groundwater layer are more than 3,000 micrograms per liter (ug/L). In this area, off-gassing of VOCs from groundwater could result in soil vapor concentrations above health-based risk standards in indoor air. As illustrated in Exhibits 3A.8-4 through 3A.8-8, this area is proposed for park and open space use in the Proposed Project and the action alternatives.

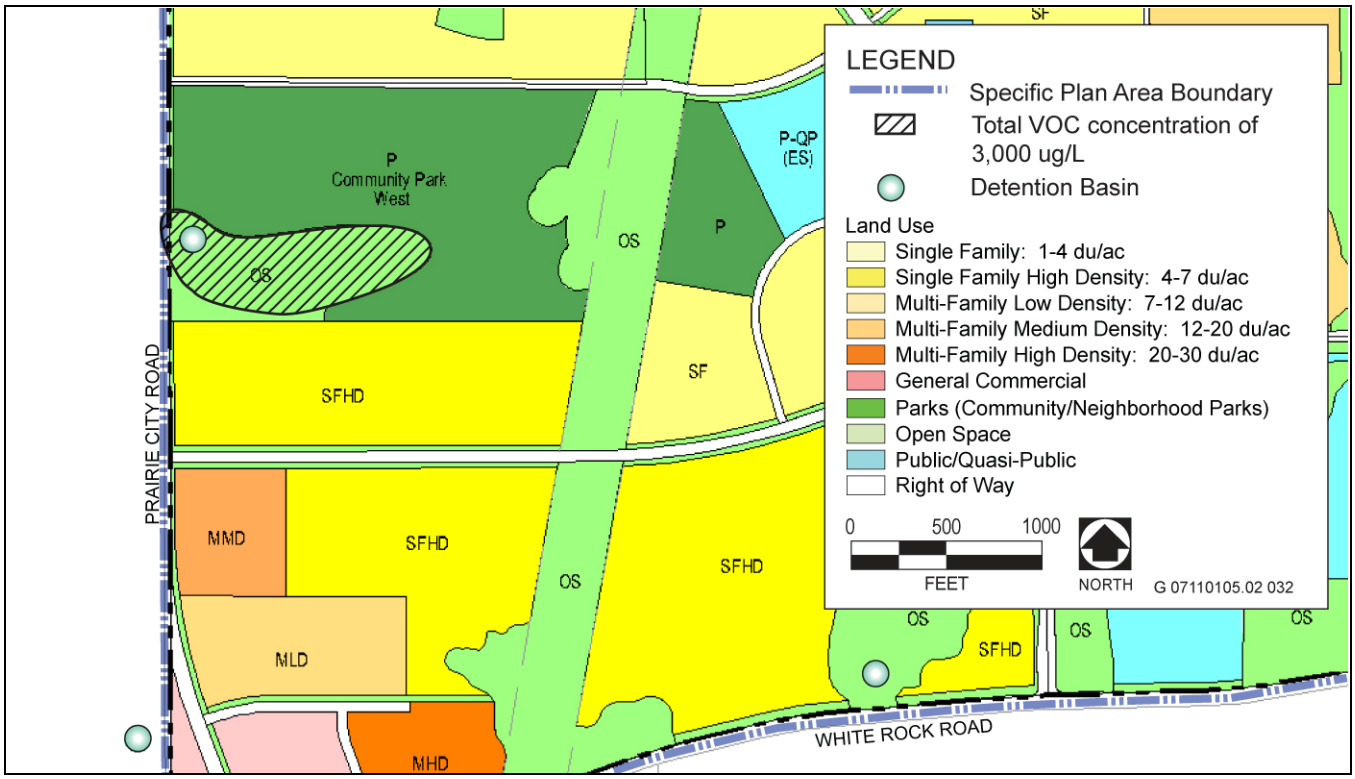
A memorandum from Arcadis to the City of Folsom, in 2007 (ARCADIS 2007), discussed probable human health effects associated with land uses within the northern portion of Area 40 in response to concerns related to potential ambient air exposures associated with park and recreation use. No buildings are proposed for this area, resulting in no potential indoor air exposure. The memorandum indicated that the concentration of ambient VOCs resulting from off-gassing of contaminated groundwater would not be high enough to create an unacceptable risk to children or adults using the area for outdoor recreational activities (ARCADIS 2007). Arcadis concluded that park or open space land uses would be acceptable on this portion of Area 40. Arcadis' conclusions were limited to risks posed by off-gassing of groundwater, and were based on an understanding that the EPA would ensure that contaminated soils are remediated appropriately in accordance with future land use designations.

The land identified for the proposed off-site detention basin is also located on the Aerojet Superfund site, in the Eastern OU. The proposed detention basin is not within an identified source area as defined in the Partial Consent Decree (Partial Consent Decree entered June 23, 1989 [and modifications thereto] in the consolidated actions Nos. CIVS-86-0063-EJG and CIVS-86-0064-EJG) and was not identified as an area of concern as identified in the Eastern Operable Unit Sampling Plan (Aerojet General Corporation 2008). The detention basin would be required to adhere to deed restrictions pertaining to recharge and infiltration.



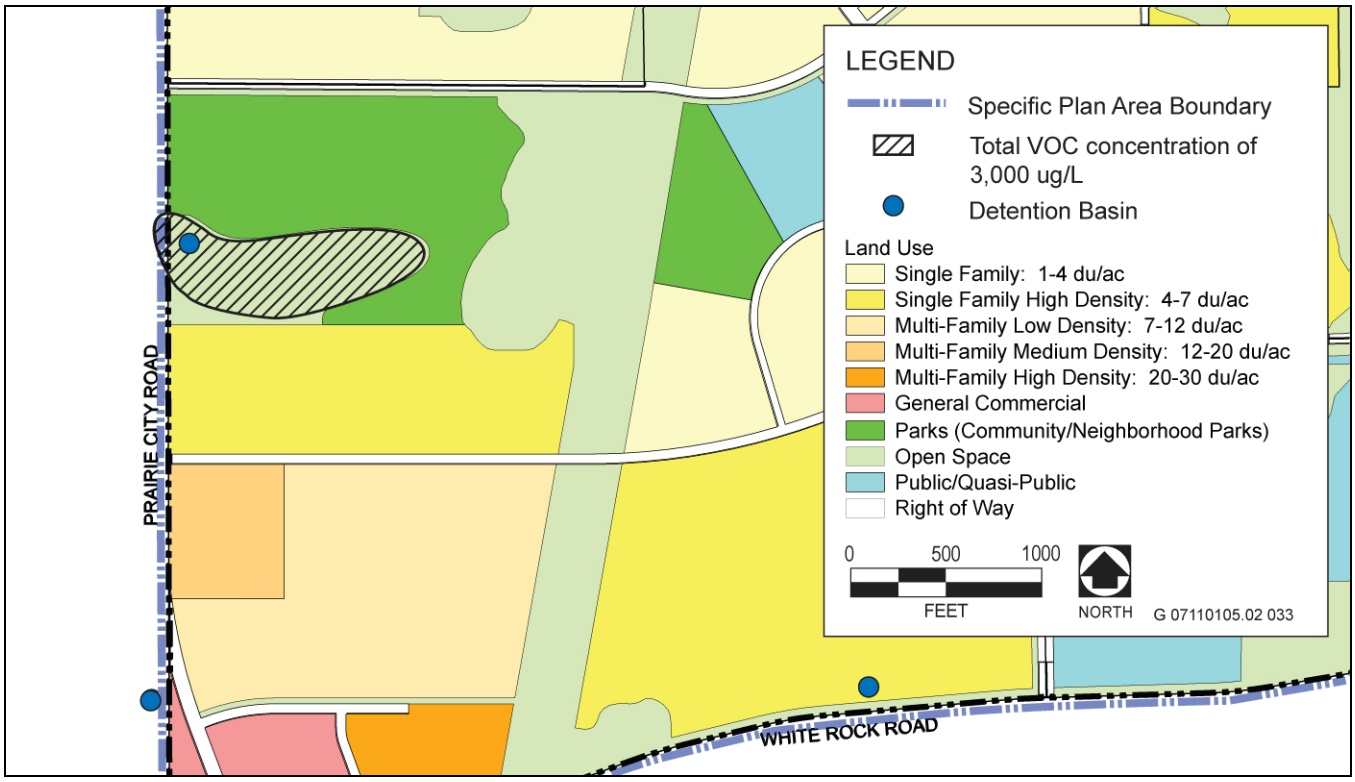
Source: Aerojet General Corporation 2007 adapted by AECOM in 2009

Area of Potential VOC Off-gassing in Proposed Project Alternative **Exhibit 3A.8-4**



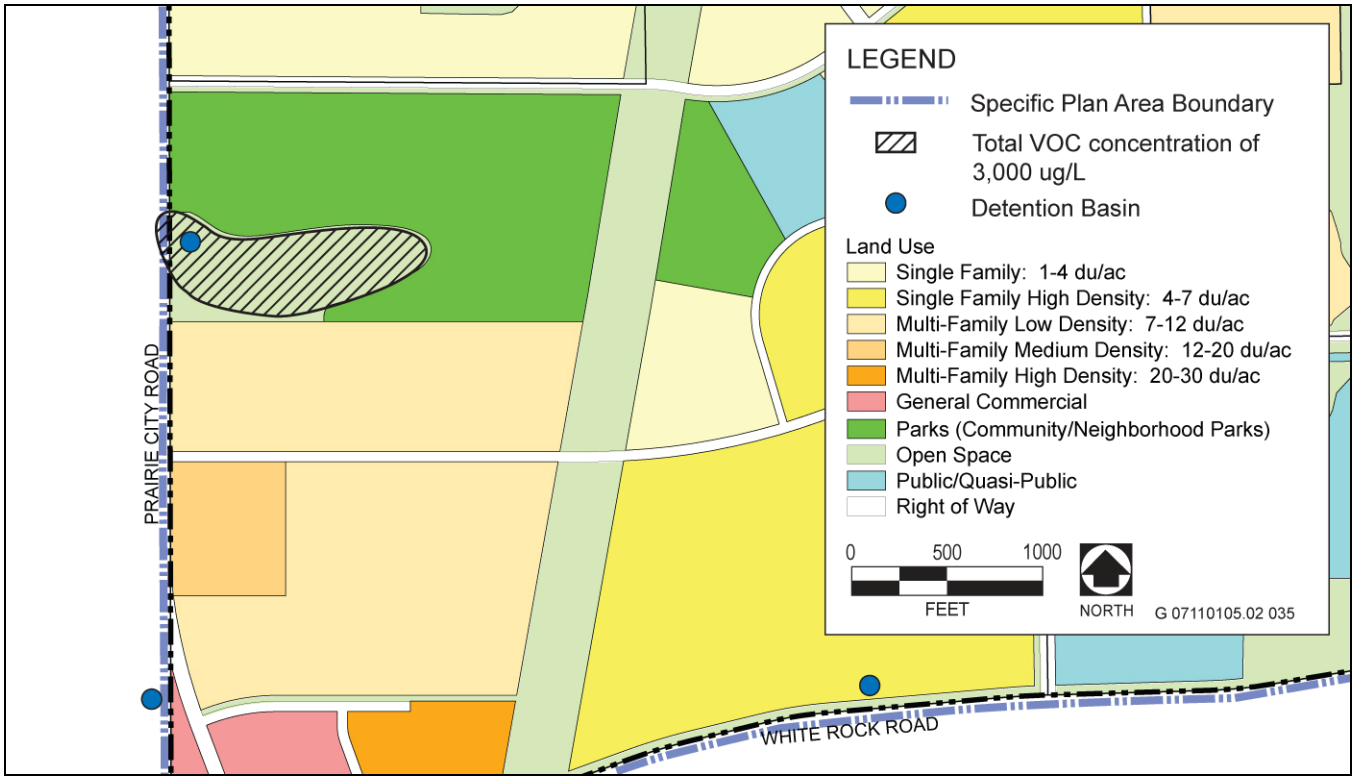
Source: Aerojet General Corporation 2007 adapted by AECOM in 2009

Area of Potential VOC Off-gassing in Resource Impact Minimization Alternative **Exhibit 3A.8-5**



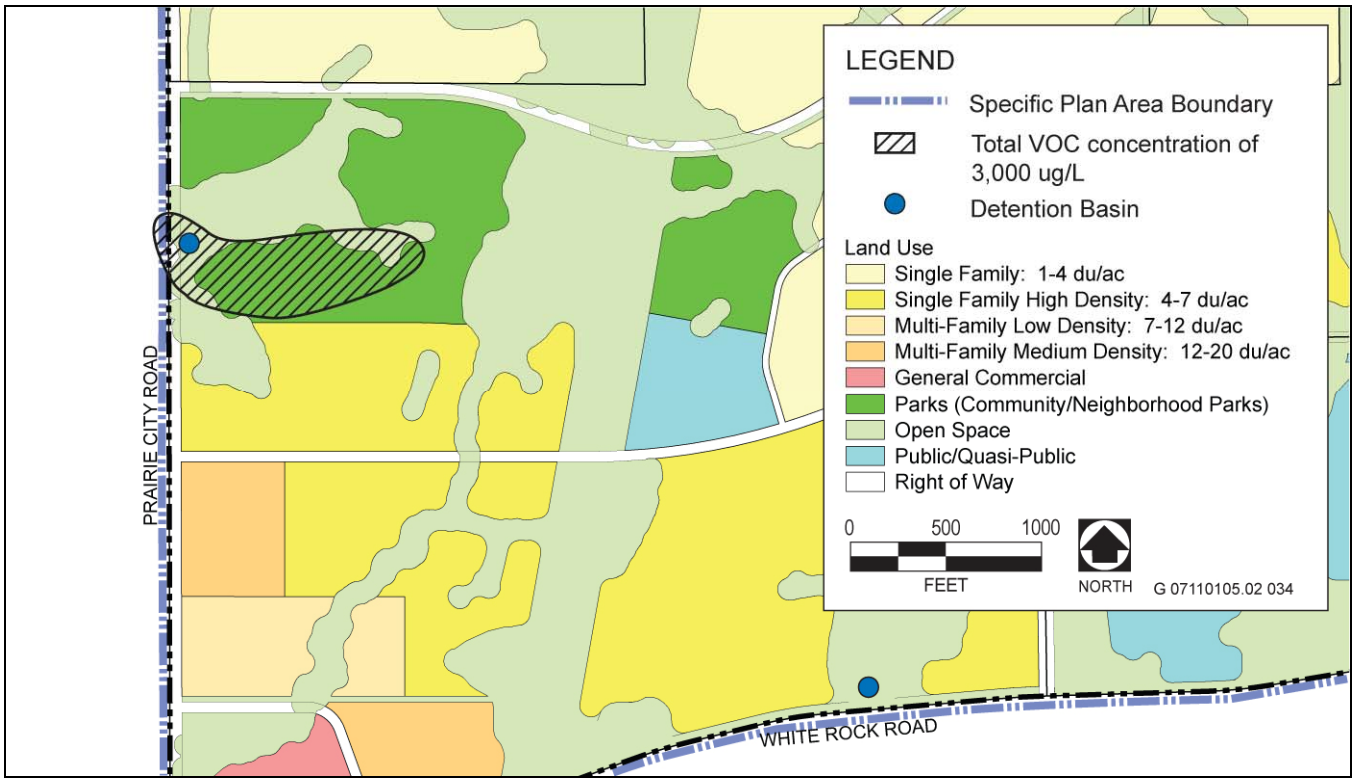
Source: Aerojet General Corporation 2007 adapted by AECOM in 2009

Area of Potential VOC Off-gassing in Centralized Development Alternative **Exhibit 3A.8-6**



Source: Aerojet General Corporation 2007 adapted by AECOM in 2009

Area of Potential VOC Off-gassing in Reduced Hillside Development Alternative **Exhibit 3A.8-7**



Source: Aerojet General Corporation 2007 adapted by AECOM in 2009

Area of Potential VOC Off-gassing in No USACE Permit Alternative **Exhibit 3A.8-8**

Although enforcement of LAFCo resolution 1196 would ensure that the proposed land use plans would not pose a risk to human health, ongoing remediation at this Federally listed site may delay or limit the availability of some development, including parks and open space at or near the contaminated sites. The level of remediation effort at these sites may limit future development to open space uses on a portion of Area 40. Ongoing regulatory review and approvals required by EPA, DTSC, and the Central Valley RWQCB would ensure that any site-specific land use limitations are identified and required when the land is made available for development. Aerojet will also retain right of access to certain properties to operate and maintain the monitoring wells or to conduct other remediation activities. This **direct** impact is considered **potentially significant**. There would be **no indirect** impacts. ***[Similar]***

Mitigation Measure 3A.8-3a: Require the Project Applicant(s) to Cooperate with Aerojet and Regulatory Agencies to Preserve, Modify, or Close Existing Groundwater Monitoring Wells.

The project applicant(s) for all project phase(s) that would occur in or adjacent to the Area 40 boundary shall submit copies of tentative maps for residential subdivisions and for nonresidential uses to Aerojet, DTSC, and the Central Valley RWQCB or any successor in interest for review and approval. Aerojet, DTSC, and the Central Valley RWQCB or any successor shall work with the project applicant(s) to establish the preservation, modification, or closure of existing groundwater monitoring wells. If necessary, Aerojet, or any successor may purchase lots from the project applicant(s) to maintain access to monitoring wells. Development shall not proceed within the Area 40 boundary or on lands used for groundwater monitoring and other remediation activities until DTSC and the Central Valley RWQCB have approved Aerojet's or a successor's plan for well preservation, modification, or closure.

The project applicant(s) for activities related to the off-site detention basin located outside of the City of Folsom's jurisdictional boundaries must be coordinated by the project applicant(s) with Sacramento County.

Implementation: Project applicants(s) for activities that would occur in the Area 40 boundary or on areas used for groundwater monitoring and other remediation activities.

Timing: Ongoing to the satisfaction of DTSC and the Central Valley RWQCB.

Enforcement:
1. For all project-related improvements that would be located within the City of Folsom: City of Folsom Community Development Department.
2. For the off-site detention basin west of Prairie City Road: Sacramento County Planning and Community Development Department.

Mitigation Measure 3A.8-3b: Coordinate Development Activities to Avoid Interference with Remediation Activities.

The project applicant(s) for all project phases that would occur in or adjacent to the Area 40 boundary shall provide notice to Aerojet or any successor in interest and DTSC, the Central Valley RWQCB, and the City of Folsom of the location, nature, and duration of construction activities least 30 days before construction activities begin in areas on or near property with current or planned remediation activities (Area 40). Remedial actions, as required by DTSC, RWQCB, and/or the EPA, may include, but are not limited to:

- deed restrictions on land and groundwater use;
- requirements for building ventilation, heating, and air conditioning design;
- monitoring;
- installation of vertical barriers;
- biological, chemical, and/or physical treatment;
- extraction, and/or
- pump and treat activities.

Before the approval of grading plans which include areas within the Area 40 boundary or the off-site detention basin, the project applicant(s) shall work with Aerojet, DTSC, and the Central Valley RWQCB or any successor to schedule the timing of construction activities to prevent potential conflicts with remediation activities.

The project applicant(s) for activities related to the off-site detention basin located outside of the City of Folsom's jurisdictional boundaries must be coordinated by the project applicant(s) with Sacramento County.

Implementation: Project applicant(s) for activities within the Area 40 boundary or on lands used for monitoring or other remediation-related activities.

Timing: Before the approval of grading plans and during construction activities within the Area 40 boundary, off-site detention basin, or on lands used for monitoring or other remediation-related activities.

Enforcement:
1. For all project-related improvements that would be located within the City of Folsom: City of Folsom Community Development Department.

2. For the off-site detention basin west of Prairie City Road: Sacramento County Planning and Community Development Department.

3. California Department of Toxic Substances Control, Central Valley Regional Water Quality Control Board, Aerojet General Corporation, as appropriate.

Mitigation Measure 3A.8-3c: Provide Written Notification to the City that DTSC-Required Notification Obligations and/or Easements Have Been Fulfilled to Ensure that Construction Activities Do Not Interfere with Remedial Actions.

Pursuant to its oversight over investigations of hazardous substances and determination of remedial action, DTSC establishes, as appropriate, deed restrictions (e.g., restrictions on future groundwater uses or future land uses) or easements (e.g., continued access to groundwater wells and pipelines) on property with associated notice requirements. The project applicant(s) for all such affected project activities, located within the Area 40 boundary, the off-site detention basin, or lands subject to monitoring or other remediation activities shall provide notification in writing to the City (or Sacramento County for the off-site detention basin) that said required DTSC notification obligations have been fulfilled. Evidence of the method of notification required by DTSC shall be submitted to the City before approval of tentative maps or improvement plans.

The project applicant(s) for such affected project activities shall coordinate with the City to include this provision as part of tentative map approval within the Area 40 boundary or lands subject to monitoring or other remediation activities. The project applicant(s) shall coordinate with Sacramento County for such affected project activities pertaining to the off-site detention basin.

Mitigation for the off-site elements outside of the City of Folsom's jurisdictional boundaries must be coordinated by the project applicant(s) of each applicable project phase with the affected oversight agency(ies) (i.e., Sacramento County).

Implementation: Project applicant(s) for activities that would occur in the Area 40 boundary or on areas used for groundwater monitoring and other remediation activities.

Timing: Before approval of final maps and/or issuance of permits for sales trailers and model homes within the Area 40 boundary, the off-site detention basin, or lands subject to monitoring or other remediation activities.

Enforcement:

1. For all project-related improvements that would be located within the City of Folsom: City of Folsom Community Development Department.

2. For the off-site detention basin west of Prairie City Road: Sacramento County Planning and Community Development Department.

Implementation of Mitigation Measures 3A.8-3a, 3A.8-3b, and 3A.8-3c would reduce significant potential development constraints due to site listing on the Cortese List under the No USACE Permit, Proposed Project, Resource Impact Minimization, Centralized Development, and Reduced Hillside Development Alternatives to a **less-than-significant** level because remediation activities, implementation of deed restrictions, and other actions required prior to implementation of the project would be required by DTSC and other agencies as part of the Superfund investigation and remediation activities. However, the off-site detention basin falls under the jurisdiction of Sacramento County; therefore, neither the City nor the project applicant(s) would have control over its timing or implementation.

IMPACT 3A.8-4 Potential Interference with an Adopted Emergency Response or Emergency Evacuation Plan. *Development of the SPA could interfere with adopted emergency plans.*

On-Site and Off-Site Elements

NP

Under the No Project Alternative, development of up to 44 rural residences could occur under the existing Sacramento County agricultural zoning classification AG-80. The construction of these residences would not result in substantial volumes of construction that would substantially increase traffic on existing roadways. Furthermore, no off-site water facilities would be constructed. Therefore, this alternative would not conflict with any adopted emergency response or evacuation plans. **Direct** impacts would be **less than significant. No indirect** impacts would occur. ***[Similar]***

NCP, PP, RIM, CD, RHD

Implementation of the project would require permits from the City of Folsom to ensure that the project provides sufficient hydrant locations, street width, circulation, and project access for fire and emergency response units. Implementation of the project would not conflict with any adopted emergency response or evacuation plans. Furthermore, the circulation plans for the Proposed Project and the other four action alternatives would include sufficient ingress and egress routes to ensure public safety in the event to an emergency. Finally, the Proposed Project and the other four action alternatives would be subject to the Sacramento County MHMP. Therefore, direct impacts would be **less than significant. No indirect** impacts would occur. ***[Similar]***

Mitigation Measure: No mitigation measures are required.

IMPACT 3A.8-5 Potential for Blast-Related Injury to Construction Workers and the General Public. *Development in the SPA would entail the use of explosive materials as part of grading activities in the eastern portion of the SPA that could result in injury to construction workers and the general public.*

On-Site and Off-Site Elements

NP

Under the No Project Alternative, up to 44 individual dwelling units could be constructed in the SPA, although no off-site water facilities would be constructed. As part of the construction of individual dwelling units or agricultural operations at the site, blasting could occur as part of excavation and removal of rock from the eastern slopes of the SPA. Blasting entails the placement of explosive materials into a borehole, which is then ignited. The subsequent explosion generates air blasts and seismic waves that fracture the surrounding rock. Reasonably foreseeable accidents associated with blasting include accidental discharge and expulsion of materials beyond the expected distance (i.e., flyrock).

OSHA's Construction Safety and Health Outreach Program sets standards for blaster qualifications, transportation, storage, and loading, execution, and post-explosion requirements. However, accidental discharge or materials or production of flyrock remains possible. Sources of electricity, including radio towers and power lines, are located within the eastern slopes and could cause injury or fatalities to construction workers or the general public. Therefore, **direct** impacts associated with blasting activities are considered to be **potentially significant**. There would be **no indirect** impacts. ***[Similar]***

Blasting may be required for excavation and removal of rock from the eastern slopes of the SPA. Blasting entails the placement of explosive materials into a borehole, which is then ignited. The subsequent explosion generates air blasts and seismic waves that fracture the surrounding rock. Generally, explosives used for construction purposes consist of ammonium nitrate and fuel oil (Centers for Disease Control and Prevention [CDC] 2004). Reasonably foreseeable accidents associated with blasting include accidental discharge and expulsion of materials beyond the expected distance (i.e., flyrock).

Explosive materials are ignited from sources of energy. During construction-related blasting activities, materials are ignited from the controlled used of electricity. Accidental discharge of explosive materials can also occur from extraneous sources of electricity. Sources of electricity within the SPA include power lines, radio transmitters, and electrical storms. Depending on the amount of material and method of storage, the size and extent of an accidental discharge could cause extensive destruction. Injuries and fatalities could result from the initial explosion and/or secondary effects such as fires and flyrock.

Flyrock is a potential hazard from blasting that could occur under accidental and planned ignition. Flyrock is defined as mud, water, or fragments of rock that accidently travel outside of the expected blast area. Creation of flyrock can be the result of many factors, including anomalies in the geology and rock structure, poor communication, and incorrect blast hole layout and loading (CDC 2004). Blasting-induced flyrock can travel up to one-half mile at a rate of 400 miles per hour (recorded at 200 feet from the blast site) (CDC 2008). There are numerous documented cases of flyrock causing bodily harm to construction workers and the general public, sometimes leading to fatalities (CDC 2004).

Section 12101 through 12103 of the California Health and Safety Code describe permit requirements for manufacturing, possession, transportation, and use of explosives, which would apply to blasting activities in the SPA, and these permits must be issued or endorsed by the jurisdiction in which blasting would take place.

OSHA's Construction Safety and Health Outreach Program sets standards for blaster qualifications, transportation, storage, and loading, execution, and post-explosion requirements. However, accidental discharge or materials or production of flyrock remains possible. Sources of electricity, including radio towers and power lines, are located within the eastern slopes and could cause injury or fatalities to construction workers or the general public. Therefore, **direct** impacts associated with blasting activities are considered to be **potentially significant**. There would be **no indirect** impacts. ***[Similar]***

Mitigation Measure 3A.8-5: Prepare and Implement a Blasting Safety Plan in Consultation with a Qualified Blaster.

To reduce the potential for accidental injury or death related to blasting, contractors whose work in the SPA will include blasting shall prepare and implement a blasting safety plan. This plan shall be created in coordination with a qualified blaster, as defined by the Construction Safety and Health Outreach Program, Subpart U, Section 1926.901, and distributed to all appropriate members of construction teams. The plan shall apply to project applicant(s) of all project phases in which blasting would be employed. The plan shall include, but is not limited to:

- storage locations that meet ATF standards contained in 27 CFR Part 55;
- safety requirements for workers (e.g., daily safety meetings, personal protective equipment);
- an accident management plan that considers misfires (i.e. explosive fails to detonate), unexpected ignition, and flyrock; and

- measures to protect surrounding property (e.g., netting, announcement of dates of expected blasting, barricades, and audible and visual warnings).

Upon completion of a blasting safety plan, the project applicant(s) shall secure any required permits from the City of Folsom Fire Department and the El Dorado County Sheriff's Department for blasting activities in Sacramento County and El Dorado County, respectively.

Mitigation for the off-site elements outside of the City of Folsom's jurisdictional boundaries must be coordinated by the project applicant(s) of each applicable project phase with the affected oversight agency(ies) (i.e., El Dorado County).

Implementation: Project applicant(s) and contractor(s) of all project phases in which blasting would be employed.

Timing: At the submission of tentative map applications.

Monitoring:
1. For all project-related improvements that would be located within the City of Folsom: City of Folsom Fire Department.
2. For the off-site roadway connections in El Dorado County: El Dorado County Sheriff's Department.

Implementation of Mitigation Measure 3A.8-5 would reduce potential impacts related to blasting activities because a blasting safety plan would be prepared and implemented that would include protection measures for construction workers and the general public, and the proper permits would be secured by the project applicant(s) of all affected project phases. Because these actions would substantially diminish the probability of accidents involving the production of flyrock and accidental ignition, this impact would be reduced to a **less-than-significant** level. However, some of the off-site elements (two roadway connections) fall under the jurisdiction of El Dorado County; therefore, neither the City nor the project applicant(s) would have control over its timing or implementation.

IMPACT 3A.8-6 Possible Exposure of People to Electric and Magnetic Fields. *Residential developments and/or schools would be located near high voltage transmission lines and radio towers, which could expose the general public to EMFs.*

On-Site Elements

NP

Under the No Project Alternative, development of up to 44 rural residences could occur under the existing Sacramento County agricultural zoning classification AG-80. The SPA is traversed by two 230-kV, one 115 kV, and one 69-kV electrical transmission lines on steel lattice towers. The 80-acre minimum lot size under the existing designation would result in large individual parcels; a standard, 40-acre parcel would be 1,320 feet on a side. These large parcels would permit siting of individual residential units more than 200 feet from any electrical transmission line, although it is possible that individual property owners would choose not to do so. Futhermore, no off-site water facilities would be constructed. This **direct** impact would be **less than significant. No indirect** impact would occur. ***[Lesser]***

The SPA is traversed by two 230-kV, one 115 kV, and one 69-kV electrical transmission lines on steel lattice towers within a single 400-foot-wide right-of-way, with lines spread throughout the easement to approximately 50 feet from the edges of the right-of-way. Under the Proposed Project and the other four action alternatives, the transmission line easement would be developed into open space, which would be approximately 400 feet wide. Additional 69-kV transmission lines extend westward from this right-of-way towards Prairie City Road, and a 69-kV transmission line dead-ends in the SPA just east of Placerville Road. (Capitol Utility Specialists 2009.)

Common utility line setbacks generally incorporate a distance of approximately 50 feet on each side of the high-tension power lines; the open space area in the SPA would be 400 feet wide because three separate lines are present. California does not require additional housing setback requirements from electrical transmission lines that would take into account the generation of EMFs. However, ongoing research shows that once emitted from the source, an EMF dissipates rapidly in a circular pattern and weakens with distance from the emitting source. For instance, at a distance of 200 feet from a 230 kV line, the EMF drops to a level of 1.8 mG (NIEHS 2002).

A few organizations have taken active steps to limit exposure to EMFs, while other organizations have issued guidelines to reduce EMF exposure. For example, the National Association of Certified Home Inspectors cites the Office of Technology Assessment of the U.S. Congress, which recommends a policy of "prudent avoidance" with respect to EMFs. "Prudent avoidance" means to measure fields, determine the sources, and act to reduce exposure. The National Association of Certified Home Inspectors suggests that exposure to EMFs should be limited to 2.5 mG or less. CDE has taken the position that K–12 schools may not be constructed within 150 feet of an easement for a 230-kV transmission line (approximately 200 feet from the power line itself). This effectively reduces school-site exposures to 2 mG or less. Since new schools constructed on the project site would require CDE approval, no schools could be constructed within 150 feet of a 230-kV transmission line easement, and no school-site exposures in excess of 2 mG would occur.

Under the Proposed Project and action alternatives, residential developments are planned adjacent to the 400-foot-wide easement, which could place houses within 200 feet of the 230-kV transmission line and within 150 feet of a 69 kV or 115 kV transmission line.

The radio towers located in the eastern portion of the SPA are registered with the FCC, and must conform with rules and regulations involving exposure of the general public to EMFs. Tower operators must comply with Federal regulations for continued registration of these radio towers. By complying with the FCC's safety standards, the general public would not be exposed to unacceptable EMF levels from the towers.

Because the Proposed Project and the four action alternatives would not provide at least 200 feet of separation between 230-kV transmission lines (and 150 feet of separation between any 69 kV or 115 kV transmission lines) and any residential developments, the **direct** impact of exposure of the general public to EMFs would be **potentially significant**. There would be **no indirect** impacts. ***[Similar]***

Mitigation Measure 3A.8-6: Prudent Avoidance and Notification of EMF Exposure.

A policy of "prudent avoidance" to EMF exposure shall be incorporated into planning activities for residential developments near the transmission lines, which shall include consideration of up-to-date information on potential hazards of EMF, especially information from the California Public Utilities Commission.

In addition, potential purchasers of properties near the transmission lines shall be made aware of the controversy surrounding EMF exposure. The California Department of Real Estate shall be requested to insert an appropriate disclosure statement into the applicant's final Subdivision Public Report application,

which shall be provided to purchasers of properties within 100 feet from the 100-115kV power line easement, or within 150 feet from the 220-230 kV power line easement.

Implementation: Project applicant(s) of all project phases in the vicinity of high-tension transmission lines.

Timing: At the submission of tentative map applications.

Enforcement: 1. City of Folsom Community Development Department.

2. Folsom Cordova Unified School District.

Implementation of Mitigation Measure 3A.8-6 would reduce the potentially significant impact related to adverse health effects from the possible exposure to EMFs to a **less-than-significant** level because prudent avoidance of high tension power lines would result in residential housing being relocated where possible, and disclosure would be required for any residences which were less than 200 feet from the 230-kV transmission line and 150 feet from the 69-kV and 115-kV transmission lines.

Off-Site Elements

NCP, PP, RIM, CD, RHD

The off-site elements would not include construction of sensitive land uses that could be affected by EMFs. Therefore, **no direct** or **indirect** impacts would occur.

Mitigation Measure: No mitigation measures are required.

IMPACT 3A.8-7 Potential for Public Health Hazards from Mosquitoes Associated with Project Water Features. *Project implementation would include construction of 16 on-site detention basins and 1 off-site detention basin, which could attract mosquitoes and other waterborne vectors, thereby potentially creating a public health hazard.*

On-Site Elements

NP

Under the No Project Alternative, no new detention facilities or off-site water facilities would be constructed, resulting in no increase in mosquito habitat. In addition, potential development of up to 44 rural residences under the existing AG-80 zoning would not result in a concentration of a large new human population in close proximity to mosquito habitat; thus, **no direct** or **indirect** impacts would occur. ***[Lesser]***

On-Site and Off-Site Elements

NCP, PP, RIM, CD, RHD

The Sacramento-Yolo Mosquito and Vector Control District recognizes a variety of stormwater-related structures to be common mosquito development sites. Implementation of the Proposed Project and the four action alternatives includes a variety of features that are considered to be mosquito attractants, including 16 detention basins, storm drains, and roadside ditches. Typical stormwater facilities create habitat for mosquitoes that are attracted to above-ground, clean water sources, and underground, polluted (nutrient rich) sources. Because stormwater infrastructure would be located in close proximity to proposed development, diseases, such as West Nile Virus, could be easily spread within the population through mosquito vectors (Sacramento-Yolo Mosquito and Vector Control District 2008).

To reduce the threat from mosquito-borne threats to human health, the District maintains a best management practices manual (Sacramento-Yolo Mosquito and Vector Control District 2008). This manual details preventive measures to reduce mosquito populations, production rates, or the timing of mosquito hatching. However, the project does not incorporate BMPs that would control mosquitoes. Because the potential for mosquito-borne health hazards would occur with development of the project and the project currently does not include any mosquito prevention BMPs, this **direct** impact would be **potentially significant**. **No indirect** impacts would occur ***[Similar].***

Mitigation Measure 3A.8-7: Prepare and Implement a Vector Control Plan in Consultation with the Sacramento-Yolo Mosquito and Vector Control District.

To ensure that operation and design of the stormwater system, including multiple planned detention basins, is consistent with the recommendations of the Sacramento-Yolo Mosquito and Vector Control District regarding mosquito control, the project applicant(s) of all project phases shall prepare and implement a Vector Control Plan. This plan shall be prepared in coordination with the Sacramento-Yolo Mosquito and Vector Control District and shall be submitted to the City for approval before issuance of the grading permit for the detention basins under the City's jurisdiction. For the off-site detention basin, the plan shall be submitted to Sacramento County for approval before issuance of the grading permit for the off-site detention basin. The plan shall incorporate specific measures deemed sufficient by the City to minimize public health risks from mosquitoes, and as contained within the Sacramento-Yolo Mosquito and Vector Control District BMP Manual (Sacramento-Yolo Mosquito and Vector Control District 2008). The plan shall include, but is not limited to, the following components:

- Description of the project.
- Description of detention basins and all water features and facilities that would control on-site water levels.
- Goals of the plan.
- Description of the water management elements and features that would be implemented, including:
    - BMPs that would implemented on-site;
    - public education and awareness;
    - sanitary methods used (e.g., disposal of garbage);
    - mosquito control methods used (e.g., fluctuating water levels, biological agents, pesticides, larvacides, circulating water); and
    - stormwater management (consistent with Stormwater Management Plan).
- Long-term maintenance of the detention basins and all related facilities (e.g., specific ongoing enforceable conditions or maintenance by a homeowner's association).

  To reduce the potential for mosquitoes to reproduce in the detention basins, the project applicant(s) shall coordinate with the Sacramento-Yolo Mosquito and Vector Control District to identify and implement BMPs based on their potential effectiveness for SPA conditions. Potential BMPs could include, but are not limited to, the following:

    - build shoreline perimeters as steep and uniform as practicable to discourage dense plant growth;

- perform routine maintenance to reduce emergent plant densities to facilitate the ability of mosquito predators (i.e., fish) to move throughout vegetated area;

- design distribution piping and containment basins with adequate slopes to drain fully and prevent standing water. The design slope should take into consideration buildup of sediment between maintenance periods. Compaction during grading may also be needed to avoid slumping and settling;

- coordinate cleaning of catch basins, drop inlets, or storm drains with mosquito treatment operations;

- enforce the prompt removal of silt screens installed during construction when no longer needed to protect water quality;

- if the sump, vault, or basin is sealed against mosquitoes, with the exception of the inlet and outlet, submerge the inlet and outlet completely to reduce the available surface area of water for mosquito egg–laying (female mosquitoes can fly through pipes); and

- design structures with the appropriate pumping, piping, valves, or other necessary equipment to allow for easy dewatering of the unit if necessary (Sacramento Yolo Mosquito and Vector Control District 2008).

The project applicant(s) of the project phase containing the off-site detention basin shall coordinate mitigation for the off-site with the affected oversight agency (i.e., Sacramento County).

Implementation: Project applicant(s) of all project phases containing water features.

Timing: Before issuance of grading permits for the project water features.

Enforcement:
1. For all project-related improvements that would be located within the City of Folsom: City of Folsom Community Development Department.

2. For the off-site detention basin west of Prairie City Road: Sacramento-Yolo Mosquito and Vector Control District.

Implementation of Mitigation Measure 3A.8-7 would reduce significant impacts related to potential public health hazards from mosquitoes under the No USACE Permit, Proposed Project, Resource Impact Minimization, Centralized Development, and Reduced Hillside Development Alternatives to a **less-than-significant** level because a site plan, which would require identification of remediation activities, implementation of BMPs to reduce mosquito breeding habitats, and coordination with the District to ensure that mosquito attractants are avoided to the extent possible, would be developed and implemented. However, the off-site detention basin would fall under the jurisdiction of Sacramento County; therefore, neither the City nor the project applicant(s) would have control over its timing or implementation.

3A.8.4 RESIDUAL SIGNIFICANT IMPACTS

Implementation of mitigation measures contained in this section would reduce all impacts to a less-than-significant level for the Proposed Project and all action alternatives. Therefore, project implementation would not result in any residual significant impacts related to hazards and hazardous materials. However, some of the off-site elements (two roadway connections in El Dorado County and detention basin in Sacramento County) fall under the jurisdiction of El Dorado and Sacramento Counties; therefore, neither the City nor the project applicant(s) would have control over the timing or implementation of mitigation measures for these off-site

elements. Because the City does not control implementation of mitigation measures for off-site improvements constructed in areas under the jurisdiction of El Dorado and Sacramento Counties, Impacts 3A.8-2, 3A.8-3, 3A.8-5, and 3A.8-7 are considered potentially significant and unavoidable for off-site improvements that would be located in Sacramento or El Dorado County jurisdiction.