

3.8 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential for impacts related to the presence and use of hazardous materials during construction and operation of the proposed project. Hazards related to helicopter operations are also addressed.

The term hazardous material is defined in different ways for different regulatory programs. This EIR uses the definition provided in California Health and Safety Code Section 25501(n) and (o), which defines hazardous material as:

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 wastes, 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.

Because regulations for hazardous materials were developed over time, hazardous materials are regulated by numerous agencies whose jurisdictions and responsibilities sometimes overlap. Federal agencies that regulate hazardous materials include the USEPA and the Occupational Safety and Health Administration (Fed/OSHA). At the state level, agencies such as California Occupational Safety and Health Administration (Cal/OSHA) and the Office of Emergency Services govern the use of hazardous materials. State and local agencies often have either parallel or more stringent rules than federal agencies.

Generation, transportation, and disposal of hazardous wastes also can be regulated by different agencies. The lead federal agency is the USEPA. The Department of Toxic Substances Control (DTSC) has primary state regulatory responsibility but may delegate enforcement authority to local jurisdictions that enter into agreements with the state agency.

This section includes information from the *Phase One Environmental Site Assessment* (ENGE0 2004b), *Phase Two Environmental Site Assessment* (ENGE0 2005), *Phase One Environmental Site Assessment* (ENGE0 2009a), *Supplemental Agrichemical Assessment Report* (ENGE0 2009b), *Interview with FAA and Helicopter Operators* (Mead & Hunt 2009b) and *Helicopter Safety Issues* (Mead & Hunt 2009c), which are included as **Appendix G** in the Technical Appendices, Vol. 2 of this document.

3.8.1 Environmental Setting

The project site is approximately 53 acres and is located in unincorporated Sonoma County roughly northwest of the Santa Rosa city limits. The site is bordered by the US 101/Mark West Springs Road interchange and US 101 to the west; Mark West Springs Road to the north; a vineyard to the south; and a vineyard and a residential neighborhood, the Berrybrook subdivision, to the east. The site is relatively flat at an elevation of approximately 156-159 feet above mean sea level.

The current uses of the proposed project site include the existing 85,000-square-foot Wells Fargo Center, a barn used as a maintenance facility by the Wells Fargo Center, out buildings and undeveloped pasture land.

3.8.1.1 Hazardous Materials

Existing and past land use activities are potential indicators of hazardous materials use or contamination. Sites where industrial or agricultural activities have occurred, both historic and current, may contain soil or groundwater contaminated by hazardous substances. Other hazardous material sources include leaking underground tanks in commercial and industrial areas, surface runoff from contaminated sites, and migration of contaminated groundwater plumes into areas that may be excavated by the project.

ENGEO Incorporated (ENGEO) conducted a number of studies at the proposed project site. In 2004, a Phase One Environmental Site Assessment identified areas of concern including improper storage of batteries near the barn on Parcel A (**Figure 2-2**) and the former use of a portion of the site as an orchard, indicating the potential for past chemical pesticide use (ENGEO 2004b) (Appendix G-1). A Phase Two Environmental Site Assessment was subsequently conducted to test soils at the project site for contamination (ENGEO 2005) (Appendix G-2). In 2009, an updated Phase One Environmental Site Assessment was prepared (ENGEO 2009a) (Appendix G-3), as well as a supplemental agrichemical assessment, wherein additional areas of soil were tested (ENGEO 2009b) (Appendix G-4).

The result of the soil sample analysis for organochlorine pesticides and metals identified the presence of the pesticides DDT (dichlorodiphenyltrichloroethane), DDE (dichlorodiphenyldichloroethylene), and DDD (dichlorodiphenyldichloroethane) as well as metals including arsenic, barium, chromium, cobalt, copper, lead, nickel, vanadium, zinc, and mercury. The reported levels of DDT, DDE, and DDD were well below the California Human Health Screening Levels established by the California Environmental Protection Agency (Cal/EPA). The metal concentrations were also relatively low and are below cancer risk and hazard quotient thresholds. Arsenic concentrations for the composite samples ranged from 4.4 milligrams per kilogram (mg/kg) to 12 mg/kg. Natural background concentrations of arsenic in California are often above the health-based, direct-exposure goals in soil of 0.07 mg/kg for residential land use. The reported arsenic levels were within the anticipated background concentrations and would not be from an anthropomorphic source.

The Phase One assessments included a review of local, state, tribal, and federal environmental record sources; standard historical sources; aerial photographs; fire insurance maps; and physical setting sources. A reconnaissance of the project site was conducted to assess site use and current conditions for the storage, use, production, or disposal of hazardous or potentially hazardous materials. Interviews were also conducted with persons knowledgeable about current and past use of the project site.

A review of regulatory databases maintained by county, state, tribal, and federal agencies found no recorded hazardous materials violations or discharge on the property. The records search identified several off-site properties with potential contamination; however, these facilities were not within the appropriate American Society for Testing and Materials (ASTM) search distances that would reasonably be expected to affect the proposed project site (ENGEO 2009a) (Appendix G-3).

The site reconnaissance noted several areas where hazardous materials are stored and areas of potential environmental concern, including the following.

- Chlorine gas has been used to treat effluent water at the on-site wastewater treatment facility. This may have resulted in the production of trihalomethane (THM) compounds such as chloroform in the soil and groundwater beneath the wastewater treatment ponds.
- Site structures were built at a time when asbestos-containing building materials (ACBM) and lead-based paints may have been used.
- Batteries and an assortment of containers were observed in the vicinity of the barn. Improper material storage may lead to release of contents by spillage or structural failure of a container.
- A remnant septic system was reported to be in the vicinity of the barn.

3.8.2 Regulatory Setting

3.8.2.1 Federal

Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984. Federal hazardous waste laws are generally promulgated under the Resource Conservation and Recovery Act (RCRA). These laws provide for the “cradle-to-grave” regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed.

The USEPA has primary responsibility for implementing the RCRA, but individual states are encouraged to seek authorization to implement some or all RCRA provisions. California received authority to implement the RCRA program in August 1992. The California DTSC is responsible for implementing the RCRA program as well as California’s own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, commonly called the Superfund program, created a national policy and procedures to identify and clean up sites contaminated by releases of hazardous substances. The law was amended in 1986 by the Superfund Amendments and Reauthorization Act. The USEPA has primary responsibility for implementing Superfund regulations, but state agencies may be authorized to take the lead at some cleanup sites. In California, the DTSC is the state’s lead agency for the federal Superfund and also enforces the state’s own Superfund law. Where groundwater contamination is the primary concern, one of the state’s RWQCBs may be the lead agency or a cooperating agency for the cleanup.

3.8.2.2 State

Title 22, California Hazardous Waste Control Law. The DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the RCRA and the California Hazardous Waste Control Law. Both laws impose “cradle to grave” regulatory systems for handling hazardous waste in a manner that protects human health and the

environment. The DTSC has delegated some of its authority under the Hazardous Waste Control Law to county health departments.

Senate Bill 14, Hazardous Waste Source Reduction and Management Review Act of 1989.

Federal amendments to hazardous and solid waste laws made waste minimization a national policy in 1984. Under this congressional action, a Generator's Certification is required on each Uniform Hazardous Waste Manifest to help ensure that each generator of hazardous waste has a program in place to reduce the volume and toxicity of waste generated. Additional regulatory oversight was provided in state legislation, the Hazardous Waste Source Reduction and Management Review Act of 1989 (Senate Bill 14). The goal of the act is to achieve optimal minimization of the generation of hazardous waste. Most recently, Hazardous Waste Source Reduction and Management Act Modifications (Senate Bill 1726) reduced the reporting threshold, which increased the number and types of generators governed by the 1989 act.

Hazardous Materials Business or Management Plan. Chapter 6.95 of the California Health and Safety Code requires facilities that use, produce, store, or generate hazardous substances or have a change in business inventory to have a Hazardous Materials Management Plan or Business Plan. The plan must disclose the type, quantity, and storage location of materials. The law also requires a site-specific emergency response plan, employee training, and designation of emergency contact personnel.

The Hazardous Materials Management Plan describes hazardous materials storage and handling practices and contains procedures for monitoring storage, performing regular inspections, detecting releases, and testing the detection systems on a regular basis.

Title 8 CCR, California Occupational Safety and Health Act. In California, under the California Occupational Safety and Health Act, Cal/OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. In order for the federal OSHA program to be delegated to the state, Cal/OSHA standards must be at least as stringent as Fed/OSHA standards, and they are generally more stringent. Cal/OSHA hazardous materials regulations include requirements for safety training, availability of safety equipment, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which include identifying and labeling hazardous substances, providing employees with Material Safety Data Sheets, and describing employee-training programs. Cal/OSHA regulations would apply to all workers during construction and to hospital employees during operation of the facility.

California Medical Waste Management Act (California Health and Safety Code Sections 117600–118360). Enforced by the California Department of Health Services Medical Waste Management Program, this act regulates the generation, handling, storage, treatment, and disposal of medical waste. The Medical Waste Management Program permits and inspects all medical waste at off-site treatment facilities and medical waste transfer stations. Medical waste is generally regulated in the same manner as hazardous waste, except that special provisions apply to storage, disinfection, containment, and transportation. The act imposes a cradle-to-grave tracking system and a calibration and monitoring system for on-site treatment. The Environmental Health Division of the Sonoma County Department of Health Services is charged with administering the State of California's Medical Waste Program within Sonoma County.

3.8.2.3 Local

Emergency Medical Services

The Sonoma County Emergency Medical Services Ordinance (NO. 4386) regulates ambulance service for emergency medical purposes in Sonoma County. The ordinance establishes guidelines for permits and annual inspections of ambulance services, including air ambulances (helicopters).

Hazardous Materials

Hazardous materials are regulated locally through the Sonoma County Environmental Health Division of the Sonoma County Department of Health Services and the Sonoma County Department of Emergency Services (DES). These agencies work in conjunction with the Sonoma County Permit and Resource Management Department (PRMD) to establish compliance with laws regulating the storage, use, and disposal of hazardous materials.

The Hazardous Materials Division of the DES is responsible for the County's Certified Unified Program Agency (CUPA) programs. CUPA programs include the Hazardous Materials Business Plan Program, Hazardous Waste Generator Program, Underground Tank Program, Accidental Release Program, and the portions of the Uniform Fire Code that address hazardous materials. This program includes inspections of businesses and review of permit conditions and procedures for the handling, storage, use and disposal of hazardous materials. Hazardous Materials Business Plans are used to keep track of the use of hazardous materials by businesses in accordance with both State and federal laws. The Hazardous Waste Generator Program is based on the Hazardous Waste Control Law found in the California Health and Safety Code Division 20, Chapter 6.5 and regulations found in the California Code of Regulations, Title 22, Division 4.5.

In addition to the regulations and programs discussed above, Sutter Medical Center of Santa Rosa has detailed guidelines relating to the handling of hazardous materials. Specific policies and rules are promulgated in the following areas.

- **Biohazardous Waste** sets forth medical guidelines that govern the management of medical waste to prevent the dissemination of potentially infectious organisms and the spread of infection to others within the medical center and in the community.
- **Hazardous Materials and Waste Storage Practice** implements procedures for the safe handling and storage of hazardous materials and chemicals.
- **Handling and Disposal of Regulated Waste** implements procedures for the safe handling of hazardous waste chemicals and infectious/regulated medical wastes and sharps. Radioactive wastes are managed outside of these procedures.
- **Hazardous Materials and Waste Acquisition** provides guidelines for the appropriate means of selection and acquisition of hazardous materials and chemicals to ensure the highest degree of safety to material-handlers.
- **Hazardous Chemical Communication Program** ensures that hazardous chemicals used by each department at the hospital are evaluated and that information concerning the hazardous material is transmitted to affected personnel within each department.

- **Hazardous Materials and Waste Ordering and Receiving** sets forth policies to ensure that hazardous materials are ordered, received, and handled in a safe and expeditious manner.
- **Hazardous Materials and Waste Receiving Material Safety Data Sheet (MSDS)** requires certain procedures when Materials Management receives an MSDS on a new or existing product used in the hospital.

The Sutter Hospital Hazardous Materials Business Plan required by state law provides information regarding the handling, storage, and disposal of hazardous materials for the Hospital's engineering department. The Plan also contains information regarding the Engineering Department's chemical inventory, Hazard Communication Program, and employee training. The Plan also includes a list of emergency contacts and emergency response and evacuation procedures.

3.8.3 Impacts Analysis

3.8.3.1 Approach and Methodology

The analysis of impacts associated with hazardous materials is based on environmental studies of the proposed project site, conducted by ENGEO (2004b, 2005, 2009a,b) as described in Section 3.8.1. The City of Santa Rosa and County of Sonoma General Plans were also reviewed.

3.8.3.2 Thresholds of Significance

The project would have a significant impact if it would:

- Create a significant hazard to the public or the environment through the 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 into 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, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- For a project located within the vicinity of a private airstrip, would the project 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; or

- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

3.8.3.3 *Less Than Significant Impacts Not Requiring Further Analysis*

The project site is not within an airport land use plan or within 2 miles of a public airport or public use airport. The site is approximately 3.5 miles from the Charles M. Schultz–Sonoma County Airport. According to the Sonoma County Comprehensive Airport Land Use Plan Update (Sonoma County Airport Land Use Commission 2001), the project site is not within the boundaries of the airport area of influence.

The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The City of Santa Rosa Draft Emergency Operations Plan (City of Santa Rosa 2008) does not address the proposed project site or adjacent roadways as being of any particular importance to emergency plans. Locating the new hospital next to the freeway, with improved access for emergency vehicles, will enhance emergency medical response.

The project would not expose people or structures to risk involving wildland fires. The project site is bordered by existing development and US 101, and is not adjacent to or intermixed with wildlands.

3.8.3.4 *Impacts and Mitigation*

Impact HAZ-1: Excavation of soils and construction of project features could potentially cause health hazards to construction workers, the public, and the environment should hazardous materials be encountered or accidentally released.

Temporary Risk of Exposure to Hazardous Materials During Construction

Significance: Potentially significant

Discussion: Construction activities such as building demolition, excavation, and soil handling on or near sites that are potentially contaminated or contain hazardous materials increase the risk that workers and the public may be exposed to hazardous materials. In addition, workers or the public may be exposed to hazardous materials if known or unknown contaminants are encountered or an accidental spill or release of hazardous materials occurs during construction activities. Subsurface migration of mobile contaminants in groundwater may provide a conduit to project excavation areas. Shallow groundwater may be encountered at excavations. Groundwater elevations at the site are as shallow as 5 feet below ground surface (ENGEO 2008).

As discussed in Section 3.8.1, database searches for the project site found no recorded hazardous materials violations or discharges. However, several areas of potential environmental concern were identified in the Site Assessment studies. THM compounds from the chlorine gas used for effluent treatment could be present in soil and groundwater beneath the wastewater treatment ponds. A closure plan for decommissioning and removing the wastewater treatment facility is under development. Environmental characterization, including the testing for THM compounds, will be conducted in accordance with Regional Water Quality Control Board (RWQCB) requirements.

Other hazardous materials including paint, chlorine, and lead acid batteries have been stored at the site. The project would demolish one or more structures that may contain asbestos materials and lead. Exposure to airborne contaminants from these materials during demolition could affect safety and health. It is also possible, though unlikely given the level of study the site has undergone, that contamination not identified in the studies could be discovered during construction.

Though low levels of arsenic were detected in the groundwater, the levels are below federal safety thresholds, are common to the general project area, and are lower than arsenic levels in groundwater found further inland. The arsenic in the groundwater will be treated by the project sponsor as part of its on-site water treatment facility.

**Mitigation HAZ-1a:
Dispose Existing On-site Hazardous Materials Before Construction** Prior to construction, known hazardous materials such as paint and solvents no longer in use at the site and empty containers for paint and chlorine shall be properly disposed. Batteries shall be disposed in accordance with regulatory requirements.

**Mitigation HAZ-1b:
Implement Health and Safety Plan** A health and safety plan shall be used to protect the general public and all workers in the construction area. The plan shall describe the practices and procedures to protect worker health in the event of an accidental release of hazardous materials (for example, fuels or solvents during construction) or if previously undiscovered hazardous materials are encountered during construction. The plan shall include items such as spill prevention, cleanup and evacuation procedures. The plan will help protect the public and workers by providing procedures and contingencies that will help reduce the exposure to hazardous materials.

**Mitigation HAZ-1c:
Evaluate Structures for Potential Presence of Asbestos and Lead** Existing structures shall be evaluated for the presence of ACBM and lead-based paints prior to their renovation or demolition. The evaluation shall be conducted by a Cal-OSHA certified ACBM and lead-based paint contractor. Any ACBM or lead identified as a result of the evaluation shall be removed by a Cal-OSHA certified ACBM and lead-based paint contractor and be transported and disposed off-site in accordance with regulatory requirements.

**Mitigation HAZ-1d:
Remove and Backfill Septic Systems and Leach Fields** Septic systems and related leach fields located within the proposed project site shall be removed in accordance with Sonoma County permitting requirements.

**Mitigation HAZ-1e:
Inspect, Test, and Remove Potentially Contaminated Soil and Groundwater** During excavation at all construction areas, the contractor shall inspect the exposed soil for visual evidence of contamination, particularly near the areas identified during site reconnaissance. If contamination indicators (e.g., obvious soil staining, odors, etc.) are encountered during excavation or grading activities, all work in the affected area shall stop and an investigation shall be designed and

performed to verify the presence and extent of contamination at the site. Results shall be reviewed and approved by the County's Environmental Health Division or DTSC before construction. The investigation could include collecting samples for laboratory analysis and quantifying contaminant levels within the proposed excavation and surface disturbance areas. Subsurface investigation will determine the appropriate worker protection and the hazardous material handling and disposal procedures. Areas with soil and groundwater determined to be hazardous waste shall be removed by personnel who have been trained through the OSHA-recommended 40-hour safety program (29 CFR 1910.120) with an approved plan for groundwater extraction, soil excavation, control of contaminant releases to the air, and off-site transport or on-site treatment.

**Mitigation HAZ-1f:
Implement Measures in
SWPPP for Accidental
Spill Containment and
Cleanup**

A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented as discussed in Section 3.9. This plan will describe practices and procedures for spill containment and cleanup. The practices developed for the SWPPP will help protect water and soils from hazardous materials spills during construction.

**Significance After
Mitigation:**

Less than significant. Implementation of mitigation measures HAZ-1a through HAZ-1f would reduce the impact from potential exposures of construction workers, the public, and the environment to hazardous materials during construction should hazardous materials be encountered or accidentally released, to less than significant.

**Impact HAZ-2:
Exposure to Hazardous
Materials Through
Routine Transport,
Use, and Storage**

Operation of the Medical Campus would involve the routine transport, use, and storage of small quantities of hazardous materials. Materials classified as hazardous include chemicals that are used routinely at medical facilities as well as building maintenance materials such as paint and solvents. Exposure to these materials could affect safety and health.

Significance:

Less than significant

Discussion:

The proposed project would not involve the transport, use, or storage of large quantities of hazardous materials. However, employees and visitors could be exposed to hazardous materials at the project site and potentially experience adverse health effects from the following:

- Improper handling or use of hazardous materials or hazardous wastes, particularly by untrained personnel;
- Environmentally unsound disposal methods; or
- Fire, explosion, or other emergencies.

Medical facility operations typically involve the transport, storage, and use of relatively small quantities of materials that would be classified as hazardous. Types of hazardous materials found in medical facilities include pharmaceuticals; chemicals used to sterilize equipment; formaldehyde for specimen preservation; solvents, oxidizers, corrosives, and stains used in clinical laboratories; photographic processing chemicals used in some x-ray equipment; and certain biohazardous toxins used in treatment and processing. Facilities maintenance activities require various common hazardous materials, including cleaners (typically soaps and detergents, but also solvents and corrosives), paint, pesticides and herbicides (used in building maintenance), fuels (e.g., diesel), and oils and lubricants.

The medical facility would also use and store radioactive material, used primarily to treat certain types of cancer. X-ray equipment is also regulated as radioactive material. Radioactive materials decay (become non-radioactive) over time. The time it takes for a material to shed approximately one-half of its radioactivity is referred to as the material's half-life. Radioactive materials with half-lives greater than 90 days are considered long-lived radioactive materials, while those with half-lives less than 90 days are considered short-lived radioactive materials. Some long-lived radioactive materials that may be used at the facility, such as those used in x-ray equipment, would essentially be a sealed, stationary source of radiation. Both short-lived and long-lived radioactive materials would be used for patient treatment, primarily for the treatment of cancer. Long-lived radioactive materials (such as Cesium 137 used in cancer radiation therapy) are not disposed of but are retained over time for patient treatment.

State and federal laws require detailed planning to ensure that hazardous materials are properly transported, handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. Certified Unified Program Agencies (CUPAs) are responsible for local regulation and enforcement of hazardous materials laws and regulations. The Hazardous Materials Division of the Sonoma County Department of Emergency Services serves as the County's CUPA. Additionally, the Environmental Health Division of the Sonoma County Department of Health Services is the Local Enforcement Agency for the California Integrated Waste Management Board (CIWMB). In this capacity, Sonoma County is tasked with the inspection and registration of medical waste generator facilities, including hospitals with medical waste treatment, medical waste haulers, treatment and disposal facilities; and liquid waste hauler vehicles registration and inspection. All state and federal regulations relating to hazardous materials must be complied with.

The Radiologic Health Branch of the California Department of Health Services (CDHS) administers the federal and state radiation safety laws that govern the storage, use, and transportation of radioactive materials and the disposal of radioactive wastes.

Low-level radioactive wastes are either held for decay to below background, or removed by licensed radioactive waste contractors. Such wastes are the responsibility of the Radiation Safety Officer, who maintains the license and all records of waste.

Project construction and operation would involve transport of hazardous materials to and from the project site. The U.S. Department of Transportation (DOT) and the USEPA have developed regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation. The U.S. Postal Service has developed additional regulations for the transport of hazardous materials by mail. DOT and USEPA regulations specify packaging requirements for different types of materials, and require tracking shipments with manifests to

ensure that wastes are delivered to their intended destinations. In California, the California Highway Patrol, the California Department of Transportation (Caltrans), and the DTSC also play a role in enforcing hazardous materials transportation requirements. Therefore, although the transportation of hazardous materials would occur during project construction and operation, compliance with all applicable federal and state laws related to the transport of hazardous materials would ensure that impacts to the surrounding residents and the environment would be at a less-than-significant level.

Mitigation: No mitigation required

**Impact HAZ-3:
Potential for Spills of
Hazardous Materials
During Operations** Medical Campus operations could potentially result in upset and accident conditions involving the release of hazardous materials into the environment. Exposure to these materials could affect safety and health.

Significance: Less than significant

Discussion: The proposed project would not involve the use of large quantities of hazardous materials. No large quantities of liquid or gaseous hazardous substances would be stored on-site. Only small quantities of materials, such as those described in the discussion of Impact HAZ-2, would be used, and transport, storage and disposal of such materials would be required to comply with all applicable federal, state, and local regulations. See the discussion of Impact HAZ-2 for additional information.

Mitigation: No mitigation required

**Impact HAZ-4:
Handling of Hazardous
Materials Within 0.25
Mile of a School** Operation of the Sutter Medical Center would involve handling of hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

Significance: Less than significant

Discussion: The Santa Rosa Christian School is located on the proposed project site in the WFC and would continue operation under the proposed project. Other educational facilities near the proposed project include the Village Charter School, approximately 0.20 mile north of the proposed project site, and Ursuline High School, just over 0.25 mile west of the site. The hospital and other facilities included in the proposed project do not emit hazardous materials, although materials that would be classified as hazardous would be stored and used at the facility. As described above, the facilities will handle hazardous materials subject to the requirements of local, state and federal regulations, which will ensure that potential impacts from these materials remain less than significant.

Mitigation: No mitigation required

**Impact HAZ-5:
Helicopter Operations** The proposed project includes development and operation of a helistop, the operation of which could pose a safety hazard to people living, working and traveling in the area.

Significance: Potentially significant

Discussion: The proposed project would include a helistop for helicopter ambulances to be able to pick up and drop off patients. The helistop would be located on the west side of the project site close to US 101. An average of 17 helicopter flights per month (or approximately 200 flights per year) have occurred at Sutter's Chanate Road campus during the past 4 years. It is assumed that up to 20 flights per month (or 240 flights per year) may occur with full buildout of the proposed project due to growth in the future.

For the proposed project, the optimum alignment for the approach/departure paths for the helistop are from the south-southeast and north-northwest. This alignment coincides not only with the prevailing winds at the site, but also provides the opportunity for helicopters to approach and depart the helistop by flying over US 101. As such, the paths are aligned so as to ensure that helicopters do not fly directly over Wells Fargo Center buildings or the residential area north of Mark West Springs Road. This path also helps ensure that redwood trees near the site will not be obstructions, although the height and proximity of light poles and redwood trees near the site do limit other options for approach/departure path alignments.

The accident rate of helicopter emergency medical services (HEMS) operations has been steadily decreasing, but experienced a marked increase in 2008. From 1998 through 2007, an average of 10.8 HEM accidents occurred annually in the U.S (HAI 2008). Whether the 2008 increase is an anomaly is uncertain, but the National Transportation Safety Bureau has investigated and offered recommendations pertaining to flight procedures (Appendix G). The rate of accidents for all types of helicopter operations has trended downward over the last decade. The increased numbers of twin-engine turbined-powered helicopters in the helicopter fleet (the type that will be used by REACH, the operator for the project) has been an apparent contributing factor in this positive trend, due to greater engine reliability and the multiple engines (NTSB 2009) (Appendix G).

The vast majority of helicopter accidents, particularly HEMS accidents, take place either en route or at a remote landing site, rather than at an established heliport/helistop or airport. Weather was a significant factor in 19% of all HEMS accidents. The tendency of HEMS pilots to attempt to accomplish their life-saving missions despite adverse weather conditions is considered a factor in this regard. With a majority of the accidents occurring at a remote landing site or en route decreases the chances of impacts to third party individuals in the nearby vicinity.

In conversations with the Sonoma County Sheriff Helicopter Unit, the Sheriff identified the power lines that cross US 101 at the project site represented a potential hazard to helicopter operations and recommended that lighting be placed on the power poles (Appendix G-5). Further pursuant to Federal Aviation Administration Advisory Circular No. 150/5390-2B, *Heliport Design*, the helistop will have lights that will help safely guide a pilot in and out of the site.

Given the low number of helicopter flights, the low accident rate at established helistops, appropriate lighting to safely guide in pilots, as well as lights being placed on nearby power poles, risks to third parties from helicopter operations can be considered less than significant.

Helicopters could have a potentially disruptive effect on highway traffic, but the time required for a helicopter to pass by and land would be brief. At the project site, the proposed approach and departure routes would put the helicopter in view of motorists along US 101 for less than a minute, with only approximately 5 flights a week occurring at full buildout. The pad's visibility from the highway could also be a factor. Lights associated with the helistop would be mostly blocked from view of the motorists by vegetation that would be planted between the helipad and US 101. In both cases the effects are likely to diminish over time as helicopter activity becomes more familiar to motorists who regularly use the route. Also, planned landscaping will largely shield the view of the pad from the highway.

Elsewhere in California, there are several existing helicopter facilities situated close to (within approximately 500 feet) a freeway. These include: Calstar (Auburn), Children's Hospital (Oakland), Good Samaritan Hospital (San Jose), Maguire Heliport (Los Angeles), San Joaquin General Hospital (Stockton), and St. Elizabeth Community Hospital (Red Bluff).

Based on the County's review of information provided by Sutter, there is no data available on the topic of traffic accidents related to helicopter overflights (see Appendix G). The Statewide Integrated Traffic Records System (SWITRS) stated that there are no records available that would determine if automobile accidents were caused by nearby aircraft activity. (One reason is the fault is placed on the driver of automobile(s), not outside influences such as aircraft activity.) Research was also conducted in the National Highway Safety Administration's online database, but no records of accidents involving aircraft or helicopters were found. Staff at the California Department of Transportation Division of Aeronautics and Helicopter Operations indicated that they are not aware of any general conditions or specific incidents in which helicopter operations have been cited as a vehicle traffic hazard. A similar response was received from the Air Operations Commander of the California Highway Patrol Team, Keith Dittimus.

Lights associated with the helistop are also likely to be unobtrusive as seen from the highway. The perimeter lights will be green and lead-in lights yellow; both are intended to be seen from the air and will be largely unnoticeable from the highway among parking lot and other lights on the property. The flood light or lights required to allow helicopter and ground crews to work around the helistop at night would normally be on only when a helicopter is present and will be off during helicopter takeoffs and landings so as not to interfere with the vision of pilots.

Therefore, the risk of traffic accidents on US 101 caused by proposed helicopter operations are also considered less than significant.

Mitigation HAZ-5: Lighting shall be placed on the power poles crossing US 101 at the project site in a manner that will make the poles readily visible from the air by helicopter pilots at night and in such a manner as to not distract drivers on US 101.

Install lighting on Power Poles Crossing US 101 at the Project Sites

Significance After Mitigation: Less than significant. In view of stringent safety regulations that control operations of medical emergency helicopters and the low number of flights, the risk of safety hazards from medical helicopter operations at the proposed site is low. Installation of lighting on the power poles would ensure that the risk from helicopter operations in proximity to the poles is less than significant.

Impact HAZ-6: Cumulative Impacts from Operational Hazards and Hazardous Materials Significance The operation of the proposed project in conjunction with past, current, and probable future projects in the area would not result in a significant cumulative impact related to medical helicopter operations or the transport, handling, storage, or disposal of hazardous materials in the area.
Less than significant

Discussion: The safe operation of helistops is highly regulated by the Federal Aviation Administration and the state. No evidence linking increased traffic accidents on roadways due to the proximity of helicopter operations has been found. Accidents related to medical helicopter operations in the vicinity of hospital helistops are low. As well, there are no existing, permitted or reasonably foreseeable projects in the vicinity of the proposed project which would include a heliport or helistop.

Since the passage of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, and numerous other related federal, state, and local laws, the incidents of improper handling, storage, or disposal of hazardous wastes have been reduced dramatically throughout the United States. Existing regulations ensure that the cumulative impacts associated with release / transport of hazardous materials would be less than significant. The proposed project would comply with all applicable federal, state, and local regulations.

Mitigation HAZ-6: No mitigation required