

3.8 HAZARDS AND HAZARDOUS MATERIALS

This section includes a summary of applicable regulations that govern hazards and hazardous materials, a discussion of existing hazards and hazardous materials on the Project site, and an analysis of potential construction and operational impacts on hazards and hazardous materials caused by proposed development of the New Zoo. The evaluation of hazards and hazardous materials impacts in this section is based, in part, on review of the Phase I Environmental Site Assessment and Limited Phase II Environmental Site Assessment Report prepared for the Project site by Geocon Consultants in 2022 (Geocon Consultants 2022).

For the purpose of this document, the term “hazardous material” is used in reference to any material or waste with physical, chemical, or other characteristics that could pose a risk to human health or safety, or could result in degradation of the environment if released. Although chemicals are the most recognized type of hazardous materials, biohazardous materials are included in the following discussion. Biohazardous materials contain infectious agents (e.g., microorganisms, bacteria, molds, parasites, viruses) that normally cause, or significantly contribute to, increased human mortality. Medical waste can also be considered a hazardous waste and is generated or produced as a result of the diagnosis, treatment, or immunization of human beings or animals and the production or testing of biological materials. Cultures, blood and blood products, tissues, and body parts are all considered medical waste.

No comments related to hazards and hazardous materials were received during the public scoping period for the Project. See Appendix A for all comments received during the notice of preparation scoping period.

3.8.1 Regulatory Setting

FEDERAL

Association of Zoos and Aquariums Zoo and Aquarium All Hazards Partnership

The Zoo and Aquarium All Hazards Partnership (ZAHP) is a collaborative effort that leverages the expertise of the exotic animal industry (EAI) and the emergency management sector to provide resources for enhancing preparedness for and resiliency to all-hazards that may impact facilities caring for exotic animals and wildlife. This program aims to help facilities protect their personnel, animals, assets, and the future viability of that work.

ZAHP supports the EAI by providing reliable information, education, and outreach opportunities to address the unique needs and challenges of this community, as well as recognizing its capabilities and subject matter expertise. ZAHP is committed to building capacity for response and recovery within the EAI by working to strengthen coordination and communication with the larger response community and supporting response partners during major events. Funding support for this program is provided by the US Department of Agriculture as a cooperative agreement with the Association of Zoos and Aquariums (AZA). The AZA Safety Committee serves to address emerging safety issues facing AZA accredited zoos and aquariums and works to develop changes in best management practices and professional development/training.

Management of Hazardous Materials

Various federal laws address the proper handling, use, storage, and disposal of hazardous materials, as well as requiring measures to prevent or mitigate injury to health or the environment if such materials are accidentally released. The US Environmental Protection Agency (EPA) is the agency primarily responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Applicable federal regulations pertaining to hazardous materials are primarily contained in Code of Federal Regulations (CFR) Titles 29, 40, and 49. Hazardous materials, as defined in the Code, are listed in 49 CFR 172.101. Management of hazardous materials is governed by the following laws:

- ▶ The **Toxic Substances Control Act** of 1976 (15 US Code [USC] Section 2601 et seq.) regulates the manufacturing, inventory, and disposition of industrial chemicals, including hazardous materials. Section 403 of the Toxic Substances Control Act establishes standards for lead-based paint hazards in paint, dust, and soil.
- ▶ The **Resource Conservation and Recovery Act** of 1976 (42 USC 6901 et seq.) is the law under which EPA regulates hazardous waste from the time the waste is generated until its final disposal (“cradle to grave”).
- ▶ The **Comprehensive Environmental Response, Compensation, and Liability Act** of 1980 (also called the Superfund Act or CERCLA) (42 USC 9601 et seq.) gives EPA authority to seek out parties responsible for releases of hazardous substances and ensure their cooperation in site remediation.
- ▶ The **Superfund Amendments and Reauthorization Act** (SARA) of 1986 (Public Law 99-499; USC Title 42, Chapter 116), also known as SARA Title III or the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), imposes hazardous materials planning requirements to help protect local communities in the event of accidental release.
- ▶ The **Spill Prevention, Control, and Countermeasure (SPCC)** rule includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires specific facilities to prepare, amend, and implement SPCC Plans. The SPCC rule is part of the Oil Pollution Prevention regulation, which also includes the Facility Response Plan rule.

Transport of Hazardous Materials

The US Department of Transportation regulates transport of hazardous materials between states and is responsible for protecting the public from dangers associated with such transport. The federal hazardous materials transportation law, 49 USC 5101 et seq. (formerly the Hazardous Materials Transportation Act 49 USC 1801 et seq.) is the basic statute regulating transport of hazardous materials in the United States. There are registration requirements for individuals that offer and accept hazardous wastes, and hazardous materials must be properly classed, described, packaged, marked, and labeled. Hazardous materials transport regulations are enforced by the Federal Highway Administration, the US Coast Guard, the Federal Railroad Administration, and the Federal Aviation Administration.

Worker Safety

The federal Occupational Safety and Health Administration (OSHA) is the agency responsible for assuring worker safety in the handling and use of chemicals identified in the Occupational Safety and Health Act of 1970 (Public Law 91-596, 9 USC 651 et seq.). OSHA has adopted numerous regulations pertaining to worker safety, contained in CFR Title 29. These regulations set standards for safe workplaces and work practices, including standards relating to the handling of hazardous materials and those required for excavation and trenching. The Hazard Communication Standard (CFR Title 29, Part 1910) requires that workers be informed of the hazards associated with the materials they handle. Workers must be trained in safe handling of hazardous materials, use of emergency response equipment, and building emergency response plans and procedures. Containers must be labeled appropriately, and material safety data sheets must be available in the workplace.

Biosafety Standards

A hazardous biologic material is any potentially harmful biologic material (including infectious agents, oncogenic viruses, and recombinant DNA) or any material contaminated with a potentially harmful biologic material. This includes medical waste generated at hospitals and other medical facilities, including veterinary hospitals. The National Institutes of Health and the Centers for Disease Control and Prevention operate under the US Department of Health and Human Services and establish standards for working with biohazardous materials.

STATE

Management of Hazardous Materials

In California, both federal and State community right-to-know laws are coordinated through the Governor’s Office of Emergency Services. The federal law, SARA Title III or EPCRA, described above, encourage and support emergency planning efforts at the State and local levels and to provide local governments and the public with information about

potential chemical hazards in their communities. Because of the community right-to-know laws, information is collected from facilities that handle (e.g., produce, use, store) hazardous materials above certain quantities. The provisions of EPCRA apply to four major categories:

- ▶ emergency planning,
- ▶ emergency release notification,
- ▶ reporting of hazardous chemical storage, and
- ▶ inventory of toxic chemical releases.

The corresponding State law is Chapter 6.95 of the California Health and Safety Code (Hazardous Materials Release Response Plans and Inventory). Under this law, qualifying businesses are required to prepare a Hazardous Materials Business Plan, which would include hazardous materials and hazardous waste management procedures and emergency response procedures, including emergency spill cleanup supplies and equipment. At such time as the applicant begins to use hazardous materials at levels that reach applicable State and/or federal thresholds, the plan is submitted to the administering agency.

The California Department of Toxic Substances Control (DTSC), a division of the California Environmental Protection Agency, has primary regulatory responsibility over hazardous materials in California, working in conjunction with EPA to enforce and implement hazardous materials laws and regulations. As required by Section 65962.5 of the California Government Code, DTSC maintains a hazardous waste and substances site list for the State, known as the Cortese List. Individual regional water quality control boards (RWQCBs) are the lead agencies responsible for identifying, monitoring, and cleaning up leaking underground storage tanks (USTs).

Transport of Hazardous Materials and Hazardous Materials Emergency Response Plan

The State of California has adopted US Department of Transportation regulations for the movement of hazardous materials originating within the State and passing through the State; State regulations are contained in 26 California Code of Regulations (CCR). State agencies with primary responsibility for enforcing State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation (Caltrans). Together, these agencies determine container types used and license hazardous waste haulers to transport hazardous waste on public roads.

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local governments and private agencies. Response to hazardous materials incidents is one part of the plan. The plan is managed by the Governor's Office of Emergency Services, which coordinates the responses of other agencies in the Project area.

Porter-Cologne Water Quality Control Act

Through the Porter-Cologne Water Quality Act and the National Pollutant Discharge Elimination System (NPDES) program, RWQCBs have the authority to require proper management of hazardous materials during project construction. For a detailed description of the Porter-Cologne Water Quality Act, the NPDES program, and the role of the Central Valley RWQCB, see Section 3.9, "Hydrology and Water Quality."

The State Water Board adopted the Statewide NPDES General Permit in August 1999. The State requires that projects disturbing more than one acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Construction activities subject to the General Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include best management plans (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

California Occupational Safety and Health Administration Worker Safety Requirements

The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations within the State. Cal/OSHA standards are typically more stringent than federal OSHA regulations and are presented in Title 8 of the CCR. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices. Cal/OSHA enforces regulations on hazard communication programs and mandates specific training and information requirements. These requirements include procedures for identifying and labeling hazardous substances, providing hazard information about hazardous substances and their handling, and preparing health and safety plans to protect workers and employees at hazardous waste sites. Employers must make material safety data sheets available to employees and document employee information and training programs.

LOCAL

Sacramento County Environmental Management Department

Sacramento County Environmental Management Department (EMD) is responsible for promoting a safe and healthy environment in Sacramento County and enforcing hazardous waste laws and regulations at a local level. As the local CUPA, Sacramento County EMD oversees the proper use, storage, and cleanup of hazardous materials; monitoring wells; removal of leaky underground storage tanks; and permits for the collection, transport, use, or disposal of refuse. Sacramento County EMD's Hazardous Materials Business Plan, which is administered throughout Sacramento County and its incorporated cities, is an element of the county's CUPA program. Businesses are required to complete a Hazardous Materials Business Plan for safe storage and use of chemicals above reportable quantities (55 gallons for liquids, 500 pounds for solids and 200 cubic feet for compressed gases).

To protect public health and the environment from potential exposure to infectious disease-causing agents, Sacramento County EMD also permits and inspects businesses generating medical waste. The Medical Waste Program ensures health and safety protection for members of the public and health care facility personnel by minimizing or eliminating exposure to biohazardous wastes containing pathogenic organisms and sharps. This is accomplished through the implementation and enforcement of medical waste regulations as they apply to the handling, storage, treatment, and disposal of biohazardous waste in Sacramento County. Sacramento County EMD is responsible for implementing the Medical Waste Management Act.

Sacramento County Evacuation Plan

The Sacramento County Evacuation Plan is developed as an annex to the Sacramento County 2008 All-Hazards Emergency Operations Plan. The purpose of this evacuation plan is to document the agreed-upon strategy for the county's response to emergencies that involve the evacuation of persons from an affected area to a safe area. This involves coordination and support for the safe and effective evacuation of the general population and for those who need additional support to evacuate. Focus areas in this evacuation plan include public alert and warning, transportation, and care and shelter.

Primary evacuation routes are established for each of the seven Sacramento County sheriff districts. These include major interstates, highways, and prime arterials in Sacramento County. Local jurisdictions will work with the county, and especially the Operations Section, Law Enforcement Branch, and the Evacuation Movement Unit, to identify and update evacuation routes and evacuation transfer points. The primary evacuation routes usually will be major interstates and other highways, and major roadways within and out of the county, unless otherwise determined by the Sacramento County Department of Transportation. During an evacuation, Sacramento County Department of Transportation traffic engineers would be able to quickly calculate traffic flow capacity and decide which of the available traffic routes should be used to move people in the correct directions. In many cases, the traffic engineers will need to reevaluate and recalculate best traffic routes based on situational data.

Sacramento County Local Hazard Mitigation Plan

The City participates in the multijurisdictional Sacramento County Local Hazard Mitigation Plan (LHMP). The 2021 LHMP Update serves to update the 2016 Federal Emergency Management Agency approved Sacramento County LHMP. The purpose of the plan is to guide hazard mitigation planning to better protect the people and property of the county from the effects of hazard events, such as flood, drought, earthquake, and severe weather. This plan also ensures that Sacramento County and participating jurisdictions, including the City, continue to be eligible for federal disaster assistance including the Federal Emergency Management Agency’s Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and the Flood Mitigation Assistance Program. The county LHMP provides policies and programs for participating jurisdictions to implement that reduce the risk of hazards and protect public health, safety, and welfare.

City of Elk Grove Emergency Operations Plan

The City’s Emergency Operations Plan (EOP) provides a strategy for the City to coordinate and conduct emergency response (City of Elk Grove 2018b). The EOP establishes an Emergency Management Organization and assigns functions and tasks consistent with California’s Standardized Emergency Management System and the National Incident Management System. The intent of the EOP is to provide direction on how to respond to an emergency from the initial onset, through an extended response, and into the recovery process. The EOP integrates and coordinates the planning efforts of multiple jurisdictions. This plan was reviewed and approved by representatives from each City department, local special districts with emergency services responsibilities in the City, and the Sacramento Operational Area Office of Emergency Services. The content is based upon guidance approved and provided by the State of California, FEMA, and the federal Department of Homeland Security.

City of Elk Grove General Plan

The City of Elk Grove General Plan (City of Elk Grove 2022) contains the following goals and policies that are applicable to the Project:

- ▶ **Policy EM-1-1:** Seek to maintain acceptable levels of risk of injury, death, and property damage resulting from reasonably foreseeable safety hazards.
- ▶ **Policy ER-1-1:** In considering the potential impact of hazardous facilities on the public and/or adjacent or nearby properties, the City will consider the hazards posed by reasonably foreseeable events. Evaluation of such hazards will address the potential for events at facilities to create hazardous physical effects at offsite locations that could result in death, significant injury, or significant property damage. The potential hazardous physical effects of an event need not be considered if the occurrence of an event is not reasonably foreseeable as defined in Policy ER-1-2. Hazardous physical effects shall be determined in accordance with Policy ER-1-3.
- ▶ **Policy ER-1-2:** For the purpose of implementing Policy ER-1-1, the City considers an event to be “reasonably foreseeable” when the probability of the event occurring is as indicated in Table 8-1.

Table 3.8-1 Acceptable Probability of Reasonably Foreseeable Risks to Individuals by Land Use

Land Use	Risk of Death Over 365 Days of Exposure
Agricultural, Light Industrial and Industrial Uses involving continuous access and the presence of limited number of people but easy evacuation, e.g., open space, warehouses, manufacturing plants	Between 100 in one million and 10 in one million (10 ⁻⁴ to 10 ⁻⁵)
Commercial Uses involving continuous access but easy evacuation, e.g., commercial uses, offices	Between 10 in one million and 1 in one million (10 ⁻⁵ to 10 ⁻⁶)
Residential All other land uses without restriction including institutional uses, residential areas, etc.	1 in one million and less (10 ⁻⁶)

Source: City of Elk Grove 2019, Table 8-1.

- ▶ **Policy ER-1-3:** For the purpose of implementing Policy ER-1-1, use the Threshold of Exposure standards shown in Table 8-2 to determine the potential “hazardous physical effect” from either: (a) Placing a use near an existing hazardous facility which could expose the new use to hazardous physical effects, or (b) Siting a hazardous facility that could expose other nearby uses to hazardous physical effects. Reasonably foreseeable level of risk standards may be considered by the City when supported by substantial evidence.

Table 3.8-2 Policy Threshold of Exposure Criteria for Agricultural, Residential, and Nonresidential Land Uses

Land Use	Maximum Policy Threshold of Exposure			
	Overpressure	Airborne Toxic Substances	Radiant Heat	Shrapnel
Agriculture	3.4 psig ^(a)	Dose = ERPG-2 ^(b) ppm for 60 min Exposure time = 60 min	Radiant dose = 200 kJ/m ² ^(c) Exposure time = 30 sec	All uses will be located such that the possibility of injury to an unprotected person due to shrapnel released by a reasonably foreseeable event ^(d) is less than 1/10 ⁻⁶ (1/1,000,000)
Residential (all density ranges) ^(e)	1.0 psig	For example: chlorine ERPG-2 = 3 ppm	Target radiant energy = radiant dose/exposure time	
Office/Commercial	1.0 psig	Dose = 3 ppm x 60 min = 180 ppm-min Target concentration = dose/exposure time Target concentration = (180 ppm-min) / 60 min Target concentration = 3 ppm chlorine	Target radiant energy = (200 kJ/m ²) / 30 sec Target radiant energy = 6.67 kW/m ²	
Light Industrial	1.25 psig	Dose = ERPG-2 ppm for 60 min Exposure time = 30 min For example: chlorine ERPG-2 = 3 ppm Dose = 3 ppm x 60 min = 180 ppm-min Target concentration = dose/exposure time Target concentration = (180 ppm-min) / 30 min Target concentration = 6 ppm chlorine	Radiant dose = 200 kJ/m ² Exposure time = 15 sec Target radiant energy = radiant dose/exposure time Target radiant energy = (200 kJ/m ²) / 15 sec Target radiant energy = 13.34 kW/m ²	
Industrial	3.4 psig	Dose = ERPG-2 ppm for 60 min Exposure time = 15 min For example: chlorine ERPG-2 = 3 ppm Dose = 3 ppm x 60 min = 180 ppm-min Target concentration = dose/exposure time Target concentration = (180 ppm-min) / 15 min Target concentration = 12 ppm chlorine		

^a psig: pounds per square inch gauge.

^b ERPG-2: Emergency Response Planning Guidelines. The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual’s ability to take protective action; ppm: parts per million.

^c kJ/m²: kilojoules per square meter (a measure of radiant heat received); kW/m²: kilowatts per square meter; 1.0 kJ/m² = 1.0 kW/ m² for 1 sec = 1 kW/(m²-sec).

^d As defined in Policy ER-1-2.

^e Includes schools, parks, libraries, and other similar public gathering places regardless of their location.

Source: City of Elk Grove 2019: Table 8-2.

- ▶ **Policy ER-1-4:** Work to identify and eliminate hazardous waste releases from both private companies and public agencies.
 - **Standard ER-1-4a:** Industries which store and process hazardous or toxic materials shall provide a buffer zone between the installation and the property boundaries sufficient to protect public safety, the adequacy of which will be determined by the City of Elk Grove.
- ▶ **Policy ER-1-5:** Storage of hazardous materials and waste shall be strictly regulated, consistent with state and federal law.

- **Standard ER-1-5a:** Future land uses that are anticipated to utilize hazardous materials or waste shall be required to provide adequate containment facilities to ensure that surface water and groundwater resources are protected from accidental releases. This shall include double-containment, levees to contain spills, and monitoring wells for underground storage tanks, as required by local, state and federal standards.
- **Standard ER-1-5.b:** Prior to site improvements for properties that are suspected or known to contain hazardous materials and sites that are listed on or identified on any hazardous material/waste database search shall require that the site and surrounding area be reviewed, tested, and remediated for potential hazardous materials in accordance with all local, state, and federal regulations.
- ▶ **Policy ER-1-7:** To the extent feasible, uses requiring substantial transport of hazardous materials should be located such that traffic is directed away from the City's residential and commercial areas.
- ▶ **Policy ER-1-8:** Support continued coordination with the California Office of Emergency Services, the California Department of Toxic Substances Control, the California Highway Patrol, the Sacramento County Department of Environmental Health Services, the Cosumnes Community Services District Fire Department, the Elk Grove Police Department, and other appropriate agencies in hazardous materials route planning and incident response.

An Elk Grove Evacuation Scenario Analysis Report was prepared as an appendix to the General Plan. The Evacuation Scenario Analysis Report evaluates three potential disaster scenarios in the City and develops recommendations for a best-practice response and evacuation plan for residents, community members, and City staff. The goal of the analysis is for the City to facilitate an evacuation plan tailored to each of the three disaster scenarios evaluated. Each scenario analysis concludes with recommendations for evacuation planning procedures tailored to vulnerable populations residing in hazard areas, as well as recommendations for establishing contra-flow lanes, where traffic lanes in one direction are temporarily converted to additional lanes in the opposite direction to accommodate a higher volume of traffic leading out of the evacuation area.

Elk Grove Municipal Code Section 23.60.030 (Hazardous Materials)

The City has developed the following standards to ensure that the use, handling, storage, and transport of hazardous materials comply with all applicable State laws (Section 65850.2 of the Government Code and HSC Section 25505 et seq.) and that appropriate information is reported to the Fire Department as the regulatory authority:

- A. Reporting Requirements. All businesses required by State law (HSC Section 6.95) to prepare hazardous materials release response plans and hazardous materials inventory statements shall, upon request, submit copies of these plans, including any revisions, to the Fire Department.
- B. Underground Storage. Underground storage of hazardous materials shall comply with all applicable requirements of state law (HSC Section 6.7 and Articles 679 and 680 of the California Fire Code, or as subsequently amended). Businesses that use underground storage tanks shall comply with the following procedures:
 1. Notify the Fire Department of any unauthorized release of hazardous materials prescribed by City, county, state and federal regulations;
 2. Notify the Fire Department and the Sacramento County Health Department of any proposed abandoning, closing or ceasing operation of an underground storage tank and actions to be taken to dispose of any hazardous materials; and
 3. Submit copies of the closure plan to the Fire Department.

3.8.2 Environmental Setting

The Project site was formerly used for agricultural purposes, and several irrigation features are still present. As noted in the Phase I Environmental Site Assessment and Limited Phase II Environmental Site Assessment Report (Geocon Consultants 2022), barbed-wire fencing is along the site boundaries and throughout the Project site. The Phase I Environmental Site Assessment noted concrete and other debris are located throughout the location of the former structures at 8663 and 8665 Kammerer Road. Powerline poles extend from the southern site boundary at 8665 Kammerer Road to the

groundwater supply well in the central-southern portion of the Site. Structures in the southeastern portion of the Project site include a dilapidated modular home and barn/cattle pen, an intact cattle pen, and a mobile home for the current site tenant. The Project site is currently used for grazing cattle from April through December.

ON-SITE HAZARDS

A physical inspection of the property and surrounding area and a database search were completed as part of the Phase I Environmental Site Assessment and Limited Phase II Environmental Site Assessment Report prepared for the Project (Geocon Consultants 2022). The Project site was walked and inspected for any evidence of surface contamination, staining, or other unusual conditions. The following materials were identified on the Project site:

- ▶ Suspect Asbestos Containing Materials (ACM)
- ▶ Suspect Lead Based Paint (LBP) and Lead Containing Material (LCM)
- ▶ Suspect Mercury Switches and Fluorescent Tubes
- ▶ Suspect PCB Light Ballasts
- ▶ Organochlorine pesticides
- ▶ On-site groundwater supply wells
- ▶ 55-gallon drum of Flora Dyme 6500 Trimer Acid without secondary containment on a degraded concrete slab

The materials found on the site were determined not to be Recognized Environmental Conditions (RECs). Per the American Society of Testing Materials (ASTM) standards, an REC is defined as the “presence or likely presence of any hazardous substances or petroleum products on a property that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.” Lead and asbestos were not detected at concentrations exceeding contamination thresholds. Although not an REC, a 55-gallon drum of Flora Dyme 6500 Trimer Acid was without secondary containment on a degraded concrete slab in the southeastern portion of the Project site and identified as a concern (Geocon Consultants 2022). The drum of Flora Dyme 6500 has been removed from the site following completion of the Phase I Environmental Site Assessment and Limited Phase II Environmental Site Assessment Report. The historical records review did not identify any conditions of concern as it relates to hazardous materials.

In addition to the site inspection, an area/neighborhood drive by was also performed to identify whether any conditions of concern were present within one-third of a mile of the Project site, which is considered the outer radius for the Vapor Encroachment Condition (VEC) Screen Report. The area/neighborhood drive similarly did not identify any RECs. Finally, neither the State Water Resources Control Board's (SWRCB's) GeoTracker, DTSC's EnviroStor, or other databases, including the National Pipeline Mapping System, did not identify sites of known contamination on or near the Project site (SWRCB 2023; DTSC 2023; Geocon Consultants 2022).

DOCUMENTED SITES OF CONTAMINATION

Residual Agricultural Chemicals

Project site has been historically used for agricultural from at least 1937 until 2016 (Geocon Consultants 2022). Past use of agricultural chemicals such as pesticides can result in residual chemicals in the soil that can expose people to possible health risks. Certain types of agricultural chemicals used in past decades can persist in soils for years. Irrigated pasture, dry-farmed crops, and natural grasses typically require little to no applications of environmentally persistent pesticides, but cultivated irrigated row crops may have been subject to applications of restricted agricultural chemicals, which could be persistent. Orchards and orchard-cultivated soils may have been contaminated through the repeated application of agricultural chemicals to fruit or nut trees.

Suburban Propane Facility

The Suburban Propane facility located in the industrial area east of State Route 99 and north of Grant Line Road, approximately 1.6 miles northeast of the Project site, handles large quantities of hazardous materials. The Suburban Propane facility is considered one of the largest aboveground propane storage facilities in the United States. The facility receives pressurized ambient temperature liquid propane from tank trucks and railcars and stores both ambient and refrigerated liquid propane (City of Elk Grove 2022; Quest Consulting 2003). The propane is subsequently loaded onto trucks or railcars for off-site transport. The major components at the Suburban Propane facility include four 60,000-gallon pressurized, ambient temperature propane storage tanks; two 12,000,000-gallon refrigerated, low-pressure storage tanks; a propane refrigeration system; a flare; safety alarms; and tank truck and railcar loading and unloading stations. The facility is also equipped with water deluge systems, which are intended to help prevent tank trucks and railcars from failing due to excessive heat and internal pressure (City of Elk Grove 2018a).

A risk evaluation was prepared in 2003 as part of the EIR prepared for the previous General Plan. *The Review of Suburban Propane Hazards Analysis Studies and Evaluation of Accident Probabilities Report* (Quest 2003, cited in City of Elk Grove 2018a) assessed how a release of propane, either by accident or by intentional act, could affect surrounding areas in the event of a failure of one or both refrigerated storage tanks. Under the flash fire scenario, the impact extent could be out to 1.5 miles, with an accidental incident probability of one chance in 2.8 million in a year, and an intentional act probability of one chance in 2.1 million in a year. For a vapor cloud explosion, the impact extent could be out to 0.75 miles, with an accidental incident probability of one chance in 104 million in a year, and an intentional act probability of one chance in 3.2 million in a year (City of Elk Grove 2022).

The potential for an accidental or intentional event resulting in either a vapor cloud or a flash fire is not substantial since the New Zoo would be outside of the facility's impact area. Additionally, because the Suburban Propane facility is not operated by the City and the Project would not involve any changes to facility operations, the potential for a catastrophic event and its effects on surrounding land activity types would not be exacerbated by the Project and is, therefore, not subject to further analysis in this EIR.

SCHOOLS

Children are particularly susceptible to long-term effects from emissions of hazardous materials. Therefore, locations where children spend extended periods, such as schools, are sensitive to hazardous air emissions and accidental release associated with the handling of extremely hazardous materials, substances, or wastes. This risk is considered substantial where the potential release is within 0.25 mile of the school. No existing or proposed schools are within 0.25 mile of the Project site. The nearest schools and their approximate distances from the Project site are:

- Miwok Village Elementary School, approximately 0.8 mile north
- Rex and Margaret Fortune Early College High School, approximately 0.7 mile west
- Elizabeth Pinkerton Middle School, approximately 1.2 miles northwest
- Cosumnes Oaks High School, approximately 1.4 miles northwest
- Elk Grove High School, approximately 1.5 miles northeast
- Florence Markofer Elementary School, located approximately 1.4 miles northeast

AIRPORTS AND AIRSTRIPS

There are no active public airports or private airstrips within 2 miles of the Project site. The closest public airport is Franklin Field, located at 12480 Bruceville Road, approximately 5.3 miles southwest of the Project site. Franklin Field is a public use airport owned and operated by Sacramento County. It has two paved runways, one 204 feet long and the other 100 feet long. The facility does not have an air traffic control tower or personnel, and serves the general aviation community exclusively. Approximately 36,000 operations take place each year at Franklin Field, much of which are flight training activities (City of Elk Grove 2022). The Borges-Clarksburg Airport is a small, private airport

located approximately 6 miles northwest of the Project site. The Sky Way Estates Airport is a small private airport located approximately 8 miles east of the Project site.

WILDLAND FIRE HAZARDS

Although all of California is subject to some degree of wildfire hazard, specific features make certain areas more hazardous. The California Department of Forestry and Fire Protection (CAL FIRE) is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors (Public Resources Code Sections 4201–4204 and Government Code Sections 51175–51189). Factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition, and atmospheric conditions. When development spreads into less densely populated, often hilly areas, it increases the number of people living in areas that are prone to wildfire.

The Project site is within a local responsibility area (i.e., an area under the jurisdiction of a local entity) that is not mapped by CAL FIRE as a very high fire hazard severity zone (CAL FIRE 2022). The Cosumnes Community Services District (CCSD) Fire Department is responsible for providing fire protection services to the Project site.

3.8.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The following evaluation is based on a review of documents and publicly available information about hazardous and potentially hazardous conditions in the Project area to determine the potential for Project implementation to result in an increased health or safety hazard to people or the environment. These resources include:

- ▶ available literature, including documents published by federal, State, county, and City agencies, and
- ▶ the *Phase I Environmental Site Assessment and Limited Phase II Environmental Site Assessment Report* for the Project site prepared by Geocon Consultants (Geocon Consultants 2022).

Project construction and operation were evaluated against the hazardous materials information gathered from these sources to determine whether any risks to public health and safety or other conflicts would occur.

THRESHOLDS OF SIGNIFICANCE

An impact related to hazards and hazardous materials would be significant if implementation of the Project 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/or 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 two miles of a public airport or public use airport, result in a safety hazard or excessive noise 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, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

ISSUES NOT DISCUSSED FURTHER

Hazardous Emissions or Hazardous Materials, Substances, or Wastes within 0.25 Mile of an Existing or Proposed School

No existing or proposed schools are located within 0.25 mile of the Project site. The nearest schools and their approximate distances from the Project site are:

- Miwok Village Elementary School, approximately 0.8 mile north
- Rex and Margaret Fortune Early College High School, approximately 0.7 mile west
- Elizabeth Pinkerton Middle School, approximately 1.2 miles northwest
- Cosumnes Oaks High School, approximately 1.4 miles northwest
- Elk Grove High School, approximately 1.5 miles northeast
- Florence Markofer Elementary School, located approximately 1.4 miles northeast

The Project does not involve the development of any uses that would emit or involve the handling of acutely hazardous materials, substances, or wastes. Project-related construction activities would involve the routine transport, use, and disposal of hazardous materials typically used in construction and handled in accordance with established regulations. Therefore, implementing the proposed New Zoo would not result in hazardous materials being located within 0.25 mile of existing or proposed schools. This impact is not discussed further.

Hazards Related to Proximity to Existing Sites of Known Contamination

Neither SWRCB's GeoTracker nor DTSC's EnviroStor database identified sites of known contamination on or near the Project site (SWRCB 2023; DTSC 2023). In addition, the Project site was not identified in any other databases searched as part of the Phase I ESA prepared for the proposed Project. The Phase I ESA and Limited Phase II ESA do not identify any RECs on the Project site or in the surrounding area (Geocon Consultants 2022).

The Project site was previously used for agriculture and soil samples were conducted for organochlorine pesticide concentrations including dieldrin, chlordane, DDT, and endrin. Soil samples indicated that organochlorine pesticide concentrations detected on the Project site did not exceed their respective reporting limits. The highest concentrations of organochlorine pesticide concentrations were detected in discrete soil samples collected from the perimeter of the former transmission tower and former structure on the site (Geocon Consultants 2022). Similarly, the site was sampled for the following metals related to prior agricultural use: barium, chromium, cobalt, copper, nickel, vanadium, zinc, silver, and molybdenum. Although all of the metals were detected in soils samples the concentration range for each metal was far below the health-based screening levels (Geocon Consultants 2022). The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

Therefore, there is no potential to create a significant hazard to the public or the environment by developing the Project on the site. This impact is not discussed further.

Safety Hazard or Excessive Noise Related to Proximity to an Airport

No active airports are located within 2 miles of the Project site. The closest public airport is Franklin Field, approximately 5.3 miles southwest of the Project site. The Borges-Clarksburg Airport, a small private airport, is located approximately 6 miles northwest of the Project site, and the Sky Way Estates Airport, another small private airport, is located approximately 8 miles east of the Project site. Therefore, developing the New Zoo on the Project site would not result in a safety hazard or excessive noise for people residing on or working near the Project site. This issue is not discussed further.

Loss, Injury, or Death from Wildland Fire

The Project site is within a Local Responsibility Area, where fire protection is provided by the CCSD. In the event of a nearby fire, CCSD would respond to the incident. (See Section 3.12, "Public Services," for further discussion of the CCSD Fire Department facilities and response times.) CAL FIRE has not designated the area as a very high fire hazard severity zone, which is defined as an area prone to intense, damaging wildfires. New construction is subject to the California Fire Code, which includes safety measures to minimize the threat of fire.

Title 24 of the CCR sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent damage to structures or people by reducing wildfire hazards. Construction and operation of the Project and implementation of the off-site improvements would not increase the potential for wildland fire on or near the Project site, and there would be no impact associated with exposing people, animals, or structures to wildland fire. Therefore, this impact is not discussed further.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Create a Risk to Human Health and the Environment Resulting from the Routine Use, Transport, Storage, and Disposal of Hazardous Materials or the Accidental Release of Hazardous Materials

The Project would be subject to federal, State, and local regulations related to the use, transport, storage, and disposal of hazardous materials. Additionally, the New Zoo would operate in accordance with AZA accreditation standards to protect the safety of the animals, zookeepers, and visitors. This impact would be **less than significant**.

Construction

Construction activities associated with development of the New Zoo would involve the use of hazardous materials, such as fuels (e.g., gasoline and diesel), oils and lubricants, paints and paint thinners, glues, cleaners, and possibly pesticides and herbicides. The severity of potential effects associated with these materials varies with the activity conducted and with the concentration and type of hazardous material present. Generally, incidents involving construction-related hazardous materials are small fuel and oil spills that would have a negligible impact on public health. The use and handling of hazardous materials during construction activities would occur in accordance with applicable federal, State, and local laws.

As stated previously, the Project site is not identified as a hazardous materials site on any list maintained by the California Environmental Protection Agency pursuant to Government Code Section 65962.5, and it does not contain any contaminated soils. The 55-gallon drum of Flora Dyme 65001 Trimer Acid was located on the site. Since completion of the Phase I Environmental Site Assessment the drum has been properly removed from the site in accordance with applicable regulations regarding the handling and disposal of hazardous wastes. Therefore, the Flora Dyme 65001 Trimer Acid would not pose a risk for construction workers on the site.

Construction activities associated with the off-site improvements would involve the routine storage, transport, and handling of hazardous materials. These improvements would be subject to the same requirements as those described above for on-site development. Sacramento Municipal Utility District would conduct any electrical upgrades and connections in a manner consistent with federal and State regulations. Any hazardous waste generated during construction (e.g., diesel fuel, oil, solvents) would be disposed of or recycled off-site in accordance with all applicable laws pertaining to the handling and disposal of hazardous waste.

Trucks transporting hazardous materials use many of the same freeways, arterials, and local streets as other traffic, which creates a risk of accidents and associated release of hazardous materials for other drivers and for people along these routes. Although the transport of hazardous materials may result in accidental spills, leaks, toxic releases, fire, or explosion, the US Department of Transportation Office of Hazardous Materials Safety prescribes regulations for the safe transportation of hazardous materials, as described in Title 49 of the CFR, that specify packaging and labeling requirements for hazardous materials. The standard accident and hazardous materials recovery training and

procedures are enforced by the State and followed by private State-licensed, -certified, and -bonded transportation companies and contractors.

Project construction could result in an increase in hazardous materials used, stored, and transported in the City. However, risks to human health and the environment would be minimized through implementation of applicable federal, State, and local regulations, the intent of which is to minimize risks to human health and the environment. Hazardous material encountered during construction activities would be disposed of in compliance with all pertinent regulations for the handling of such waste. Therefore, impacts related to the use, transportation, and disposal of hazardous waste during construction would be **less than significant**.

Operation

After it is operational, the New Zoo would not be expected to transport, use, store, or dispose of substantial amounts of hazardous materials, with the exception of common commercial-grade hazardous materials, such as cleaners and paint, as well as hazardous materials associated with the veterinary hospital. Operation of the proposed Project would include routine cleaning and maintenance procedures using chemicals, such as cleaners, paints, solvents, and vehicle fuels. In addition, the New Zoo would use potentially hazardous materials (e.g., pesticides, herbicides) for landscaping and cleaning purposes. Potentially hazardous materials that would be used and stored on-site would be typical of those found at zoos and aquariums (e.g., paints, fuels/lubricants, cleaning solvents, adhesives, sealers, and pesticides/herbicides) and would adhere to State and local handling and disposal requirements.

The New Zoo's care quarters buildings would house the veterinarian facilities for daily and preventive medical procedures on the animal residents. As a result, the facilities would contain typical veterinarian equipment and medical materials, such as less than 5-gallon containers of formaldehyde, xylenes, ethyl alcohol, and corrosives in fire closets, as well as cylinders of compressed oxygen and nitrogen. Operational impacts related to veterinarian facilities are not considered significant, because the types and amounts of potentially hazardous materials used and stored are not considered significant in use (McKim, pers. comm., 2023). As noted above in Section 3.8.1, "Regulatory Setting," Sacramento County EMD ensures that the Medical Waste Program provides health and safety protection for members of the public and health care facility personnel by minimizing or eliminating exposure to biohazardous wastes containing pathogenic organisms and sharps of human beings and animals. This is accomplished through the implementation and enforcement of medical waste regulations as they apply to the handling, storage, treatment, and disposal of biohazardous waste in Sacramento County. Users of such materials are also required to follow manufacturer instructions and dispose of excess solutions and empty containers properly.

In addition, the New Zoo would maintain operational procedures pursuant to AZA accreditation standards and related policies to protect the safety of the animals, zookeepers, and visitors. One of the related standards that apply to AZA-accredited zoos and aquariums relates to safety. Facilities must be properly maintained, infrastructure must be sound, proper practices must be in place, staff must be aware and trained, and a culture of safety must be inherent throughout the institution. To maintain an AZA accreditation, the New Zoo must have an occupational health and safety program based on hazard identification and risk assessment. The nature of the program would depend on animal species, potential hazards, facility design, and workplace activities. When operational, the New Zoo would continue to comply with existing safety standards and procedures to mitigate and reduce safety hazards related to the housing and care of zoo animals (AZA 2023).

AZA accredited institutions are differentiated as exemplary facilities through the vigorous and voluntary commitment to shared high standards, achieving measurable goals, and continually pursuing outcomes that benefit animals, visitors, and communities. These standards include assuring excellence in animal care and welfare, conservation, education, and research. Accredited institutions house, display, present, and interpret all animals in their care in a manner that is respectful to the animal and that inspires appreciation for wildlife and nature, while prioritizing animal and human health and safety. Animals are housed and cared for in a manner that meets their social, physical, behavioral, and nutritional needs, with considerations for lifelong care (AZA 2023).

All hazardous materials used on-site would be subject to applicable regulations and documentation related to the handling, use, and disposal of such materials consistent with all appropriate federal, State, and local regulations and standards to protect public health and safety. Although future operations at the New Zoo would not be expected to

transport, use, store, or dispose of substantial amounts of hazardous materials, implementation of standard good housekeeping measures, BMPs, site maintenance and security precautions, as well as compliance with standards and regulations, would ensure that potential impacts related to hazardous materials during operation would **less than significant**.

Summary

Project construction and operation would involve the use of materials that could create a hazard if they are released into the environment. Use, transport, and disposal of materials in compliance with established regulations would effectively address hazards associated with the use of these materials. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.8-2: Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan

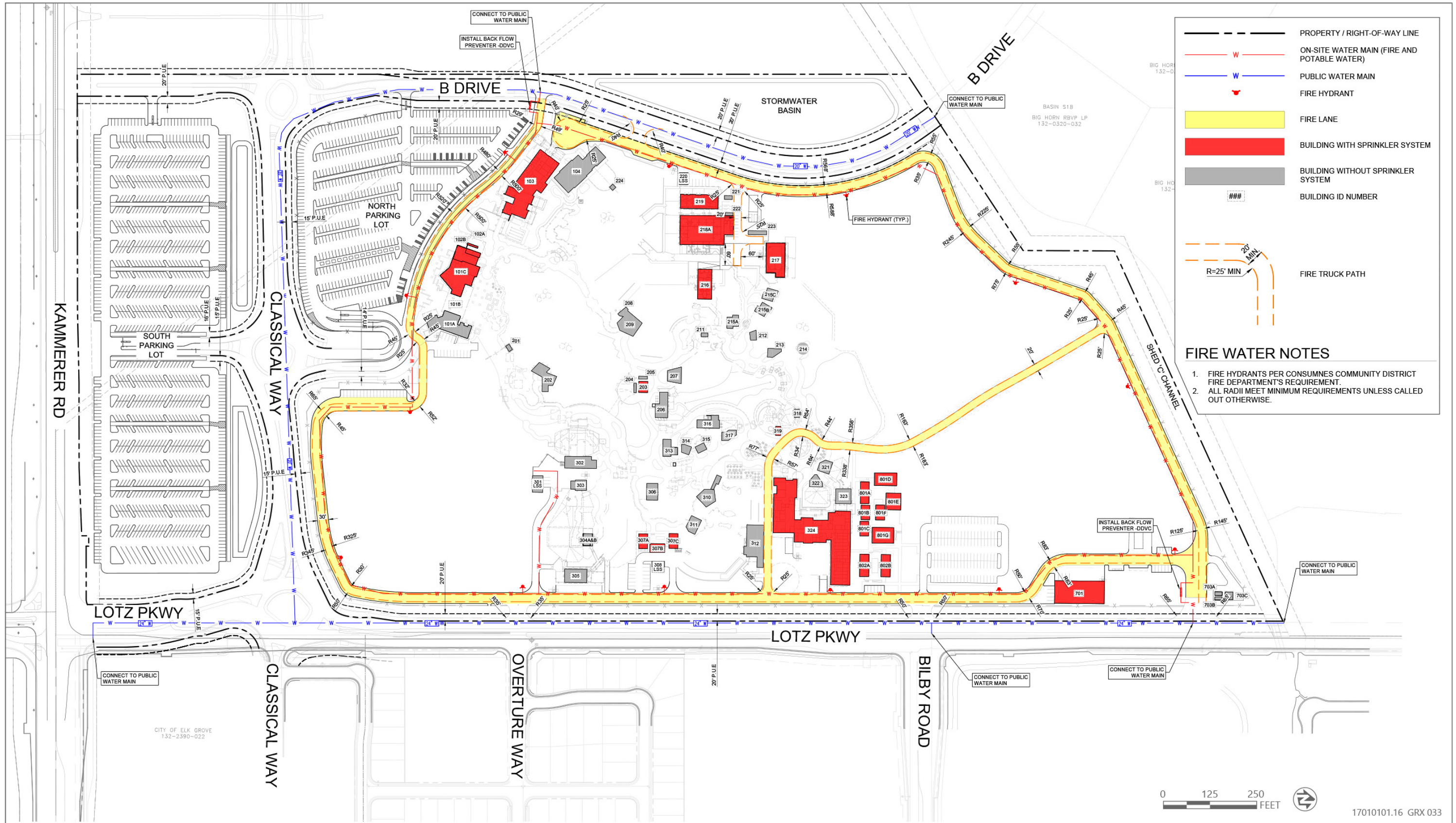
Implementing the Project would not impair the implementation of an emergency response or evacuation plan, such as the Sacramento County LHMP or the City's EOP. This impact would be **less than significant**.

Elk Grove participates in the multijurisdictional Sacramento County LHMP. The purpose of the plan is to guide hazard mitigation planning to better protect the people and property of the county from the effects of hazardous events. The Sacramento LHMP includes policies and programs for participating jurisdictions to implement that reduce the risk of hazards and protect public health, safety, and welfare. The City's EOP provides a strategy for the City to coordinate and conduct emergency response. The intent of the EOP is to provide direction on how to respond to an emergency from the onset, through an extended response, and into the recovery process.

The Sacramento County Evacuation Plan identifies major interstates, highways, and major roadways as key evacuation routes. The plan indicates that specific evacuation routes would be established for individual situations based on the geographical location and magnitude of the emergency, as well as the time of day and day of the week. During an evacuation, Sacramento County Department of Transportation staff would calculate traffic flow capacity and decide which of the available traffic routes should be used to move people in the correct directions. The emergency evacuation plan identifies Interstate 5 as a key evacuation route, but the plan is adaptable to specific situations and will be updated in response to changes in growth patterns and development. The Project would be consistent with the Sacramento County Evacuation Plan and would not be constructed in a way that would interfere with implementation of emergency response as part of the Plan.

As discussed above the Elk Grove General Plan includes an Evacuation Scenario Analysis Report as an appendix. The Project would comply with emergency management protocols detailed in the Evacuation Scenario Analysis Report and coordinate with relevant agencies to ensure the seamless implementation of evacuation routes, utilizing the contra-flow lanes as necessary to enhance traffic flow and expedite the safe evacuation of residents in the event of any of the identified disaster scenarios.

The Project site is not located in a designated hazard area or a residential area with limited access (General Plan Figure 8-3). In the event of an emergency, the New Zoo would implement a robust evacuation system to ensure the safety of all visitors and staff. The facility would be equipped with eight vehicle gate exit areas strategically distributed throughout the premises, enabling the efficient evacuation of attendees by vehicle. Of these three gates would be specifically for emergency entry and exit. Six pedestrian gates are situated around the perimeter, offering multiple accessible routes for attendees to exit the facility swiftly and securely during evacuation procedures. Figure 3.8-1 illustrates a comprehensive fire plan map of the proposed Project area, providing a visual representation of the strategic measures and designated zones aimed at mitigating fire risks and ensuring effective emergency response strategies.



Source: SHR studios and Kimley Horn 2023.

Figure 3.8-1 Fire Plan Map

In addition, all animal enclosures would be constructed in compliance with current AZA structural engineering and design standards to include safety measures, such as safety entrances and emergency lighting. AZA accreditation standards and related policies would require the New Zoo to have written procedures for emergency response for fire, as well as three other categories of emergency: injury of visitors or staff; an animal escape; and environmental emergencies specific to the zoo's region, such as earthquakes. The standards require that the facility conduct a minimum of four annual live-action emergency drills related to the following topics; fire, human injury to visitor or staff, animal escape, and environmental emergency related to the region, such as severe storm. Staff at accredited zoos must run through at least one live-action emergency drill—a preplanned simulation—each year for each category of emergency in accordance with the AZA standards. In addition, AZA actively works to develop and provide guidance on various issues in safety and security through two initiatives, the ZAHP and the AZA Safety Committee, as described above in Section 3.8.1, "Regulatory Setting." As an accredited facility, the Project would be designed to permit access by emergency service providers during operation, as well as in the case of an emergency evacuation (AZA 2023). These procedures would provide for the safety of animals, staff, and visitors.

Construction activities may result in temporary lane closures along Kammerer Road and Lotz Parkway associated with off-site improvements, increased truck traffic, and other roadway effects that may impede emergency vehicles, temporarily increasing response times and impeding existing services. Construction activities do not, however, have the potential to substantially hinder emergency response activities or physically interfere with established evacuation routes. Section 12 of the City's Standard Construction Specifications (Construction Area Traffic Control) identifies specific actions that must be implemented for traffic control to ensure safety for motorists and workers. These requirements must be stated in the general notes on Project improvement plans, which would be confirmed by City staff during plan review (City of Elk Grove 2022). Emergency access impacts related to Project construction activities are further discussed in Section 3.13, "Transportation."

The potential for construction activities or development to impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan would be **less than significant**.

Mitigation Measures

No mitigation is required.

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