

5.10 HAZARDS AND HAZARDOUS MATERIALS

5.10.1 OVERVIEW AND SUMMARY

This section describes the potential for the proposed Master Plan Update to create any significant impacts related to hazardous materials by creating a significant hazard to the public or environment. Potential impacts that could create significant hazards would be reduced through compliance with applicable regulations. Impacts would be less than significant (Class III).

5.10.2 DATA SOURCES AND METHODOLOGY

Information regarding hazardous materials was drawn from various agencies that regulate transportation and storage of hazardous materials, and occupational safety associated with hazardous materials. The potential for the proposed Master Plan Update to create a significant hazard to the public or environment was evaluated qualitatively by determining if it would involve handling of hazards and if the hazards would have the potential to cause harm to human beings or the environment.

5.10.3 APPLICABLE REGULATIONS

A hazardous material is defined by the California Environmental Protection Agency (Cal/EPA) as a 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.¹ A material is also considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency. Specific chemical and physical properties can cause a substance to be considered hazardous, including the properties of toxicity, ignitability, corrosivity and reactivity.²

5.10.3.1 Federal Regulations

The primary federal agencies responsible for hazardous materials management include the United States Environmental Protection Agency (US EPA) and the U.S. Department of Transportation (DOT). Federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and in the event that such materials are accidentally released, to prevent or mitigate injury to health or the environment. Federal regulations require hazardous material users to prepare written plans, such as a hazardous materials management plan.

¹ California Health and Safety Code Section 25501

² California Code of Regulations, Title 22, Sections 66261.20 – 66261.24

U.S. Department of Transportation

The DOT regulates the transportation of hazardous materials between states and foreign countries. DOT regulations govern all means of transportation (except packages sent by mail, which are governed by U.S. Postal Service [USPS] regulations). The State of California has adopted DOT regulations for the intrastate movement of hazardous materials. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing out of the state. The Hazardous Materials Transportation Act (HMTA) requires that carriers report accidental releases of hazardous materials to the DOT at the earliest practical moment (49 CFR Subchapter C). Incidents that must be reported include deaths, injuries requiring hospitalization, and property damage exceeding \$50,000.

Resource Conservation and Recovery Act of 1976

The federal Resource Conservation and Recovery Act of 1976 (RCRA) created a major new federal hazardous waste “cradle-to-grave” regulatory program administered by the US EPA. Under RCRA, US EPA regulates the generation, treatment, and disposal of hazardous waste, and the investigation and remediation of hazardous waste sites. Individual states may apply to the US EPA for authorization to implement their own hazardous waste programs in lieu of RCRA, as long as the state program is at least as stringent as federal RCRA requirements. California has been authorized by US EPA to implement its own hazardous waste program, with certain exceptions. In California, the Department of Toxic Substances Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste, and the investigation and remediation of hazardous waste sites. The California DTSC program incorporates the provisions of both federal and state hazardous waste laws.

Federal Emergency Planning and Community Right-to-Know Act

The Federal Emergency Planning and Community Right-to-Know Act of 1986 requires detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of to prevent or minimize adverse effects to human health or the environment in the event such materials are accidentally released. California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private agencies.

Federal Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000³ provides the legal basis for Federal Emergency Management Agency (FEMA) mitigation planning requirements for state, local and Indian Tribal governments. Under the Act,

³ Disaster Mitigation Act of 2000, Public Law 106-390.

a state mitigation plan is a condition of disaster assistance. The Act also established a new requirement for local mitigation plans and authorized up to 7 percent of Hazardous Mitigation Grant Program funds available to a state for development of state, local, and Indian Tribal mitigation plans.

5.10.3.2 State Regulations

State Agencies

State agencies that regulate the use of hazardous materials include the California Environmental Protection Agency (Cal/EPA), the Office of Emergency Services (OES), the Department of Public Health (CDPH), the DTSC, and the Regional Water Quality Control Board (RWQCB). The DTSC administers U.S. EPA's standards regarding public health effects of soil contamination, while the RWQCB administers state water quality standards for surface and groundwater. Lead responsibility for remediation depends on the proposed use of a parcel, the character of waste contaminants, and the need for site monitoring. In January 1996, Cal/EPA adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements: hazardous waste generators and hazardous waste on-site treatment, underground storage tanks, aboveground storage tanks, hazardous materials release response plans and inventories, risk management and prevention programs, and Unified Fire Code hazardous materials management plans and inventories. The Unified Program requires Cal/EPA to certify a local agency to implement the six state programs within the local agency's jurisdiction as the Certified Unified Program Agency (CUPA). The Santa Barbara County Fire Department Hazardous Materials Unit is the Cal/EPA CUPA within Santa Barbara County, and has jurisdiction over the project area.

Emergency Response

Public health is protected by numerous federal, state, and local agencies that provide emergency response services. Under the California Emergency Act, the state developed an emergency response plan to coordinate emergency services provided by all government agencies. The plan is administered by the California Office of Emergency Services (OES) which coordinates the responses of other agencies, including the US EPA, the California Highway Patrol (CHP), the regional water quality control boards, the air quality management districts, and the county disaster response offices. Local emergency response teams include the fire, police, and sheriff's departments provide most services to protect public health.

The CHP is responsible for vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation. In addition, the CHP conducts regular inspections of licensed transporters to assure regulatory compliance. The CHP enforces hazardous material and hazardous waste labeling and packing regulations to prevent leakage and spills of material in transit and

to provide detailed information to clean-up crews in the event of an accident. Caltrans has emergency chemical spill identification teams throughout the state that can respond quickly in the event of a spill.

5.10.3.3 Occupational Safety

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California and federal Occupational Safety and Health Administration (Cal/OSHA and US OSHA, respectively) are generally responsible for assuring worker safety in the handling and use of chemicals in the workplace.

Federal OSHA regulations 29 CFR 1910 and 1926 contain requirements concerning the use of hazardous materials in the workplace and during construction that mandate employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, emergency action and fire prevention plan preparation, and a hazard communication program. The hazard communication program regulations contain training and information requirements, including procedures for identifying and labeling hazardous substances and for communicating hazard information relating to hazardous substances and their handling. The hazard communication program also requires that material safety data sheets (MSDS) or equivalent safety information be available to employees, and that employee information and training programs be documented. These regulations also require preparation of emergency action plans (escape and evacuation procedures, rescue and medical duties, alarm systems, and training in emergency evacuation).

5.10.3.4 Local Regulations

Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan

The City of Solvang participated in developing the Multi-Jurisdictional Hazards Mitigation Plan for Santa Barbara County⁴ that was prepared in accordance with the Federal Disaster Mitigation Act of 2000. The Plan provides an assessment of identified risks within the County and provides measures to reduce exposure to hazards. Hazard mitigation strategies and measures avoid losses by limiting new exposures in identified hazard areas, alter the hazard by eliminating or reducing the frequency of occurrence, avert the hazard by redirecting the impact by means of a structure or adapt to the hazard by modifying structures or standards. The County of Santa Barbara Board of Supervisors approved the Santa Barbara Multi-Jurisdictional Hazard Mitigation Plan in 2005, and the plan was updated in November 2011.

⁴ County of Santa Barbara, *Multi-Jurisdictional Hazard Mitigation Plan, Santa Barbara County, CA* (2011).

City of Solvang General Plan

The City's General Plan Safety Element⁵ includes the following goals and policies that relate to hazards:

Goal 3.1- To Minimize Hazards to Public Health, Safety and Welfare Resulting from Natural and Man-Made Phenomena

Objective 6.0 - Establish a program to ensure the safe handling, disposal, and cleanup of hazardous materials in conjunction with federal, state, and regional programs and regulations.

Policy 6a. - The City shall enact an ordinance which sets forth restrictions and safeguards concerning the use, storage and disposal of specific hazardous materials.

Policy 6b. - The City's Director of Emergency Services shall establish and periodically update an inventory of hazardous materials produced, stored, or otherwise located within the city for purposes of coordinating emergency response.

5.10.4 EXISTING CONDITIONS

5.10.4.1 Hazardous Materials

The term "hazardous material" is defined in Section 25501 of the California Health and Safety Code as any material that, because of quantity, concentration, or physical or chemical characteristics poses a significant present or potential hazard to human health and safety or to the environment. Hazardous materials are grouped into the following four categories, based on their properties: toxic (causes human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), and reactive (causes explosions or generates toxic gases).

Toxins include a wide range of industrial chemicals and agricultural pesticides that are capable of producing serious illness or death due to poisoning. Irritants can cause inflammation or destruction of living tissue with effects ranging from mild to severe, based on the degree of exposure and the type of material involved. Flammables are dangerous because of their low ignition temperatures and rapid burning characteristics. Some flammables burn so violently that they cannot be extinguished, and must be allowed to burn out naturally. Explosives can produce rapid chemical reactions causing damage due

⁵ City of Solvang, *Solvang General Plan Safety Element* (1988).

to blast and flash fire. Because of their widespread use, it can be assumed that each type of hazardous material is either transported through, used or stored to some degree within the service area of the City of Solvang water system.⁶

The City's water system service area is shown on **Figure 2.0-3, City of Solvang Water System**. The service area is largely urbanized with a variety of industries and commercial enterprises that likely use or produce hazardous materials and/or hazardous wastes. Fuels, chemicals, and other hazardous materials and hazardous wastes are also transported via roadways. Hazardous materials and waste sites are present in the City's water service area; however, no City facilities are listed on state or federal databases.

Disinfection of the water from wells within 150 feet of the river is required. The existing City water system disinfects water with chlorine. The City applies and maintains chlorine to provide the needed disinfectant contact time, and ammonia is added subsequently to convert the chlorine to chloramines, compatible with the State Water Project Water. As these materials are both considered hazardous materials, the City utilized approved regulatory practices in their storage, handling and use. The treated water is carried in water pipelines that distribute the disinfected water throughout the City.

Emergency Response

The County of Santa Barbara Office of Emergency Services is responsible for emergency planning and coordination within the County of Santa Barbara. The City General Plan Safety Element provides for an emergency response plan in the event of a hazardous event. Following a hazard event, recovery activities may involve repairing damaged roads buildings, pipelines and reestablishing the community's physical, social and economic systems. The City's Director of Emergency Services is responsible for overseeing the City's disaster preparedness program. Key aspects of the City's local emergency management program involve disaster evacuation and the operation of emergency shelters.⁷

5.10.5 THRESHOLDS OF SIGNIFICANCE

In order to assist in determining whether a project would have a significant effect on the environment, the *California Environmental Quality Act (CEQA) Guidelines* identify criteria for conditions that may constitute a substantial or potentially substantial adverse change in physical conditions.

⁶ City of Solvang. *General Plan Safety Element*. 1988.

⁷ Ibid.

Specifically, Appendix G of the *State CEQA Guidelines* (Environmental Checklist Form) lists the following threshold, under which a project may be deemed to have a significant impact due to hazards or hazardous materials if it would:

- Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

5.10.6 ENVIRONMENTAL IMPACTS

The environmental impact analysis presented below is based on determinations made in the Notice of Preparation (NOP) for issues that were determined to be potentially significant with mitigation incorporated, or for issues identified by reviewing agencies, organizations, or individuals commenting on the NOP that made a reasonable argument that the issue was potentially significant (see Responses to NOP, **Appendix1.0**).

5.10.6.1 **Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment.**

Impacts

Construction

Construction of components under the Master Plan Update would require ground disturbing activities and drilling equipment. Hazardous materials used by this equipment would include oils, grease, or fuels that could spill during construction activities. If any of these hazardous materials are released accidentally, they could impact soil and groundwater quality or result in an adverse health effect to construction workers, the public, or the environment. Compliance with applicable laws and regulations related to good housekeeping policies for handling and storage of chemicals such as equipment fuels would reduce the potential for release. If visual contamination or chemical odors are detected during construction, construction workers would be required to stop work immediately and notify the County Fire Department, Hazardous Materials Units. Compliance with applicable laws and regulations would reduce the potential impacts to less than significant.

Construction of the proposed wells and water treatment facility would involve hazardous materials used by equipment, as described above. As discussed for the Master Plan Update, compliance with applicable regulations would reduce the potential impacts to less than significant.

The proposed changes to the City's water right Permit 15878 would not have any impacts related to hazards.

Operation

Hazardous waste would not be generated by operation of the Master Plan Update. The proposed Master Plan Update would involve improvements to the water supply, distribution system, and reservoir storage. Wells would be installed to withdraw river underflow in order to meet the average daily demand for water in the City. Water from wells that are under the influence (within 150 feet) of surface water require treatment. Since multiple wells are proposed near the river, a water treatment facility is proposed to filter the combined output from multiple wells before the water is distributed for consumption.

Operation of the proposed water treatment plant may result in the transport, use, and storage of liquid chlorine and other materials such as coagulants; chlorine would be added to the water system for disinfection purposes prior to distribution from the treatment plant. It is anticipated that a coagulant, such as aluminum sulfate, would be used and liquid sodium hypochlorite (liquid chlorine), commonly known as bleach, would be used for disinfection. The liquid sodium hypochlorite would be stored at the water treatment plant in an unpressurized 1,000-gallon tank of double-wall high-density polyethylene (HDPE), which would prevent the release of liquid sodium hypochlorite during storage.

These chemicals would have the potential to be unintentionally released into the environment during transport, unloading, or transfer into the water system. Given the location of the water treatment plant in the Alisal Commons open space area adjacent to residences, an accidental spill would have the potential to result in adverse health effects to the public or environment. Liquid sodium hypochlorite is extremely corrosive and acute exposure can cause severe damage to the eyes and skin. For this reason, the use of protective clothing, including safety glasses or goggles and chemical-resistant gloves, is required while handling and applying products that contain sodium hypochlorite as the active ingredient. Protection of eyes and skin substantially reduces the risk of injury. Sodium hypochlorite is also toxic to freshwater fish and invertebrates. However, uses that result in point source discharges of hypochlorite-containing effluents are regulated by the RWQCB, which ensures that discharge at each site will not pose significant adverse effects to non-target organisms.

Hazardous material transportation, use, and storage are regulated by many federal, state, and local laws and regulations. Various regulations by Cal/OSHA and other agencies also stipulate minimum standards for design, storage, spill prevention procedures, emergency response and contingency plans, risk management, and employee training. Hazardous materials are transported along public roadways every

day, though accidents involving a release of hazardous materials are relatively rare. Compliance with all applicable laws and regulations would reduce potential impacts to less than significant levels. The impacts would be less than significant.

As part of the disinfection process, the City's distribution system water pipelines would carry chlorinated water. However, the concentration of chlorine in the distribution lines would not be at a level considered hazardous; therefore, no aspect of the water distribution system would involve the use of hazardous materials and the Master Plan Update would not create a hazard related to exposure to hazardous materials.

In the event of a release of water from a reservoir tank or burst pipeline resulting from a seismic event, concentrations of chlorine within the distribution system would not be high enough to be considered hazardous. Therefore, impacts related to hazardous materials being released into the environment from the rupture of a water treatment plant component would be less than significant.

As described above, the concentration of chlorine in the water being delivered by the proposed water treatment plant would not be at hazardous concentrations, and would not emit hazardous emissions or generate hazardous waste. Therefore, residential neighborhoods near the proposed treatment plant location would not be adversely affected and impacts related to hazardous materials being released into the environment due to rupture of on-site storage tanks would be less than significant. The proposed treatment plant is not located in the vicinity of an existing or proposed school and would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or wastes.

Operation of the proposed treatment plant would not impair implementation or physically interfere with any emergency response plan for the City or surrounding communities.

The proposed treatment plant consists of infrastructure components, which, when installed, would not interfere with traffic flow or otherwise hamper emergency response or evacuation plans. Periodic maintenance of components would be performed by vehicles traveling on surface roads to the treatment plant facilities. The size and number of such vehicles present at facilities as required for routine maintenance would also not interfere with traffic flow.

The City would comply with all applicable federal, state, and local regulations pertaining to the handling, use, and disposal of hazardous substances as well as all applicable mandates that require the development and implementation of hazardous material-related plans (e.g., Business Plans, Emergency Response Plans, Risk Management Plans, Hazardous Waste Management Plans, Injury and Illness Prevention Plans). The Master Plan Update may require various plans to be modified to accommodate the risks associated with new hazardous materials and facilities. Any modified or new plans would be

prepared in accordance with applicable regulations. Any applicable hazardous waste materials shall be transported by a properly licensed Hazardous Waste Hauler, which must be in compliance with DOT regulations under Title 49.⁸

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Impacts would be less than significant (Class III) for both construction and operation of components of the Master Plan Update.

5.10.7 CUMULATIVE ANALYSIS

5.10.7.1 Cumulative Impacts

Future development in the City of Solvang may potentially involve the use of some amount of hazardous materials during construction and/or operation and may generate hazardous wastes. The potential use and transport of hazardous materials in the City's service area and surrounding area could potentially expose persons and/or the environment to hazardous materials. The applicants of future projects would be required to comply with regulating agencies to implement appropriate measures that reduce the risk associated with the use and transport of hazardous materials. The Master Plan Update would not result in significant impacts associated with accidental releases of hazardous materials into the environment. As a result, the Master Plan Update's contribution to exposure to hazards in combination with other development under the general plan would not be cumulatively considerable.

5.10.7.2 Cumulative Mitigation Measures

No mitigation measures are required.

5.10.7.3 Residual Cumulative Impacts

Impacts would be less than significant (Class III).

⁸ Title 49 CFR 171-179 and under 40 CFR 263 (Subtitle C of RCRA [Resource Conservation and Recovery Act])