
4.7 HAZARDS AND HAZARDOUS MATERIALS

4.7 HAZARDS AND HAZARDOUS MATERIALS

INTRODUCTION

This section of the EIR describes issues related to human health and the environment due to exposure to or generation of hazardous materials that could result from implementation of the proposed UCP. The Notice of Preparation prepared for the proposed UCP did not generate specific comments regarding the use of hazardous materials in the UCP area; therefore, the issues presented in this section reflect the hazardous materials related topics commonly discussed under Appendix G of the CEQA guidelines. These issues include: the use of hazardous materials during construction and occupancy of the proposed University Community; the emission of hazardous materials or wastes within a one-quarter mile of a school; development of the proposed UCP on a site containing hazardous materials; wildland fires; and safety hazards associated with a private airstrip and on-site canals.

As used in this section, the term “hazardous materials” refers to both hazardous substances and hazardous wastes. Hazardous materials are defined in California Health and Safety Code Section 25501:

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

Hazardous wastes are defined in California Health and Safety Code Section 25117:

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

ENVIRONMENTAL SETTING

UCP Area

The majority of the UCP area is undeveloped and historically has been used for agricultural purposes. One existing farmhouse property, the Hunt Farms, is located along the east side of Lake Road in the southern half of the UCP area. Hunt Farms has a main residence, three smaller residences, barns, and equipment shops on the property. In addition to the land used for agriculture, a small area located in the

northeast portion of the UCP area, on the northeast side of the Fairfield Canal, is currently developed with the Merced Hills Golf Course. The proposed location of the new University of California, Merced campus would occupy the majority of the golf course property. Other than the structures and uses mentioned above, there have been no known uses of the UCP area that would produce or would result in hazardous materials impacts, such as landfills or hazardous waste disposal sites.

Two engineered canals, the Fairfield Canal and the Le Grand Canal, are located within the boundaries of the UCP area. Both of these canals originate at Lake Yosemite, flow through the UCP area, then off-site towards the south and southeast. The Fairfield and Le Grand Canals, which are owned and operated by MID, either traverse through the UCP area or form portions of its eastern boundary. The canals are contained by earthen levees, and generally do not have any fences or other barriers to limit access. The earthen levee berms are approximately 10 to 15 feet high, and the width of the canals in the vicinity of the UCP area is approximately 40 to 50 feet. The volume and depth of water in the canals vary from season to season and on the water irrigation needs of Merced County.

Other than small seasonal drainages (Cottonwood Creek), seasonally saturated soils, wetlands, vernal pools, and the engineered canals, there are no significant surface water sources within the UCP area. Groundwater is commonly found at shallow depths throughout the Merced area, and groundwater flow is generally consistent with the regional topography, and flows from the northeast to southwest. At the UCP area, shallow groundwater would be more evident in the areas adjacent to Cottonwood Creek and the canals, as seepage from the canals would be expected to occur. Groundwater at the UCP area is reported to be approximately 42 feet below ground surface. For additional information regarding hydrology and water quality, please refer to Section 4.8, Hydrology and Water Quality.

The UCP area is dominated by gently rolling flatlands, with elevations ranging from 186 feet above mean sea level (msl) in the southwestern portion of the site, to approximately 245 feet above msl in the northeastern portion along the Le Grand Canal. The northern portion of the UCP area near the Merced Hills Golf Course has slightly steeper gradients than the agriculturally dominated southern portion; however, very few of the slopes throughout the UCP area exceed eight to ten percent.

The California Department of Forestry and Fire Protection's (CDF) Fire and Resource Assessment Program (FRAP) places the UCP area in a zone categorized as "mixed interface." The CDF also includes the UCP area, and areas within its vicinity, in a State Responsibility Area (SRA),¹ which is defined as part of the State where the CDF is the primary service responsible for providing basic wildland fire protection assistance, along with assistance from the Merced County Fire Department.

According to the Merced County General Plan, the UCP area is located in an area described as a Local Response Area, where fire hazards are generally reduced because of available fire prevention measures. However, east of the Fairfield and Le Grand Canals, adjacent to the UCP area, the land area is designated a Very High Severity Zone, indicating that firefighting measures are either inadequate, or that highly flammable vegetation exists; this area consists of non-irrigated grass covered grazing land with gently rolling hills.

Contiguous Property

Most of the area surrounding the UCP area is either undeveloped and used for agriculture, or is developed with low-density rural residential properties; most of the residential properties are located west and southwest of the UCP area. The land located immediately north of the UCP area is currently developed with the Merced Hills Golf Course. Most of the existing golf course and the property north up to Lake Yosemite is the proposed location for the University of California, Merced campus. Other than the golf course, the land east and northeast of the UCP area is undeveloped and consists of rolling grassland primarily used for grazing. There is some intensive agriculture towards the south along Yosemite Avenue.

A small private airstrip is located adjacent to the southeast portion of the UCP area on the east side of the Fairfield Canal. The airstrip is primarily used by nearby farmers to operate “crop-dusting” planes and helicopters. The crop-dusting airplanes using the strip apply dry materials, such as fertilizers and seed, and helicopters apply wet materials, such as pesticides and herbicides. During the past two years during the agriculture season, the airstrip has periodically been used for 5 to 6 flights per day, but has historically operated at up to 50 flights per day. The only times night flights occur are in times of potential frost;² helicopters are generally used for frost protection.

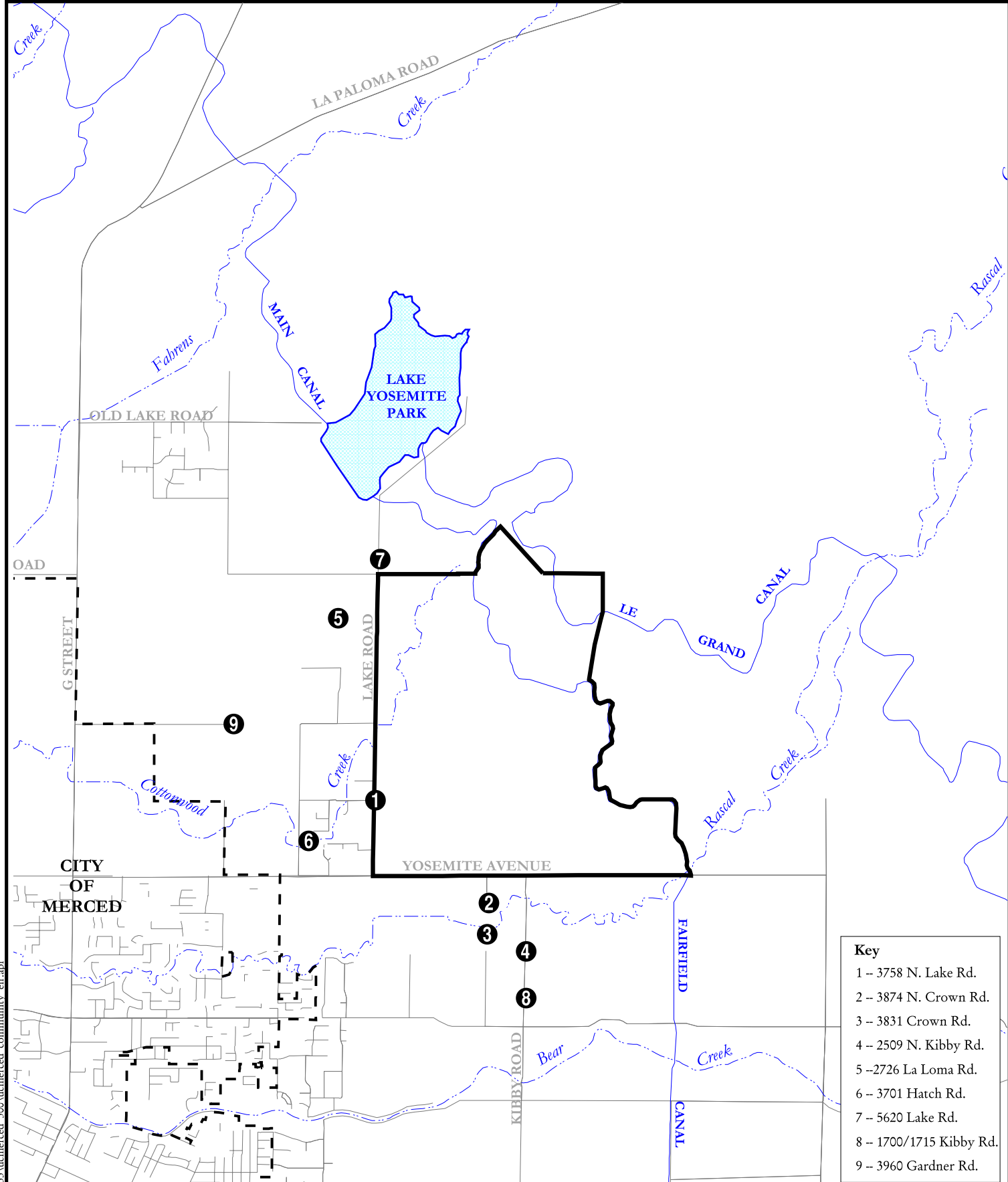
Existing Hazardous Materials Conditions At or Near the UCP Area

A survey of various federal, State, and local hazardous materials databases was performed in January 2001 by Environmental Data Resources, Inc. (EDR) for the UCP area and all areas within a one-mile radius of the UCP area’s boundaries.³ Only one facility/address, the Hunt Farms property, was identified within the boundaries of the UCP area.⁴ Hunt Farms is listed as having two permitted gasoline underground storage tanks (USTs), which are not known to have leaked their contents into the surrounding environment. Table 4.7-1 provides a summary of eight other identified properties within the database search boundaries. The other sites near the UCP area generally consist of residential or farm properties that store small amounts of gasoline (for equipment use) or photoprocessing chemicals (for developing x-rays at a veterinarian office).

Figure 4.7-1 shows the location of the sites in relation to the UCP area. The number in parentheses after the facility name in Table 4.7-1 indicates the facility/address location on Figure 4.7-1. Because more than one company may have occupied a specific address and may be responsible for different hazardous materials issues, an address may be listed more than once.

According to the EDR report, none of the facilities located within the UCP area boundaries or adjacent to the UCP area have been identified as having known soil or groundwater contamination that has not been properly remediated and approved by the appropriate regulatory agencies. The closest site of concern to the UCP area is the General Electric/Kendal Plant site located at 1715 Kibby Road (site number 8 on Figure 4.7-1). The General Electric/Kendal Plant site is not expected to affect the environmental condition of the UCP area, because the facility is over two miles south of the UCP area and is situated hydrologically downgradient of the UCP area. Any existing groundwater contamination originating from the General Electric/Kendal Plant site would generally migrate toward the south or southwest, which is consistent with the flow of groundwater in the region.

TABLE 4.7-1			
HAZARDOUS MATERIALS REGULATORY DATABASE SITES NEAR THE UCP AREA			
Facility Name and Map ID#	Address	Listed Databases	Known Hazardous Materials Concerns
Hunt Farms (1)	3758 N. Lake Road	CA FID UST UST	Gasoline storage
IW Wood (2)	3874 Crown Road	CA FID UST UST	Gasoline storage
Lyman C. Converse (3)	3831 Crown Road	UST CA FID UST	Not Listed
Frank Crider, DVM (4)	2509 North Kibby Road	HAZNET	Photochemicals, photoprocessing waste recycler
Robert M. Williams (5)	2726 La Loma Road	UST CA FID UST	Gasoline storage
Pulsipher, Dr. (6)	3701 Hatch Road	LUST	Gasoline contaminated soil, remedial action completed
Merced Irrigation District (7)	5620 Lake Road	UST CA FID UST	Gasoline storage
Tri/Valley Growers Plant M (8)	1700 Kibby Road at Highway 140	RCRIS-SQG FINDS UST CA FID UST	Gasoline storage, no RCRIS generator violations found
Wellmade Metal Products Company (8)	1715 Kibby Road	FINDS	AIRS Facility System
Bechtel, Inc. – Kendall (8)	1715 Kibby Road	FINDS	AIRS Facility System
1X General Electric Company (8)	1715 Kibby Road	HAZNET CAL-SITES	Halogenated solvents
Well Made Products (8)	1715 Kibby Road	HAZNET	Waste/mixed oil recycler
General Electric Company/Kendal Facility (8)	1715 Kibby Road	HAZNET	Landfill for contaminated soil from site clean-ups
Kendall Company Plant (8)	1715 Kibby Road	CA BEP	Not Listed
Tri Valley Growers (8)	1700 Kibby Road	LUST	#6 fuel oil soil contamination, remedial action completed
Roy Thomas (9)	3960 Gardener Road	CA FID UST UST	Gasoline storage
Abbreviations: RCRIS-SQG = Federal Resource Conservation and Recovery Act - Small Quantity Generator (U.S. Environmental Protection Agency) FINDS = Federal Facility Index System (U.S. Environmental Protection Agency) CAL-SITES = Known and potential hazardous substance sites (California Department of Toxic Substances Control) UST = Underground Storage Tank Database (State Water Resources Control Board) CA FID UST = California Facility Inventory Database for USTs (State Water Resources Control Board) LUST = Leaking Underground Storage Tank Incident Reports (State Water Resources Control Board) HAZNET = Hazardous Waste Manifest Information (California Department of Toxic Substances Control) CA BEP = California Bond Expenditure Plan (California Department of Health Services)			
Source: Environmental Data Resources, Inc. (EDR), January 29, 2001.			



Key	
1	3758 N. Lake Rd.
2	3874 N. Crown Rd.
3	3831 Crown Rd.
4	2509 N. Kibby Rd.
5	2726 La Loma Rd.
6	3701 Hatch Rd.
7	5620 Lake Rd.
8	1700/1715 Kibby Rd.
9	3960 Gardner Rd.



Source: Merced County, Planning & Comm. Dev. Dept., Roads, Creeks and Canals County GIS Files, June 18, 99; Environmental Data Resources, Inc., Jan. 00; and EIP Associates, Digitized Community Boundaries and GIS Program, July 24, 01.

Proposed UCP Area
 Hazardous Materials Database Site
 City Boundary

FIGURE 4.7-1
HAZARDOUS MATERIALS DATABASE SITES
University Community Plan EIR
Merced, CA

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REGULATORY SETTING

A number of federal, State, and local laws have been enacted to regulate the management of hazardous materials and wastes. Implementation of these laws and the management of hazardous materials are regulated independently of the CEQA process through programs administered by various agencies at the federal, State, and local levels. An overview of the key hazardous materials laws and regulations that apply to the proposed UCP and properties located adjacent to the UCP area is provided below.

Hazardous Materials

Federal Regulations

The management of hazardous materials and hazardous wastes in Merced County, as they relate to public safety and environmental protection, occurs within the context of a complex interaction of federal, State, and local requirements. The primary federal agencies with responsibility for hazardous materials management include the U.S. Environmental Protection Agency (EPA), U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). Federal laws governing the transport, storage, and use of hazardous materials at the proposed UCP include the following:

- Resources Conservation and Recovery Act (RCRA) - hazardous waste management;
- Hazardous and Solid Waste Amendments Act (HSWA) - hazardous waste management;
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - cleanup of contamination;
- Superfund Amendments and Reauthorization Act (SARA) - cleanup of contamination;
- Emergency Planning and Community Right-to-Know (SARA Title III) – business inventories and emergency response planning;
- Toxic Substances Control Act (TSCA) – tracks and screens industrial chemicals; and
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) – controls pesticide distribution, sale, and use.

Specific requirements for implementation of these statutes are codified in Title 40 of the Code of Federal Regulations (CFR). Additional regulations that apply to workplace safety and transportation of hazardous materials are contained in CFR Titles 29 and 49, respectively.

State Regulations

Hazardous Materials Management

The California Environmental Protection Agency (Cal/EPA) has established regulations governing the use of hazardous materials in the State. Within Cal/EPA, the Department of Toxic Substance Control (DTSC) has primary hazardous materials regulatory responsibility, but can delegate enforcement responsibilities to local jurisdictions that enter into agreements with DTSC, for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law (HWCL). State regulations applicable to hazardous materials are contained primarily in Title 22 of the California

Code of Regulations (CCR). Title 26 of the CCR is a compilation of those chapters or titles of the CCR that are applicable to hazardous materials management.

Also within the “umbrella” of Cal/EPA, the California Integrated Waste Management Board (IWMB) is responsible for protecting the public's health and safety and the environment through management of the solid waste generated in California. Solid waste regulations are generally enforced through local enforcement agencies (usually county agencies). The IWMB works in partnership with local government, industry, and the public to reduce waste disposal and ensure environmentally safe landfills. Solid waste management provisions are outlined in the Public Resources Code, Division 30.

The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations. The California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing work place safety regulations within the State. Cal/OSHA standards are more stringent than federal OSHA regulations, and are presented in Title 8 of the CCR.

The California Office of Emergency Services (Cal/OES) is the state office responsible for establishing emergency response and spill notification plans related to hazardous materials accidents. In addition, Cal/OES regulates businesses by requiring specific businesses to prepare an inventory of hazardous materials, and to prepare risk management plans through the California Accidental Release Prevention Program (Title 19 of the CCR).

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB) regulate surface and groundwater quality according to the provisions of State and federal legislation including the Porter-Cologne Water Quality Act, the Toxic Pits Cleanup Act, Underground Tank Law, and Clean Water Act. Generally, all petroleum-related sites are handled by the RWQCB and all underground tank sites are managed by county environmental management agencies. The UCP area is located within the jurisdiction of the Central Valley RWQCB (Region 5). The RWQCB can delegate responsibilities, such as underground tank permitting and monitoring, to local jurisdictions, such as Merced County.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

In January 1996, Cal/EPA adopted regulations implementing a “Unified Hazardous Waste and Hazardous Materials Management Regulatory Program” (Unified Program). The six program elements of the Unified Program are hazardous waste generators and hazardous waste on-site treatment, underground storage tanks, above-ground storage tanks, hazardous material release response plans and inventories, risk management and prevention programs, and Unified Fire Code hazardous materials management plans and inventories. The Unified Program is implemented at the local level by a local agency - the Certified Unified Program Agency (CUPA). The CUPA is responsible for consolidating the administration of the six program elements within its jurisdiction. The Merced County Division of Environmental Health is the designated CUPA in Merced County.

California Accidental Release Prevention (CalARP) Program

The purpose of the CalARP program (CCR Title 19, Division 2, Chapter 4.5) is to prevent the accidental release of regulated substances. CalARP covers certain businesses that store or handle more than a certain volume of specific regulated substances at their facilities. The list of regulated substances is found in Section 2770.5 of the CalARP regulations. The businesses that use a regulated substance above the noted threshold quantity must implement an accidental release prevention program, and some may be required to complete a Risk Management Plan (RMP).

RMPs are a detailed engineering analysis of the potential accident factors present at a business and the mitigation measures that can be implemented to reduce this accident potential. The purpose of an RMP is to decrease the risk of an off-site release of a regulated substance that might harm the surrounding environment and community. An RMP includes the following components: safety information, hazard review, operating procedures, training, maintenance, compliance audits, and incident investigation. The RMP must consider the proximity to sensitive populations located in schools, residential areas, general acute care hospitals, long-term health care facilities, and child day-care facilities, and must also consider external events such as seismic activity.

CalARP regulations became effective on January 1, 1997, and include the provisions of the federal Accidental Release Prevention program (Title 40, CFR Part 68) with certain additions specific to the State pursuant to Article 2, Chapter 6.95, of the Health and Safety Code. Although Cal/OES is responsible for implementing the provisions of the CalARP program, in most cases, local governments will have the lead role for working directly with business in this program. Local government implementing agencies will be represented by the CUPA (in this case, the Merced County Division of Environmental Health) or Administering Agencies. Most of the information in RMPs would be available to the public.

School Siting Code

Section 17213 of the Education Code outlines the requirements of siting school facilities near or on known or suspected hazardous materials sites, or near facilities that emit hazardous air emissions, handle hazardous or acutely hazardous materials, substances, or waste. The code requires that, prior to commencing the acquisition of property for a new school site, an environmental site investigation be completed to determine the health and safety risks (if any) associated with a site. In addition, Public Resources Code Sections 21151.4, 21151.8, and 21151.2 require that no EIR be approved for a project involving the construction or alteration of a facility that might reasonably be anticipated to result in hazardous air emissions within one-quarter mile of a school unless the lead agency has consulted with the school district having jurisdiction regarding the potential impact of the project on the school, or the school has been given written notification of the project not less than 30 days prior to approval of the EIR.

Airport Safety

Federal Aviation Administration (FAA) regulations codified in Title 14 of the CFR are administered at the State level by the Caltrans Division of Aeronautics; however, Caltrans does not specifically regulate agricultural airports.⁵ Agricultural aircraft operations are codified in 14 CFR, Part 137. Neither the FAA nor Caltrans regulate land use adjacent to private airports; however, Part 77 of 14 CFR regulations requires FAA agency notification when there is a change in land use that would involve the development

of structures and roadways adjacent to the facility. The criterion for notification depends on the height of proposed structures relative to the location of the runway. Upon request of an airstrip property owner, the FAA will conduct an airspace safety review to ensure that building height to distance from airstrip runway ratios comply with FAA and Caltrans safety requirements.⁶

State regulations (CCR Title 21, Division 2.5, Chapter 2) pertaining to personal-use airports contains the following minimum standards, found in Article 5, Section 3560: the runway length and width must be adequate to enable aircraft to operate safely, considering airport location and the performance data of the most demanding aircraft to utilize the airport; the ends of each runway must be at least 200 feet from the airport property line; and the distance from the runway centerline to the property line of another owner must be at least 50 feet. In addition, Article 2, Section 3532 of Chapter 2, presents the permit requirements for maintaining and using an agricultural airport. These permit requirements include requirements for both airplanes and helicopters, and include distance requirements for operation of airstrips within boundaries of K-12 public and private schools.

Wildland Fire Safety (State Responsibility Areas)

State Responsibility Areas (SRAs) include areas of the State in which the financial responsibility of preventing and suppressing fires has been determined (pursuant to Section 4125 of the Public Resources Code) to be primarily the responsibility of the State. In recognition of the severity of wildland fire hazards in certain areas of California, the State enacted legislation (see California Public Resources Code, Section 4291) requiring local jurisdictions to adopt minimum recommended standards pertaining to road standards for fire equipment access, standards for identifying streets, roads, and buildings, minimum private water supply reserves for emergency fire use, and fuel breaks and greenbelts to achieve fuel reductions. With certain exceptions, all new development and construction in SRAs after July 1, 1991 must meet the new standards. The State requirements do not supersede more stringent local regulations.

Local Regulations

Merced County General Plan

Hazardous Materials Management

There are no goals or policies in the Merced County Year 2000 General Plan (1989) that specifically regulate hazardous materials in Merced County. The Land Use section of the General Plan indicates that Merced County adopted a State mandated Hazardous Waste Management Plan (HWMP). The preliminary hazardous materials management goal of the HWMP is provided below:

Protect the health and welfare of the public, environment, and the economy of Merced County through a comprehensive countywide program to ensure the safe and efficient management of hazardous waste.

Wildland Fire Safety

The Merced County General Plan incorporates the following fire safety policies into its Safety Chapter.

Safety Chapter

Goal 5: The risk of injury and property damage resulting from wildland and urban fires is minimized.

Objective 5.A.: An adequate level of fire safety is provided in urban areas.

Policies:

1. Minimum peak-load water supply standards for developments in urban areas with public water systems should be established.
2. In urban areas where a public water system does not exist, ensure that adequate water supplies are available for fire suppression prior to occupancy of any structure.
3. Sprinkler systems shall be considered in areas where the Fire Department determines alternate fire protection measures are not adequate.

Objective 5.B.: An adequate level of protection from wildland fires is provided in rural areas.

Policies:

4. In the review of subdivisions and building permits in rural areas, provisions shall be made for safe all-weather access for fire and other emergency services.
5. In areas designated as having a very high fire hazard severity, the establishment of safe all-weather access for fire and emergency equipment shall be encouraged to serve existing residential uses.
6. In areas designated as having a very high fire hazard severity, the establishment and maintenance of “clear zones” around new and existing residential structures shall be encouraged.

Merced County Division of Environmental Health

Programs established within the Merced County Division of Environmental Health are designed to manage the many issues related to public health and safety. Applicable programs within the Division of Environmental Health include the Hazardous Materials Program; Household Hazardous Waste Program; Underground Storage Tank Program; Solid Waste Program; Liquid Waste Program; Medical Waste Program; Bioaerosols Program; Childhood Lead Poisoning Program; Recreational Health Program; and Sludge Program. The staff assigned to these programs ensures that operations within Merced County are consistent with all federal and State environmental regulations. In addition to the above-mentioned programs, the Merced County Division of Environmental Health implements the CalARP program and is the CUPA for enforcement of the State HWCL.

Emergency Response

The Merced County Fire Department maintains a hazardous materials emergency response team that performs emergency spill mitigation, hazardous material information research, and manages civil cost recovery for emergency expenditures. For additional information regarding the capabilities and staffing levels of the fire department, please refer to Section 4.12, Public Services.

PLAN ELEMENTS

Hazardous Materials

Numerous hazardous materials would be used throughout the UCP area and on the adjacent proposed UC Merced campus in varying quantities and types. As described above in the Regulatory Setting, the use, transportation, storage, and disposal of hazardous materials and hazardous wastes are highly regulated by many federal, State, and local laws and regulations, which would make the impacts associated with the presence of hazardous materials less than significant. However, because the UCP area has historically been used for agricultural production, there is the possibility that some unknown site contamination exists at the UCP area, which could affect the health and safety of people working and living around the UCP area, as well as the environment itself. The UCP incorporates the following hazardous materials policies:

- S3.1:** Conduct a preliminary site investigation in accordance with ASTM Standard Practice E 1527-00 (or the most current site assessment standard) by an environmental professional to determine the potential for on- and off-site hazardous materials contamination prior to site preparation and construction activities.
- S3.2:** If, during the preliminary site investigation, or during construction activities following completion of the site investigation, evidence of hazardous materials contamination is observed or suspected through either obvious or implied measures (i.e., stained or odorous soil, or oily or discolored water), construction activities shall cease in the affected area and an environmental professional shall assess the situation. If necessary, the environmental professional shall prepare a sampling plan to collect soil and/or groundwater samples to determine whether or not the site has been adversely affected by past activities. The samples shall be analyzed for the contaminants determined to be a potential health concern by the environmental professional. Depending on the nature of the contamination (if any), the Merced County Division of Environmental Health and appropriate federal and state agencies shall be notified.
- S4.1:** Prepare a “Hazardous Materials Management Plan” to provide residential, commercial, and industrial properties with necessary information regarding the use, transportation, storage, and disposal of hazardous materials and hazardous wastes within the University Community and Merced County.
- S4.2:** Require that all projects within the University Community comply with the Hazardous Materials Management Plan and the programs established by the Merced County Division of Environmental Health.

Wastewater and Water-Related Infrastructure, Hydrology and Water Quality

The Water-Related Infrastructure policies provide goals, objectives, and policies for water quality protection at the proposed UCP. The following are a summary of the UCP policies that would be applicable to water quality, from a hazardous materials point of view, at the proposed UCP.

- IW 8.2:** Prohibit direct discharge of treated wastewater to surface waters.

- IW 8.3:** Ensure that wastewater collection and treatment system(s) are designed and constructed to protect groundwater and surface water from contamination by wastewater.
- IW 8.4:** Ensure that wastewater treatment levels meet standards for intended reuse or discharge point.
- IW 8.5:** Prohibit cross-connection of sanitary sewer and storm drain system.
- IW 8.6:** Ensure that stormwater detention and groundwater recharge facilities are designed to avoid adverse impacts to groundwater.
- IW 8.10** Encourage sensitivity to water pollution through educational and outreach programs aimed at the residential landowner.
- IW 13.3:** Require the implementation of monitoring programs to ensure systems consistently comply with applicable potable water regulations.
- IW 13.6:** Require compliance with the National Pollution Discharge Elimination System Phase 2 program and monitoring of stormwater.

Airport Safety

- AS 1.1:** Require that development in the University Community maintains airspace safety and distance ratio requirements established by the Federal Aviation Administration and the Caltrans Division of Aeronautics as long as the airstrip adjacent to the University Community remains operational.

Wildland Fire Safety

- S 5.1:** Implement brush clearing and other fire suppression programs in adjacent lands, thereby reducing the possibility for the encroachment of wildland fires onto inhabited areas (consistent with maintenance programs for important plant and animal habitats).
- S 5.2:** Encourage the use of non-combustible roofing materials within 200 feet from an area designated a very high hazard severity zone.
- S 5.3:** Prohibit the planting of “highly combustible” landscape materials, such as pines or eucalyptus trees, along the University Community’s border within a very high severity zone for brush fires.

Canal Safety

- LU 9.8:** Design any uses, landscape, trails, and improvements located in proximity to MID canals to protect the physical integrity of the canals, levees, and related water conveyance systems.
- LU 9.9:** Incorporate barriers, such as fencing, and other elements to ensure public safety and prevent public access to the canal, to the satisfaction of MID. Collaborate with the MID in the use of landscape, fencing, and other elements that assure a high level of public safety and visual quality that complements the open space system.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

This analysis considers the range and nature of foreseeable hazardous materials use, storage, and disposal resulting from the proposed UCP and the land uses surrounding the UCP area, such as the proposed University of California, Merced, and identifies the primary ways that these hazardous materials could expose individuals or the environment to health and safety risks. As discussed above, compliance with applicable federal, State, and local health and safety laws and regulations by residents and businesses in the UCP area would generally protect the health and safety of county residents. Local and State agencies would be expected to continue to enforce applicable requirements to the extent that they do so now.

The qualitative analysis of the potential hazardous materials related impacts is based on a site reconnaissance and existing conditions reported by the proposed UCP's geotechnical, hydrological, and environmental engineering consultants. Sources reviewed for this section include the following: *EDR Radius Map with GeoCheck, UCP Area EIR*, EDR, Inc. (January 29, 2001); *Engineering Geology and Preliminary Geotechnical University Planning Study, University Planning Area*, Kleinfelder (July 9, 2001); and technical memoranda describing a conceptual storm water and wastewater system prepared by Nolte Associates (June 2001). The information obtained from these sources was reviewed and summarized to establish existing conditions and to identify potential environmental effects, based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that development in the University Community would comply with relevant federal, State, and local ordinances and regulations.

The general types of businesses and the range and types of uses that are expected to be located in the UCP area can be identified; however, the specific businesses that could locate in the UCP area are unknown at this time. The UCP could involve a variety of land uses, including residences, retail space, entertainment facilities, community facilities, research and development, manufacturing, office, open space, and commercial uses (as well as educational and institutional uses). As a result, this analysis assumes and evaluates a broad range of potential uses that could handle hazardous materials in the UCP area.

In most cases, the laws and regulations pertaining to hazardous materials management are sufficient to ensure worker, public, and environmental health and safety. The discussions below identify areas where impacts related to hazardous materials could, nonetheless, be significant or potentially significant because the enforcement of existing laws and regulations alone does not necessarily ensure that health and safety would be adequately protected.

The impact analysis also considers the proposed UCP policies presented in the Plan Element. Compliance with the UCP policies would help to identify the potential for soil and groundwater contamination at the UCP area, and would ensure that continued environmental investigations be performed as development in the area continues. In addition as specified in Policy S4.1, a Hazardous Materials Management Plan would establish a formal set of guidelines that would educate people living and working within the UCP area about hazardous materials issues.

Additional Baseline Assumptions

The above setting information constitutes a portion of the baseline condition for the UCP. However, as discussed in Section 4.0, Introduction to the Analysis, the UCP will be adopted only after adoption of the UC Merced Long Range Development Plan. Therefore, concurrent development of the UC Merced campus and the University Community is assumed and the UC Merced campus is assumed in the baseline conditions. The existing conditions on the UC Merced campus site and anticipated conditions at buildout of the UC Merced campus are discussed below.

UC Merced is expected to use many materials, some of which are considered hazardous, during the course of its daily operations. Such hazardous materials include many chemical reagents, solvents, radioisotopes, fuels, paints, cleansers, pesticides and biohazardous substances that are used in activities such as laboratory research, building and grounds maintenance, vehicle maintenance, and fine arts. Hazardous materials use on the UC Merced campus generates hazardous byproducts that must eventually be handled and disposed of as hazardous materials.

Standards of Significance

The following standards of significance are based on Appendix G of the State CEQA Guidelines.

For purposes of this EIR, impacts would be considered significant if the proposed UCP 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 within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- 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; or
- Place people or property in locations that would create or exacerbate a public safety hazard.

CEQA Checklist Items Not Discussed in the Impact Analysis

The following checklist items under Appendix G of the CEQA Guidelines, Hazards and Hazardous Materials, are not discussed in the following impact analysis.

- 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, would the project result in a safety hazard for people residing or working in the project area;

The proposed UCP is not located within two miles of a public airport or public use airport; therefore, no impact would occur.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

The proposed UCP is not located in an area governed by an emergency response plan or emergency evacuation plan; therefore, no impact would occur. Refer to Section 4.14 Transportation and Circulation, for additional information regarding proposed roadway and emergency access systems.

Project-Specific Impacts and Mitigation Measures

4.7-1 Implementation of the proposed UCP could create a health hazard to site workers, the public, and the environment due to exposure of contaminated soil and groundwater.

Applicable Regulations: Titles 29, 40 and 49 of the Code of Federal Regulations; Titles 8, 19, 22, and 26 of the California Code of Regulations; Federal Clean Water Act; Porter-Cologne Water Quality Act; Toxic Pits Cleanup Act; Underground Tank Law; California Education Code

Significance: Potentially Significant

Mitigation Included in the UCP: Policies S 3.1 and 3.2

Significance After Mitigation Included in the UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Baseline Plus Buildout Scenario

Within the boundaries of the UCP area, the Hunt Farms property is included on a UST regulatory database maintained by the SWRCB. However, according to the information provided by EDR in their environmental regulatory database report, the contents of the USTs operated by Hunt Farms are not known to have leaked their contents. In addition, of the other eight addresses on Table 4.7-1 and shown in Figure 4.7-1 that were identified on hazardous materials database lists within a one-mile radius of the UCP area's boundaries, none were reported to have contamination that has not been properly remediated

or investigated by appropriate regulatory agencies. There are no known areas of soil or groundwater contamination located within the UCP area.

Because the majority of the UCP area is undeveloped and has historically been used for agricultural purposes, there is the potential that soil and groundwater at the UCP area has been contaminated by the ongoing application of pesticides, herbicides and other agricultural chemicals, or illegal debris disposal. As of publication of this EIR, there have been no soil or groundwater samples collected at the UCP area that have been analyzed for hazardous constituents; therefore, it is unknown whether there are existing health and safety concerns related to soil and groundwater at the UCP area.

In addition, it is possible that not all environmental conditions have been reported or identified at the UCP area, or on adjacent areas, such as unpermitted disposal sites, trash burn pits, septic tanks, wells, or other underground storage devices. The presence of any of these, either on the UCP area or adjacent to the UCP area, could generate conditions that could be a hazard to public health and the environment. On- and off-site disposal areas or unknown underground storage devices could have contaminated soil and groundwater at the UCP area. Therefore, the presence and discovery of unknown hazards during implementation of the proposed UCP would be a potentially significant impact.

UCP Policy S 3.1, which presents preliminary site investigation procedures to investigate the potential of hazardous materials contamination at the UCP area, and UCP Policy S 3.2, which requires that construction activities cease if unknown hazardous materials are encountered, would ensure that contaminated areas, if any are identified, are remediated. In addition, compliance with UCP Policy S 3.2 would ensure that an environmental professional assesses the construction site and provides recommendations regarding materials sampling and coordination with the Merced County Division of Environmental Health. UCP policies would further strengthen the California Education Code, which requires site investigations be performed prior to construction of schools. Compliance with State and County requirements, and implementation of UCP policies, would reduce this impact to a less-than-significant level.

Baseline Plus 2015 Scenario

Through year 2015, it is anticipated that development would occur within the areas designated as the Town Center and Residential Villages 1 and 2. As discussed above, the Hunt Farms property, which is not located within these areas, is the only site within the UCP area that was identified on an environmental regulatory database for having a permitted UST containing diesel fuel. The contents of that UST are not reported to have leaked its contents. Although development at year 2015 would be constructed on property not known to be affected by historical contamination sources, like the remainder of the UCP area, past pesticide and herbicide applications or unknown debris disposal sites could have affected the environmental condition of property. In order to ensure that the public and the environment are protected from hazards associated with unknown contamination, the 2015 development would be subject to the same federal, State, and local oversight discussed above, as well as UCP Policies S 3.1 and 3.2, which would ensure that, prior to development, environmental site assessments are performed by an environmental professional. The impacts associated with development through 2015 would be less than significant.

4.7-2 Construction of the proposed University Community would involve the use, storage, and transportation of hazardous materials, which could be a safety hazard for people living and working within the University Community.

Applicable Regulations: Titles 8 and 22 of the Code of California Regulations; Uniform Fire Code, Division 20 of the California Health and Safety Code; U.S. Department of Transportation and California Department of Transportation requirements

Significance: Less than Significant

Mitigation Included in the UCP: None

Significance After Mitigation Included in the UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Baseline Plus Buildout Scenario

Hazardous materials would be used in varying amounts during construction activities associated with implementation of the proposed UCP. Construction and maintenance activities would use hazardous materials, such as fuels (gasoline and diesel); oils and lubricants; paints and paint thinners; glues; cleaners (which could include solvents and corrosives in addition to soaps and detergents); and pesticides and herbicides. However, consistent with federal, State, and local laws and regulations addressing hazardous materials management and environmental protection, construction specifications would include the following requirements in compliance with applicable regulations and codes, including, but not limited to Titles 8 and 22 of the Code of California Regulations, Uniform Fire Code, and Division 20 of the California Health and Safety Code: all reserve fuel supplies and hazardous materials must be stored within the confines of a designated construction area; equipment refueling and maintenance must take place only within the staging area; construction vehicles shall be inspected daily for leaks; and a Spill Prevention Countermeasure and Control (SPCC) plan shall be prepared and implemented. In addition, all transportation of hazardous materials to and from the site must comply with Department of Transportation and Caltrans regulations.

The types and amounts of hazardous materials used during construction activities associated with implementation of the proposed UCP would vary according to the nature of the activity; therefore, the specific hazardous materials and amounts that would be on site or transported cannot be determined at this time. In some cases, it is the *type* of hazardous material that is potentially hazardous; in others, it is the *amount* of hazardous material that could present a hazard.

Because development that would occur as a result of the proposed UCP would be required to comply with all federal, State, and local laws and regulations governing the use, storage, transportation, and disposal of hazardous materials during construction of the proposed UCP, this impact is considered less than significant.

Baseline Plus 2015 Scenario

Although development through the year 2015 would only involve the Town Center and Residential Villages 1 and 2, the type of construction activities would be the same as development of the entire UCP area. The 2015 development would be required to comply with all of the federal, State, and local laws and regulations governing the use, transportation, storage and disposal of hazardous materials; therefore, the potential construction effects of development through the year 2015 would be less than significant.

4.7-3 Implementation of the proposed UCP would involve the use, storage, and transportation of hazardous materials, which could be a safety hazard for people living and working within the University Community.

Applicable Regulations: Numerous hazardous materials management laws, primarily contained in Titles 29, 40, and 49 of the Code of Federal Regulations and Titles 8, 19, 22, and 26 of the California Code of Regulations

Significance: Less than Significant

Mitigation Included in the UCP: Policies S 4.1 and 4.2

Significance After Mitigation Included in the UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Baseline Plus Buildout Scenario

Nearly all of the potential land uses in the proposed UCP would involve some level of use or storage of hazardous materials. In each case, the potential hazards would depend on what materials would be used, where the materials would be used, how they would be used, and who would use them. Households and certain businesses, such as office-based businesses, would use relatively small quantities of hazardous materials when compared to certain other businesses, such as those engaged in research and development or light manufacturing. Manufacturing and research and development businesses that handle larger quantities of hazardous materials would often also use a wider variety of materials, which could include less common materials and acutely hazardous materials. However, businesses that handle larger quantities of hazardous materials and acutely hazardous materials would also be subject to more regulation and oversight than businesses that handle smaller quantities of more common materials. In addition, employees of businesses that handle large quantities of hazardous materials would also typically receive special training (often required by law under OSHA) to help them understand the hazards they face.

Residential and Commercial Hazardous Material Use

Hazardous materials would be handled and stored routinely by households and most businesses at the proposed UCP. Typical household hazardous materials would include oils (i.e., motor oil and hydraulic

oil), fuels (i.e., gasoline and diesel), paints (both latex and oil-based), solvents (i.e., degreasers, paint thinners, and aerosol propellants), acids and bases (i.e., automobile battery fluids, swimming pool chemicals, and many cleaners), disinfectants, metals (i.e., mercury in thermometers, batteries, and photography chemicals), and pesticides and herbicides.

Businesses would use materials similar to households, and some (i.e., gas stations, dry cleaners, and photoprocessors) would use hazardous materials in larger quantities specifically related to their business activities. For example, supermarkets and gas stations stock hazardous materials for sale to consumers; service stations handle fuel, motor oil, antifreeze, and other fluids; and supermarkets handle automotive fluids, cleaners, pesticides, and batteries. In addition, dry cleaners handle perchloroethylene and photoprocessors handle fixer and developer chemicals.

Although individual households and many businesses use relatively small volumes of hazardous materials, the total volume of the hazardous materials managed by all of the households and businesses in the UCP area could be substantial, which would increase the opportunities for accidents and improper use, storage, and disposal. However, because many hazardous materials are consumed through their use (i.e., fuel, paint, aerosols), the quantity of hazardous materials handled is generally believed to be substantially greater than the volume of hazardous waste generated. In any case, the Merced County Division of Environmental Health has a household hazardous waste collection program that safely collects, transports, and disposes of residual hazardous wastes.

Commercial products are labeled to inform users of potential risks and to instruct users in appropriate handling procedures. Although households are relatively less regulated than businesses, the risks posed by hazardous materials use at project-related residences would be similar to those in similar residential areas already developed in the City of Merced and adjacent residential areas in the County. The home use of common household hazardous materials is typically considered to pose an acceptable level of risk.

Proposed UCP Uses

In the Town Center, there would be approximately 22 acres designated for up to 400,000 square feet of research and development and manufacturing uses. Because of the relationship of the UCP area with the adjacent UC Merced campus, some of the businesses and research and development facilities in the UCP area could work in concert with the research facilities at the campus, and could potentially use similar types of materials, such as those discussed below in “Planned Contiguous Uses.”

Businesses that handle relatively large quantities of varying types of hazardous materials would occupy the area designated for research and development and manufacturing. Research and development and manufacturing uses could include biotechnology, semiconductor, computer, or other types of research and development operations; multi-media or software companies; light manufacturing businesses; and office space. Many of these uses would involve mostly common office functions. For example, since modern offices rely heavily on the use of personal computers, the potential operations of multi-media or software companies would be similar to those of most office environments. Offices are like households in that, although hazardous materials are used there, the materials are typically common household products. Potentially hazardous office supplies include paints, aerosols, cleaners, disinfectants, adhesives, correction fluid, and fluorescent light bulbs.

Some potential research and development functions of high-technology firms could resemble office uses, particularly if they were to involve the development of new software. Other research and development operations could involve “dry” laboratories, where relatively small or negligible quantities of chemicals would be used. The remainder of the research and development and manufacturing space could consist of “wet” laboratories or light industries, where relatively larger quantities of hazardous materials could be handled routinely. Some of these operations could include radioactive materials or biohazardous materials.

Research and Development

Laboratory-based research and development (or “wet” research) could involve a broad spectrum of activities requiring the use of laboratory bench space, laboratory support space (e.g., tissue culture rooms, media preparation areas, cold rooms, glassware wash areas, and dark rooms), and other ancillary facilities (offices and work stations, storage areas, libraries, and meeting rooms). Typical “wet” laboratories contain workbenches, sinks, storage areas, fume hoods, biosafety cabinets, and a wide variety of instruments and equipment. Each instrument is generally associated with one or more basic techniques. Like the appliances in a typical household kitchen, the instruments range in size from as small as a blender to as large as a commercial restaurant refrigerator. The equipment housed in a laboratory depends on the technologies employed and the materials handled. Many laboratories also include space for computers that control instruments or are used to store and analyze data. Most of the work in laboratories is performed at room temperature or body temperature under normal atmospheric pressure. Other types of laboratories could use a greater range (lower and higher) of temperatures and pressures. Standard laboratory techniques include measuring weights and volumes, gently heating and cooling materials, and shaking and stirring solutions. Research and development laboratories typically use relatively small quantities of hazardous materials at any one time.

The quantities of hazardous materials that would be used, stored, and disposed of in the proposed University Community cannot be quantified precisely because the specific future businesses of the UCP area are unknown, and because hazardous materials use, storage, and disposal by any business is subject to continuous change as technologies develop and mature. Even if the project occupants were known, businesses cannot reasonably be expected to predict in advance every possible chemical or combination of chemicals they could conceivably use. However, for businesses using hazardous materials, compliance with applicable regulation is assumed, which would reduce the potential impacts to less-than-significant levels.

Planned Contiguous Uses

The area north of the UCP area is the proposed site for the UC Merced campus. The first stage of campus development is proposed to take place on the site of the Merced Hills Golf Course, and will consist of academic classrooms, research laboratories, central plant, and administrative buildings. The construction-related hazardous materials (i.e., fuels, lubricants, and cleaners) used for classroom and building development would be similar to those used during construction of the proposed University Community. However, materials used during occupation of the campus could differ from those used at the proposed University Community’s research and development and manufacturing facilities. Hazardous materials potentially used at the University of California, Merced campus would principally be related to research and testing laboratories and could include the following: solvents used for cleaning, extraction, or other

laboratory activities; reagents (chemical starting materials); reaction products (products of chemical reactions), which could have unknown composition; radioisotopes, which are radioactive elements used to stimulate or trace chemical reactions; infections agents, including bacteria, viruses, and other materials encountered in biological studies; and test samples (e.g., specimens such as blood, tissue, soil, or water) used prior to use in a testing procedure.⁷ Campus maintenance activities would also require the use of hazardous materials; however, these would be similar to the materials needed to maintain offices and facilities at the proposed University Community. Hazardous materials used at the University of California, Merced campus would be managed and regulated by the same federal, state, and local regulations as the materials used at the proposed University Community.

Merced County Hazardous Materials Regulation

The Merced County Division of Environmental Health, as the local CUPA, oversees hazardous materials registrations, underground storage tank programs, aboveground petroleum storage tank spill prevention control and countermeasure plans, risk management plans, and some fire safety planning. Additionally, businesses are regulated as employers by Cal/OSHA and are therefore required to ensure employee safety. Specific requirements include identifying hazardous materials in the workplace, providing safety information to workers that handle hazardous materials, and adequately training workers. Because of this regulatory structure, the business-related use of relatively small quantities of hazardous materials similar to household products would not pose greater risks than the use of such materials by households. For this reason, the use of relatively small quantities of common hazardous materials by businesses, as well as residences, would not create substantial public health hazards.

However, businesses using relatively large quantities of hazardous materials (in comparison to households and office-based businesses) would use materials similar to those described for households above, but they could also use a larger variety of hazardous materials. All large-quantity hazardous materials users would occupy the commercial-designated land in the UCP area. The Merced County Division of Environmental Health would oversee the project-related use of hazardous materials in the UCP area by implementing the CalARP program, if required. If properly managed (as is assumed and required by the Division of Environmental Health and State law), hazardous chemicals would generally pose minimal health and safety risks.

Summary

Implementation of the proposed UCP would involve the use of varying amounts and types of hazardous materials in the day-to-day activities and operations of the residential communities and commercial/research and development facilities. Assuming that the residences, commercial businesses, and future research and development facilities in the University Community area comply with the appropriate federal, State, and local laws and regulations that regulate the use, storage, and transportation of hazardous materials, the potential health and safety effects of this impact would be less than significant.

In addition, UCP Policy S 4.1 in the Plan Element requires that a public “Hazardous Materials Management Plan” be prepared to provide residential, commercial, and industrial (research and development and manufacturing) properties within the UCP area with necessary information regarding the use, transportation, storage, and disposal of hazardous materials and hazardous wastes. Although

hazardous materials and hazardous wastes are already managed by a myriad of laws and regulations, UCP Policy S 4.1 would provide for a common plan that outlines the existing regulations and suggests methods to protect persons and property. Compliance with federal, State, and County laws and regulations, and implementation of UCP policies would further reduce the potential safety hazards associated with hazardous materials.

Baseline Plus 2015 Scenario

At year 2015, some portion of the Town Center would be developed; however, it is not anticipated that any research and development and manufacturing uses would be developed. Some office and commercial uses would likely be developed by 2015. Because of the relationship of the UCP area with the adjacent University of California, Merced campus, many of the businesses at the UCP area would likely work in concert with the research facilities at the campus. As discussed above under buildout conditions, the proposed UCP would use varying amounts and types of hazardous materials in the day-to-day activities and operations of the residential communities and commercial/research and development facilities. Assuming that the residences and commercial uses in the UCP area comply with the appropriate federal, State, and local laws and regulations that regulate the use, storage, transportation, and disposal of hazardous materials, the potential health and safety effects of this impact are considered to be less than significant. In addition, UCP Policy S 4.1 of the Plan Element requires that a Hazardous Materials Management Plan be prepared to provide necessary information regarding hazardous materials and hazardous wastes, which would further reduce the potential health and safety effects of hazardous material use of the facilities that would be constructed by 2015.

4.7-4 Uses within the proposed UCP could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Applicable Regulations: California Education Code, Section 17213; Public Resources Code, Sections 21151.2, 21151.4, and 21151.8

Significance: Less than Significant

Mitigation Included in the UCP: Policies S 3.1, 3.2, and 4.1

Significance After Mitigation Included in the UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Baseline Plus Buildout Scenario

As previously stated, in the Town Center of the proposed UCP there would be land designated for office, commercial, research and development, and manufacturing uses. Although the specific uses that could occupy those areas cannot be determined at this time, some of the facilities could emit some level of potentially hazardous emissions and handle hazardous materials or acutely hazardous materials.

As discussed above in Impact 4.7-3, the proposed University Community would include uses that would use and store varying amounts and types of hazardous materials; however, these hazardous materials would be highly regulated by numerous federal, State, and local laws, which would reduce the potential effects associated with their use to less-than-significant levels. In addition, UCP Policy S 4.1, which would require the preparation of a Hazardous Materials Management Plan, would further ensure that residents and businesses located within the UCP area follow a plan to ensure public safety and protect the environment.

Section 17213 of the Education Code, as presented in the Regulatory Setting of this section, stipulates that, prior to commencing the acquisition of property for a new school site, an environmental site investigation be completed to determine the health and safety risks (if any) associated with a site. In addition, Public Resources Code Sections 21151.2, 21151.4, and 21151.8 require that no EIR be certified for a project involving the construction or alteration of a facility that might reasonably be anticipated to result in hazardous air emissions within one-quarter mile of a school unless the lead agency has consulted with the school district having jurisdiction regarding the potential impact of the project on the school, or the school has been given written notification of the project not less than 30 days prior to approval of the EIR. The site investigation requirements of the school siting code would reduce this impact to a less-than-significant level, and compliance with UCP Policies S 3.1 and 3.2 would further reduce the potential effects of the impact. The UCP policies would ensure that schools are not placed on sites containing hazardous materials or hazardous wastes.

Baseline Plus 2015 Scenario

If a school is constructed by year 2015 in the UCP area, siting of the proposed school would be subject to the same requirements of the schools in the UCP area under buildout conditions, including the Education Code and the Public Resources Code. In addition, UCP Policies S 3.1 and 3.2 would ensure that the school would not be placed on a site containing hazardous materials or residual hazardous materials. The effects of this impact in 2015 would be less than significant.

4.7-5 The proposed UCP could use treated wastewater for irrigation, which could be a health and safety hazard.

Applicable Regulations: Title 22 of the California Code of Regulations; California Department of Health regulations; Merced County Department of Health requirements

Significance: Potentially Significant

Mitigation Included in the UCP: Policies IW 4.6, 5.5, 5.6, 8.2, 8.3, 8.4, 8.10, 10.2, and 13.3

Significance After Mitigation Included in the UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Baseline Plus Buildout Scenario

Use of recycled wastewater for irrigation purposes is proposed for Residential Villages 2, 3, and 4. All wastewater generated by Residential Village 1 and the Town Center would be discharged to a wastewater treatment system and not be reused for irrigation.

Infiltration testing at the UCP area has determined that portions of the UCP area are underlain by soils suitable for application of treated wastewater via subsurface drip emitters. During the infiltration testing, it was determined that depending on the ultimate design of the UCP area, and the ratio of permeable to impermeable soils, water reuse in a subsurface irrigation system using treated effluent would be a viable option.⁸ In the areas (soils) capable of accepting water, wastewater from single-family and multi-family households would be treated in advanced septic tanks equipped with recirculating filters to nitrify, denitrify, and greatly reduce the biochemical oxygen demand (BOD), coliform bacteria, and total suspended solids (TSS) in the wastewater. Effluent from the tanks would be conveyed via small-diameter pipes to ultraviolet (UV) disinfection systems, which would produce an advanced level of secondary treated wastewater. This system is called a “decentralized” system. Although the wastewater coming from the decentralized system would not be treated to Title 22 standards, which is the treatment level required for surface application, the level of treatment would be substantially greater than wastewater discharged into subsurface sewage septic fields, which commonly occur throughout Merced County. Disposal of the treated wastewater would be via subsurface drip emitters located in public landscaping areas with suitable soils. The drip emitters would be located 6 to 10 inches below the soil surface to maximize dispersion and uptake by vegetation, which would further treat the wastewater, as the plant roots would absorb additional nutrients found in the treated wastewater. In addition, because the majority of the UCP has an impermeable clay hardpan located within several feet of the ground surface, the potential for treated wastewater to infiltrate into the groundwater table and degrade groundwater quality is low.

During the summer, wastewater generated in the UCP area that is served by the centralized system would be collected in a conventional gravity sewer system and treated in a water recycling plant to produce water for landscape irrigation. The recycling plant would produce disinfected tertiary recycled water, as defined by Title 22 of the CCR for unrestricted use, and a recycled water distribution system would convey disinfected tertiary recycled water to parks, schools, roadway medians, and other landscaping areas throughout the UCP area. This irrigation water would likely be applied onto the ground surface through spraying. There would also be the opportunity to use the recycled water for residential landscaping at those households where the recycled water pipeline runs through the street. The quantity of recycled water produced would depend upon the size of the area to be served by the centralized element.

The use of treated wastewater from the decentralized system for subsurface irrigation purposes would substantially reduce the consumptive water requirements of the UCP area, and would promote water conservation throughout the area. Proper installation and management of this system, in addition to compliance with UCP policies IW 5.6, 8.3, 8.4, 10.2, and 13.3, would ensure that the quality of water used for subsurface irrigation would be appropriate for use, and would not affect the quality of groundwater. In addition, compliance with water treatment standards presented in Title 22 of the CCR would ensure that the quality of the recycled wastewater used during the summer would not affect the health or safety of people or the environment. UCP Policies IW 5.6 and 8.4 would ensure that the

proposed UCP's water treatment plant and decentralized system meets effluent regulatory standards intended for reuse. Compliance with State regulations, Merced County Department of Health standards, and Plan Element policies would ensure that the reuse of wastewater for irrigation would not adversely affect surface or groundwater quality, or public health and safety. In addition, as described in Section 4.8, Hydrology and Water Quality, Impact 4.8-3, the groundwater recharge potential of the UCP area is generally low, as an impermeable hardpan is generally encountered within several feet of the ground surface, which would inhibit the infiltration of irrigation water into the underlying groundwater aquifer. This is a less-than-significant impact.

Existing Plus 2015 Scenario

As indicated above, the proposed use of treated wastewater for subsurface irrigation is recommended for use in Residential Villages 2, 3, and 4. Development by year 2015 could involve the Town Center and Residential Villages 1 and 2. Portions of these areas could be served by either sub-surface drip irrigation or spray application of treated wastewater. Because the same regulations and policies would apply to development at year 2015, the impact would also be less than significant.

4.7-6 The health and safety of people living and working within the proposed UCP area could be affected by activities at the UC Merced campus involving radioactive materials, biohazardous materials, and laboratory animals.

Applicable Regulations: Atomic Energy Act; California Radiation Control Law; Animal Welfare Act; Medical Waste Management Act; Resource Conservation and Recovery Act; California Hazardous Waste Law; Merced County Division of Environmental Health regulations CCR Title 8 and 17; CFR Title 10; United States Department of Health Biohazardous Waste Guidelines; California Senate Bill 14, Hazardous Waste Source Reduction and Management Review Act

Significance: Less than Significant

Mitigation Included in the UCP: None

Significance After Mitigation Included in the UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Baseline Plus Buildout Scenario

The UCP area could be subject to exposure of the materials used in academic research at the adjacent UC Merced campus. Such materials could include radioactive and biohazardous materials, and could involve exposure to laboratory animals. The information presented below briefly describes the potential uses of these materials, and outlines the federal or State laws that would regulate the safety of the materials. This information was adopted from the UC Merced LRDP EIR prepared for University of California by URS.⁹

Radioactive Materials

Radioactive substances may be used in certain types of research at the UC Merced campus. As required by the Radiation Control Law, which is enforced by Radiologic Health Branch of the California Department of Health Services, UC Merced would be required to implement a Radiation Safety Program. The Radiation Safety Program would be required to provide adequate protective measures against radiation exposure and establish a routine monitoring program (including wipe samples, radiation leak detection, and visual inspection) for sealed radiation sources that exceed 100 microcuries. Furthermore, and similar to other University of California campuses, prior to obtaining radioactive materials, each principal investigator would be required to receive a Radiation Use Authorization.

Biohazardous Materials

Various biologically hazardous substances could be used for research at the UC Merced campus, such as recombinant DNA molecules, infectious agents, parasites, and other biological agents. UC Merced would be required to comply with Department of Health and Human Services guidelines contained in *Biosafety in Microbiological and Biomedical Laboratories* and *Guidelines for Research Involving Recombinant DNA Molecules* to classify biohazardous agents and to determine the level of safety precautions that must be used.

Biosafety levels for infectious agents are based on the characteristics of the agent (i.e., virulence, pathogenicity, route of spread, biological stability, and communicability), the quantity and concentration of the agent, the procedures to be followed in the laboratory, and the availability of therapeutic measures and vaccines. Four biosafety levels apply to biohazardous materials operations, depending on the potential of the hazard used. Biosafety Level 1 is for the least hazardous biological agents and Biosafety Level 4 is for the most hazardous biological agents. Biosafety Level 1 agents pose minimal or no potential hazard to laboratory personnel and the environment. Biosafety Level 2 agents are considered to be of ordinary (not special) potential hazard and may produce varying degrees of disease through accidental inoculation; however, Biosafety Level 2 agents may be effectively contained by ordinary laboratory techniques. Biosafety Level 3 agents pose serious risks; therefore, work with these agents would be conducted in contained facilities that have controlled access separate from public areas.

While it is not possible to predict or quantify the actual type and amount of biohazardous materials that would be used at the UC Merced campus, it is anticipated that the majority of biological research conducted at UC Merced would involve the use of relatively low-level biohazardous materials, and that nearly all biological research at UC Merced would be conducted at Biosafety Level 1 or 2. UC Merced would also be required to develop a Biosafety program to minimize community and worker exposure to biohazardous materials hazards through skin contact, ingestion, and inhalation. UC Merced would also be required to prepare an Illness and Injury Prevention Program in accordance with CCR Title 8, and would follow biohazardous waste guidelines established by the U.S. Department of Health.

Laboratory Animal Use

Because UC Merced would be a center for research and teaching in the life sciences, the campus would use animals for both teaching and research. The number of vertebrate animals that would be used in research project cannot reasonably be predicted at this time, but are expected to include rodents.

To ensure proper animal care, similar to other University of California campuses, an Animal Care Committee would be established that would include member representatives from the UC Merced faculty, staff, and the public community.

Summary

The potential impacts associated with exposure to radioactive and biohazardous materials, as well as animals used for academic research, would be less than significant, because the UC Merced campus would be required to comply with all applicable federal and state laws and regulations presented in the UC Merced LRDP EIR.

Baseline Plus 2015 Scenario

The research and development portion of the UCP area's Town Center would be the primary center for any "cross-over" use of radioactive or biohazardous materials, or laboratory animals. However, as anticipated and assumed for buildout conditions, the potential impacts associated with exposure to radioactive and biohazardous materials, as well as animals used for academic research, would be less than significant, because the UC Merced campus would be required to comply with all applicable federal and state laws and regulations presented in the UC Merced LRDP EIR.

4.7-7 Implementation of the proposed UCP adjacent to a private airstrip could create a safety hazard for people residing or working in the UCP area.

Applicable Regulations: CFR Title 14, CCR Title 21, Federal Aviation Administration regulations, Caltrans Division of Aeronautics regulations

Significance: Less than Significant

Mitigation Included in the UCP: Policy AS 1.1

Significance After Mitigation Included in the UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Baseline Plus Buildout Scenario

As previously stated in the Environmental Setting, a small private airstrip used by "crop-dusting" planes and helicopters is located adjacent to the southeast portion of the UCP area (adjacent to Residential Village 4), east of the Fairfield Canal. Airplanes using the landing strip generally takeoff and land towards the direction of the wind, which typically blows from the west/northwest. With takeoffs or landings, airplanes could be flying at low levels over the UCP area, which could be a safety hazard for people living under the airplane flight paths. However, under UCP Policy AS 1.1, the airstrip would be required to comply with applicable FAA and Caltrans Division of Aeronautics regulations and permits,

such as adjacent building height restrictions and ratios, minimum distances from the runway to adjacent property lines, and airspace safety requirements, the safety hazards associated with the airstrip would be less than significant.

Baseline Plus 2015 Scenario

The private airstrip is located near the southeast portion of the UCP area east of the Fairfield Canal. The airstrip is located nearest Residential Village 4; therefore, planes and helicopters would most likely be at their lowest takeoff/landing altitudes above that area. It is not likely that planes would need to fly over other areas of the UCP area in order to cropdust active agricultural areas south of Residential Villages 1 and 2. Therefore, the airstrip would not present a safety hazard to other areas of the UCP area. In addition, as with the Buildout scenario, since the University Community would comply with UCP Policy AS 1.1, and the airstrip, to remain in service, would be required to comply with FAA and Caltrans Division of Aeronautics regulations, the safety implications of airstrip located near the UCP area would be less than significant.

4.7-8 Implementation of the proposed UCP could expose people and structures to wildland fires.

Applicable Regulations: Public Resources Code Section 4291; Merced County Fire Code; Merced County General Plan, Chapter V: Safety, Goal 5, Policies 1 through 6

Significance: Less than Significant

Mitigation Included in the UCP: Policies S 2.3 and 5.1 through 5.3

Significance After Mitigation Included in the UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Baseline Plus Buildout Scenario

The southern portion of the UCP area is generally covered with bare soil and is irrigated for agricultural production; therefore, the southern portion of the UCP area does not have the “fuel” needed to spread wildland fires, such as dense forests or thick underbrush. However, the northern half of the UCP area is covered with annual grasses, which like the lands to the east and northeast, are fuel for wildland fires. In addition, there is the potential for fires to occur within the UCP area and for the fire to spread to the adjacent, non-irrigated grazing land. As stated in the Environmental Setting, the UCP area is located adjacent to land categorized as a Very High Severity Zone for wildland fires; these areas are generally located on the east side of the Fairfield and Le Grand Canals.

The proposed UCP is located within a SRA, as designated by CDF; therefore, in accordance with Public Resources Code 4291, the UCP area would be required to comply with fire defensibility measures, such as fire breaks around structures, clearance of combustible vegetation, and roadway standards to ensure emergency access and egress. The County Fire Code would require that developers provide approved

water supplies capable of delivering adequate fire flows for fire protection to all premises upon which buildings or portions of buildings are constructed.¹⁰ In addition, the Merced County General Plan in its wildland fire policy section (Public Safety Chapter, Goal 5) incorporates policies to minimize the risk of injury and property damage resulting from wildland and urban fires. These policies include establishing water supplies for firefighting, installing sprinkler systems where applicable, providing adequate access to rural areas, and maintaining “clear zones” around new and existing residential structures. These State and Merced County policies shall be applicable to the University Community. In addition, the UCP incorporates policies that would further protect the University Community and adjacent lands from wildland fire hazards. Therefore, because State SRA requirements, County regulations, and UCP policies would ensure that adequate wildland fire defenses are incorporated into development of the University Community, this impact is less than significant.

Baseline Plus 2015 Scenario

Development of the University Community by year 2015 would be required to follow the same fire safe regulations imposed by CDF, as well as County standards and UCP policies requiring an adequate level of fire protection. Therefore, the potential wildland fire impacts for 2015 development would be less than significant.

4.7-9 The presence of the Fairfield and Le Grand Canals could pose safety hazards for people residing within the University Community.

Applicable Regulations: None

Significance: Potentially Significant

Mitigation Included in the UCP: Policies LU 9.7 through 9.9

Significance After Mitigation Included in UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Baseline Plus Buildout Scenario

The Fairfield and Le Grand Canals are owned and operated by MID. The canals originate north of the UCP area at Lake Yosemite, traverse through the Merced Hills Golf Course (the location of the proposed UC Merced Campus), and either traverse the northeastern portions of the UCP area or form its eastern boundary. The levees forming the canals are earthen berms approximately 10 to 15 feet high, and the width of the canals in the vicinity of the UCP area is approximately 40 to 50 feet. The volume and depth of water in the canals vary from season to season and on the water irrigation needs of Merced County. MID maintains a 100-foot easement along the Fairfield Canal and a 150-foot easement along the Le Grand Canal; however, there are few barriers, such as fences, that prohibit people from entering the canals in the vicinity of the UCP area.

Within the canal system are numerous features that could cause bodily harm if someone were to fall into the canals; these include a power plant on the Le Grand Canal (north of the UCP area), low bridges, water siphons under creeks, and metal gates. In addition to the obvious safety concerns associated with drowning in the canal water, additional hazards include broken glass and sharp objects on the banks and within the canals, steep slopes, mechanical equipment within the canals, and other trash and debris materials that collect on the canal beds.

MID maintains a canal safety program for children that includes rules such as: do not play or climb fences near canals; do not walk on canal banks; do not swim in canals; do not play on bridges or gates near canals; do not fish in canals; and do not let young children go near canals.¹¹ Upon development of the UCP area, in accordance with UCP policies, the canals would either be fenced, or other barriers would be installed to protect public safety to MID's satisfaction. The barriers would help to restrict access into and onto the canal; therefore, this would be a less-than-significant impact.

Baseline Plus 2015 Scenario

Development occurring on the UCP area by Year 2015 would be required to comply with UCP Policies LU 9.7, through 9.9, which would, at minimum, require placing fencing or other equally effective barriers along the canals bordering the UCP area. This impact would be less than significant.

Cumulative Impacts and Mitigation Measures

Cumulative Context

The cumulative context for hazardous materials use would be the northeast portion of Merced County surrounding the City of Merced. The project-specific hazardous materials impacts discussed above primarily focus on the use, transportation, storage, and disposal of hazardous materials and hazardous wastes during construction and occupancy of the proposed UCP. Construction-related hazardous materials use, which is regulated by numerous federal, State, and local regulations, would generally be site-specific and would primarily be limited to the duration of development; therefore, they would not add to the cumulative context. However, implementation of the University Community would allow for an additional volume and variety of hazardous materials to exist within Merced County, which would be a cumulative impact.

The potential project-specific public safety impacts discussed above, such as those associated with the adjacent crop-dusting airstrip, wildland fires, and canal safety are all determined to be less-than-significant. Considering the cumulative effects, the adjacent airstrip would not add to the cumulative context because additional development is not anticipated to occur near the airstrip. In addition, the potential hazard issues associated with canal safety would not add to the cumulative context because no additional development is anticipated to occur along MID's canals in the vicinity of the UCP area and UC Merced. Also, MID maintains property easements adjacent to the canals, and would need to be consulted prior to any development. However, because the UCP area is located adjacent to undeveloped land designated a very high fire severity zone, the potential exists for the UCP area to add to public safety hazards associated with the spread of wildland fires.

4.7-10 The proposed UCP, in combination with other development in northeastern Merced County, would increase the volume and type of hazardous materials used, transported, stored, and disposed.

Applicable Regulations: Numerous hazardous materials management laws, primarily contained in Titles 29, 40, and 49 of the Code of Federal Regulations and Titles 8, 19, 22, and 26 of the California Code of Regulations; Merced County Division of Environmental Health Programs

Significance: Less than Significant

Mitigation Included in the UCP: Policies S 3.1, 3.2, 4.1 and 4.2

Significance After Mitigation Included in the UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Cumulative Buildout Scenario

Construction and occupation of the proposed University Community would involve the use, transportation, storage, and disposal of varying volumes and types of hazardous materials and hazardous wastes. However, as described in the Regulatory Setting and the project-specific impact discussions above, hazardous materials and hazardous wastes are highly regulated by numerous federal, State, and local regulations created to ensure public safety and reduce the potential for adverse environmental effects. All development within Merced County, including the proposed UCP and the UC Merced campus, would be required to comply with the same federal and state hazardous materials regulations. Oversight of hazardous materials use within the County would be the responsibility of the Merced County Division of Environmental Health.

Supplementing the existing federal, State, and local hazardous materials laws, UCP policies provide for additional hazardous materials management recommendations. The hazardous materials policies contained in the UCP would ensure that environmental site assessment measures for unknown hazardous materials be conducted prior to site development at the UCP area, and that an environmental professional assess any potential hazardous materials or hazardous waste site. In addition, the hazardous materials policies in the UCP provide for a common Hazardous Materials Management Plan, which would further ensure that the occupants of the proposed UCP are aware of all applicable hazardous materials regulations and the safety programs Merced County residents have for hazardous materials management. Therefore, since all new hazardous materials used, stored, and transported within Merced County would be highly regulated, the proposed UCP's contribution to this impact would be less than significant.

2015 Cumulative Scenario

Year 2015 development would include some development in the proposed UCP's Town Center (which would be the main, if not only, location for large-quantity hazardous materials storage and use), and portions of the UC Merced campus. It cannot be determined at this time how many of the proposed

facilities to be constructed within those areas or Merced County would use hazardous materials, nor can it be determined if the facilities would use large amounts of hazardous materials. However, because hazardous materials within Merced County are highly regulated by numerous federal, state, and local laws and regulations, the potential impacts associated with the use, transportation, storage, and disposal of hazardous materials by Year 2015 would be less than significant.

4.7-11 The proposed UCP, in combination with other development in northeastern Merced County, could increase the potential for wildland fires to occur.

Applicable Regulations: Public Resources Code Section 4291; Merced County Fire Code; Merced County General Plan, Chapter V: Safety, Goal 5, Policies 1 through 6

Significance: Less than Significant

Mitigation Included in the UCP: Policies S 2.3 and 5.1 through 5.3

Significance After Mitigation Included in the UCP: Less than Significant

Additional Mitigation: None required

Residual Significance: Less than Significant

Cumulative Buildout Scenario

As previously discussed, the southern portion of the UCP area is generally covered with bare soil and is irrigated for agricultural production; therefore, the southern portion of the UCP area does not have the fuel needed to spread wildland fires, such as dense forests or thick underbrush. Although the southern portion of the UCP area is located within an SRA designated by CDF, Merced County has designated the southern, as well as the northern, areas within the UCP area as a Local Response Area, as well as the areas located to the west and southwest of the UCP area towards the City of Merced. Local Response Areas are areas where fire hazards are generally reduced because of available fire protection measures. As the UCP area becomes developed, additional water sources and improved site access would be provided, further reducing the potential for fires to occur within the UCP area. Other development in Local Response Areas would not add to a cumulative impact, as development within those areas would also provide improved firefighting abilities.

In contrast to the southern portion of the UCP area, the northern half of the UCP area, which is located adjacent to the proposed UC Merced Campus, is covered with annual grasses, which like the adjacent land to the east and northeast across the Fairfield and Le Grand Canals, are fuel for wildland fires. Because the proposed UCP is located adjacent to land categorized as a Very High Severity Zone for wildland fires, should a fire originate within the UCP area, it could spread onto the UC Merced campus and to other areas off-site. Additional development within or adjacent to Very High Fire Severity Zones, as well as SRAs designated by CDF, could also increase the potential for wildland fires.

To reduce the potential for wildland fires and ensure public safety, the University Community, as well as other development within Merced County, including the UC Merced campus, would be required to

comply with the SRA fire defensibility measures presented in Public Resources Code 4291, which include fire breaks around structures, clearance of combustible vegetation, and roadway standards to ensure emergency access and egress. The Merced County Fire Code would require that developers provide approved water supplies capable of delivering adequate fire flows for fire protection to all premises upon which buildings or portions of buildings are constructed. In addition, the Merced County General Plan in its wildland fire policy section (Public Safety Chapter, Goal 5) incorporates policies to minimize the risk of injury and property damage resulting from wildland and urban fires. These policies include establishing water supplies for firefighting, installing sprinkler systems where applicable, providing adequate access to rural areas, and maintaining “clear zones” around new and existing residential structures. These State and County policies would be applicable to the University Community and other development within Merced County.

In addition, to further ensure that the University Community does not add to the cumulative wildland fire context, the UCP incorporates wildland fire prevention policies that would further protect the University Community and adjacent lands from wildland fire hazards. Therefore, because State SRA requirements and County regulations would ensure that adequate wildland fire defenses are incorporated into development within Merced County, this cumulative impact is less than significant.

2015 Cumulative Scenario

The amount of development by 2015 would be less than the development anticipated under buildout conditions; however, the development occurring within the University Community, as well as the proposed UC Merced campus, would be located adjacent to a Very High Fire Severity Zone. However, as with buildout conditions, development within Merced County would be required to comply with SRA fire defensibility requirements, Merced County General Plan policies, and where appropriate within the University Community, fire prevention measures in UCP policies. Therefore, the UCP’s contribution to the cumulative impact of wildland fires would be less than significant.

ENDNOTES

1. California Department of Forestry and Fire Protection web page, viewed on July 17, 2001 <http://frap.cdf.ca.gov/data/frapgismaps/select.asp>.
2. John Brigham, Bettencourt Aviation, personal communication, July 19, 2001.
3. American Society for Testing and Materials (ASTM) Phase I Environmental Site Assessment guidelines (ASTM E 1527-00) requires that a one-mile radius from a project site's boundaries be checked to determine the presence of potentially hazardous materials sites. A one-mile radius was chosen based on those standards.
4. Environmental Data Resources, Inc., *The EDR-Radius Map with GeoCheck for UCP Area EIR*, Merced, CA, January 29, 2001.
5. Keith Turner, Aviation Safety Officer, Caltrans Division of Aeronautics, personal communication, July 19, 2000.
6. Joe Rodriguez, Federal Aviation Administration, Airports District Office (Burlingame), Planning and Programming Section, personal communication, July 23, 2001.
7. University of California, *2001 University of California, Merced Long Range Development Plan Environmental Impact Report*, August 2001, Section 3.7, Hazards and Hazardous Materials.
8. Environmental Planning Design, *Infiltration Testing & Related Tasks, UC Merced Community Planning Area*, July 10, 2001.
9. University of California, *2001 University of California Merced Long Range Development Plan Environmental Impact Report*, August 2001.
10. Merced County, *Merced County Year 2000 General Plan*, 1989. pg. V-10.
11. MID Canals Safety Program, viewed on July 17, 2001 at www.mercedid.org/kids.htm.