Table 2-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES (*continued*)

Environmental Impact	Level of Significance before Mitigation		Mitigation Measures	Level of Significance after Mitigation	
	LS	S		LS	SU
			Section 1908(F) of the Kings County Zoning Ordinance shall be deleted in its entirety and replaced with the following text: "Applications for proposed new bovine dairy facilities, and substantial expansions of existing facilities, shall be approved through the site plan review process if the applications meet all of the specified criteria of the Element ~~(Section IV and Appendix C)~~. A site plan review may be approved by the zoning administrator for a new or expanded bovine dairy facility if the dairy is in ~~substantial~~ compliance with the design criteria contained in the Element."		
4.7-3 New and expanded dairy facilities allowed under the Element could cause impacts to natural resources and sensitive land uses.	●		4.7-3 *None required.* Implementation of the policies of the Element would reduce the potential adverse impacts to biological and natural resources to a less-than-significant level.	●	
4.7-4 Implementation of the Element will prevent or minimize impacts to residentially zoned lands within the four cities, rural communities, and other sensitive uses.	●		4.7-4 *None required.* Implementation of Policies DE 1.2a, 1.2b, 1.2g, 1.2i, and 1.2j of the Element would reduce the potential noise, lighting, and odor impacts of dairy facility operations and process water irrigation on new subdivision residents within the three cities.	●	
4.7-5 New and expanded dairy facilities allowed under the Element could cause impacts to adjacent individual rural residences in the agricultural areas.	●		4.7-5 *None required.* Implementation of the policies of the Element would reduce the potential noise, traffic, lighting, and odor impacts of dairy facility operations and process water irrigation on nearby residences to a less-than-significant level.	●	
Human Health/Risk of Upset					
4.8-1 Workers could be exposed to hazardous materials during dairy operation, resulting in adverse health impacts.	●		4.8-1 *None required.* Implementation of Policy DE 4.3a and conformance with hazardous materials laws and regulations would reduce this impact to a less-than-significant level.	●	
4.8-2 Potential exposure to residual agricultural chemicals during construction of the dairy facilities, resulting in adverse health impacts.	●		4.8-2 *None required.*	●	
4.8-3 Operation of the dairies could result in increased vector activity, potentially creating adverse human health impacts.	●		4.8-3 *None required.* Implementation of Policies DE 4.3b and 4.3c would reduce impacts related to vector activity to a less-than-significant level.	●	

4.8-4 Operation of the dairy facilities could expose people to dairy manure pathogens, potentially causing adverse human health impacts.	●		4.8-4 *None required.* Implementation of Policies DE 1.2c, 1.2d, 1.2f, 3.1a, 3.2b, 3.2c, 4.1a, 4.1b, 4.1c, ~~6.1h~~ 6.2f, and ~~7.2a~~ 6.4a through ~~7.2c~~ 6.4c would reduce the impact of exposure to pathogens to a less-than-significant level.	●	
4.8-5 Residual manure remaining at dairy facilities following cessation of manure management facilities operation could expose people to elevated methane and nitrate levels, potentially causing adverse human health impacts.	●		4.8-5 *None required.* Implementation of Policy DE ~~5.1k~~ 5.1j will reduce the impacts associated with residual manure to a less-than-significant level.	●	
4.8-6 Construction of dairy facility structures over or near improperly abandoned oil or gas wells could result in accumulation of natural gas within the structures, presenting the potential for fire and explosion. This is a less-than-significant impact.	●		4.8-6 *None required.* Implementation of Policies DE 3.5a and 3.5b of the Element will reduce impacts associated with abandoned oil or gas wells to a less-than-significant level.	●	
Transportation					
4.9-1 Truck and other traffic from new dairy development would be added to County roadways.		●	4.9-1 *The following policy shall be included in the Element:* "Policy DE 3.1g: The Technical Report for new and expanded dairies shall include a Traffic Impact Study (see Component 8 of Appendix J) prepared by a qualified traffic engineer in conformance with guidelines provided by the California Department of Transportation, which demonstrates that the project will not result in degradation of the level of service of adjacent roadways to below Level of Service (LOS) D on County roadways or LOS C on State highways. Additionally, the Traffic Impact Study shall demonstrate that the proposed dairy project will not result in significant safety hazards. Where the Traffic Impact Study determines that the LOS will be degraded to a LOS E or lower on adjacent roadways, a conditional use permit and additional environmental review focused on traffic related environmental issues will be required before any new dairy development or expansion of an existing dairy may occur."	●	
Public Services and Utilities					
4.10-1 Increases in water consumption.	●		4.10-1 *None required.*	●	
4.10-2 Increase in the amount of storm water runoff.	●		4.10-2 *None required.* Implementation of Policy DE 4.1a and conformance with State Confined Animal Facility regulations would reduce impacts related to runoff to a less-than-significant level.	●	

Key: LS = less than significant
S = significant
SU = significant and unavoidable

Table 2-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES (*continued*)					
Environmental Impact	**Level of Significance before Mitigation**		**Mitigation Measures**	**Level of Significance after Mitigation**	
	LS	**S**		**LS**	**SU**
4.10-3 Increases in the demand for police and fire protection, emergency medical response, solid waste collection and disposal services, school facilities, and recreation facilities.	●		4.10-3 *None required.* Implementation of ~~Policies~~ Policy DE 3.6a ~~and 3.6b~~ would reduce the potential for impacts to public services to a less-than-significant level.	●	
Cultural Resources					
4.11-1 Disturbance or destruction of cultural (historical and archaeological) resources. This would be a significant impact if archaeological resources were to be identified at dairy development sites.	●		4.11-1 *None required.* Implementation of Policies DE 3.1d and 3.1e would reduce the potential for disturbance or destruction of cultural resources to a less-than-significant level.	●	

3. PROJECT DESCRIPTION

SECTION 3
PROJECT DESCRIPTION

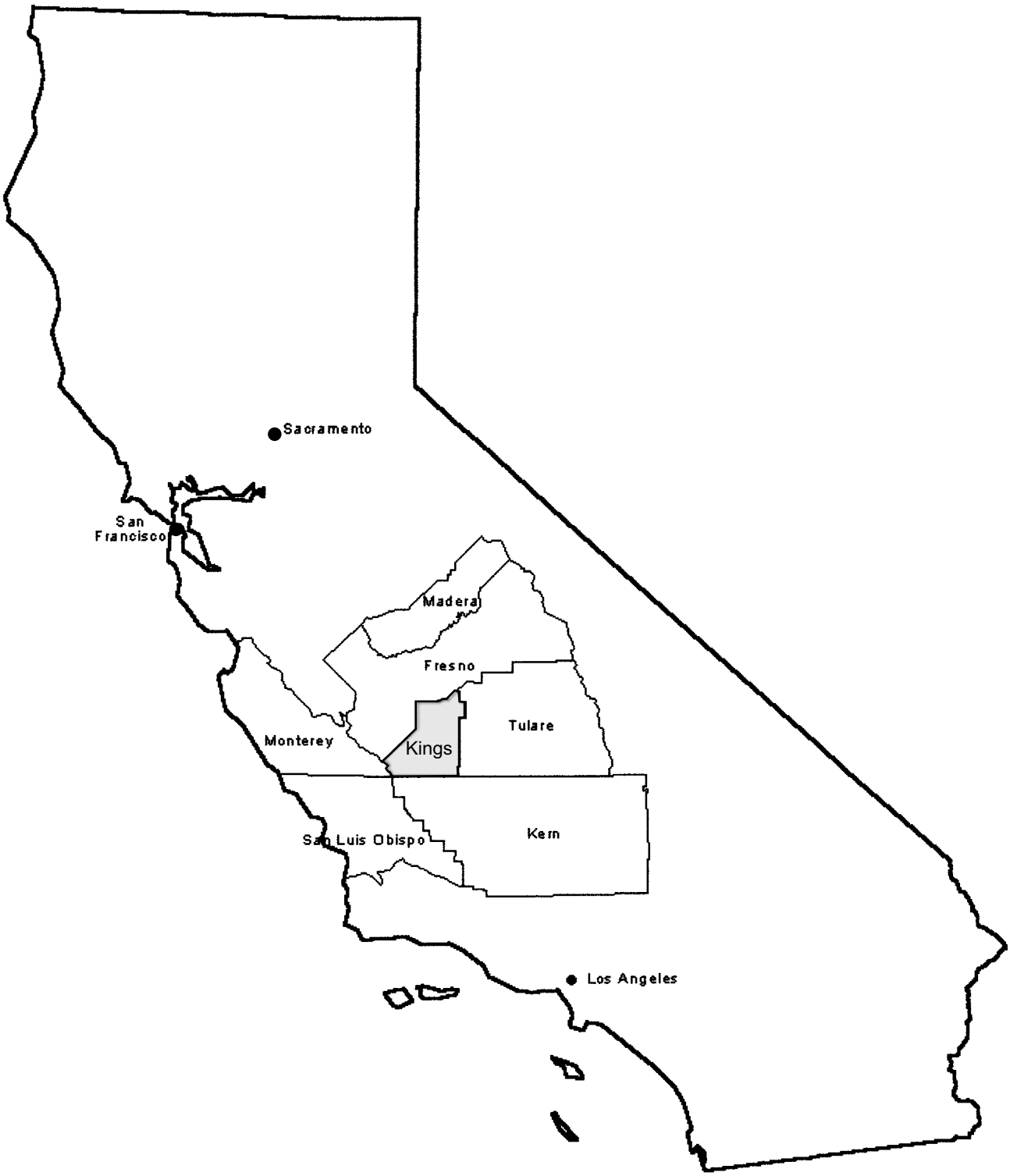
The proposed project, the **Draft Dairy Element of the Kings County General Plan** (developed by the Kings County Planning Agency), presents a comprehensive set of goals, objectives, and policies to guide development, expansion, and operation of milk cow (bovine) dairies within the County. The Draft Dairy Element and associated applicable zoning ordinance amendments (hereafter collectively referred to as the Element) is designed to accomplish two equally important major purposes. The first purpose is to ensure that the dairy industry of Kings County continues to grow and contribute to the economic health of the County. The second purpose is to ensure that the standards established in the Element protect public health and safety and the environment.

The County has determined that the best way to accomplish these combined goals is to adopt a separate General Plan element that establishes development and operational policies for the local dairy industry. The element and associated zoning ordinance amendments will replace existing regulations pertaining to dairy development presented in the current County General Plan and the Kings County Zoning Ordinance. The purpose of this Program Environmental Impact Report (PEIR) is the evaluation of the potential environmental impacts associated with implementation of the proposed Element.

SETTING

Kings County is located in the southern San Joaquin Valley (Figure 3-1). The County is comprised of 1,391 square miles (890,513 acres) of land, predominantly dedicated to agricultural production. The central and eastern portions of the County occupy the relatively flat valley floor; the southwestern portion is characterized by the low hills and intervening valleys of the Kettleman Hills. The 2000 census identified 129,461 people in all of Kings County. In the cities of Avenal, Corcoran, Hanford, and Lemoore, there were approximately 96,907 people, including the 17,874 inmates at the Avenal and Corcoran State Prisons. Another 14,024 people live in the rural communities of Armona, Home Garden, Kettleman City, Lemoore NAS, Santa Rosa Rancheria, and Stratford. The remaining 18,530 people live in the agricultural areas. Irrigated agricultural crop production is the dominant land use on the valley floor and grazing and dry farming predominate in the southwest portion. Kings County is ranked as the 12th leading agricultural county in California (25th in the nation), and is in the top 15 milk producing counties in the nation. Kings County shares boundaries with the top four agricultural counties in the state, Fresno, Tulare, Monterey, and Kern.

PROJECT LOCATION Figure 3-1



Source: Kings County Planning Agency, 2000.

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Milk production has become a major agricultural industry in Kings County. According to the *1999 Kings County Agricultural Commissioner's Annual Report*, dairy production has been the largest cash crop in Kings County in recent years. Milk represents about 31.8 percent of the gross value of agricultural commodities produced in Kings County. In 1999, there were 149 commercial dairies in the County supporting 124,668 milk cows (Appendix A, Table 3).[1] Under current conditions, a large portion of the milk produced within the County is exported to out-of-County processing facilities. However, the recently proposed expansion of the Leprino Foods cheese processing facility in Lemoore will provide additional local marketing options for the County's dairy operators.

As the producer of the leading cash crop, the dairy industry is very important to Kings County's economy. Expansion of the dairy industry within Kings County and the southern San Joaquin Valley is expected. Large dairy operations in southern California, primarily in the Chino Basin, are in the process of relocating their facilities, largely due to land use conflicts with urban uses. Kings County is an attractive option for relocation of these facilities due to the availability of large areas of land in agricultural settings and proximity to the large southern California milk market. Since 1988, an average of four new dairies has been approved by the Kings County Planning Agency on an annual basis. During that period, the yearly average increase in the number of dairy cows has been 4,573 milking cows per year.

Large tracts of agricultural cropland are necessary to implement "rural recycling"[2] of manure generated at the dairy facilities. Under this dairy management concept, manure and process water generated at the dairies are collected and used as fertilizer and soil amendment for production of feed crops to be used at the dairies. The process water also provides supplemental irrigation supply.

Despite these benefits, the generation and reuse of these materials can result in adverse effects on the environment. Volatile components of manure, including reactive organic gases (precursors to ozone formation), ammonia, methane, and hydrogen sulfide, can be released to the atmosphere. In addition, cattle movement in unpaved corrals generates particulate matter. The San Joaquin Valley Air Basin is currently in non-attainment of Federal and State air quality standards for ozone and PM_{10} (particulate matter less than 10 microns in diameter). In addition to potential air quality impacts, overuse of nutrients contained in manure can result in migration of nitrate and salts into surface and subsurface

[1] Following completion of the analysis presented in this PEIR, the University of California Cooperative Extension released updated information on dairies in Kings County. In January 2000, the number of dairies was reduced to 147 and the milk cow herd increased to 130,443 cows (Appendix G).

[2] The reuse of manure generated at a dairy as a fertilizer and soil amendment for crop production and dairy process water as fertilizer and irrigation for crops is commonly referred to as "rural recycling."

waters. In recognition of these important issues, the Element of the *Kings County General Plan* was prepared to establish specific development and operational standards to ensure that the dairy industry can continue to grow while minimizing the potential adverse environmental impacts.

REGULATORY ENVIRONMENT

Water Quality

The design, construction, and operation of bovine dairies are controlled by local, State, and Federal laws and regulations. Confined animal facilities (CAFs), including dairies confining more than 1,000 animal units, must comply with specific provisions of the Federal Clean Water Act, including the requirement that such facilities prepare and implement a Clean Water Action Plan. Such facilities are also required to comply with the State regulations for confined animal facilities, which are codified in Title 27, Division 2, Chapter 7, Subchapter 2, Article 1 ("Confined Animals Facilities") of the California Code of Regulations commencing with Section 22560. These regulations were promulgated by the State Water Resources Control Board in 1984 and are enforced by the Central Valley Regional Water Quality Control Board (RWQCB). The regulations specify that certain minimum standards shall either be implemented in the Waste Discharge Requirements (WDRs) for a particular CAF or made a condition to the waiver of such requirements. In an effort to address the need to permit numerous dairies throughout the Central Valley, the RWQCB adopted General Waste Discharge Requirements for Milk Cow Dairies (Order No. 96-270), which established the specifications for dairy manure and process water management and an application process for dairy operations intending to comply with the requirements of the Clean Water Act. At its discretion, the RWQCB can issue site-specific WDRs for individual dairy operations.

In addition, runoff water quality is also regulated by the Federal National Pollutant Discharge Elimination System (NPDES) Nonpoint Source Program (established through the Clean Water Act); the NPDES Nonpoint Source Program objective is to control and reduce pollutants to water bodies from nonpoint discharges. The Program is administered in California by the California Regional Water Quality Control Boards. Commercial dairies are required to comply with the State NPDES General Construction Permit for discharges of storm water associated with construction activity and with the General Industrial Permit during operation.

Air Quality

The California Air Resources Board (CARB) is responsible for enforcing the federally-required State Implementation Plan (SIP) in an effort to achieve and maintain the national ambient air quality standards. In addition, CARB has established State Ambient Air Quality Standards (SAAQS) for the criteria pollutants as well as for other pollutants for

which there are no corresponding Federal standards. The SAAQS for the criteria pollutants are equal to or more stringent than the Federal standards. CARB is responsible for assigning air basin attainment and nonattainment designations in California.

Analogous to the Federal Clean Air Act (CAA) and its amendments, the 1988 California Clean Air Act (CCAA) requires areas within the State to be designated as attainment or nonattainment with the SAAQS. The CCAA similarly requires that plans be prepared for nonattainment areas describing strategies to achieve the SAAQS. The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) was formed in 1991 and has jurisdiction over air quality issues in the San Joaquin Valley Air Basin, which includes Kings County. The SJVUAPCD and CARB have joint responsibility for attaining and maintaining the State and Federal ambient air quality standards in the San Joaquin Valley Air Basin. The San Joaquin Valley Air Basin is currently in nonattainment for the Federal and State PM_{10} standards.

Agricultural and livestock operations are generally exempt from rules and regulations of the SJVUAPCD that pertain to stationary sources of air pollutant emissions. Therefore, dairies are not required to obtain permits for construction or operation. However, the SJVUAPCD enforces prohibitions for fugitive PM_{10} emissions (Regulation VIII) from outdoor sources, including some aspects of agricultural operations. The SJVUAPCD is in the process of revising Regulation VIII in response to U.S. EPA requirements for approval of the SIP. Draft amendments to Regulation VIII have been developed by the district. The amendments include a new rule (Rule 8081) that addresses PM_{10} emissions from off-field agricultural sources. Rule 8081 presents Best Available Control Measures (BACM), which would apply to dairy operations.

Dairy Design and Operation

The California Food and Agriculture Code (Sections 33481 through 33486) requires the development and enforcement of sanitary requirements and standards for the construction of dairy facilities. The California Code of Regulations (Title 3, Division 2, Chapter 1, Article 22) sets the required standards for dairy design and construction. The standards present specific design requirements for dairy buildings and corrals. Prior to construction, all dairy facilities are required to submit plans and specifications to the California Department of Food and Agriculture for review and approval. The Food and Agriculture Code also requires inspection of dairy farms by a certified milk inspection service. In Kings County, dairy farms are inspected by the Tulare County Environmental Health Services Division.