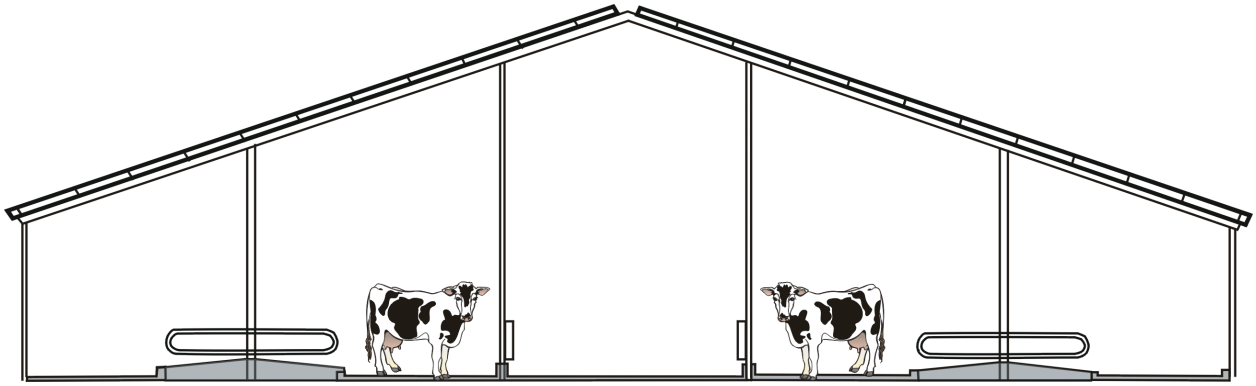
FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT

VOLUME IB

APPENDICES TO RESPONSES TO COMMENTS



REVISED DRAFT DAIRY ELEMENT of the KINGS COUNTY GENERAL PLAN

SCH #2000111133

Kings County, California

11 March 2002

APPENDIX A
Changes to the Draft of the Dairy Element of Kings County

PUBLIC HEARING DRAFT

OF THE

DAIRY ELEMENT

OF THE

KINGS COUNTY GENERAL PLAN

(With the Proposed Changes of the
PUBLIC COMMENT DRAFT Dated May 7, 2001

March 11, 2002

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SUMMARY

The *Dairy Element* of the *Kings County General Plan* contains a series of goals, objectives, policies, and programs. These are designed to accomplish two equally important major objectives. One is to ensure that the dairy industry of Kings County continues to grow and contribute to the economic health of the County. The other is to ensure that the standards established in the *Dairy Element* protect public health and safety and the environment.

Part of the strategy to accomplish this is to set a limit on the number of cows that can be accommodated in Kings County. Section II describes the method used to determine this limit. This element derives the limit by using a model to evaluate the Nitrogen and salt loading capacity of Kings County farmland which utilizes manure generated by cows,~~. The farmland that~~ which is ~~available was~~ further discounted by subtracting the acreage used for other types of animal husbandry manure and biosolids (sewage sludge) applications. The result is that the maximum herd size for Kings County is determined to be 381,980 milk cows (534,772 animal units) and 423,998 head of support stock (335,409 animal units), totaling 805,978 head (870,181 animal units).

The goals, objectives, policies, and programs in the *Dairy Element* include changes in the way dairies are regulated. Under existing general plan and zoning ordinance requirements, expansions of existing dairies and establishment of new dairies must be approved through the conditional use permit (CUP) process. Each review of a dairy proposal must undergo individual environmental review under the California Environmental Quality Act (CEQA). Under the proposed new *Dairy Element* the expansion of existing dairies and establishment of new dairies will be accomplished through the site plan review (SPR) process. ~~The site plan review process is a ministerial act and is not subject to CEQA analysis~~. Dairies may be proposed only within certain specified areas of the County designated in the *Dairy Element* (see Figure 2, page DE-16), and shall only be established after the issuance of a ~~site plan review (~~SPR~~)~~. ~~Dairies may be expanded by the site plan review (SPR) process. All e~~Expansions of existing dairies ~~within their calculated capacity~~ may also be ~~expanded~~ processed by SPR as long as they are consistent with the standards adopted in the *Dairy Element* concerning design, operation, monitoring and reporting. ~~These SPR's are~~ Approval of an SPR is ministerial ~~acts~~ and exempt from individual environmental review as long as a finding of consistency with the Dairy Element can be made. These standards have undergone environmental review in the *Program Environmental Impact Report* (PEIR) prepared as part of the development of this *Dairy Element*. Necessary changes to the *Kings County Zoning Ordinance* are included in Appendix E.

Compliance monitoring and reporting of the dairies of Kings County will be more formal under the new system than in the past. Section V establishes a *Kings County Dairy Monitoring Office* that will monitor new and expanded existing ~~permitted~~ dairy operations to ensure that they operate according to their ~~permit~~ approval requirements. In addition, dairies established before permits were required will be more closely monitored to ensure they do not create nuisances.

The specific ~~criteria including~~ standards for design, operation~~al~~s, and monitoring and reporting requirements are detailed in the policies of this Dairy Element and its Appendices.

SECTION I

INTRODUCTION~~:~~

A. Introduction

Milk production has become a major agricultural industry in Kings County, representing about 31.8% of the gross value of agricultural crops produced. 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. Kings County is ranked as the 12th leading agricultural county in California (25th in the nation), and in the top fifteen milk producing counties in the nation. Kings County's boundaries abut the top four agricultural counties in California. These are Fresno, Tulare, Monterey, and Kern counties (see Figure 1 on page DE-~~1~~4). ~~Milk represents about 31.8% of the gross value of agricultural crops produced in Kings County~~.

Since dairy production is the leading cash crop, the dairy industry is very important to Kings County's economy. It also has the potential to adversely effect the environment. To address these two issues this *Dairy Element* of the *Kings County General Plan* was prepared to establish specific development and operational policies to ensure that the dairy industry can continue to grow with the least amount of adverse environmental impacts.

B. Purpose

The intent of this *Dairy Element* is to guide the physical growth of the dairy industry in general, and the specific development, expansion, and operation of dairies in a manner that protects the public and the environment and enhances the economy in Kings County. This element sets out general policies related to:

1. Specific ~~design criteria~~ standards for the development, expansion, and operation of dairies;
2. Policies for the location of new dairies in Kings County by the site plan review (SPR) process;
3. Dairy expansion policies:
   - A. For dairies with previously issued valid zoning permits, and
   - B. For dairies established prior to 1979 (when ERME-II was implemented), which do not require zoning permits for herds sizes at their 1979 level; and
4. Monitoring and reporting requirements to ensure and to demonstrate compliance with standards~~; and~~.
5. ~~Policies on bringing existing dairies into voluntary compliance with the adopted standards.~~

These policies and ~~design criteria~~ standards are important to ensure that the location, distribution, and operation of dairies do not cause significant adverse effects to other land uses, including, but not limited

to, agricultural, residential, commercial, industrial, public, and military uses and to the environment generally. Monitoring and reporting are necessary to demonstrate that impacts are being mitigated to the extent feasible and that mitigation measures are accomplishing their intended purposes. This will also ensure that other resources such as open space, natural resources, recreation, ~~and~~ scenic vistas, and public facilities will not be adversely impacted.

C. Objectives of the Dairy Element

1. Evaluate the overall ability/capacity of Kings County to host dairies, from the standpoints of both the environment and the economy.
2. Provide standards, including mitigation of environmental impacts and monitoring and reporting of the effects of implementing the mitigation measures ~~implementation effect~~, for the establishment of new and expanded dairies.
3. ~~Develop and adopt~~ Encourage a voluntary ~~phased~~ Dairy Quality Assurance P~~p~~rogram ~~to bring all existing dairies~~ within Kings County~~, that were legally established prior to the requirements for zoning permits, into compliance with these dairy standards within 5 years~~ for those dairies which are not required to comply with the standards of this Dairy Element.

D. Consistency with Other Elements

The *Dairy Element* is consistent with the other elements of the General Plan because all of the elements use the same population, housing, and employment projections. This Element also uses information in the other elements in conjunction with the evaluation of the new policies included herein, and makes recommended changes where necessary to ensure consistency (see Appendix K). Policies of the *Dairy Element* support, and are supported by, policies of the other elements and the policies of all elements are cross-referenced where necessary.

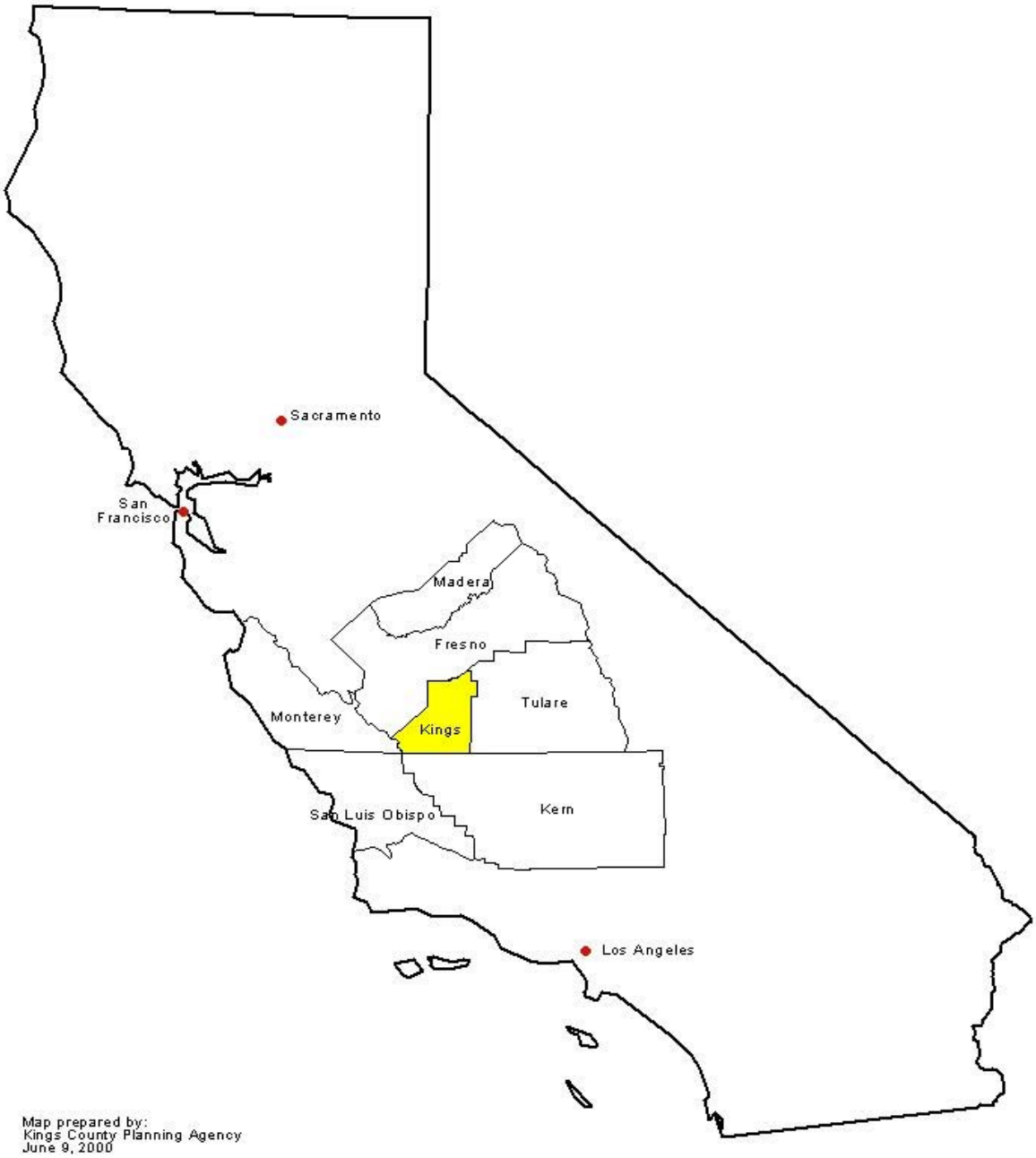
E. Scope and Organization

The *Dairy Element* contains ~~five~~ four major sections, an *Economic Impact Analysis*, and a *Program Environmental Impact Report*:

1. Section II: Determination of the theoretical capacity of Kings County to host dairies in order to establish an upper limit for evaluating the potential effects on the economy and the environment.

2. Section III: Policies addressing the general restrictions for the location and distribution of dairies in Kings County, and streamlining the approval process. These policies address siting constraints such as location relative to other development and protection of various sensitive resources such as wildlife habitat, groundwater, surface water bodies and stream courses.

Figure 1
KINGS COUNTY LOCATION MAP



3. Section IV: Policies addressing the design and management of dairy operations. These policies address minimum dairy operating standards for the protection of the environment and nearby development and land uses.

4. Section V: Monitoring Program to monitor the effectiveness of the mitigation measures for protecting the environment, and ~~a basis for modifying operating standards and permit conditions if the need arises~~ for compliance of each dairy regulated by the *Dairy Element*.

5. Section VI: The vVoluntary ~~program for bringing all existing dairies, that were legally established prior to the requirements for zoning permits, into compliance with the General Plan policies. This section addresses the standards for existing dairy operation to bring their operations into compliance with specific standards for existing dairies within five (5) years~~ Dairy Quality Assurance Program.

6. Section VII: Economic impact analysis and job creation potential of the dairy industry and the multiplier effect of ancillary or "spin off" industries on the economy in Kings County.

7. Section VIII: Program Environmental Impact Report (PEIR) for use as the environmental document for the *Dairy Element*. For future applications for new dairies, expansion of existing dairies, and certification of existing dairies which meet specific standards.

The *Dairy Element* land use map~~, shown on~~ (see Figure 2 ~~in Section III,~~ page DE-16) reflects the dairy siting ~~criteria~~ standards and policies of the *Dairy Element*. This map and the text must be used together in order to fully understand the ~~criteria~~ standards and policies that apply to any particular ~~existing or~~ proposed new or expanding dairy operation.

The *Dairy Element* land use map designations do not include a detailed study of any specific parcel of land. Development of individual parcels of land with dairies is regulated by the standards within the *Dairy Element* and implemented through the *Kings County Zoning Ordinance.* Parcels proposed for new dairies which are consistent with the generally acceptable areas for dairies shown in Figure ~~DE-~~2 (page DE-16) must be evaluated in detail through the site plan review (SPR) process required in the *Zoning Ordinance*. ~~This detailed evaluation and review will show whether certain characteristics of a particular site may or may not warrant issuance of a site plan review.~~

F. Optional General Plan Element

~~Cities and counties are~~ A County is required by law to prepare and adopt a comprehensive, long-term general plan for the physical development of ~~their~~ its jurisdictional area (Cal. Gov't. Code Section 65300). Each general plan must include seven mandatory elements (i.e., Land Use, Circulation, Resource Conservation, Open Space, Housing, Noise and Safety), and may include *optional elements* judged by the legislative body to be related to the physical development of ~~their~~ its jurisdiction (Section 65302 and 65303).

Since the growth of the dairy industry has the potential to significantly effect the physical development of the County, it is appropriate to address dairies in a separate general plan element. The County has determined that such a separate general plan element should be adopted to establish development and operational policies for the local dairy industry. ~~This is because~~ ~~d~~Dairies ~~have continued to increase in~~ are increasingly importan~~ce~~t to Kings County's economy, ~~as well as~~ and the County~~'s~~ is concerned about ~~for~~ the potential effects ~~too many~~ dairies may have on the environment if they are not properly located, operated and maintained.

~~A~~ The Program Environmental Impact Report (PEIR) ~~which will~~ evaluates the policies of the Dairy Element and their effectiveness in protecting the environment from potential impacts associated with dairies ~~supports the Dairy Element~~. A more detailed discussion of the use of a PEIR is provided ~~below~~ in Sections IV and VIII.

G. Background

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 agricultural commodity in Kings County in recent years. Since 1979, Kings County has approved an average of 3.35 new dairies per year and 2.0 expanded dairies per year. Since 1990, there has been an average of 5.1 new dairies and 2.3 expanded dairies per year~~.~~ (See Table No. 1 in Appendix A.)

The trend has fallen off since ~~1990~~ 1994. However, there are indications that new dairies will continue to come into the county, and existing dairies will expand to increase the number of cows that are being milked. This is partly due to the upcoming completion of the terms of many *Williamson Act* contracts in the Chino Basin area of Southern California ~~in the near future, and~~ resulting in those dairies ~~looking for a new location to operate~~ relocating to other areas, such as Kings County. In addition, milk prices, competition and economies of scale require larger herd sizes to continue to compete profitably.

The expected growth in new dairies and expansion of existing dairies will increase the pressures on the local environment due to the addition of more cows to the area and the dairy process water, manure and nutrients they generate. While there are no direct indications at this time that the dairy industry in general is creating any significant adverse environmental problems in Kings County with the exception of certain air quality issues, the *Dairy Element* will examine the capacity of the County to handle additional dairies and increased herd sizes. The *Dairy Element* will examine dairy management practices and standards, analyze the adequacy of those standards, and present both policies and procedures to ensure that the dairy industry can continue to grow and improve the county's economy without causing avoidable significant adverse environmental impacts.

H. Regulatory History of the Kings County Dairy Industry

Kings County began regulating dairies in 1978. The policy relating to livestock concentrations was adopted in late 1976 with the adoption of the *Environmental Resources Management Element, Phase II*, (ERME II). Policy 15 (ERME II, page 33), which stated:

> *"15. Require administrative review and permit of all livestock concentrations to assure adequate waste disposal provisions and separation from conflicting uses."*

This policy was implemented in early 1978 with the amendment of the *Kings County Zoning Ordinance* which classified dairies as land uses subject to an Administrative Approval zoning permit before they could either be established or expanded.

The 1993 update of the *Kings County General Plan* included a statement that animal concentrations were allowed only within the General Agricultural zone districts (Land Use Element, page LU-8). This was to ensure their separation from urban and built-up areas. In 1994 the *Kings County Zoning Ordinance* was amended to eliminate Administrative Approval zoning permits, and concentrated animal feeding operation land uses, including dairies, were designated as conditional uses requiring environmental review, a public hearing, and Planning Commission approval.

I. Current Dairy Herd Sizes in Kings County (January 2000)

As part of the research for this *Dairy Element*, a survey of all known commercial dairy operations in Kings County has been conducted. The questionnaire is included in Appendix C. The following are the number~~s~~ of dairies that were mailed questionnaires and the number of responses:

Dairies (Milk Cows):	149 Questionnaires	34 Responses

The results of the herd size questions in the questionnaire are summarized in Appendix A Table No. 2. These results are compared to the information from the U.C. Cooperative Extension and the U.S. Census of Agriculture.

According to U.C. Cooperative Extension data, in January 2000, there were approximately 124,668 cows (milking and dry) in Kings County. The cows were confined on 149 commercial dairies for an average of 837 milk cows per herd. This number does not include replacement stock such as heifers and calves, or beef cattle grazing on open rangeland. Table No. 3 in Appendix A shows the relative sizes of the dairies and how they have changed since 1988.

This estimate differs somewhat from the data provided in the *1992 Census of Agriculture* by the U.S. Census Bureau. That difference is ~~probably related~~ most likely due to the fact that the Census Bureau reports very small non-commercial dairies. The Census Bureau may include 4-H projects and personal use dairies in addition to commercial dairies. The Census Bureau reported between 20 to 27 small dairies (1 to 9 cows) from 1988 to 1992, and 3 to 7 dairies of less than 100 cows each, during these years (see Table No. 3A in Appendix A).

Thirty-four of the county's 149 dairies (23%) responded to the questionnaire, with 32 (21%) respondents representing an aggregate herd size of 26,635 milk cows in 1999. Extrapolating this data to all 149 dairies points to ~~123,567~~ 124,019 milk cows. This is consistent with the U.C. Cooperative Extension

data. This is an average of 832 milk cows per dairy, which is also consistent with the 837 indicated by U.C. Cooperative Extension data.

Note: The dairy herd figures for ~~2000~~ 2001 released by the U.C. Cooperative Extension became available in April 2001, after the analysis for the Dairy Element and the Program EIR was completed. ~~For informational purposes the~~ The latest reported figures include 130,443 milk cows~~,~~ on 147 dair~~y~~ies, for an average herd size of 887 milk cows.

SECTION II

THEORETICAL CAPACITY OF KINGS COUNTY TO HOST DAIRIES

A. Theoretical Capacity in Kings County for Dairies

Dairies generate liquid and solid (dry) manure. This liquid and dry manure contains nutrients that are essential for plant growth. Properly managed and applied to cropland at appropriate agronomic rates, these nutrients and other constituents become safe fertilizer and soil amendment for crops, including those crops used to feed the cows. However, the manure, and its constituents, if not properly managed could cause pollution to occur in ground and surface water, produce harmful and annoying insects, and create air emissions, odors, and dust at significant levels.

A finite amount of these nutrients can be safely managed by land application within a given area. The California Regional Water Quality Control Board Central Valley Region (RWQCB) has developed a set of worksheets for determining how much Nitrogen and salt are expected to be produced by dairy cows for various types of dairies (i.e., freestalls, flushed corrals, or scraped corrals). The method for estimating nutrients is presented in ~~their~~ RWQCB's *Fact Sheet No. 4*. Using the factors developed by RWQCB and the Nitrogen and salt requirements for various crops provided by the U.C. Cooperative Extension and Natural Resource Conservation Service, a theoretical maximum number of dairy cattle (including support stock) can be estimated based on the crop acreage that is available to use these nutrients in Kings County.

The rationale for using the RWQCB methodology for estimating the theoretical maximum dairy herd in Kings County is based on the County's goal to protect water quality.

Various assumptions must be made in order to generate such a *theoretical estimate* and make sure that it is reasonable and does not underestimate the amount of cropland that is needed. The calculations for the estimate, based on the following assumptions, are presented in Table No. 5 in Appendix A. Reductions in the estimated available acreage for dairy manure application are made to account for the additional Nitrogen generated by other sources. These reductions are listed in Table 5A. After applying these other Nitrogen source adjustments, the theoretical limit of dairy cows can be estimated as shown in Table 5. The acreage estimate adjustments must be made on a continuous basis as land is converted to uses which no longer will support the use of manure from dairies as a fertilizer.

B. Assumptions for Theoretical Capacity of Kings County to Accommodate Dairies

ASSUMPTIONS:

- All assumptions are made using the more conservative estimates when a choice is required unless otherwise indicated.
- One Animal Unit (AU) is based on 1,000 pounds per AU (Source: RWQCB).
- A lactating Holstein cow is equivalent to 1.4 Animal Units (AU) (Source: RWQCB).
- Most existing and future dairies operating in Kings County will be supported by Holstein herds.
- The dairy model used in these assumptions is based on a theoretical herd with the following percentages of support stock and show the actual size of a typical milk cow dairy with support stock (Source: U.C. Cooperative Extension). For presentation purposes, a typical 1,000-milk cow dairy is used in this example:

Animal Type	Percentage Of Herd[1]	Head	AU Factor by Age[2]	Holstein Factor[3]	AU Equivalent
Milk Cows	--	1,000	1.00	1.40	1,400
Dry cows & bred heifers	15%	150	0.80	1.40	168
Heifers (2 yrs. & older)	32%	320	0.73	1.40	327
Heifers (1. to 2 yrs.)	16%	160	0.73	1.40	164
Calves (3 mo. to 1 yr.)	40%	400	0.35	1.40	196
Baby Calves (<3mo.)	8%	80	0.21	1.40	24
TOTALS		**2,110**			**2,278**

NOTES:

1 Based on various sources including the U. C. Cooperative Extension, the percentage figures are the typical ratio of support stock to milk cows in the herd necessary to sustain a herd.

2 A factor based on an animal's age and the amount of manure it produces as compared to a 1,000-lb. animal, which is defined as an Animal Unit.

3 A factor to take into account the fact that Holstein cows are bigger animals, i.e., an adult Holstein milk cow typically weighs 1,400 lbs., 1.4 times bigger than a 1,000 lb. animal.

- The *Dairy Development Overlay Zone* (DDOZ) is that portion of Kings County where the majority of dairies exist and new dairies ~~can~~ may be located (see Table No. 4 in Appendix A and Figure 2 on Page DE-16). The zone contains nine separate areas totaling approximately 394 square miles, 341 of which can accommodate dairy facilities. The *Nutrient Spreading Overlay Zone* (NSOZ), adds another ~~646~~ 642 square miles for liquid and solid manure spreading for a total of ~~1,040~~ 983 square miles of area for dairy facilities and for management and recycling of the nutrients in the manure generated by those dairies (see Figure 2 and Table No. 4).
- All dairy facilities are assumed to have a freestall design. ~~The~~ In the dairy model, the freestall design requires the most land for salt and Nitrogen ~~disposal~~ recycling (thus the lowest density of cows). ~~This can be demonstrated by running the model for each of the management types.~~ The results ~~is that~~ for each of the management types are as follows:

- if all milk cows are in freestalls and support stock are in scraped corrals, ~~less land is required for~~ Nitrogen ~~disposal~~ is the controlling factor,
- if all milk cows are in flushed corrals and support stock is in scraped corrals, ~~more land is required for Nitrogen disposal~~ salt is the controlling factor, and more cows could be accommodated,
- if all cows are in scraped corrals, less land is required for both salt and Nitrogen application, ~~thus~~ and even more cows ~~can~~ could be accommodated.

- Nitrogen is the principal limiting factor for protection of water quality, and salt is the secondary limiting factor for this model.
- Salt and Nitrogen usage assumes both single and double cropping farming methods will be used.
- Salt is generated at a rate of 1.29 lbs. per day per animal unit (AU). Using the "Holstein factor" of 1.4, each Holstein Milk cow will generate 1.81 lbs. of elemental salt per day.
- Nitrogen is generated at a rate of 0.56 lbs. per day per AU. Using the "Holstein factor" of 1.4, each Milk cow will generate 0.78 lbs. of Nitrogen per day.
- Transportation cost of solid manure may limit the range of hauling dry manure.
- Solid manure transported into Kings County from other counties is assumed to be offset by the amount of manure transported out of Kings County.
- In January of 2000 the total number of dairies in Kings County was 149 with an average herd of 837 milk cows plus support stock. These dairies and cows are subtracted from the calculated theoretical limit to determine the additional capacity that can be accommodated. (The January 2001 herd figures were received after the analysis for the Dairy Element and Program EIR was completed~~. It includes 130,443 milk cows on 147 dairies for an average of 887 milk cows per dairy~~.)
- "Harvested selected crops" are those crops on which dairy manure can be applied as fertilizer, verses crops that are grown for direct human consumption.
- Ratio of acres of "harvested selected crops" to all harvested crops countywide from the *1999 Agricultural Crop Report* by the Kings County Agricultural Commissioner is the ratio of "harvested selected crops" to all harvested crops countywide used for the "Dairy Development Overlay Zone" and "Nutrient Spreading Overlay Zone."
- The dairy process water ~~(liquid manure)~~ and solid manure factors are assumptions used in calculating Nitrogen values based on RWQCB's *Fact Sheet 4*. The animals are housed for 365 days~~/~~ per year. The Nitrogen excretion rate is 0.56 lbs.~~/~~ per day per animal unit for the milk cows and 0.45 lbs.~~/~~ per day per animal unit~~s~~ for the support stock. Freestall systems generate 80% ~~and 60%~~ of the manure ~~is generated in freestalls and flushed corrals, respectively, and is handled~~ as liquid, and flushed corral systems generate 60% of the manure as liquid. For milk cows in dry corrals or where alleys and corrals are scraped, 10% of the manure is in process water generated at the milk barn.
- When dairy process water is held less than 30 days and then applied to cropland there is a 50% loss of Nitrogen. ~~and when~~ When dairy process water is held more than 60 days ~~is~~ and applied to cropland there is a 75% loss of Nitrogen. These same rates are assumed for the Nitrogen loss from storage and application of dry manure. These values are based on RWQCB's *Fact Sheet 4*; however, the values may be modified in the future as new information becomes available.

- Adjustments in the acreage available for dairy manure use are made to reflect the Nitrogen loading from other livestock and poultry operations and sewage sludge (biosolids) application operations in the county.

C. Explanation of Tables No. 5 and 5A - Theoretical Dairy Capacity of Kings Co.

A model that calculates the theoretical capacity of Kings County to host dairies based on the nutrients, i.e., salt and Nitrogen, generated by the livestock on dairies is presented in Table 5 of Appendix A. The end result is the amount of nutrients (salt and Nitrogen) that can be utilized by the available cropland. As stated above, Nitrogen and salt are assumed to be the limiting factors for dairies using freestall facilities. Table No. 5 provides the gross acreage available with the selected types of crops where ~~cow~~ dairy manure and process water can be applied. ~~a~~Adjust~~ed~~ments are made to account for the other Nitrogen sources listed in Table No. 5A. Table No. 5A calculates the acreage reduction necessary to account for the other Nitrogen sources applied to cropland.

As shown in Section A of Table No. 5, 381,980 milk cows (534,772 AU) plus 423,998 head of support stock (335,409 AU) can be accommodated based on the above assumptions. Generally a dairy includes both milk cows and support stock. Support stock includes dry cows that are periodically rotated into the milking portion of the herd. In addition, there are bred and young heifers, as well as calves and baby calves. The ratio of support stock to milking cows varies from operation to operation, but on average the ratio is as indicated in Section A of Table No. 5. In addition, Holstein cows are a large breed of cow, and a factor of 1.4 animal units (AU) per head is applied. An AU is equivalent to a 1,000 pound animal, characterized by a Jersey cow. Factors are also given for the age (and theoretical size) of the cows and calves. On average a dairy that milks 1,000 Holstein cows has a total herd of approximately 2,110 head of all ages that are equivalent to 2,278 AU.

Section A of Table No. 5 gives the estimate of the total head and equivalent AUs that can be accommodated based on the assumption ~~about~~ as to the amount of cropland that is available to spread the liquid and solid manure at agronomic rates.

The manure and dairy process water generated from the dairy cows contains various nutrients that are essential to plant growth. These nutrients are a natural fertilizer. To estimate how much fertilizer can be used within Kings County, Section D of Table No. 5 estimates the Selected Crops to Harvested Crops (SC/HC) acreage ratio of crops that can use this kind of fertilizer, which is calculated to be 73.15%. This SC/HC ratio is based on the *1999 Agricultural Commissioner's Report* for Kings County. The estimate is then applied to the total amount of Nitrogen and salt each of these various crops can utilize. Each dairy operation must account for the nutrient load of dairy process water ~~(liquid manure)~~ on the site~~, or area~~ controlled by the dairy operator. The solid, or dry, manure may be accounted for off site.

The model assumes the capacity for managing the Nitrogen is a function of the SC/HC ratio of land in ~~an~~ areas designated as the *Dairy Development Overlay Zone* (DDOZ) and the *Nutrient Spreading Overlay Zone* (NSOZ), where manure and process water may be spread at agronomic rates. These two areas of Kings County are shown on Figure 2 (page De-16). The DDOZ includes about 341 square

miles (217,657 acres) and includes all but about 15 of the existing dairies. The NSOZ includes about ~~646~~ 642 square miles (~~413,693~~ 411,055 acres) where new dairy facilities are not allowed, but manure may be transported and used to fertilize crops there. This model does not consider areas outside of Kings County based on the assumption that the same amount of manure is exported from the county as is imported into the county.

The total available acreage within Kings County, where both liquid and solid manure can be used to fertilize crops, is approximately ~~1,040~~ 983 square miles (~~633,807~~ 628,712 acres). This area is discounted by the SC/HC ratio of 73.15%, leaving a usable cropland area of approximately ~~463,630~~ 459,903 acres to spread the dairy process water and dry manure. However, using the *1999 Agricultural Commissioner's Report* approximately 429,700 acres of selected crops were harvested in the entire County. Therefore, only 73.15% of the selected harvested crops are used in the model, leaving 314,313 acres available for the spreading of the liquid and solid manure. Using the liquid waste and solid waste factors for both the milk cows and the support stock in freestall dairy facilities (with support stock in scraped corrals), the number of cows can be ~~estimated~~ determined.

This acreage must be further discounted to account for the land needed by other sources of Nitrogen (other livestock and poultry operations and sewage sludge applications). Table No. 5A provides this accounting to further reduce the available acreage for dairy manure use by 95,395 acres (including a 20% contingency factor).

D. Theoretical Dairy Herd Capacity for Kings County

The results of this model, as shown in Appendix A, Table 5, estimates that ~~369,383~~ 381,980 milk cows (~~517,136~~ 534,772 AU) and ~~410,015~~ 423,998 head of support stock (~~324,348~~ 335,409 AU) totaling ~~779,398~~ 805,978 head (~~841,484~~ 870,181 AU) can be accommodated within Kings County using current freestall designed dairies. In January 2000 there were estimated to be 124,668 milk cows in Kings County. Assuming the 52.6% support stock to milk cow ratio, there are currently approximately 138,344 head of support stock in the County. Thus theoretically, the potential available remaining capacity in the County is approximately ~~244,715~~ 257,312 milk cows and ~~271,671~~ 285,654 head of support stock.

E. Relationship of Capacity to Air Quality

There is no parallel process, such as using the RWQCB standards, to determine what the capacity is with regard to air quality ~~is~~ in Kings County. The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) does not regulate dairies directly. ~~Draft~~ Rule 8081, however, regarding PM_{10} control measures, applies to certain ~~parts of~~ activities on dairy operations. Compliance with those standards is part of the operational requirements of the Dairy Element. Moreover, the Dairy Element requires use of advanced manure ~~management systems~~ treatment technology, which will greatly reduce many of the air quality impacts of future dairies and dairy expansions. By requiring these and other feasible measures to control air emissions, the Dairy Element will ~~protect air quality~~ reduce the impact of further dairy development and operation within the County and within the Basin.

SECTION III

POLICIES FOR THE LOCATION AND SITING OF DAIRIES~~:~~

A. General Areas Suitable for the Location of New Dairies~~:~~

Potential impacts associated with dairies could adversely affect their neighbors, including "urban" areas, as well as potential future development throughout the County. ~~This~~ Uncontrolled development could have an adverse effect on the economy of the County as a whole. Therefore, dairies and their ancillary uses and support areas shall be located in areas of the County that will not result in significant adverse impacts by dairy development and operation (see Figure 2, page DE-16).

GOAL DE 1: Restrict ~~new~~ the location of new dairies to those areas of the County where they are most compatible with surrounding uses and activities, and where they are consistent with environmental constraints.

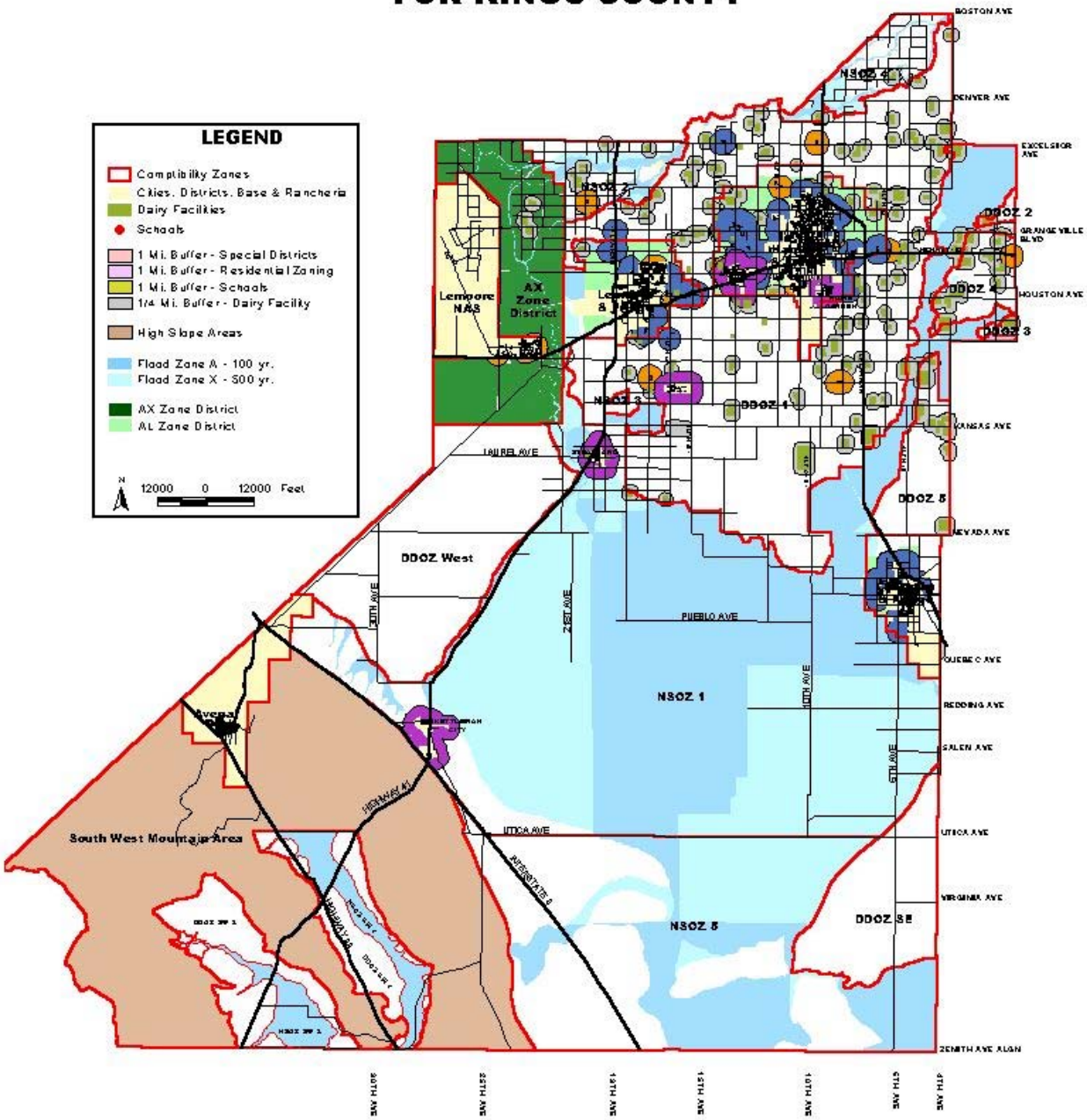
Objective DE 1.1: Protect agricultural uses and land from the encroachment of incompatible non-agricultural use of the land.

Policy DE 1.1a: *Agricultural Land Use Protection:* The *Kings County Right to Farm Ordinance*, Section 14-38 of the *Kings County Code of Ordinances*, states that "agricultural operations are the principal and favored uses of land in areas of Kings County designated 'Agricultural' in the *Kings County General Plan* and included in the Agricultural zone districts of the *Kings County Zoning Ordinance*." ~~This~~ Protection of agricultural activities is accomplished by the adopted policy~~y~~ies to:

(1) Protect agricultural land, operations, and facilities from conflicting uses due to the encroachment of incompatible, non-agricultural uses of the land in agricultural areas of the county, and

(2) Advise developers, owners, and subsequent purchasers of property in the County of the inherent potential inconveniences and discomforts often associated with agricultural activities and operations, including, but not limited to, equipment and animal noise; farming activities conducted on a 24-hour a day, 7-day a week basis; odors from manure, fertilizers, pesticides, chemicals, or other sources; the aerial and ground application of chemicals and seeds; dust; flies and other insects; and smoke from agriculture operations.

FIGURE 2
THEORETICAL DAIRY HERD CAPACITY FOR KINGS COUNTY



~~This policy is~~ These policies are tempered by providing buffer areas around sensitive uses where new more intensive agricultural uses, such as dairies, are prohibited from locating by zoning regulations.

Objective DE 1.2: Use specific ~~criteria~~ standards to avoid potential land use conflicts when approving new dairies and expansions of existing dairies.

Policy DE 1.2a: *Limited Agricultural (AL-10) zone districts*. This zone district ~~is designed to~~ prohibits intensive agricultural activities and uses. It is applied to areas adjacent to cities and rural communities. Animal concentration facilities, including associated dairy process water and manure storage areas, are intensive agricultural uses that are not appropriate in this urban-to-agricultural buffer area. However, manure used as fertilizer and dairy process water used to irrigate~~d~~ cropland may be transported to, and used in, the AL-10 zone districts. New dairy operations should plan to use non-AL-10 locations to provide as much separation as possible from ~~uses~~ areas where there is a higher concentration of people ~~are concentrated in densities of more than one dwelling unit per 20 acres~~.

Dairies that have been in operation since before 1979 or were issued a zoning permit after 1979 may continue to operate and expand. However, ~~any~~ the expansion portion of the activity will be subject to approval of a conditional use permit (CUP) by the Planning Commission.

(Mitigation for Impact 4.7-4)

Policy DE 1.2b: *Exclusive Agricultural (AX) zone districts*. This zone district is designed to protect the Lemoore Naval Air Station (LNAS) from encroachment of uses that are not compatible with the noise generated from the jet aircraft operations at the air station and potential hazards from aircraft accidents. This restriction is on new dairies and is designed to protect the huge investment of tax money at the air station from potential land use conflicts due to jet aircraft noise and accident potentials. Areas used for manure and dairy process water storage and use are not prohibited from the AX zone district, only the location of the actual animal concentration facilities, e.g., corrals, freestall barns, milk barns, pens, lagoons, feed storage, manure storage, etc.

Dairies that have been in operation since before 1979 or were issued a zoning permit after 1979 may continue to operate and expand. However, ~~any~~ the expansion portion of the activity will be subject to ~~approval of~~ a site plan review (SPR).

(Mitigation for Impact 4.7-4)

Policy DE 1.2c: *Flood Zones (Flood Hazard Areas)*. Flood Zones are areas of the County that are subject to periodic flooding. Dairy facilities, including corrals,

barns, manure storage areas, feed storage areas, dairy lagoons, etc., shall not be located on any territory designated on the latest adopted *National Flood Insurance Program, Flood Insurance Rate Maps (FIRM) (Community-Panel Numbers 060086 0001 - 0425)* ~~*dated August 4, 1988,*~~ as Special Flood Hazard Areas Inundated by 100-Year Flood, *Zones A, AE, AO and AH*, *Floodway Areas in Zone AE,* or *Other Flood Areas in Zone X.* The latest Special Flood Hazard Areas Inundated Map is dated August 4, 1988. However, manure used as fertilizer and dairy process water used to irrigate cropland may be transported to and used in the flood zones, if specific safeguards are in place to prevent pollution from these materials~~,~~ (~~i.e., do not spread manure or dairy process water in flood plains during flood period or threat of flooding, and ensure that manure is worked into the soil immediately upon application~~ see Policy DE 3.2d).

Flood protection shall also be provided according to California Regional Water Quality Control Board regulations found in *Title 27, Division 2, Subdivision 1, Chapter 7, Subchapter 2, Article 1, Section 22562, Calif. Code of Regulations*.

(Mitigation for Impact 4.3-2, 4.3-4, 4.3-7, 4.3-9)

Policy DE 1.2d: *High groundwater areas.* ~~Generally, the~~ Dairies are prohibited in shallow or perched groundwater areas of the County ~~shall be prohibited for construction and operation of new dairy facilities~~ unless the applicant can demonstrate that the minimum vertical distance between proposed lagoon bottoms/corral surfaces and highest ~~historic~~ anticipated groundwater levels is at least five feet~~, and specific mitigation measures approved by RWQCB are implemented to ensure groundwater useable for domestic or agricultural uses is protected~~. Highest groundwater levels shall be established based on available records and site-specific geotechnical investigation by qualified professional engineer or hydrogeologist.

(Mitigation for Impact 4.3-7, 4.5-3, 4.7-3)

Policy DE 1.2e: *Designated wetlands and* ~~*undisturbed*~~ *wildlife habitat for sensitive species*. ~~Generally~~ Except as allowed by the conditional use permit process, ~~dairies are prohibited~~ Dairy Facilities shall not locate on wetlands ~~and undisturbed wildlife~~ or habitat for sensitive species. ~~Land that has been continuously cultivated since 1985, or before, is presumed not to qualify as wetland or habitat. Temporarily fallow land which otherwise meets this requirement shall not be assumed to be wildlife habitat simply because it is not being cultivated at any given time. Further detailed survey may be appropriate to accurately determine the presence or absence of wetlands *and* other sensitive biological resources, and the need for avoidance or other mitigation as called for in Policy 3.3a.~~ The SPR process is only available for lands where the detailed survey required by Policy DE 3.3a does not identify wetlands or habitat for sensitive species. Where the survey identifies the presence of wetlands or habitat for sensitive species, a conditional use permit and additional environmental

review will be required before any new dairy development or expansion may occur.

(Mitigation for Impact 4.4-1, 4.4-2, 4.7-3)

Policy DE 1.2f: *Areas of excessive slope.* ~~Generally, d~~Dairies are prohibited in the mountainous southwestern part of Kings County West of Interstate-5 ~~and~~ or the California Aqueduct (whichever is farther west), except for the Sunflower Valley and portions of the Kettleman Plains along State Route 33 south of Utica Avenue ~~and Sunflower Valley~~ (see Figure 2, page DE-16). This is due to the prevalence of slopes exceeding 5% that will make it difficult to contain manure and dairy process water on site.

(Mitigation for Impact 4.3-2, 4.3-5, 4.3-7, 4.3-9)

Policy DE 1.2g: *Areas in the immediate vicinity of schools.* ~~Dairy facilities, including corrals, barns, feed and manure storage areas, dairy lagoons, etc.,~~ New dairies facilities are prohibited from locating within a one-half (½) mile buffer zone around ~~any~~ all existing public or private school sites. An existing dairy which proposes to decrease the separation between its dairy facilities and a school site to less than ½ mile may do so only after approval of a conditional use permit by the Planning Commission. If the existing separation between an existing dairy's facilities and a school site is not proposed to be reduced regardless of its distance to the school site, the site plan review process may be utilized.

~~However, manure~~ Manure used as fertilizer and dairy process water used to irrigate cropland may be transported to and used within school buffer zones, but must be scheduled during weekends or summer vacation when the schools are closed.

~~Existing legally established dairies that do not meet the separation requirements from school sites may be expanded after the issuance of a site plan review. However, under no instances shall the non-conformity in the separation be increased by further encroachment of the actual dairy facility toward the school site.~~

(Mitigation for Impact 4.2-5, 4.7-4)

Policy DE 1.2h: *Separation of dairy facilities by ¼ mile.* The minimum distance between a ~~dairy facility~~ Dairy Facility and other Dairy Facilities or confined animal feeding operations shall be one-quarter (¼) mile. This restriction includes only the actual dairy facilities, i.e., corrals, milk barns, feed storage areas, manure storage areas, etc., but not cropland used to spread dairy process water and manure. These separations are required to avoid potential nuisance problems, potential inter-herd disease transmission, soil and groundwater contamination, and cumulative air quality degradation.

~~Existing legally established dairies that do not meet~~ An existing dairy which proposes to decrease the separation ~~requirement from other~~ between its dairy facilities ~~may be expanded after the issuance of a site plan review. However, under no instances shall the non-conformity in the separation be increased by further encroachment of the actual dairy facility toward the other dairy facility~~ and another dairy's facilities to less than ¼ mile may do so only after approval of a conditional use permit by the Planning Commission. If the existing separation between the expanding dairy's facilities and the other dairy is not proposed to be reduced to a distance of less than ¼ mile, the site plan review process may be utilized.

(Mitigation for Impact 4.2-5, 4.6-2, 4.7-4)

Policy DE 1.2i: *Areas in the immediate vicinity of residential zones.* Dairy facilities, including corrals, barns, feed and manure storage areas, lagoons, etc., are prohibited from locating within a one-half (½) mile buffer zone around any residential zone (land zoned or designated for residential uses by Kings County or any city General Plan or zoning ordinance). However, manure used as fertilizer and dairy process water used to irrigate cropland may be transported to and used within a residential buffer zone.

Existing legally established dairies that do not meet the separation required from residential ~~and special district~~ zones may only be expanded after the ~~issuance~~ approval of a ~~site plan review~~ conditional use permit by the Planning Commission. However, ~~under no instances shall~~ the nonconformity in the separation shall not be increased by further encroachment of the actual ~~dairy facility~~ Dairy Facility toward the residential zone.

(Mitigation for Impact 4.2-5, 4.6-2, 4.7-4, 4.7-5)

Policy DE 1.2j: The "compatibility zone" boundaries around the cities of Hanford, Lemoore, and Corcoran shall be updated periodically to ensure that changes, especially expansions of any city General Plan and/or Sphere of Influence area, are reflected in the "compatibility zone" boundaries.

B. Zoning Requirements for New and Existing Dairies~~:~~

Site Plan Review (SPR) application approval by the Zoning Administrator (ZA) is a ministerial action requiring the ZA to insure all regulations, policies, mitigation requirements, standards, etc., in the *Zoning Ordinance*, *Dairy Element*, and *Dairy Element Program EIR* are met in the design of the facility. The monitoring program described in the *Dairy Element* will ensure that these policies, mitigation requirements, standards, etc., are being implemented or carried out.

The Zoning Administrator's review of the SPR application shall be formal and in writing. It shall include all steps as outlined in the Zoning Ordinance~~s~~ for SPR's, and for dairy reviews as outlined in the

Dairy Element. No additional environmental review is required as long as the ZA makes a specific finding that all applicable provisions of the *Dairy Element* and *Program EIR for the Dairy Element* will be met. The monitoring program as outlined in the *Dairy Element* shall be implemented.

When an application for a new dairy or the expansion of an existing dairy does not or cannot meet all regulations, policies, mitigation requirements, standards, etc. in the Dairy Element, the application will instead be processed as an application for a conditional use permit (CUP). The review of such a CUP will include CEQA review beyond the Program EIR, including tiering of environmental documents as appropriate.

Failure to comply with policies, mitigation requirements, standards, etc., ~~pointed out~~ listed in the SPR will result in revocation proceedings before the Planning Commission. The Planning Commission may revoke the SPR and shut the operation down, or ~~replace~~ rescind the SPR and issue a new CUP with more conditions, monitoring, and reporting requirements. ~~After a period of continuous compliance (probation)~~ Upon request and after appropriate environmental review the Planning Commission, at its own discretion, may reinstate the dairy's SPR status.

~~Failure of~~ If an owner/operator fails to obtain a SPR or CUP before beginning operation of, or expanding, a dairy or other bovine dairy associated confined animal feeding operation, ~~or expansion of an existing such facility, will require the project to be filed as~~ an application for a ~~conditional use permit (~~CUP~~)~~ must be filed with the Planning Commission ~~review and approval~~. The ~~upgrade of the zoning permit~~ CUP requirement is necessary because such an operator/owner of the dairy ~~facility~~ has demonstrated either open disregard of the regulations or ignorance of them. ~~Formal public review is necessary to put the public on notice of this situation and to be vigilant and report any violations of the regulations they may observe.~~

GOAL DE 2: Streamline the permit process for establishing new dairies or expanding existing dairies.

Objective DE 2.1: All new dairies and the expansion of any existing dairies with previously issued zoning permits shall be required to obtain a site plan review (SPR) pursuant to *Article 21* of the *Kings County Zoning Ordinance* before construction or operation begins. For the expansions of existing lawfully established dairies the SPR process shall only apply to the expansion portion of the dairy. The conditional use permit (CUP) process shall be required if the *Dairy Element* standards are not met. Any additional environmental review associated with the CUP process shall cover the deviation from the regulations, policies, mitigation requirements, standards, etc.

Policy DE 2.1a: A SPR will be required for all proposed new or expanding dairies. Based on Regional Water Quality Control Board's (RWQCB) Table 1 of Fact Sheet 4 for Dairies, the SPR review procedures will ~~calculate~~ demonstrate the maximum number of animal units (AUs) the proposed new or expanding dairy

site can potentially accommodate and establish the dairy's calculated capacity. The entire calculated capacity of the site will be removed from the theoretical capacity model for the County and will not be available for any other dairy project. If the dairy expands in the future within the original calculated capacity, it can claim the remaining capacity for its use as long as the farmland used in the calculation of the capacity remains under the ~~dairies~~ dairy's continuous control. In the event there is a variance between these standards and the RWQCB requirements, the more restrictive requirement shall prevail, unless RWQCB specifies a lesser standard in a Waste Discharge Requirement (WDR). In the latter case, the RWQCB standard will prevail.

Policy DE 2.1b: Fluctuation in the herd size~~,~~ ~~below~~ up to the calculated capacity~~,~~ does not require any zoning permits, unless the construction of new facilities including, but not limited to, barns, lagoons, feed and manure storage areas, corrals, etc. are part of the project. For example, if only 75% of the facility calculated capacity is being used and the herd is increased to ~~90~~ 100% of capacity, and no construction of facilities will occur, the dairy is still operating within its original baseline limits of the permit.

Policy DE 2.1c: ~~After the initial construction of the dairy facility has been completed, any new construction for additional AU capacity, up to the original calculated capacity limit of the permit, will require a new site plan review (SPR)~~ For dairies which have a previously-approved CUP or SPR, any construction of new facilities which were not addressed in the original CUP or SPR and which are intended to accommodate additional cows shall require a new SPR, regardless of whether the new construction will result in an increase in the dairy's calculated capacity or not. In such cases, the new SPR shall cover only the expanded facilities, not the entire dairy.

Policy DE 2.1d: Expansions above the originally approved calculated capacity limit of the zoning permit will require a new SPR for the new portion of the dairy facilities. Improvements to, and operation of, the dairy shall ~~be~~ conform~~ing~~ to all mitigation measures found in the Program EIR and policies of this Dairy Element.

Policy DE 2.1e: New dairies or expansions of existing dairies of any kind that do not meet all of the ~~criteria~~ standards in Sections III and IV ~~and V~~ of this *Dairy Element* for siting, design, operation, and monitoring and reporting shall be subject to the conditional use permit process and shall be required to undergo additional environmental review.

Policy DE 2.1f: All applications for new dairies, or the expansion of existing dairies, shall include a *Technical Report* with its ~~various included reports~~ required components, including a Geotechnical Report prepared by a licensed Geotechnical Engineer or certified Civil Engineer. The Geotechnical Report

shall, at minimum, present the results of sufficient subsurface sampling and testing to classify and characterize the soils and groundwater conditions in areas of proposed Dairy Facility structures, feed and manure storage areas, lagoons, and fields where process water and manure will be applied. The report shall include recommendations for foundation design, cut and fill slope design, and site grading. The contents of the *Technical Report* and its components are described in Appendix J.

(Mitigation for Impact 4.1-1, 4.1-3, 4.1-4)

Policy DE 2.1g: An application that does not, or cannot, meet all regulations, policies, mitigation requirements, standards, etc. of the Dairy Element shall be submitted as an application for a conditional use permit (CUP). The Planning Commission may consider alternatives to the Dairy Element's regulations, policies, mitigation requirements, standards, etc., but must ensure that any alternative conditions accomplish the same or higher level of performance as required by the Dairy Element, thus ensuring that the project is consistent with the Dairy Element of the General Plan.

Objective DE 2.2: ~~A site plan review (SPR) will be required for the expansion of any~~ Except for dairies in the AL-10 zone district, for all other dairies which existed prior to 1979, ~~except for dairies in~~ and which do not have previously-approved CUP or SPR, a new SPR shall be required for either (1) the construction of new facilities intended to accommodate additional cows, or (2) an increase in the number of cows above the calculated capacity as determined by the Zoning Administrator. In the AL-10 zone district ~~which will require a conditional use permit~~ a CUP shall be required.

Policy DE 2.2a: Dairies that existed prior to 1979 may expand up to the calculated capacity of the dairy site, including only the land that was under the dairy owner or operator's control, either by ownership or agreement prior to July 1, 1998. ~~That capacity shall be determined by the Zoning Administrator by evaluating ownership records and copies of agreements or leases supplied by the owner or operator, and the existing facility to determine the facility's AU capacity and compliance with the design criteria in this *Dairy Element*.~~ Upon the request of the dairy owner or operator, the Zoning Administrator shall prepare a *Dairy Review Letter* providing the dairy owner or operator with the ~~potential~~ calculated capacity of the existing facility ~~and its compliance with~~ based on the ~~design criteria~~ standards in this *Dairy Element*. The addition of new physical improvements or increase in the areal extent of the Dairy Facility, e.g., lagoons and separation pits, feed storage structures, barns, and expansion of corrals on to land that was not previously occupied by the dairy's facilities, will require approval of a new SPR by the Zoning Administrator.

Dairies with existing zoning permits are subject to the limits of their current zoning permit.

SECTION IV

DESIGN ~~CRITERIA~~ STANDARDS FOR INDIVIDUAL DAIRY PROJECTS~~:~~

A. Design Capacity Component~~:~~

A focus of this *Dairy Element*, and accompanying *Program EIR*, is on the capacity of dairy systems to recycle the by-products, i.e., nutrients, produced from a dairy operation. This concept is not based on a strict animal units (AU) count. Different methods of herd management, dairy process water and manure management, soil types, ground and surface water conditions, crop production management, proximity of receptors, etc., ~~e~~affect the ability of a dairy operator to properly use or recycle by-products generated by a dairy operation, and the degree to which those effects may be significant. The by-products generated by a dairy operation must be properly managed to ensure ~~no~~ significant adverse effects will ~~occur~~ be reduced or eliminated. Therefore, the by-products that are generated ~~should be~~ are the controlling factor when considering a new or expanding dairy. A simple head count with assumptions about average by-product production per animal unit does not address the environmental differences from site to site. A simple animal unit calculation does not account for any innovative practices used to reduce the amount of dairy process water and manure that is generated in the first place, or the way in which it is managed. The *Dairy Element* takes the following principles ~~shall be considered~~ into account when evaluating the capacity of a dairy system:

1. Manure contains unused nutrients from feed that needs to be controlled and directed to crops that could benefit from fertilization.
2. ~~At dairies the~~ The reuse of water to flush manure at dairy sites is an efficient and environmentally sound management activity if combined with an effective manure and dairy process water collection and management system and a crop irrigation management program.
3. A total farm nutrient program that balances the utilization of manure nutrients through crops with the manure produced by the cattle is an essential step toward environmental accountability and sustainability.
4. Because of variations in production levels and systems used in feeding cows, each dairy shall develop its own program for ~~nutrient use~~ manure and process water management.
5. Dairy farmers need to monitor their ~~nutrient~~ manure management system even after theoretical nutrient balance is achieved in order to avoid excess nutrient releases to the environment.

A new dairy, or the expansion of an existing dairy, shall be evaluated for how much process water and ~~solid~~ manure (nutrients such as Nitrogen (N), Potassium (K), Phosphorus (P), salt, etc.) ~~a dairy system is designed to~~ it can accommodate~~ without creating a *significant adverse environmental effect*~~. For existing dairies, changes that reduce the dairy process water and manure components of the operation may be implemented. Under such circumstances an increase in the herd size within the approved design

capacity of the dairy process water and manure handling systems of the operation will trigger a new site plan review (SPR) requirement.

Such changes must be documented and submitted ~~to the Zoning Administrator~~ with the SPR application for review ~~and finding of consistency~~ of the dairy operations compliance with the regulations, policies, mitigation requirements~~,~~ and standards~~, etc~~ in the *Dairy Element* and Program EIR. This review is necessary in order to retain the credit for the reduced nutrient output. Any increase in herd size using the documented credit shall be processed as a SPR. The SPR process is performed to document that the capacity of the dairy's nutrient balance system is not overloaded by the change. Additional evaluation will be required when an expansion of the design capacity of the system occurs to ensure overloading does not occur.

B. General Restriction for Siting Dairies in Kings County~~:~~

When dairies~~, and other animal concentrations,~~ are not operated properly they can cause adverse impacts related to the environment and surrounding land uses. ~~The following~~ Goals Nos. 3, 4, 5, and 6, and their Objectives~~,~~ and Policies have been established to minimize ~~the~~ any degradation of the environment due to the establishment and operation of new dairies~~,~~ and the future expansion of existing dairies. These Goals, Objectives, and Policies apply to the construction and operation of new dairies and the portions of the dairies that are expanded on existing dairies.

GOAL DE 3: Develop a countywide policy for the evaluation and distribution of dairy locations and their operation.

Objective DE 3.1: ~~Consider~~ Apply the mitigation measures in the Program EIR ~~when evaluating proposals for~~ to new or expand~~ed~~ing dairies.

Policy DE 3.1a: ~~Consider, at a minimum,~~ With each application for a new or expanded dairy a technical report shall be prepared and shall address the following ~~criteria for both the general dairy siting criteria and site specific dairy projects~~ siting issues:

A. Ground and surface water quality and quantity,
B. Soil characteristics,
C. Air quality, including dust control during construction~~,~~ and operation, ~~and~~ PM_{10}, odors, ROG, NOx, hydrogen sulfide, ammonia, and methane,
D. Traffic and road conditions,
E. Dead animal disposal management,
F. Insect, i.e., fly, ~~and~~ mosquito ~~control~~, and rodent~~s~~ control,
~~G. Loss of agricultural land,~~
~~H~~G. Light and glare, and noise,
~~I~~H. Biological resources,
~~J~~I. Cultural and archeological resources,

~~K~~J. Slope stability and ~~erodibility~~ potential for erosion,
~~L~~K. Proximity to the nearest residences, and
~~M. Other potential health, safety, and/or nuisance problems that may be identified on a case by case basis, and.~~
L. Irrigation management.

This shall be accomplished by the preparation of the following components of the *Technical Report* as detailed in Appendix J:
1a. Geotechnical Report (Policy DE 2.1f and DE 3.2b),
1b. Groundwater Evaluation (Policy DE 3.2a),
1c. Soils Evaluation (Policy DE 3.2b),
1d. Hydrologic Sensitivity Assessment (HSA) (Policy DE 3.2h),
1e. Gas and Oil Well Evaluation (Policy DE 3.5a),
2a. Manure Nutrient Management Plan (MNMP) (Objective 4.1, Policy 4.1a, 4.1b, 4.1c, 4.1e, and 4.1f),
2b. Comprehensive Dairy Process Water Application Plan (CDPWAP) (Objective DE 4.2, Policy DE4.2a, 4.2b, 4.2c, and 4.2d),
2c. Manure Treatment Management Plan (MTMP) (Policy DE 5.1c, 6.1e, 6.2c, and 6.2d),
2d. Odor Management Plan (OMP) (Policy DE 5.1b, 6.1e, and 6.2d),
2e. Irrigation Management Program (IMP) (Policy DE 4.1b.C),
3. Hazardous Materials Business Plan (HMBP) (Policy DE 4.3a),
4. Pest and Vector Management Plan (PVMP) (Policy DE 4.3b),
5. Dead Animal Management Plan (DAMP) (Policy DE 4.1d),
6. Biological Resources Survey (Policy DE 3.3a),
7. Cultural Resources Evaluation by the California Historic Resources Information System (CHRIS) (Policy DE 3.1d and 3.1e),
8. Traffic Impact Study (Policy DE 3.1g),
9a. Air Quality Assessment (Policy DE 5.1e, 5.1i, and 6.2e),
9b. Fugitive Dust Emissions Control Plan (FDECP) (Policy DE 5.1g, 5.1h, and 6.1e), and
10. Light and Glare, and Noise Assessment.

Additional details for specific areas are listed below in Policies DE 3.1b through 3.2j.

(Mitigation for Impact 4.1-1, 4.2-3, 4.2-5, 4.2-6, 4.2-7, 4.2-8, 4.2-9, 4.2-13, 4.2-14, 4.2-15, 4.3-5, 4.3-7, 4.3-9, 4.5-1, 4.5-4, 4.6-2, 4.7-5, 4.9-1)

Policy DE 3.1b: When nearby rural residences that are not associated with the dairy are located within one-half (½) mile of a proposed new ~~dairy facility~~ Dairy Facility, the ~~dairy facility~~ Dairy Facility improvements shall be ~~constructed~~ located as far as possible from the those ~~nearby~~ rural residences.

(Mitigation for Impact 4.2-5, 4.6-2, 4.7-5)

Policy DE 3.1c: When nearby rural residences that are not associated with the dairy are within one-half (½) mile of a proposed expansion of an existing ~~dairy facility~~ Dairy Facility, the ~~barns, corrals, and lagoons and manure storage areas~~ new improvements of the Dairy Facility shall be located so that the existing separation shall not be reduced.

(Mitigation for Impact 4.2-5, 4.6-2, 4.7-5)

Policy DE 3.1d: The *Technical Report* submitted for new or expand~~ed~~ing dairies shall include documentation that a review of records of known cultural resources has been completed by the California Historical Resources Information System (CHRIS) and that no significant cultural (historic or archaeological) resources would be disturbed by the proposed dairy development (see Component 7 of Appendix J). In addition, the report shall document that a Sacred Lands File Check has been completed by the Native American Heritage Commission (NAHC). If CHRIS or NAHC indicates that known resources are present or suspected within the construction area of the proposed dairy development, the *Technical Report* shall include an evaluation of the resource by an archaeologist qualified under the Secretary of the Interior's Standards and Guidelines for archaeologists which includes an appropriate mitigation plan that will be implemented by the dairy developer. If the survey identifies any impacts on historical, archaeological or paleontological resources, then the applicant will not be eligible to obtain SPR approval by the Zoning Administrator and will instead complete a conditional use permit application process.

(Mitigation for Impact 4.11-1)

Policy DE 3.1e: If potential historical, archaeological or paleontological resources ~~were~~ are encountered ~~at~~ during construction of any site proposed for dairy development, work in the vicinity of the find shall be suspended or diverted. The applicant shall retain a qualified archaeologist to perform an assessment of the resource. Depending on the nature of any such find, evaluation may include determination of site boundaries and assessment of site integrity and significance. Standards for site evaluation shall comply with appropriate State and Federal requirements (including *California Public Resources Code Section 21083.2(i)*). Evaluation shall include, if necessary, site mapping and/or limited subsurface testing using standard archaeological methods in accordance with *CEQA Guidelines Section 15064.5*.

If, after evaluation, ~~an~~ the qualified archaeologi~~cal~~st ~~or paleontological resource is~~ judges an historical, archeological, or paleontological resource to be of importance, a mitigation plan shall be prepared in accordance with appropriate guidelines and submitted to the Zoning Administrator. Mitigation could include avoidance, site capping, data recovery, or a combination of these or other measures, as determined by the qualified archaeologist or paleontologist. Consultation with representatives of recognized local Native American groups

shall be reflected in the development of any mitigation plan affecting Native American cultural resources.

(Mitigation for Impact 4.6-2, 4.11-1)

Policy DE 3.1f: All applications for new dairies or expansions of existing dairies shall continue to be submitted to the Kings County Public Works Department and CalTrans for a determination as to whether encroachment permits or other site-specific transportation improvements are required by those agencies.

(Mitigation for Impact 4.9-1)

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 and 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.

(Mitigation for Impact 4.9-1)

Policy DE 3.1h: The *Technical Report* for new and expanded dairies shall include a design of the outdoor lighting of the Dairy Facility which ensures that the outdoor lighting is so arranged as to reflect light away from adjoining properties.

(Mitigation for Impact 4.6-21)

Policy DE 3.1i: The *Technical Report* for new and expanded dairies shall include an assessment of potential noise generated from the Dairy Facility showing that noise levels comply with the standards in the *Noise Element* of the *Kings County General Plan*.

(Mitigation for Impact 4.5-1 and 4.5-4)

Objective DE 3.2: Suitability for dairy facilities shall be based upon the ability of the site to adequately manage the dairy process water, manure, and associated nutrients generated by the dairy and other potential impacts. Specific nutrient management practices and other ~~criteria~~ standards shall be used to make such determination.

Policy DE 3.2a: The ~~zoning administrator shall compare the suitability of a proposed new dairy or the expansion of an existing dairy to the various groundwater and~~

~~surface water conditions in Kings County~~ *Technical Report* shall address water issues in the Groundwater Evaluation (see Component 1b of Appendix J), the Hydrologic Sensitivity Assessment (see Component 1d of Appendix J), the Manure Nutrient Management Plan (see Component 2a of Appendix J), the Comprehensive Dairy Process Water Application Plan (see Component 2b of Appendix J), and the Irrigation Management Plan (see Component 2e of Appendix J), including:

A. ~~*Depth to first groundwater:* There must~~ Minimum separation from bottom of all lagoons, manure and feed storage areas, and corrals and the groundwater level shall be at least five (5) feet ~~between the highest recorded groundwater level and the lowest point of the dairy facility, e.g., corrals, lagoons, and manure and feed storage areas~~ at all times.

B. ~~*Depth to first useable groundwater for human consumption:* What is t~~The source of potable water for the ~~dairy facility~~ Dairy Facility and nearby properties, and ~~what are~~ the safeguards to protect that water source must be identified.

~~C. Minimum separation from bottom of (lined and unlined) lagoons and corrals to ensure no contamination will occur to the ground water shall be a minimum of five (5) feet.~~

C.~~D. *Proximity to watercourses:*~~ Identify adjacent watercourses and the improvements to protect those watercourses from discharges from a dairy into watercourses or water bodies.

In the event there is a variance between these standards and the RWQCB requirements, the more restrictive requirement shall prevail, unless RWQCB specifies a lesser standard in a Waste Discharge Requirement (WDR). In the latter case, the RWQCB standard will prevail.

(Mitigation for Impact 4.3-7)

Policy DE 3.2b: The ~~zoning administrator shall compare the suitability of various types of soils in Kings County to the crop requirements of the crops grown using the manure and process water from the dairy facility~~ Geotechnical Report (see Component 1a of Appendix J), Manure Nutrient Management Plan (see Component 2a of Appendix J), and the Irrigation Management Plan (see Component 2e of Appendix J), shall:

A. ~~The Technical Report shall d~~Demonstrate~~s~~ the soil type's capacity at the dairy site to assimilate the various nutrients in the dairy process water and manure produced on ~~dairies~~ the dairy for crop production.

B. ~~The Technical Report shall d~~Demonstrate the agronomic rates for crop production needs for the nutrients for the various crops that are grown on cropland irrigated with dairy process water and fertilized with solid manure generated by the dairy, with consideration for the soil types and depth to groundwater.

(Mitigation for Impact 4.3-7)

Policy DE 3.2c: ~~The m~~Minimum Dairy Facility setbacks from water wells~~, surface waters, including rivers, creeks, intermittent streams, canals, reservoirs, lakes, ponds, sloughs, stormwater basins, groundwater recharge basins, floodplains, floodways, etc., of any manured area within the dairy facility limits shall be~~ and water bodies shall be required:

A. Manured and feed storage areas on dairy facilities shall be set back at least 150 feet from wells and water bodies, or as required by the RWQCB in Waste Discharge Requirements.

B. Dairy Facilities shall be designed to ensure that no runoff into surface waters, including rivers, creeks, intermittent streams, canals, reservoirs, lakes, ponds, sloughs, stormwater basins, groundwater recharge basins, floodplains, floodways, etc., will occur. This can be done by constructing barriers or grading the facility away from such water bodies.

(Mitigation for Impact 4.3-2, 4.2-8, 4.3-9)

Policy DE 3.2d: Dairy process water shall not be discharged into any surface water, including rivers, creeks, intermittent streams, canals, reservoirs, lakes, ponds, sloughs, stormwater basins, or groundwater recharge basins~~, floodplains or floodways~~. Discharge of dairy process water onto land in floodplains or floodways shall not occur during periods of flooding. Manure applied to floodplains or floodways must be worked in to the soil immediately upon application. Additional storage capacity for dairy process water and solid manure shall be designed into the Dairy Facility to ensure there is sufficient capacity in case of flooding.

Flood protection shall also be provided according to California Regional Water Quality Control Board regulations found in *Title 27, Division 2, Subdivision 1, Chapter 7, Subchapter 2, Article 1, Section 22562, Calif. Code of Regulations*.

(Mitigation for Impact 4.3-2)

Policy DE 3.2e: ~~Develop requirements for the distribution of~~ Each dairy shall apply dairy process water to crops at agronomic rates, and ensure even distribution of nutrients over the entire crop area so ~~that~~ excessive amounts of nutrients do not cause "hot spots", ~~do not occur~~ where excessive amounts of the nutrients cause crop damage and migrate below the root zone where they cannot be used by the crops.

Policy DE 3.2f: Each dairy shall ~~D~~design, implement, and maintain a monitoring and reporting program ~~for each dairy, and other animal concentrations,~~ to ensure that the operation ~~of the facility meets the adopted standards~~ is in conformance with the *Mitigation Monitoring Plan* (MMP) in the Program EIR, and that significant adverse impacts are avoided. ~~This monitoring program shall include self testing and reporting of specified factors that will indicate whether the operating program~~

~~is meeting the adopted standards~~ See Section V (Goal 6) for monitoring and reporting standards.

Policy DE 3.2g: Existing dairy facilities proposing to expand that are preliminarily determined to be located within the 100-year flood hazard zone shall either:

A. Show that the location of the Dairy Facility is outside of the 100-year flood hazard zone; or

~~A~~B. Be b~~B~~ased on detailed site-specific hydraulic analysis conducted by a licensed civil engineer, demonstrat~~ing~~e to the Zoning Administrator that the facilities are not located within the 100-year flood hazard zone by securing a letter of map amendment, letter of map revision, or similar instrument from the Federal Emergency Management Agency~~,~~; or

~~B~~C. Provide 100-year flood protection for the dairy facilities by constructing ~~*levees*~~ berms or other flood control structures. The applicant must acquire all necessary permits and regulatory approvals~~, or~~ for such structures.

~~C. Show the location of the dairy facility outside of the 100-year flood hazard zone.~~

(Mitigation for Impact 4.3-4, 4.3-9)

Policy DE 3.2h: A Hydrologic Sensitivity Assessment (HSA) (see Component 1d of Appendix J), shall be required as part of the *Technical Report* submitted with all applications for new or expanding dairies. All applicants for new ~~and modified~~ dairies or proposed expansions of existing dairies shall retain a qualified Certified Hydrogeologist or Professional Engineer to conduct ~~a Hydrologic Sensitivity Assessment (~~the HSA~~)~~ when either: ~~A~~1) drinking water wells screened above the E clay are located within one-half (½) mile of the dairy site, or where the E clay is not present, and therefore does not provide a hydrogeological barrier to pollutant transport, or ~~B~~2) the site is located within the Kettleman Plains or Sunflower Valley (areas of limited water supply).

A. Nearby wells screened above the E clay (or E clay is not present): The H~~AS~~SA must consider whether potential pathogen and/or nitrate sources at the dairy could affect the water quality of existing drinking water wells. The H~~AS~~SA must evaluate whether hydrogeologic setting would offer adequate barriers to pollutant migration to drinking water supplies. The evaluation must be conducted in accordance with the principles contained in the EPA's Ground Water Rule.

B~~,~~. Dairies Proposed in the Kettleman Plains or Sunflower Valley~~.~~: Water supply in the Kettleman Plains and Sunflower Valley is limited due to the lack of substantial recharge of the aquifers. Dairies proposed in these areas must complete a H~~AS~~SA to demonstrate that adequate sustainable water supply would be available for each proposed project. The H~~AS~~SA must provide a detailed description of the proposed project water demand

and how that demand would be met without overdrafting groundwater supplies. If the project proposes use of groundwater supplies, the H~~AS~~SA must quantify the safe yield of the underlying aquifer. Allowable groundwater use must be limited to the quantified safe yield. Any additional water requirements must be met with surface water supplies that the applicant can demonstrate are available and reliable.~~ Any proposed dairies located within the Kettleman Plain or Sunflower Valley would be required to complete both components of the HAS (described above).~~

(Mitigation for Impact 4.10-1)

~~A summary report, including conclusions and recommendations, shall be submitted and approved prior to approving SPRs for proposed dairy projects within these areas.~~

Policy DE 3.2i: All existing domestic and irrigation water supply wells (including those located away from the dairy facilities in the cropland areas) at a proposed new dairy or ~~modified~~ proposed expansion of an existing dairy ~~site~~ shall be inspected by a qualified professional to ensure that each well is properly sealed at the surface to prevent infiltration of waterborne contaminants into the well casing or surrounding gravel pack. If any of the wells are found not to comply with the California Well Standards~~,~~ or RWQCB Standards, the applicant or dairy operator shall retain a licensed well driller to install the required seal or functional equivalent certified by a licensed engineer or other qualified registered professional. Documentation of the inspections and seal installations, if any, shall be ~~provided to the County Planning Department prior to commencement of dairy operations~~ maintained on the dairy site and made available to the Dairy Monitoring Office personnel upon their request. This policy applies to all wells located on the Dairy Facility or on any farmland controlled by the dairy and used for the application of dairy process water or solid manure.

(Mitigation for Impact 4.3-7, 4.3-8)

Policy DE 3.2~~k~~j: In addition to local zoning requirements all dairies must comply with the Waste Discharge Requirements (WDR) issued by Regional Water Quality Control Board (RWQCB) for each dairy. ~~This includes WDRs for new dairies and for modifications to existing dairies.~~ The local zoning and RWQCB requirements are separate requirements and must both be followed. In the event there is a variance between these standards and the RWQCB requirements, the more restrictive requirement shall prevail, unless RWQCB specifies a lesser standard in a Waste Discharge Requirement (WDR). In the latter case, the RWQCB standard will prevail.

Objective DE 3.3: ~~The County shall p~~Protect any sensitive biological and wetland resources when evaluating proposed new and expanded dairies ~~by conducting detailed surveys and providing adequate mitigation~~.

Policy DE 3.3a: ~~Prior to approval of~~ All applications for new or expanded ~~dairy operations, biological and wetland surveys, conducted by qualified biological and wetland specialists, shall be required for properties that: contain pasture or range land or natural vegetation; have natural waterways or other wetland features traversing or adjacent to the property; are located within a one mile radius of an established refuge/preserve; or native areas. The surveys shall be conducted in compliance with U.S. Fish and Wildlife Service, California Department of Fish and Game, and U.S. Army Corps of Engineers guidelines, where applicable. Based on the results of the required surveys, the biologist or wetlands specialist shall recommend measures to avoid or minimize impacts on identified biological and wetland resources. These measures may include but are not limited to preferably setting aside sensitive habitat on-site, or providing protection of alternative habitat in another location; locating project features at least 150 feet away from stream banks, lakes and riparian habitat; providing appropriate buffers to protect vernal pools and other wetlands; and designing dairy projects in flood prone areas so that sensitive resources on and off the site will not be inundated with dairy manure or process water during flood events. Mitigation conditions may be required as part of permits issued by jurisdictional agencies for impacts on wetlands and listed special status species. When appropriate, such conditions shall be addressed in the mitigation plans prepared by the biologist or wetland specialist~~ dairies must submit a Biological Resources Survey (see Component 6 of Appendix J). The survey shall be conducted in compliance with the U.S. Fish and Wildlife Services, California Department of Fish and Game, and U.S. Army Corps of Engineers guidelines, where applicable. If the survey identifies impacts on wetlands or habitat for sensitive species, then the applicant will not be eligible to obtain SPR approval by the Zoning Administrator and will instead complete a conditional use permit (CUP) process and additional environmental review. It is the policy of the County, for purposes of siting dairies under this Element, that land continuously cultivated since 1985, or before, will not be considered wetlands or wildlife habitat. Temporarily fallow land which otherwise meets this requirement shall not be considered to be habitat for sensitive species simply because it is not being cultivated at any given time.

(Mitigation for Impact 4.4-1, 4.4-2, 4.7-3)

Objective DE 3.4: ~~The County shall p~~Protect public roads from the potential adverse effect of dairies.

Policy DE 3.4a: All buildings and structures on dairy facilities shall be set back from all public road right-of-ways at least 50 feet. Corrals, feed and manure storage areas,

open sided shade structures shall be set back at least 20 feet from public road right-of-ways.

(Mitigation for Impact 4.9-1)

Objective DE 3.5: ~~The County shall p~~Protect the public from potential hazards associated with active or abandoned oil or gas wells.

Policy DE 3.5a: All applicants for new or ~~modified~~ expanded dairies shall submit documentation with the *Technical Report* indicating that the California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) has reviewed their records for the potential presence of active and abandoned oil or gas wells at or adjacent to (within 100 feet) the proposed dairy site (see Component 1e of Appendix J). If DOGGR identifies wells, the *Technical Report* shall include a scaled map showing the location of the wells on the site plan of the proposed ~~dairy facility~~ Dairy Facility.

(Mitigation for Impact 4.8-6)

Policy DE 3.5b: Any identified abandoned oil or gas wells identified by DOGGR within the proposed dairy site that are located beneath or within 300 feet of a proposed dairy structure shall be properly closed in accordance with specifications provided by DOGGR.

(Mitigation for Impact 4.8-6)

Objective DE 3.6: ~~The County shall m~~Minimize the potential for increased fire hazards at new and expanded dairy facilities.

Policy DE 3.6a: Applications for all new and expanded dairy projects shall demonstrate conformance with all applicable Kings County Fire Department minimum standards for dairy developments. These minimum standards include**:** ~~provisions for storage of fire suppression water supply, minimum access roadway widths, minimum setback requirements for hay storage, and limitations on hay storage height and weight.~~

A. Twenty thousand gallons of water must be stored in a tank on site for fire suppression. The storage tank shall be equipped with a pressure system and a float devise to keep the tank full at all times. The tank shall have a 3-inch discharge line with a 2½ inch National Standard Hose Thread male fitting for Fire Department connection. The male fitting shall have a cap to prevent accumulation of trash and debris within the fitting. The discharge line shall have a valve capable of controlling the flow of water.

B. Access road 15 feet in width shall be provided to all structures, water storage and hay storage areas. The roads shall be of an all-weather surface capable of supporting heavy fire apparatus.

C. Hay storage shall not exceed 20 feet in height. Individual stacks of hay shall be limited to 400 tons and shall have a minimum 20-foot separation between aisles and rows of adjoining haystacks.

D. Hay storage shall not be allowed within 100 feet of a structure.

E. Storage of hay within structures hall be limited to 100 tons. This does not include pole barns.

F. Agricultural shops over 3000 square feet with cutting and welding equipment are required to have automatic fire suppression systems installed. Fire hydrants may be required around structures depending on operation and size.

G. The fire department reserves the right to address requirements on a case-by-case basis depending upon the hazard and size of the risk involved.

(Mitigation for Impact 4.10-3)

~~**Policy DE 3.6b:** As part of the SPR review process, all applications for new and expanded dairy approvals shall be submitted to the Kings County Fire Department to ensure conformance of proposed dairy facilities with minimum fire protection standards for dairies.~~

Objective DE 3.7: The expanded portions of existing dairies must comply with the standards in the *Dairy Element* and all other regulatory requirements.

Policy DE 3.7a: Nothing in this *Dairy Element* shall be construed as a guarantee that any existing dairy that does not meet the standards and regulations for the operation of dairies will be able to make the changes necessary for future expansion. Any dairy that is improperly located, or has other specific characteristics that conflict with the standards of this *Element* or other regulatory requirements, may not be able to expand. Such dairies, with or without expansion, may become nuisances and may be required to take specific corrective action which may include, but not limited to, reducing herd size, increasing cropland application area, or ceasing operation.

C. Dairy System Design Policy~~:~~

The following policies are derived from various sources, including local experience with the regulation of the Kings County dairy industry, California Regional Water Quality Control Board (RWQCB) regulations, *CEQA*, the *Kings County Zoning Ordinance*, and the USDA/USEPA *Unified National Strategy for Animal Feeding Operations, dated March 9, 1999.*

GOAL DE 4: Use specific and comprehensive ~~system~~ manure nutrient management techniques in the operation of dairies.

Objective DE 4.1: A ~~*Comprehensive*~~ *Manure Nutrient Management Plan* (~~C~~MNMP) shall be required as part of the *Technical Report* (see Component 2a of Appendix J) submitted with each application to either establish a new dairy or expand an existing dairy. The specific practices used to implement each component may vary to reflect site-specific conditions or needs.

Policy DE 4.1a: ~~C~~MNMP Components: The following components shall be addressed in the ~~C~~MNMP.

A. *Feed Management* – Evaluate the possibility of modifying diets and feed of the animals to reduce the amounts of nutrients in manure. ~~For example, enzymes such as phytase can be added to animal diets to increase the utilization of Nitrogen and phosphorus. Greater utilization of phosphorus by the animal reduces the amount of phosphorus excreted and produces a manure with a Nitrogen-phosphorus ratio closer to that required by crop and forage plants.~~

B. *Manure Handling and Storage* – Manure must be handled and stored properly to prevent water pollution from dairies. Manure and dairy process water handling and storage practices shall consider odor and other environmental and public health problems. Handling and storage considerations shall include:

1. *Divert~~s~~ion of clean water* – Dairy siting and management practices ~~shall~~ may include diverting clean water from contact with any manured area, including, but not limited to, corrals, pens, freestalls, feeding lanes and areas, feed storage areas, interiors of barns and milking parlors, manure storage and handling areas, dead animal storage areas, and other areas exposed to manure, feed, or dead animals. Clean water includes rainfall falling on roofs of facilities and runoff from adjacent lands, or other sources. If clean water is not diverted from manured areas, the capacity of process water storage facilities (i.e., lagoons) shall be sufficient to collect the additional runoff.

2. *Prevent leakage* – Construction and maintenance of buildings, collection systems, conveyance systems, and storage facilities shall prevent releases of organic matter, nutrients, and pathogens to ground or surface water by implementing the following measures:

   a. All manure separation pits and process water lagoons shall be constructed so that the bottoms of the pits and lagoons are at least five feet above the highest expected groundwater levels.

b. The pits and lagoons shall be maintained so that ~~losses due to infiltration are minimized~~ the integrity of the liners is ensured.

c. The specific discharge of process water through the ~~soils lining~~ bottom and sides of the manure separation pits and lagoons shall not ~~exceed~~ be greater than 1×10^{-5} $^{-6}$ ~~cm/s~~ centimeters per second in compliance with the Geotechnical, Design, and Construction Guidelines published by the Natural Resource Conservation Service (1997).

d. A qualified professional (i.e., Professional Engineer or Certified Engineering Geologist) shall ~~supervise~~ certify that the ~~design and installation of the~~ liner system of a lagoon or pit is installed according to the NRCS design standards.

e. The soil sampling and permeability testing program shall be designed to be representative of all soils lining all proposed pond areas.

f. Construction of the lagoons shall be inspected by a qualified professional to ensure that geologic heterogeneities (e.g., channel deposits and sandy lenses) are identified and properly mitigated to ensure integrity of the liner in compliance with the NRCS standards. The liner must be protected against damage during operation and maintenance activities.

g. At the corrals, naturally occurring or imported clayey (not less than 10% clay) soils shall underlie the corrals and dry manure storage areas. ~~Positive~~ Site drainage shall be included in the project design and construction of any manured area, including but not limited to, dairy surroundings, corrals, and ramps, pursuant to *Title 3, Division 2, Chapter 1, Article 22, §646.1 of the California Code of Regulations* to ensure that ~~excessive~~ ponding does not occur. ~~The design shall comply with *Title 3, Division 2, Chapter 1, Article 22, §646.1 of the Food and Agriculture* for construction and maintenance of dairy surroundings, corrals, and ramps, as described below.~~

h. Regular maintenance of corrals and dry manure storage areas shall include filling of depressions. Care shall be taken not to disturb the seal layer in the corrals. Dairy personnel shall be taught to correctly use manure collection ~~machines (wheel loaders or elevating scrapers)~~ equipment.

i. The potential for discharge of water-borne pathogens to existing and proposed domestic water supply wells shall be minimized by ensuring that the domestic wells are constructed in accordance with the California Well Standards and that appropriate minimum setbacks (150 feet, or other distance set in the Waste Discharge Requirements issued for the dairy by the RWQCB) between ~~the~~ domestic wells and potential sources of pollution are maintained.

3. *Provide adequate storage for manure:*
   a) Dry manure shall be stored in ~~production buildings, storage facilities, or otherwise covered to prevent precipitation from coming into direct contact with the manure~~ a manner to ensure all runoff from the manure storage areas is captured and diverted to the dairy process water collection system.
   b. ~~Liquid manure~~ Dairy process water storage systems shall be designed and constructed to store, handle, and transport all of the quantity and contents of ~~animal manure and~~ dairy process water produced on the Dairy Facility, runoff from the ~~dairy facility~~ Dairy Facility, and rainfall that falls on the Dairy Facility. Location of manure storage ~~systems~~ areas shall ~~consider proximity to water bodies, floodplains, and other environmentally sensitive areas~~ be consistent with Policy DE 3.2c.

4. *Manure ~~treatments~~ Management* – Manure shall be ~~handled and treated~~ managed to reduce the loss of nutrients to the atmosphere during storage, to make the managed manure a more stable fertilizer when land applied, and to reduce pathogens, vector attraction and odors, ~~as appropriate~~ in compliance with DE Policy 5.1c.

(Mitigation for Impact 4.1-3, 4.3-9, 4.8-3, 4.10-2)

Policy DE 4.1b: *Land Application of Manure* – Land application is the most common, and usually most desirable, method of utilizing process water and dry manure because of the value of the nutrients and organic matter to plant growth. Land application shall be planned to ensure that the proper amounts of all nutrients are applied in a way that does not cause harm to the environment or to public health. Land application of manure in accordance with the ~~C~~MNMP~~,~~ shall minimize water quality degradation and public health risk. Considerations for appropriate land application shall include:

A. *Nutrient balance* – The primary purpose of nutrient management is to achieve the application of nutrients at the agronomic rates required to grow the planned crop by balancing the nutrients that are already in the soil and from other sources with those that will be applied in manure and

commercial fertilizer. At a minimum, nutrient management shall prevent the application of nutrients at rates that will exceed the capacity of the soil and planned crops to assimilate nutrients, and will reduce the potential for degradation of water resources. ~~Soils and manure shall be tested to determine nutrient content.~~

Soils and manure shall be tested at least annually to determine nutrient content. The results of the testing shall be evaluated by a qualified soil scientist or agronomist to determine whether adjustments to the *Manure Nutrient Management Plan* are required to prevent crop damage or salt buildup. In the evaluation of salinity, which requires data on concentration variation over time, a statistical methodology for determining trends in numerical data, e.g., Mann-Kendall, shall be selected by the County. The first trend analysis shall be conducted for each dairy after five years of data collection, and then each year thereafter. Buildup of salt in the soil is detrimental to growing crops. Consequently farmers will have a natural incentive to take remedial action upon receiving a report that a salt buildup has occurred.

B. *Timing and methods of application* – Care must be taken when applying manure and process water to the land to prevent it from entering groundwater, streams, other water bodies, or environmentally sensitive areas. The timing and method of application shall prevent the loss of excess nutrients to groundwater or surface water. Additionally, process water shall be applied ~~so as~~ to minimize unnecessary contact with air in order to minimize the release of ammonia into the atmosphere. Manure application equipment shall be calibrated to ensure that the quantity of material being applied is ~~what is planned~~ at agronomic rates. Manure application shall be avoided during periods of high winds (in excess of 20 miles per hour) and when winds are directed at populated areas within ½ mile of the manure application.

C. *Irrigation Management Program* – The owner/operator of the proposed dairy development/redevelopment shall ~~present~~ include an Irrigation Management Program with the *Technical Report* (see Component 2e of Appendix J) to ~~the County Planning Department that~~ ensure~~s~~ that irrigation water and runoff from fields at each dairy unit would not be allowed to migrate away from the project site or into surface water features.

(Mitigation for Impact 4.3-2, 4.3-5, 4.3-7, 4.3-9)

Policy DE 4.1c: *Land Management* – Tillage, crop residue management, grazing management, and other conservation practices shall be utilized to minimize movement ~~(erosion sediments)~~ to surface water and groundwater of soil, organic

materials, nutrients, and pathogens from lands where manure is applied. ~~Riparian buffers, filter strips, field borders, contour buffer strips, and other conservation buffer practices shall be installed to intercept, store and utilize nutrients that may migrate from fields to which manure is applied.~~

(Mitigation for Impact 4.3-2, 4.3-5, 4.3-9)

Policy DE 4.1d: *Dead Animals Management Plan (DAMP)* – A Dead Animal Management Plan (see Component 7 of Appendix J) shall be prepared and implemented for the disposal of all dead animals in a way that does not adversely affect groundwater or surface water, create public health concerns, or cause nuisances due to odor or vectors. The plan shall specify at a minimum that dead animals shall be removed from the dairy within ~~24~~ 72 hours ~~(or 48 hours over a weekend or holiday)~~. Carcasses shall be stored in an area screened from public view and accessible via an all weather road or driveway. No animals shall be buried on site unless by order of an officer of a regulatory agency with jurisdiction over dead animal management, including, but not limited to, the County Agricultural Commissioner, the County Health Officer, and State and Federal Agencies.

Since rendering is the most common method used to dispose of dead animals, a ~~contract with a company that picks up dead stock and delivers it to~~ plan for the timely delivery of dead stock to appropriately permitted facilities that will process the dead stock will adequately serve as ~~a~~ the *Dead Animal Management Plan (DAMP)* ~~if the contract meets all of the above requirements. Submittal of a contract for dead animal removal to the Dairy Monitoring Office may serve as the DAMP~~.

(Mitigation for Impact 4.3-5)

Policy DE 4.1e: *Record Keeping* - Dairy operators shall keep records that indicate the quantity of manure produced and ultimate utilization, including where, when, and amount of nutrients applied on-site through irrigation with process water or as dry manure, or sold to a commercial broker. Soil and manure testing shall be incorporated into the records management system. These records will be ~~kept on~~ maintained by the dairy ~~site~~ and shall be made available to the Dairy Monitoring Office personnel ~~for on-site review and inspection~~ upon their request.

Policy DE 4.1f: *Other Utilization Options* – In environmentally sensitive areas, where the potential for environmentally sound land application is limited, alternative uses of manure, such as the sale of manure to other farmers, composting and sale of compost to home owners, and using manure for power generation may need to be considered in the Manure Treatment Management Plan (MTMP). All manure utilization options shall be designed and implemented to reduce the risk to all environmental resources and must comply with Federal, State, and local law.

Objective DE 4.2: A "*Comprehensive Dairy Process Water Application Plan*" (CDPWAP) (see Component 2b of Appendix J) shall be required as part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. ~~The specific practices used to implement each component may vary to reflect site-specific conditions or needs.~~

Policy DE 4.2a: ~~CPWAP Components:~~ The following components shall be addressed in the CDPWAP~~, as necessary~~:

A. ~~Enforceable and recordable~~ When an applicant for a new dairy or the expansion of an existing dairy will use his or her own land for the application of process water ~~use documents must be provided as follows~~ and/or manure:

1. The ~~applicant~~ CDPWAP shall include a legal description of all lands that will be used for process water and/or manure application.
2. The CDPWAP shall ~~submit an enforceable and recordable agreement in a form approved by the Zoning Administrator specifying the terms of the use of the dairy's process water and manure. This shall include the~~ estimated amount of water and/or manure that will be ~~delivered and accepted~~ generated by the dairy (including an estimate of the Nitrogen and salt content of the dairy process water and/or manure). ~~The dairy operator and the owner of the land where the dairy's process water will be applied, and the County shall sign the agreement. This agreement will be recorded after issuance of the SPR for the proposed new dairy, or expansion of an existing dairy, but before the new dairy, or expansion area, becomes operational. This agreement is also required when the dairy operator owns the land where the dairy process and solid manure will be used/disposed. The term of the SPR shall not exceed the term of the agreement. In order to operate the dairy, the operator must have a valid dairy process water and manure agreement in force. Termination of the agreement approved by the zoning administrator is a violation of the SPR and the dairy operation becomes illegal unless an alternate agreement is substituted and approved by the zoning administrator. The agreement must specify:~~
3. Prior to selling any land on which process water and/or manure is applied, the dairy owner/operator shall notify the Zoning Administrator and:
   a. Provide substitute land or enter into an agreement with another land owner to replace the land upon which the process water and/or manure is applied, or

b. Immediately reduce the dairy herd to a level that can be accommodated by the remaining land identified in the SPR or CUP.

4. Changes made in the operation pursuant to section 3. above must be reflected in an amendment to the dairy's SPR or CUP.

C. When the application for a new dairy or the expansion of an existing dairy will use land other than his or her own land for application of dairy process water and/or manure:

1. The CDPWAP shall include a legal description of all lands that will be used for process water and/or manure application.
2. The CDPWAP shall estimated amount of water and/or manure that will be generated by the dairy (including an estimate of the Nitrogen and salt content of the dairy process water and/or manure).
3. An agreement shall be recorded by the dairy owner/operator and the owner of the land identified in the CDPWAP where the dairy's process water and/or manure will be used containing the following provisions:
   a) The agreement ~~is for the proposed dairy or expansion, and identifies the dairy facility by name and location. The agreement~~ shall include a legal description of all lands burdened by the obligation of the agreement.
   b) ~~The land identified in the agreement for the use of dairy process water and manure shall not have any other dairy process water or water disposal agreement currently upon it or added in the future~~ The agreement shall identify the Dairy Facility generating the process water and/or manure by name and location.
   c) The agreement ~~may not be transferred to any other dairy or animal feeding operation without the prior approval of the Zoning Administrator. If such transfer occurs the original dairy must cease operation or simultaneously enter into a new agreement elsewhere which the Zoning Administrator must approve~~ shall state that the identified land shall not be converted to any use which cannot accommodate the dairy's process water and/or manure.
   d) The agreement ~~must restrict the use of the land to cropping patterns which use the nutrients from the dairy process water and manure generated from the new or expanded dairy facility. The lowest nutrient utilization rate of the cropping pattern shall be used in the calculations for nutrient utilization~~ shall be binding on all successors in interest as long as the agreement is in force.

e) The agreement must ~~be binding upon the current property owner's successors in interest as long as the agreement is in force~~ restrict the use of the land to cropping patterns which use all of the nutrients from the process water and/or manure generated from the new or expanded Dairy Facility (less any nutrients used on the dairy owners own land). The nutrient utilization rate used in the calculations for nutrient utilization of the cropping pattern shall be established by a Certified Agronomist.

f) The ~~dairy operator~~ agreement shall ~~have control of the~~ coordinate timing of the delivery of the dairy process water and/or manure ~~application on the land subject to the agreement~~ in conformity with the Dairy Facility's IMP (Policy DE 4.1b.C) and MNMP (Policy DE 4.1a) to assure adequate storage capacity is available at he Dairy Facility.

g) ~~The agreement must be approved by the zoning administrator and will become part of the SPR. The Zoning Administrator must approve any change in the terms of the agreement~~ To ensure that the process water and/or manure is applied to crops in accordance with the requirements of the *Dairy Element*, the agreement shall either:

i. Allow the dairy owner/operator to enter the land the land identified in the agreement to carry out the application of the dairy process water and/or manure in accordance with the requirements of the *Dairy Element*, or

ii. Obligate the owner of the land identified in the agreement to carry out the application of the dairy process water and/or manure in accordance with the requirements of the *Dairy Element*.

4. The agreement shall be recorded after the SPR of CUP is approved, but before any cows are brought to the site.

5. Prior to terminating the agreement, the dairy owner/operator shall notify the Zoning Administrator and either:

a. Provide a substitute agreement with another land owner to replace the land within the terminated agreement, or

b. Immediately reduce the dairy herd to a level that can accommodated by the remaining land under the SPR or CUP, or agreement.

6. Changes made in operation of the dairy pursuant to section 5 above shall be reflected in an amendment to the dairy's SPR or CUP.

7. The land identified in the agreement for the use of dairy process water and/or manure shall not already be subject to any other dairy process water and/or manure use agreement.

8. The Zoning Administrator for an amendment of the SPR, or the Planning Commission for an amendment of the CUP must approve any change in the terms of the agreement.
9. If application of process water and/or manure on land identified in the agreement is not carried out in conformity with the requirements of the *Dairy Element*, it shall be the responsibility if the dairy owner/operator to correct such problems. Any such violations of the Dairy Element Standards shall subject the owner/operator of the Dairy Facility to enforcement action by the County or other responsible agency, as provide in the *Dairy Element*, the *Zoning Ordinance*, or State law.

C. When the applicant for a new dairy or the expansion of an existing dairy uses a combination of his or her land and land other than his or her own land for application of dairy process water and/or manure, both A and B above shall apply.

Policy DE 4.2b: Lagoons for treating and storing dairy process water and manure may be used provided that ~~approved control of~~ air emissions are controlled using ~~best available control measures (BACM) is implemented~~ advanced manure treatment technology, as required by Policy DE 5.1c. All areas occupied by cows shall be graded in such a manner that ensures runoff water will flow into and be contained within a lagoon until used for fertilizer or irrigation purposes. Water that does not come into contact~~s~~ with manured areas ~~occupied by cows~~ or feed storage areas ~~shall~~ may be diverted away from such areas and not allowed into the lagoon. All contents of a lagoon shall be managed so that it is applied to cropland at agronomic rates and used only for approved purposes and in an approved manner.

Policy DE 4.2c: The sale of ~~dry~~ manure from a dairy to other farmers or commodity brokers shall not require an agreement as described in Policy DE 4.2a above. Sale of ~~solid~~ manure produced on a dairy ~~site as a fertilizer or soil amendment~~ shall not be regulated ~~as long as the manure is from that dairy operation~~, but the quantity, date removed, and location where it was transported shall be documented. These records shall be maintained on site and made available to Dairy Monitoring Office personnel upon their request.

Transporting manure from other dairies into ~~the~~ a dairy for subsequent sale or distribution to a third party would constitute a "fertilizer sale yard" and is subject to a separate conditional use permit application and approval.

Policy DE 4.2d: Failure to obtain the Zoning Administrator's approval of any change to the agreement described in Policy DE 4.2a will be a violation of the *Kings County Zoning Ordinance* and the site plan review (SPR), and may result in the revocation of the dairy's ~~zoning permit~~ SPR or CUP approval. Failure to implement an agreement as approved by the Zoning Administrator shall also be a

violation and may be grounds for revocation of the dairy's ~~zoning permit~~ SPR or CUP approval.

Objective DE 4.3: Promote dairy management facility practices that protect workers, ~~and~~ public health, and the environment.

Policy DE 4.3a: Dairy operators shall conform to all applicable laws and regulations controlling the management of hazardous materials, including fuels, pesticides, and other agricultural chemicals (see Component 3 of Appendix J).

(Mitigation for Impact 4.8-1)

Policy DE 4.3b: ~~The County shall require that dairy operators include an Integrated Pest~~ A *Pest and Vector Management Plan* (~~I~~PVMP) ~~as part of the Technical Report~~ shall be submitted with each application to either establish a new dairy or expand an existing dairy as part of the *Technical Report* (see Component 4 of Appendix J). ~~The IPM plan shall be designed to use good housekeeping practices as the primary tool to combat vector infestation. Controlled chemical use may supplement the program when chemicals are recommended by a pest management professional to be applied~~ In addition, dairies are encouraged to implement an *Integrated Pest Management* (IPM) system.

(Mitigation for Impact 4.8-3)

Policy DE 4.3c: The County shall require that all dairy operators ~~agree to~~ follow all Kings Mosquito Abatement District requirements concerning vector control at the ~~dairy facility~~ Dairy Facility.

(Mitigation for Impact 4.8-3)

Objective DE 4.4: Promote protection of San Joaquin Valley water quality through the adoption of compliance with the water quality objectives of the Water Quality Control Plan for the Tulare Lake Basin-Second Edition 1995 (Tulare Lake Basin Plan) for dairy projects.

Policy DE 4.4a: On August 17, 1995, the California Regional Water Quality Control Board, Central Valley Region, adopted the current Water Quality Control Plan for the Tulare Lake Basin. Such plans are required by the state *Porter-Cologne Water Quality Control Act* and federal *Clean Water Act*.

Under *CEQA Guidelines section 15064.7*, a County may adopt thresholds of significance to determine the significance of environmental effects. ~~In this Element, the County determines that~~ The County hereby adopts compliance with the water quality objectives of the Basin Plan as the threshold of significance for impacts to water quality from implementation of the Dairy Element Therefore, dairy projects that 1) comply with the Basin Plan and 2) comply with the provisions in the Element allowing approval of a site plan review (SPR), do not create cumulatively significant environmental impacts on water quality. ~~The~~

~~Element expressly incorporates compliance with all applicable provisions of the Basin Plan. Thus, once the Zoning Administrator determines that a dairy project is consistent with the Element, no further review of the dairy's cumulative environmental impacts on water quality will be necessary. (*Pub. Resources Code, §21083.3; CEQA Guidelines, § 15183.*) Furthermore, implementation of the Element will not create a significant environmental impact on water quality because the Element adopts and requires compliance with the Basin Plan.~~

GOAL DE 5: Promote protection of the San Joaquin Valley air quality through the reduction of potential adverse air emissions from dairies.

Objective DE 5.1: Implement air emissions control practices and technologies at dairies to reduce the potential for degradation of air quality and odor generation.

Policy DE 5.1a: The County shall ~~participate in~~ monitor the efforts of the San Joaquin Valley Unified Air Pollution District (SJVUAPCD) in developing air emissions control guidelines for agricultural uses, including dairy operations.

Policy DE 5.1b: An *"Odor Management Plan"* (OMP) (see Component 2d of Appendix J) shall be required as part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. The Plan shall specifically address standard operating practices for livestock handling, and manure collection, treatment, storage, and land application.

The plan shall also identify existing residences located near (at least within a ½-mile radius) the proposed new or expanded dairy. The ~~plan~~ OMP shall also provide standard operating procedures/control measures to be implemented to protect these ~~receptors~~ residents from ~~potential~~ odors that ~~could~~ may be generated from dairy operations. At a minimum, standard operating procedures shall include providing advance notification to nearby residences prior to the spreading of manure or dairy process water on cropland adjacent to the residences.

In addition, the standard operating practices in the OMP shall include provisions to facilitate the reduction or control of odors from dairy operations, and shall be consistent with the *Manure Treatment Management Plan* (MTMP), required under Policy DE 5.1c of the Dairy Element. The MTMP shall also include quality assurance/quality control protocol to monitor the implementation and effectiveness of the OMP. The OMP shall be revised as necessary, based on the results of the monitoring program, to ensure that standard operating procedures are conducted in a manner that will reduce or control odor from dairy operations.

(Mitigation for Impact 4.2-5)

Policy DE 5.1c: A *"Manure Treatment Management Plan"* (MTMP) shall be required as part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. The technical report shall present an estimate of the anticipated increase in reactive organic gases (ROG), ammonia, and methane emissions generated by manure and process water management proposed by the dairy development project. The MTMP shall provide for treatment of all manure to reduce emissions of ROG, nitrous oxides, ammonia, methane, hydrogen sulfide, and odor. The MTMP for all new dairies and dairy expansions, which include construction of new dairy facilities, shall include advanced manure treatment technology to reduce ROG emissions. The Plan shall specify the advanced treatment technology and a schedule for implementation. The appropriate treatment technology, or combination of technologies, shall be selected on the basis of expected manure volumes and site-specific management strategies. Effective advanced treatment technologies for reducing the potential for emission of air pollutants from dairy manure and process water include:

A. Controlled anaerobic digestion;
B. Aerobic treatment; or
C. Combined aerobic and controlled anaerobic treatment.

The selected treatment system shall be designed to minimize~~, to the extent economically feasible,~~ the release of air emissions into the environment. The MTMP shall include quality assurance/quality control protocol to monitor the implementation and effectiveness of the identified manure treatment system. An estimate of the volatile solids removal efficiency of the proposed treatment system shall be presented in the MTMP. The MTMP shall demonstrate that the proposed advanced treatment system shall meet or exceed the goal of 50 percent reduction in volatile solids ~~within the treated manure and dairy process water~~ from the manure and process water generated at the dairy. The MTMP shall be revised as necessary, based on the results of the monitoring program, to ensure that selected treatment technology is being implemented in a manner that will reduce or control air emissions and odor from dairy operations in accordance with the 50 percent reduction standard.

~~The requirement for implementation of advanced treatment technologies shall be waived for proposed existing dairy expansion projects which do not include proposed construction of new dairy facilities and for which the expanded dairy herd would not exceed the calculated capacity and would not result in ROG emissions that would exceed the SJVUAPCD threshold limits set for stationary source.~~

(Mitigation for Impact 4.2-5, 4.2-6, 4.2-7, 4.2-7, 4.2-8, 4.2-9, 4.2-12, 4.2-13, 4.2-14, 4.2-15, 4.8-5)

Policy DE 5.1d: The owner/operator of a proposed new dairy development or expansion shall ~~also~~ comply with the most recently adopted Regulation VIII rules ~~(e.g., rules~~

~~8021 and 8081)~~ established by the SJVUAPCD for construction activities, during facility pre-construction, construction, inactive construction period, and post construction, when applicable. ~~In addition, the owner/operator of a proposed dairy development or expansion shall implement the following SJVUAPCD enhanced and additional control measures as deemed necessary by the Kings County Planning Agency with consultation, if needed, from the SJVUAPCD:~~

~~1. Limit traffic speeds on unpaved roads to 15 miles per hour;~~

~~2. Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent;~~

~~3. Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site;~~

~~4. Install temporary wind breaks at windward side(s) of the construction areas;~~

~~5. Suspend excavation and grading activity when winds exceed 20 miles per hour; and~~

~~6. Limit the area of land subject to excavation, grading, and other construction activity at any one time.~~

(Mitigation for Impact 4.2-1)

Policy DE 5.1e: To ensure that potential fugitive dust emissions from cattle movement and maintenance activities ~~at the~~ in unpaved corrals, perimeter roadways, and other unpaved areas throughout ~~dairy sites~~ Dairy Facilities are reduced, unpaved areas shall be effectively stabilized ~~by use of~~. Water (expected efficiency of 50 percent) or chemical stabilizer/suppressant (expected efficiency of 75 percent) that is safe for the environment and cattle may be used. Stabilization shall be conducted in a manner that will not result in the potential for breeding of mosquitoes and other vectors. The owner/operator shall also ensure that manure generated in the corrals is removed frequently to prevent the manure from becoming a PM_{10} source~~; and removal activities shall be conducted in a manner that will minimize dust emissions~~.

(Mitigation for Impact 4.2-3, 4.2-7, 4.2-11)

~~**Policy DE 5.1f:** A "Livestock Management Plan" (LMP) shall be required as part of the Technical Report submitted with each application to either establish a new dairy or expand an existing dairy. The "Livestock Management Plan" will identify practices to reduce methane emissions from ruminant livestock; and shall be consistent with the voluntary practices incorporated in EPA's Ruminant Livestock Efficiency Program.~~

Policy DE 5.1~~g~~f: The owner/operator of a proposed dairy development or expansion shall ~~ensure that the~~ follow~~ing~~ measures ~~are implemented~~ to control emissions (ROG, NOx, and PM_{10}) generated from heavy-duty ~~construction~~ equipment during construction as required by the SJVUAPCD.~~:~~

~~1. The idling time of all construction equipment used at the site shall not exceed ten minutes;~~

~~2. Minimize the hours of operation of heavy-duty equipment and/or the number of equipment in use at one time;~~

~~3. All equipment shall be properly tuned and maintained in accordance with the manufacturer's specifications;~~

~~4. When feasible, alternative fueled or electrical construction equipment shall be used at the project site;~~

~~5. Use the minimum practical engine size for construction equipment;~~

~~6. Gasoline-powered equipment shall be equipped with catalytic converters, where feasible;~~

~~7. Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways;~~

~~8. Implement activity management (e.g., rescheduling activities to reduce short-term impacts).~~

(Mitigation for Impact 4.2-2)

Policy DE 5.1~~h~~g: All applications for proposed dairies and all dairy expansions requiring a site plan review (SPR) shall include a *Fugitive Dust Emissions Control Plan* (FDECP) as part of the *Technical Report* (see Component 9b of Appendix J) which describes and demonstrates conformance with Policy DE 5.1e and the most recently adopted SJVUAPCD ~~requirements for the control of~~ Regulation VIII controls for fugitive dust emissions.

(Mitigation for Impact 4.2-3, 4.2-11)

Policy DE 5.1~~i~~h: All dairies shall comply with the ~~Best Available Control Measures (BACM)~~ control measures for fugitive dust emissions from agricultural sources as established by the most recently adopted SJVUAPCD Regulation VIII. The Fugitive Dust Emissions Control Plan, as required by Policy DE 5.1~~h~~g, shall specify the ~~BACMs~~ control measures that will be implemented during dairy operation.

(Mitigation for Impact 4.2-3, 4.2-11)

Policy DE 5.1~~j~~i: As part of the *Technical Report* to be submitted with each application to either establish a new dairy or expand an existing dairy, dairy applicants shall ~~be required to~~ estimate the anticipated net increase in ROG, NOx, and PM_{10} emissions generated from anticipated dairy operation equipment ~~(including cropland and dairy farm equipment)~~ compared to existing conditions and demonstrate that the net increase will not exceed the SJVUAPCD threshold limits for ROG, NOx, and PM_{10} (see Component 9a of Appendix J).

(Mitigation for Impact 4.2-4)

Policy DE 5.1~~k~~j: Prior to conversion of dairy facilities to other land uses not involving livestock, the operator/owner of the facility shall submit documentation to the Kings County Dairy Monitoring Office ~~that demonstrates~~ demonstrating that all residual manure and process water has been removed ~~and~~ or managed in ~~accordance~~ an appropriate manner consistent with the facility's CPW~~D~~AP and MTMP.

(Mitigation for Impact 4.8-5)

SECTION V

DAIRY MONITORING PROGRAM

A. Monitoring Component~~:~~

This requirement is based on the CEQA requirement set forth in *CEQA Guidelines Section 15097*. CEQA requires that a *mitigation monitoring and reporting program,* or *plan,* be adopted and carried out to ensure that potential significant adverse effect to the environment and required mitigation measures are monitored to ensure that the operation stays within the limits of the approval. Monitoring that is documented by record keeping is also part of the *USDA/USEPA Strategy*.

This will be accomplished by a tracking program through the *Dairy Monitoring Office,* a subdivision of the Code Compliance Section of the Kings County Planning Agency. This *Office* shall operate a program that tracks the accumulated data, analyzes it to determine whether the standards are being met, and makes periodic reports. It will be under the direction of the Director of Planning and Building Inspection (Zoning Administrator), who will be responsible for submitting annual reports to the Planning Commission concerning the implementation of the policies in this Dairy Element of the General Plan. The report shall include at least the following information:

1. The results of the monitoring program,
2. Whether the goals, objectives, and policies are being met,
3. Any failures by operating dairies to report required data, and
4. Whether changes in standards or conditions of approval are necessary.

All records, reports, plans, programs, documentation and other material required as part of the monitoring and reporting requirements shall be maintained on the dairy site, and shall be made available to the personnel of the *Kings County Dairy Monitoring Office* upon request for review and inspection. The monitoring and reporting requirements are applicable to new dairies approved under this Dairy Element or the portion of a previously existing dairy that is expanded or effected by the expansion.

GOAL DE 6: Establish a *Dairy Monitoring Program* in the *Kings County Dairy Monitoring Office,* housed in the *Kings County Planning Agency,* and ~~I~~implement a monitoring program that both demonstrates the *Dairy Element's* effectiveness in protecting the environment, and the effectiveness of those mitigation measures for each ~~operating dairy facility~~ Dairy Facility ~~in Kings County~~ regulated by these policies.

Objective DE 6.1: Establish a *Dairy Monitoring Program*: Develop and implement as part of the monitoring program a method to document the data for all of the dairies as the overall county monitoring program. Individual dairy information will include such data as:
A. Location of the animal concentrations on dairies,

B. "Dairy process water/nutrient use areas" covered by dairy process water use agreements,
C. Soil characteristics, including types and classification,
D. Dairy process water and nutrient usage and demand,
E. Groundwater conditions, including depth, local perched water, etc.,
F. Crop patterns and production,
G. Floodplain designation, inundation potential, and incidental flooding,
H. Other Confined Animal Feeding Operations (CAFOs) within one-quarter (¼) mile,
I. Urban area development within one (1) mile,
J. Dust control practices and Fugitive Dust Emissions Control Plan,
K. Odor control practices as specified in the Odor Management Plan (OMP), and
L. Manure Treatment Management Plan (MTMP) compliance data and effectiveness.

Policy DE 6.1a: There is hereby established a Dairy Monitoring Office within the Code Compliance Section of the Kings County Planning Agency under the direction of the Director of Planning and Building Inspection. The Dairy Monitoring Office shall:

A. Track required data from individual dairies to determine that the Dairy Element and Program EIR standards and conditions of approval are being complied with.

B. Prepare, as needed, specific reports on a case-by-case basis to address problems, and work with dairies to solve any problems and ensure compliance in a timely manner.

C. Prepare annual written reports and submit them to the Planning Commission on the general results of the monitoring program.

(Mitigation for Impact 4.2-3, 4.3-7)

Policy DE 6.1b: The Dairy Monitoring Office shall include a qualified compliance specialist capable of reviewing the data of the monitoring programs (log book retained on-site) prepared by the dairies subject to the *Dairy Element*. The compliance specialist shall be familiar with air and water quality issues associated with dairy operations. The compliance specialist shall determine whether the practices documented in the log book are consistent with the monitoring and reporting requirements of all of the components of the Technical Report as outlined in Appendix J, and shall provide recommendations to modify the ongoing practices.

(Mitigation for Impact 4.2-3, 4.2-5, 4.2-7, 4.2-8, 4.2-9, 4.2-11, 4.2-13, 4.2-14, 4.2-15)

Objective DE 6.~~1~~2: Protect the environment through monitoring ~~the~~ individual dairy ~~industry's~~ operational activities so that adjustments in the operation can be made when necessary to comply with the standards.

Policy DE 6.~~1~~2a: *Continuous monitoring:* Although the total county capacity of cows in the dairy industry in Kings County can only be estimated in terms of dairy process water, manure, and nutrients generated, the overall industry can be monitored to determine whether the individual operations are being operated within the limits of the standards established by this Element, and whether the theoretical limit of the County has been reached.

If the countywide nutrient management capacity is exceeded then proposed new or expanded dairies will be required to go through the full conditional use permit and individual project environmental assessment process under CEQA.

(Mitigation for Impact 4.3-7)

~~**Policy DE 6.1b:** Establish a Dairy Monitoring Program: Develop a monitoring program methodology to document data for all of the dairies as the overall county monitoring program. Individual dairy information will include the following information:~~

~~A. Location of dairy (animal concentration),~~
~~B. "Dairy process water/nutrient use areas" covered by dairy process water use agreements,~~
~~C. Soil characteristics, including types and classification,~~
~~D. Dairy process water and nutrient usage and demand,~~
~~E. Groundwater conditions, including depth, local perched water, etc.,~~
~~F. Crop patterns and production,~~
~~G. Floodplain designation and inundation potential,~~
~~H. Other CAFOs within one-quarter (¼) mile,~~
~~I. Development within one (1) mile,~~
~~J. Other information identified to be relative to the activity,~~
~~K. Dust control practices and Fugitive Dust Emissions Control Plan,~~
~~L. Odor control practices as specified in the OMP, and~~
~~M. Manure Treatment Management Plan (MTMP) compliance data and effectiveness.~~

~~*(Mitigation for Impact 4.2-3, 4.2-5, 4.2-6, 4.2-7, 4.2-11, 4.2-12, 4.2-13, 4.2-14, 4.2-15, 4.3-7)*~~

Policy DE 6.~~1~~2~~e~~b: ~~The~~ Every operator~~(s)~~ shall be responsible for conducting an annual inspection of the interior and exterior slopes surrounding the manure separation pits and process water lagoons following the rainy season of each year. The inspections shall document the occurrence of any significant erosion (e.g., formation of rills or gullies longer than ten feet and/or deeper than one foot) or any significant slope failures (e.g., soil slips greater than 100 square feet in area). A report of the inspections shall be maintained at the dairy site and made available to the Kings County Dairy Monitoring Office (established under

Objective DE~~-7.1~~ 6.1) upon request. The report shall include recommendations and schedule for completing any necessary corrective action.

(Mitigation for Impact 4.1-1, 4.2-5, 4.2-6, 4.7-5)

Policy DE 6.~~1~~2~~d~~c: *Minimum standards for dust control monitoring:* The Kings County Dairy Monitoring Office shall establish requirements for monitoring the dust control measures specified under Policy DE 5.1d and e; at a minimum, the requirements shall include:

A. Performance of periodic visual inspections at dust sources throughout the dairy (i.e., cattle movement at unpaved corrals and all other unpaved or gravel paved areas).

B. Visual inspections shall be conducted and documented by the dairy operator to determine the effectiveness of dust control measures required under Policy DE 5.1e and presence/absence of breeding of mosquitoes and other vectors due to the implementation of dust control measures.

C. Visual inspections shall be conducted at the dairy site boundaries and shall be conducted at least on a monthly basis during the dry season (April through October) and once during the remainder of the year. During periods of high winds and dry conditions, weekly inspections shall be conducted, as deemed necessary by the Dairy Monitoring Office.

D. All visual inspections shall be documented by the dairy operator in logs maintained at the ~~dairy facility~~ Dairy Facility.

E. Performance of inspection and documentation on the implementation of the Fugitive Dust Emissions Control Plan (FDECP) and ~~BACM~~ control measures required by the most recently adopted SJVUAPCD Regulation VIII by the dairy operator at the dairy shall be done no less frequently than monthly.

(Mitigation for Impact 4.2-3, 4.2-8, 4.2-9, 4.2-11)

Policy DE 6.~~1~~2~~e~~d: *Minimum standards for Odor Management Plan (OMP) ~~and MTMP~~ monitoring:* The Dairy Monitoring Office shall establish requirements for monitoring the implementation of the OMP ~~and MTMP~~ specified under Polic~~ies~~y DE 5.1b. ~~and DE 5.1c; at~~ At a minimum, the requirements shall include:

A. ~~Periodically~~ The dairy operator shall conduct quality assurance/quality control on the implementation of the ~~MTMP and the~~ standard operating procedures described in the OMP.

B. Quality assurance/quality control shall be conducted and documented by the dairy operator in a manner that will determine whether the implementation of the ~~MTMP and~~ specified standard operating procedures indicated in the OMP are effectively reducing or controlling odors generated from livestock handling, manure collection, treatment, storage, and land application.

C. Quality assurance/quality control shall be conducted ~~at least on a weekly basis during conditions~~ by the dairy operator when the potential for odor release/migration is high (e.g., high temperature) and on a monthly basis during the remainder of the year.

D. The results of all quality assurance/quality control shall be documented by the dairy operator in logs maintained at the ~~dairy facility~~ Dairy Facility.

(Mitigation for Impact 4.2-3, 4.2-6, 4.2-7, 4.2-8, 4.2-9, 4.2-11, 4.2-12, 4.2-13, 4.2-14, 4.2-15)

Policy DE 6.~~1~~2~~f~~e: *Minimum standards for MTMP monitoring:* The Dairy Monitoring Office shall establish requirements for monitoring the implementation of the MTMP specified under Policy DE ~~6.1b.M~~ 5.1c.~~; at~~ At a minimum, the requirements shall include:

A. Maintain ~~daily~~ logs of the selected treatment technology(ies) operation~~s~~. The logs shall identify general process operations, problems encountered from manure management, actions taken to resolve problems, and modifications made to the treatment process during the course of operation.

B. ~~The daily logs shall be kept on-site at all times and shall be made available to the Kings County Dairy Monitoring Office upon request.~~ Volatile solids reduction for advanced manure treatment systems shall be demonstrated through collection and analysis of volatile solids content in representative samples of influent (untreated manure) and effluent (treated manure). Samples shall be collected on a quarterly basis for the first two years of the system operation and annually thereafter. Documentation of testing results shall be maintained at the Dairy Facility and made available to the Dairy Monitoring personnel upon their request.

D. In the event that feasible and available standard testing methods are developed and required by the SJVUAPCD for ~~estimating~~ determining Reactive Organic Gases (ROG), Nitrous Oxides (NOx), hydrogen sulfide, ammonia, and methane emissions from the treatment process ~~become available~~, the dairy operator/owner shall implement these methods and provide results to the Kings County Dairy Monitoring Office. Dairy operators/owners shall coordinate with the Kings County Dairy

Monitoring Office to determine the frequency of testing and the testing source points within the dairy operation.

D. The results of all quality assurance/quality control shall be documented by the dairy operator in logs maintained at the Dairy Facility.

(Mitigation for Impact 4.2-5, 4.2-6, 4.2-7, 4.2-9, 4.2-12, 4.2-13, 4.2-14, 4.2-15)

~~**Policy DE 6.1g:** Minimum standards for Livestock Management Plan (LMP) monitoring: The Dairy Monitoring Office shall establish requirements for monitoring the implementation of the LMP specified under Policy DE 5.1f; at a minimum, the requirements shall include:~~

~~A. Maintain a log of the following:~~

~~1) Practices being implemented to control disease and maintain herd health, such as use of appropriate antibiotics, vaccines, and other health maintenance products (e.g., regular deworming);~~

~~2) Management practices for sick and new animals (e.g., quarantine and treat sick and new animals immediately);~~

~~3) Feed quality and nutritional levels, feed intake levels, feed schedule;~~

~~4) Herd nutrition including adding molasses, sugar beet pulp, grape pomace, brewery waste, and distillers grains into the feed; and~~

~~5) Methods for selecting cattle.~~

~~B. Maintain a health and medication record keeping system of all cattle;~~

~~C. The logs shall be kept on site at all times and shall be made available to the Dairy Monitoring Office upon request.~~

~~*(Mitigation for Impact 4.2-9, 4.2-13)*~~

Policy DE 6.~~1~~2~~h~~f: *Minimum standards for water quality monitoring program:* The Dairy Monitoring Office shall establish requirements for the water quality monitoring program.~~, and at minimum the requirements shall include:~~ Water quality monitoring shall comply with the minimum requirements set forth below, and with any requirements and orders of the RWQCB.

A. Installation of groundwater monitoring wells at each dairy adequate to characterize the variations in depth to uppermost groundwater across the site and chemical quality of the uppermost groundwater zone. If non-continuous perched groundwater zones underlie the site, deeper aquifers may require monitoring. ~~When appropriate and as determined by the County, vadose~~ Vadose zone monitoring using lysimeters shall be required to monitor the quality of soil water, particularly in the vicinity of the lagoons ~~when appropriate~~. The design and ~~I~~installation of water quality monitoring ~~wells~~ system shall be ~~conducted by~~ preformed under

the direction of a Registered Geologist or a Professional Engineer in accordance with California Well Standards.

B. Groundwater and soil water samples shall be analyzed, at minimum, for TDS, electrical conductivity, general mineral content, Nitrogen as nitrate and nitrite, phosphorus, and coliform or other appropriate indicator of biological contamination. This list of constituents to be analyzed may be modified at the request of the RWQCB. All samples should be analyzed by a State-certified analytical laboratory.

C. Sampling of all wells and lysimeters shall be conducted~~, at a minimum,~~ prior to dairy operation to establish background levels and thereafter on an annual basis. In addition, the depth to water in each well shall be measured to within an accuracy of 0.1 foot twice each year, once in the spring and once in the fall.

D. Reporting requirements shall be according to the RWQCB and Policy ~~7.2d~~ DE 6.4d, below.

(Mitigation for Impact 4.3-7, 4.3-7, 4.3-9)

Policy DE 6.2g: The logs shall be kept on-site at all times and shall be made available to the Kings County Dairy Monitoring Office upon request.

Objective DE 6.~~2~~3: Implement a continuous monitoring program for each ~~operating~~ dairy regulated by these policies so that adjustments in the operation can be made when necessary.

Policy DE 6.~~2~~3a: *Continuous Testing Program:* Each new or expanded dairy will be required to conduct annual tests ~~results~~ required by Goal 6 of the Dairy Element to demonstrate that the facility is ~~still~~ operating within its approved parameters. ~~If those parameters are exceeded, the operator will be required to either reduce the herd size or make other changes to balance nutrient management. Either will trigger a review of the facility's zoning permit. Testing requirements will be developed as part of the facility's monitoring program approved as part of the facility's zoning permit.~~ The test results shall be kept on the dairy site and shall be made available to the Dairy Monitoring Office personnel upon request. If those parameters are exceeded, the operator must make changes to bring the dairy into conformance with the requirements of the Dairy Element. If the changes in operation cannot or do not correct the problem, the County may modify or revoke the facility zoning permit.

(Mitigation for Impact 4.2-3, 4.2-6, 4.2-8, 4.2-9, 4.2-12, 4.2-13, 4.2-14, 4.2-15, 4.3-7)

Objective DE 6.4: Establish a formal and effective process to evaluate and respond to public complaints regarding nuisances or conditions of approval violations at specific dairy operations to be managed by the Dairy Monitoring Office.

Policy DE 6.4a: All public complaints regarding dairy operations and facilities shall be recorded with the Dairy Monitoring Office. It is the responsibility of that office to authenticate the conditions cited in the complaint through inspection of the subject dairy. As necessary, the Dairy Monitoring Office shall rely on the expertise of other County Departments to verify the basis and severity of a complaint and establish appropriate corrective action. Timely performance of necessary corrective action shall be required of dairy operators and verified by the Dairy Monitoring Office.

(Mitigation for Impact 4.2-5, 4.5-4, 4.6-2)

Policy DE 6.4b: All dairy operators shall be required to provide the name of and contact information for the person responsible for responding to complaints regarding each dairy under their control.

(Mitigation for Impact 4.2-5)

Policy DE 6.4c: The Dairy Monitoring Office shall notify dairy operators of complaints and provide the opportunity to participate in the development of corrective action, if required.

(Mitigation for Impact 4.2-5, 4.5-4, 4.6-2)

Policy DE 6.4d: Each dairy operator shall retain a qualified professional (i.e., Professional Engineer or Certified Hydrogeologist) to compile and evaluate the water quality data required by Policy DE 6.2f. The Dairy Monitoring Office shall review the data to determine whether violations have occurred, or if corrective action is required. When considering response action for identified violations, the County shall consult with the RWQCB.

(Mitigation for Impact 4.3-9)

~~If the countywide nutrient management capacity is exceeded then proposed new or expanded dairies will have to go through the full conditional use permit and individual project environmental assessment process under CEQA.~~

~~B. Tracking Program:~~

~~The Dairy Monitoring Office shall track data developed and reported pursuant to the above policies. This Office shall be housed in the Planning Agency, and the Office under the direction of the Director of Planning and Building Inspection (zoning administrator) shall report to the Kings County Planning Commission. The Office shall operate a program that tracks the accumulated data, analyzes it to~~

~~determine whether the standards are being met, and submit annual reports to the Planning Commission concerning:~~

~~1. The results of the monitoring program;~~
~~2. Whether the goals, objectives, and policies are being met;~~
~~3. Any failures by operating dairies to report required data; and~~
~~5. Whether changes in standards or permit conditions are necessary.~~

~~All records, reports, plans, programs, documentation and other material required as part of the monitoring and reporting requirements shall be maintained on the dairy site, and shall be made available to the personnel of the Kings County Dairy Monitoring Office upon request for review and inspection.~~

~~GOAL DE 7:~~ ~~Establish a Dairy Monitoring Program in the Kings County Dairy Monitoring Office, housed in the Kings County Planning Agency.~~

~~Objective DE 7.1:~~ ~~Establish a Dairy System Monitoring Program: Develop and implement as part of the monitoring program a method to document the data for all of the dairies as the overall county monitoring program. Individual dairy information will include such data as:~~

~~A. Location of dairy (animal concentration),~~
~~B. Dairy process water/nutrient use areas covered by dairy process water use agreements,~~
~~C. Soil characteristics, including types and classification,~~
~~D. Water and nutrient usage and demand,~~
~~E. Groundwater characteristics, including depth, local perched water, etc.,~~
~~F. Crop patterns and production,~~
~~G. Floodplain designation and inundation charts,~~
~~H. Other CAFOs in the vicinity,~~
~~I. Development in the vicinity,~~
~~J. Other information specifically required for individual projects to resolve unique issues.~~

~~Policy DE 7.1a:~~ ~~Track required data from individual dairies to determine that standards and permit conditions are being met.~~

~~*(Mitigation for Impact 4.2-3)*~~

~~Policy DE 7.1b:~~ ~~Prepare, as needed, specific reports on a case by case basis to address problems, and work with dairies to solve any problems in a timely manner.~~

~~*(Mitigation for Impact 4.2-3, 4.3-7)*~~

~~Policy DE 7.1c:~~ ~~Prepare annual written reports and submit them to the Planning Commission of the general results of the monitoring program.~~

~~*(Mitigation for Impact 4.2-3)*~~

~~**Policy DE 7.1d:** The Dairy Monitoring Office shall include a qualified compliance specialist capable of reviewing the data of the monitoring programs (log book retained on-site) prepared by the dairies subject to the Dairy Element. The compliance specialist shall be familiar with air and water quality issues associated with dairy operations. The professional shall determine whether the practices documented in the log book are consistent with the LMPs, FDECPs, OMPs, and MTMPs and shall provide recommendations to modify the ongoing practices, if necessary.~~

~~*(Mitigation for Impact 4.2-3, 4.2-5, 4.2-7, 4.2-8, 4.2-9, 4.2-11, 4.2-13, 4.2-14, 4.2-15)*~~

~~**Objective DE 7.2:** Establish a formal and effective process to evaluate and respond to public complaints regarding nuisances or permit violations at specific dairy operations to be managed by the Dairy Monitoring Office.~~

~~**Policy DE 7.2a:** All public complaints regarding dairy operations and facilities shall be recorded with the Dairy Monitoring Office. It is the responsibility of that office to authenticate the conditions cited in the complaint through inspection of the subject dairy. As necessary, the Dairy Monitoring Office shall rely on the expertise of other County Departments to verify the basis and severity of a complaint and establish appropriate corrective action. Timely performance of necessary corrective action shall be required of dairy operators and verified by the Dairy Monitoring Office.~~

~~*(Mitigation for Impact 4.2-5, 4.5-4, 4.6-2)*~~

~~**Policy DE 7.2b:** All dairy operators shall be required to provide the name of and contact information for the person responsible for responding to complaints regarding each dairy under their control.~~

~~*(Mitigation for Impact 4.2-5)*~~

~~**Policy DE 7.2c:** The Dairy Monitoring Office shall notify dairy operators of complaints and provide the opportunity to participate in the development of corrective action, if required.~~

~~*(Mitigation for Impact 4.2-5, 4.5-4, 4.6-2)*~~

~~**Policy DE 7.2d:** The Dairy Monitoring Office shall require each dairy operator to retain a qualified professional (i.e., Professional Engineer or Certified Hydrogeologist) to compile and evaluate the water quality data. Data shall be compared to applicable State water quality objectives to determine whether violations have occurred and mitigation is required. In the evaluation of salinity, which requires data on concentration variation with time, a statistical methodology for determining trends in numerical data, e.g., Mann-Kendall, shall be selected by the County. The first trend~~

~~analysis shall be conducted for each dairy after five years of data collection, and then each year thereafter. When considering response action for identified violations, the County shall ensure that water quality criteria and Basin Plan objectives used in the evaluation of the site-specific data are appropriate and current and shall consult with the RWQCB to confirm that a violation has occurred and that remedial action is required.~~

~~*(Mitigation for Impact 4.3-9)*~~

SECTION VI~~:~~

DAIRY ~~CONFORMANCE~~ QUALITY ASSURANCE ~~PROGRAM~~

To ensure that the dairy industry remains healthy and does not adversely affect other sectors of the Kings County community, ~~it is the goal of~~ Kings County ~~to bring~~ encourages all dairies ~~into voluntary conformance with current operational standards by the end of 2006. This will also provide an opportunity for dairies that were legally existing prior to this policy change and were not required to have zoning permits, to demonstrate they are operating in compliance with current standards. However, this program will be voluntary and will not require legally established dairies to submit to a full site plan review process. Dairies that existed prior to the implementation of regulations in the Zoning Ordinance were "grandfathered" as legal uses, and are allowed to continue operation without a zoning permit (Section 1709, Kings County Zoning Ordinance). However, expansions of those previously existing dairies require formal issuance of a site plan review~~ to operate in environmentally sound ways. Kings County encourages, but does not require, dairies to work toward certification by the California Dairy Quality Assurance Program. For further information about the California Dairy Quality Assurance Program contact the U.C. Cooperative Extension.

~~This Dairy Conformance Program will accomplish three objectives. First, it will demonstrate that the industry is not polluting the environment with uncontrolled discharges of dairy process water, manure, and other potential pollutants from the older non-permit holding dairies. Second, it will protect the value of existing dairies by demonstrating that they meet current standards. Third, it will provide a checklist of necessary changes to bring existing dairies into compliance with current standards.~~

~~**GOAL DE 8:** Bring all existing non-permit holding dairies in Kings County into voluntary conformance with specific policies for existing dairies by the end of 2006.~~

~~**Objective DE 8.1:** Reduce the effect on the environment caused by existing dairies which have been in operation since before dairies were regulated, and develop a program by which existing dairy operations can earn a certificate certifying that it is being operated in compliance with the policies of the Dairy Element of the Kings County General Plan.~~

~~**Policy DE 8.1a:** Implement a Dairy Conformance Program for existing dairies. The program will review, evaluate, and certify existing dairies as being operated in a manner that is consistent with current General Plan standards, or provide the operators with a checklist of items necessary to bring the dairy into conformance.~~

~~**Policy DE 8.1b:** Work with the Legislature, industry programs, and individual dairy operators to develop programs and funding to assist dairies to meet current operating standards.~~

~~**Policy DE-8.1c:** Nothing in this Dairy Element shall be construed as a guarantee that a dairy which does not meet current standards will be able to make the necessary changes to come into conformance.~~

~~*(Mitigation for Impact 4.3-7)*~~

SECTION VII~~:~~

ECONOMIC ANALYSIS OF THE DAIRY INDUSTRY IN KINGS COUNTY

This Section considers the economic impact and job creation potential of the dairy industry, including the multiplier effect attributable to the creation of "spin off" industries that will occur as a result of a strong dairy industry.

The dairy industry is a significant contributor to the Kings County economy. Although dairy production and processing jobs are only 4.5% of private sector employment, this industry has very high multiplier effects. Total direct and indirect jobs related to milk production, processing, transportation and services represent 19% of total county employment. Dairy farm production is 13% of total output, with dairy processors adding another 6%, but total output associated with support industries and local ~~serving~~ businesses serving dairy employees increase the total contribution of the industry to about 30 percent.

The potential for rapid dairy growth over the next several years portends an even greater future contribution to the Kings County economy. Over the long term, it is estimated that the milk cow herd size and associated employment will grow at an average annual rate of 2.3 percent per year. ~~This~~ The growth of the dairy herd would mean that over 20 years, the industry can be expected to show an employment increase of nearly 60 percent and achieve full buildout under Kings County land capacity parameters in less than 50 years.

Full dairy build-out of triple the current herd size would mean a total of:

- 369,000 milk cows -- 245,000 new;
- 4,600 dairy jobs -- 3,100 new;
- 9,800 related jobs -- 7,400 new;
- 14,400 total jobs -- 10,500 new;
- $434 million in dairy worker payrolls -- $370 million new;
- $616 million in total payroll -- $510 million new;
- $2.4 billion in dairy output -- $2.1 billion new;

Dairies purchase most of their supplies from outside the county, but processors purchase 57% of their commodities locally, including milk. Milk processing (fluid products, cheese, ice cream, yogurt, etc.) is lower in Kings County because the City of Tulare has a large concentration of processors. However, Leprino's announced expansion in Lemoore could ultimately absorb almost half the future growth in county milk production.

At an average of $3,000 to $6,000 per acre of assessed valuation spread over 4,756 acres, year 2000 property tax revenues from dairy operations are $2.45 million, with $392,000 going to the county. This additional amount represents about 3.3% of the county's total property tax revenue of $11.9 million. At a 2.3% assumed growth for new acreage, 7,531 total acres could be in dairies by 2020. This increase

would raise the county's revenues to $620,900 per year. This amount is in addition to revenues from new property developed as a result of the multiplier effect.

SECTION VIII~~:~~

PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR)

A. PEIR Component~~:~~

A *Program EIR*, pursuant to *Article 11 (beginning at Section 15168) of the CEQA Guidelines*, has been prepared in support of the *Dairy Element* program. The PEIR ~~has a two-fold function: First, it~~ provides the required environmental assessment for the adoption of the *Dairy Element*~~. Second~~, and the construction of projects that meet the standards established in the PEIR~~ will require no further environmental review~~. Projects that do not meet the standards in the PEIR and thus require further environmental review~~ will only be subject to focused environmental review~~, may utilize information in the PEIR to complete the environmental review required under CEQA. This will streamline the permit review process while providing standards with which to evaluate new projects. The PEIR is hereby included by reference in the *Dairy Element* and made a part hereof.

B. PEIR Format~~:~~

A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project or are related either:

1. Geographically,
2. As logical parts of a chain of contemplated actions,
3. In connection with the issuance of rules, regulations, plans, or other general ~~*criteria*~~ standards to govern the conduct of a continuing program, or
4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The advantages of preparing a program EIR are that the PEIR can:

1. Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action.
2. Ensure consideration of cumulative impacts that might be overlooked in a case-by-case analysis.
3. Avoid duplicative reconsideration of basic policy considerations.
4. Allow the lead agency to consider broad alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts.
5. Allow reduction in paperwork.

Subsequent activities in the program must apply the standards established or identified in the PEIR. If a later activity would have effects that were not examined in the PEIR, a new Initial Study would need to be prepared leading to either an EIR or negative declaration. If the agency finds that no new effects will occur and no new mitigation measures are required, then the agency can approve the activity as within the scope of the project covered by the PEIR, and no new environmental document is required. The agency shall incorporate feasible mitigation measures and alternatives developed in the PEIR into subsequent actions under the program.

Where the subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the proposed activities to ensure that the operation is covered in the PEIR. A PEIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the PEIR, and no further environmental documents would be required. In the case where a subsequent project is exempt from environmental review, such as site plan reviews, the project shall be compared to the standards and mitigation measures in the PEIR. These standards and mitigation measures shall be incorporated into the project review and subsequent issuance of a site plan review.

A PEIR can be used to simplify the task of preparing environmental documents on later parts of the program, where appropriate. It can:

1. Provide the basis in an initial study for determining whether the later activity may have any significant effects.
2. Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.
3. Focus an EIR on a subsequent project to permit discussion solely of new effects that had not been considered before.

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DAIRY ELEMENT
APPENDICIES

Draft

APPENDIX A

TABLES

TABLE NO. 1
DAIRY PERMIT APPROVALS
1979 TO 2000

YEAR	NEW OR RE-ESTABLISHED	EXPANSION	OTHER IMPROVEMENTS
1979	0	0	1
1980	2	0	0
1981	0	0	3
1982	2	1	1
1983	1	0	2
1984	1	4	1
1985	2	1	1
1986	1	1	1
1987	0	2	2
1988	6	2	5
1989	1	3	2
1990	11	1	0
1991	6	2	0
1992	5	3	0
1993	10	3	0
1994	2	2	2
1995	2	1	0
1996	4	1	2
1997	2	6	0
1998	6	3	0
1999	3	1	0
2000	0	0	0
TOTAL	**67**	**37**	**23**

Source: Kings County Planning Agency H:/Ord-gp/Genplan/Element/Dairy/DE-text/DE-Tbl 1-Dairy Permit Approvals.xls

TABLE NO. 2

Survey of Dairies in Kings County
August 2000

Dairy Size (# of Milk Cows)	Farms	Milk Cows	Dry Cows	Heifers		Calves		Total Head	Equivalent AU	
				>2 yrs	1 to 2 yrs	3mo-1 yr	<3 mo.		Milk Cows	Support Stock
1 to 9*								-	-	-
10 to 19								-	-	-
20 to 49								-	-	-
50 to 99								-	-	-
100 to 199	3	380	220	20	20	20	20	680	532	290
200 to 499	11	3,735	713	413	1,075	488	451	6,875	5,229	2,667
500 to 999	6	4,000	570	235	895	450	480	6,630	5,600	2,142
1,000 to 2,499	6	7,370	2,760	220	1,880	810	270	13,310	10,318	5,520
2,500 or more	3	11,150	2,030	175	8,275	5,800	1,700	29,130	15,610	14,268
Totals (all dairies):	29	26,635	6,293	1,063	12,145	7,568	2,921	56,625	37,289	24,886

Source:

Data: *Kings County Planning Agency (July 2000)*

Notes:

* Dairies from 1 to 9 cows are assumed to be non-commercial/private use or 4-H projects that may not be subject to zoning regulations.

h:\Ord-gp\Genplan\Element\Dairy\DE-text\De-tbl-2 Survey Results.xls

TABLE NO. 3
DAIRY HERD GROWTH IN KINGS COUNTY
1988 TO 2000

DAIRY SIZE (Range)	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988
1 to 99													
Total Cows	179	150	85	60	90	-	125	71	70	180	-	-	40
# of Dairies	2	2	1	1	2	-	2	1	1	2	-	-	1
Avg. Herd Size	90	75	85	60	45	N/A	63	71	70	90	N/A	N/A	40
100 to 199													
Total Cows	1,697	1,025	1,892	2,355	3,009	3,045	2,957	1,744	2,934	3,305	3,467	3,174	4,168
# of Dairies	11	7	12	16	20	20	21	13	20	21	23	21	27
Avg. Herd Size	154	146	158	147	150	152	141	134	147	157	151	151	154
200 to 499													
Total Cows	15,959	15,458	15,642	17,400	15,925	18,276	18,557	19,075	16,044	16,063	18,708	18,060	19,714
# of Dairies	43	46	45	51	49	53	55	63	49	50	56	49	60
Avg. Herd Size	371	336	348	341	325	345	337	303	327	321	334	369	329
500 to 999													
Total Cows	38,671	40,178	41,490	41,318	41,660	42,857	40,361	37,281	39,457	39,476	35,881	30,750	30,034
# of Dairies	54	58	58	57	59	61	59	55	58	57	52	46	43
Avg. Herd Size	716	693	715	725	706	703	684	678	680	693	690	668	698
1000 to 2499													
Total Cows	43,191	34,782	30,852	28,758	30,498	30,522	29,428	32,061	28,622	31,529	23,767	15,041	15,836
# of Dairies	32	25	22	21	22	21	21	23	21	23	18	11	12
Avg. Herd Size	1,350	1,391	1,402	1,369	1,386	1,453	1,401	1,394	1,363	1,371	1,320	1,367	1,320
< 2500													
Total Cows	24,970	20,964	16,884	16,699	9,798	6,830	6,077	-	-	-	-	-	-
# of Dairies	7	6	5	5	3	2	2	-	-	-	-	-	-
Avg. Herd Size	3,567	3,494	3,377	3,340	3,266	3,415	3,039	N/A	N/A	N/A	N/A	N/A	N/A
Totals													
Total Cows	**124,667**	**112,557**	**106,845**	**106,590**	**100,980**	**101,530**	**97,505**	**90,232**	**87,127**	**90,553**	**81,823**	**67,025**	**69,792**
Total Dairies	**149**	**144**	**143**	**151**	**155**	**157**	**160**	**155**	**149**	**153**	**149**	**127**	**143**
Herd Aveage	**837**	**782**	**747**	**706**	**651**	**647**	**609**	**582**	**585**	**592**	**549**	**528**	**488**

Source: U.C. Cooperative Extension Service

h:/Ord-gp/Genplan/Element/Dairy/DE-text/DE-Tbl3-herd size.xls

TABLE NO. 3A
Dairy Growth in Kings County
1982 to 2000

Dairy Size (# of Cows)	2000 **			1995**			1990**			1987***			1982***		
	Farms ***	Cows ***	Cows/ Farm	Farms	Cows	Cows/ Farm	Farms	Cows	Cows/ Farm	Farms	Cows	Cows/ Farm	Farms	Cows	Cows/ Farm
1 to 9****	20	40	**2**	20	40	**2**	19	33	**2**	19	33	**2**	27	49	**2**
10 to 19	0	0	**0**	0	0	**0**	0	0	**0**	1	*	*	0	0	**0**
20 to 49	0	0	**0**	0	0	**0**	0	0	**0**	2	*	*	3	80	**27**
50 to 99	2	179	**90**	0	0	**0**	0	0	**0**	1	*	*	4	304	**76**
100 to 199	11	1,697	**154**	20	3,045	**152**	23	3,467	**151**	21	3,408	**162**	37	5,597	**151**
200 to 499	43	15,959	**371**	53	18,276	**345**	56	18,708	**334**	67	21,921	**327**	68	20,724	**305**
500 to 999*****	54	38,671	**716**	61	42,857	**703**	52	35,881	**690**	52	37,235	**716**	34	25,740	**757**
1,000 to 2,499	32	43,191	**1,350**	21	30,522	**1,453**	18	23,767	**1,320**	6	7,931	**1,322**	3	4,267	**1,422**
2,500 or more	7	24,970	**3,567**	2	6,830	**3,415**	0	0	**n/a**	0	0	**n/a**	0	0	**n/a**
Totals (all dairies):	169	124,707	**738**	177	101,570	**574**	168	81,856	**487**	163	62,597	**384**	173	52,494	**303**
Total (Commercial):	149	124,667	**837**	157	101,530	**647**	149	81,823	**549**	141	71,000	**504**	143	52,365	**366**

Source:

Data: *U.C. Cooperative Extension and 1992 Census of Agriculture*
Projections by Kings County Planning Agency

Notes:

* Data restricted by Census Bureau
** U.C. Cooperative Extension data reported for January 2000. The small dairies (1 to 9 cows) for 1995 and 2000 are projections based on the *1992 Census of Agricultural.*
*** *1992 Census of Agriculture*
**** Dairies from 1 to 9 cows are assumed to be non-commercial/private use or 4-H projects that are not counted as part UCCE count.
***** Census data limited to 500 or more, but supplimented by UCCE data for 1982 and 1987.
Only cow dairies are listed

h:\Ord-gp\Element\Dairy\De-Tbl-3A Dairy Growth in KC.xls

TABLE NO. 4

Dairy Development and Nutrient Spreading Overlay Zone Areas

NAME/LOCATION	SUB-AREA IN ACRES	SUB-AREA IN SQUARE MILES	AVAILABLE LAND (Dairy & Irr.)	SUB-AREA IN SQUARE MILES	AVAILABLE LAND (Irr. only)	SUB-AREA IN SQUARE MILES
DDOZ 1 (Central)	131,230	205	103,768	162	4,586	7
DDOZ 2 (NE Central)	796	1	571	1	27	0
DDOZ 3 (East Central)	722	1	437	1	-	-
DDOZ 4 (EES Central)	7,850	12	4,069	6	439	1
DDOZ 5 (SE Central)	11,364	18	9,321	15	-	-
DDOZ SE County	23,972	37	23,972	37	-	-
DDOZ West County	48,803	76	48,761	76	42	0
DDOZ SW 1	11,253	18	11,253	18	-	-
DDOZ SW 2	15,941	25	15,941	25	-	-
SUBTOTAL	**251,930**	**394**	**217,657**	**341**	**5,095**	**8**
NSOZ 1 (Lake Basin)	238,445	373	-	-	235,897	369
NSOZ 2 (Island)	11,071	17	-	-	10,981	17
NSOZ 3 (Stratford)	246	0	-	-	246	0
NSOZ 4 (Northeast County)	10,287	16	-	-	10,287	16
NSOZ 5 (South county)	108,008	169	-	-	108,008	169
NSOZ SW 1	7,694	12	-	-	7,694	12
NSOZ SW 2	5,440	8	-	-	5,440	8
AX Zone District	32,503	51	-	-	32,503	51
SUBTOTAL	**413,693**	**646**	-	**-**	**411,055**	**642**
Avenal	12,278	19	-	-	-	-
Corcoran & Fringe	11,380	18	-	-	-	-
Hanford & Fringe	27,315	43	-	-	-	-
Lemoore & Fringe	12,992	20	-	-	-	-
Lemoore NAS	16,635	26	-	-	-	-
South West Mountain Area	144,287	225	-	-	-	-
SUBTOTAL	**224,887**	**351**	**-**	**-**	**-**	**-**
Grand Totals *	**890,510**	**1,391**	**217,657**	**341**	**416,150**	**650**

NOTES:
DDOZ = Dairy Development Overlay Zone
NSOZ = Nutrient Spreading Overlay Zone
Irr. = Irrigation
* The available acreage determined by the GIS mapping is more that the available acreage calculated in Table 5. Therefore, the amount of acreage estimated for the model will use the estimated acreage that is planted in the appropriate crops shown in Table 5.

h:/Ord-gp/Genplan/Element/Dairy/DE-Text/DE-Tables/DE-Tbl-4 DD Ns OZ area

TABLE NO. 5

Theoretical Capacity Model for Standard Freestall Dairies Balanced for Nitrogen and Salt Discounted for Additional Nitrogen Loading Sources

NITROGEN & SALT GENERATION CALCULATION TABLE (1)

H:/Ord-gp/Genplan/Element/Dairy/DE-Text/Pub Rev Draft/Tbl-5-Recalc-3-13-01.xls

SECTION A: Calculation of Animal Units (AU)

Animals	Holstein Factor (1.4AU/Head)	AU Factor (By age of Animal)	A Freestalls (2) Head	B Freestalls (2) AU	C Flushed Corrals (3) Head	D Flushed Corrals (3) AU	E Scraped Corrals (4) Head	F Scraped Corrals (4) AU
1. Milk cows	1.40	1.00	381,980	534,772	-	-	-	-
2. Dry cows & bred heifers	1.40	0.80	-	-	-	-	57,297	64,173
3. Heifers (2 yr. & older)	1.40	0.73	-	-	-	-	122,234	124,923
4. Heifers (1 to 2 yrs. old)	1.40	0.73	-	-	-	-	61,117	62,461
5. Calves (3mo. to 1 yr. old)	1.40	0.35	-	-	-	-	152,792	74,868
6. Baby Calves (<3 mo. old)	1.40	0.21	-	-	-	-	30,558	8,984
7. Total AU's:			381,980	534,772	-	-	423,998	335,409
Grand Total:	Head:	805,977						
	AUs:	870,181						

SECTION B: Available Land (Excess or Deficit):

Crop Acreage Requirement for Nitrogen: Excess or (Deficit):	0 *Acres*	
	Double Crop	Single Crop
Corp Acreage Requirements for Salt: Excess or (Deficit):	159,691	79,845

SECTION C: Calculations for Area and Animal Density:

Total Acreage Considered
250,056 *Acres*

Acreage Available	
Cropland	Dairy Facilities
235,483	14,573
Acres	*Acres*

A.U. Density (5)	
Total Acreage	3.48
Cropland only	3.70

Total Head Density (5)	
Total Acreage	3.22
Cropland only	3.42

SECTION D: Calculation of Nitrogen Loading Capacity:

N-Acreage Required for Liquid Manure
163,530 *@ [x] lb./ac./yr.*
Where x = 267 *lbs.N/Acre*
N-Acreage Required for Solid Manure
71,953 *@ [x] lb./ac./yr.*

Total N-Acreage Required
235,483 *Total Ac. Req'd*

Crop N Acreage Requirement: Excess or (Deficit)
0 *Acres*

	Values from Table 1	Liquid Manure Factor (2-4)	Liquid Manure Nitrogen	Solid Manure Factor (2-4)	Solid Manure Nitrogen
Estim'd Total AU's:	870,181				
AU's from B.7.	534,772	65.70	35,134,502		
AU's from B.1.	534,772	16.06	8,588,434		
AU's from B.7.	534,772			8.21	4,391,813
AU's from B.1.	534,772			2.01	1,073,554
AU's from D.7.	-	49.28	-		
AU's from D.1.	-	12.05	-		
AU's from D.7.	-			16.43	-
AU's from D.1.	-			4.02	-
AU's from F.1.	-	10.22	-		
AU's from F.1.	-			45.99	-
AU's from F.7 - F.1.	335,409			41.06	13,772,725
Time Factor (6):			0.50		0.25
Total N in lb./yr.			43,722,936		19,238,092
Total N in lb./yr. (both from liquid manure and solid manure):					62,961,028

NOTES:

(1) Source: This model for estimating the herd size is based on RWQCB's *Fact Sheet No. 4* .

(2) Freestalls: Liquid Waste Factor for Milk Cow = 0.8*0.11*0.5*365, Support Stock = 0.8*0.45*0.5*365, and Solid Waste Factor for Milk Cow = 0.2*0.11*0.25*365, Support Stock = 0.2*0.45*0.25*366.

(3) Flushed Corrals: Liquid Waste Factor for Milk Cow = 0.6*0.11*0.5*365, Support Stock = 0.6*0.45*0.5*365, and Solid Waste factor for Milk Cow = 0.4*0.11*0.25*365, Support Stock = 0.4*0.45*0.25*366.

(4) Scraped Corrals: Liquid Waste Factor for Milk Cow = 0.1*0.56*0.5*365, Support Stock = 0.1*0.45*0.5*365, and Solid Waste Factor for Milk Cow = 0.9*0.11*0.25*365, Support Stock = 0.9*0.45*0.25*366.

(5) Milk cows and support stock.

(6) Time Factor: The typical N loss from lagoons is time dependent. A loss of 30% of the N for a storage time of less than 30 days, 40% for 30-60 days, and 50% for more than 60 days. Solid manure Nitrogen loss is estimated to be 75%.

SECTION E: Estimate of Salt Loading Capacity:

	Values from: Table 1	Liquid Manure Factor	Liquid Manure Salt (lb./yr.)	Solid Manure Factor	Solid Manure Salt (lb./yr.)
Estimated Total AU's:					
AU's from B.7.	534,772	378.43	202,374,732	94.61	50,593,683
AU's from D.7.	-	283.82	-	189.22	-
AU's from F.7.	335,409	47.30	15,866,179	425.74	142,795,611
Total (Salt lb./yr.)	870,181		218,240,910		193,389,293
Total Salt Generated (both from liquid and solid manure):					411,630,204

Salt (lb./day) generated per 1,000 lb. A.U.: 1.296 Days per year: 365

	Double Crop	Single Crop	Total
Acres available in crops:	42,062	264,629	
Salt uptake per acre per year (6):	1,000	2,000	
Total lb. of Salt uptake per year from cropland:	**42,062,343**	**529,258,827**	**571,321,170**

Total lb. of Salt Generated by dairy herd (SECTION G):	**411,630,204**
Available cropland uptake vs. salt generated by herd: Excess or (Deficit):	159,690,966

(6) In order not to double count the acreage of double cropped land, add an additional 1,000 lb./acre/year the to the single crop limit of 2,000 lb. of salt./acre/yr.

NOTES for determining land area needed for the actual dairy facilities (DF):		
Acres in existing Dairy Facilities (DF):	4,756	Acreage is based on GIS calculation from satellite image of area in existing dairy facilities.
# of existing Dairies:	145	# of dairies is based on the identified existing DFs from the GIS review of the satellite image of Kings Co.
# of existing Milk Cows:	124,660	# of milk cows based on the annual report from UC Cooperative Extension

Average Ac. per existing DF:	32.80	Average Acres per Dairy Facility
Average # of cows per Ac of existing DF:	26.21	Milk Cows/Acres per Dairy Facility
Estimated Dairy Capacity (Milk Cows):	381,980	Total # of Milk Cows (from Sec. A)
Estimated Acres required for DFs:	**14,573**	**Ac. in DF**
Estimated acres for other Nitrogen Sources (Table No. 5A):	**95,395**	For other Nitrogen

Available Cropland from Fig. 2 & Table 4		
DDOZ =	**217,657**	Acres
NSOZ =	**416,150**	Acres
Total	**633,807**	Acres
Available	**463,611**	Acres

SECTION F: Estimate of Nitrogen Requirements for Certain Crops (7)

CROP (Source: NRCS)	YIELD Units	LBS. of N per Acre	Nitrogen Needs (lbs.N/acre) 1st Crop (Acres)	2nd Crop (Acs.)	3rd Crop (Acres)	Total Acres	Field Acres 1st Crop Only	Total lbs.N
Alfalfa (tons)	9.00	540	**42,060**	-	-	42,060	42,060	22,712,455
Alfalfa, seed		540	**17,427**	-	-	17,427	17,427	9,410,738
Barley, grain (tons)	2.50	160	**7,624**	-	-	7,624	7,624	1,219,911
Barley, Early (tons)	8.00	128	-	-	-	-	-	-
Barley, Late (tons)	16.00	160	-	-	-	-	-	-
Bermudagrass (tons)	4.00	224	-	-	-	-	-	-
Corn, grain (tons)	5.00	240	-	-	-	-	-	-
Corn, silage (tons)	30.00	240	**39,965**	-	-	39,965	39,965	9,591,714
Cotton (bale)	3.00	180	**166,732**	-	-	166,732	166,732	30,011,809
Cotton, seed		180	**2,765**	-	-	2,765	2,765	497,683
Mixed Small Grain (tons)	18.00	198	-	-	-	-	-	-
Oats, grain (tons)	1.60	115	**1,592**	-	-	1,592	1,592	183,389
Oats, silage (tons)	12.00	144	-	-	-	-	-	-
Oats, hay (tons)	4.00	140	-	-	-	-	-	-
Pasture, fescue (tons)	6.00	192	**9,216**	-	-	9,216	9,216	1,769,541
Safflower (tons)	2.00	200	**13,825**	-	-	13,825	13,825	2,764,907
Sorghum (tons)	4.00	252	-	-	-	-	-	-
Sudan, silage (tons)	8/cuttings	88	-	-	-	-	-	-
Sudan, hay (tons)	8.00	256	-	-	-	-	-	-
Sugar beets (tons)	30.00	270	**4,189**	-	-	4,189	4,189	1,131,098
Triticalo, early (tons)	12.00	180	-	-	-	-	-	-
Triticalo, late (tons)	22.00	220	-	-	-	-	-	-
Wheat, grain (tons)	3.00	174	-	-	-	-	-	-
Wheat, early (tons)	10.00	160	**51,947**	-	-	51,947	51,947	8,311,478
Wheat, late (tons)	18.00	198	**2,681**	-	-	2,681	2,681	530,862
Other (Specify)	Second Crop	240	-	**57,225**	-	57,225	-	13,734,047

(7) Source: U.C. Extension Service and Natural Resource Conservation Services

SECTION G: Cropland Nitrogen Requirement:	360,024	57,225	-	360,024	
Other Nitrogen sources reduction area from Table No. 5A:				95,395	
Subtotal: Gross Cropland Acreage available for dairy manure:				264,629	
Subtotal: Dairy Facility Acreage (from SECTION E above):				14,573	
Net available cropland (in acres) available for dairy manure:				**250,056**	**70,753,907**

Average Nitrogen demand in lbs. per acre (single and double crop) for the project: **267**

SECTION H: Estimate of Available Crop Land for Nitrogen Usage from Dairies:

All Crops Harvested:	680,821	Total acres harvested countywide from *1999 Agri.Crop Report*
Selected Crops Harvested:	498,000	Total acres countywide of selected crops(8) harvested from *1999 Agri. Crop Report*
Ratio 1:	**73.15%**	**Ratio of Selected crops harvested to total crops harvested.**
DDOZ & NSOZ in acres:	633,807	Acres in the DDOZ and NSOZ.
Total Acreage:	463,611	Ratio of selected crops harvested in DDOZ and NSOZ areas based on *Ratio 1*.
Available Acreage:	417,250	90% cropable area

Crop	Harvested Acres (1999) Countywide	Available Acreage (8)
Alfalfa	50,200	42,060
Alfalfa, seed	20,800	17,427
Hay, other	1,900	1,592
Barley	9,100	7,624
Corn (silage)	47,700	39,965
Cotton (lint, all varieties)	199,000	166,732
Cotton (seed, all varieties)	3,300	2,765
Pasture, fescue	11,000	9,216
Safflower	16,500	13,825
Sugar beets	5,000	4,189
Wheat	62,000	51,947
Wheat, seed	3,200	2,681
Other (double crop acreage)	68,300	57,225
Total:	498,000	417,250
Less Double Crop:	429,700	360,024

360,024 Acreage available less double cropped acreage. Note that this is nearly 100,000 acres less than the estimated acreage in the DDOZ and NSOZ due to the actual acreage of the selected crops.

(8) Source: On average on 90% of the acreage is available for crop production due to structures, roads, canals, etc.

TABLE NO. 5A

ADDITIONAL NITROGEN LOADING SOURCES

Kings County, California

	1999 Number	Animal Units A.U[4]	Manure[5] lb/day	Total Kjeldahl Nitrogen[5] lb/day	Manure[5] lb/year	Total Kjeldahl Nitrogen[5] lb/year
Dairy Cows[1]	124,688	174,563	15,012,435	78,553	5,479,538,848	28,672,006
other cows[1]	**137,000**	137,000	7,946,000	43,840	2,900,290,000	16,001,600
Sheep & lambs[1]	11,914	1,191	47,656	500	17,394,440	182,642
Goats[1]	3,980	398	15,920	179	5,810,800	65,372
Hogs & Pigs[1]	11,700	4,680	393,120	2,434	143,488,800	888,264
Turkeys[1]	586,103	11,722	550,937	7,268	201,091,939	2,652,702
horses[2]	604	1,208	61,608	362	22,486,920	132,276
broilers[2,3]	**3,000,000**	30,000	2,550,000	33,000	930,750,000	12,045,000
			total	166,137	9,700,851,747	60,639,861
			subtotal-nondairy	87,583	4,221,312,899	31,967,855

	Acreage Needed	(all)	218,129
	Acreage Needed	**(nondairy)**	**114,992**
Acreage Needed	**(nondairy manure)**	(50% N reduction)	**57,496**
	Acreage Needed	(biosolids)	22,000
		Total	79,496
		120% contingency	95,395
		Total Herd Reduction(A.U)	366,684
		Milk Cow Reduction (A.U.)	225,346.84
		Revised Total (A.U.)	**517,136**
		% reduction	30.4

[1] Data source: Kings County 1999 Agricultural Crop Report

[2] Data source: USDA 1997 Agricultural Census

[3] Estimate of stable broiler flock population assumes four flock rotations per year.

[4] Animal Unit conversions: dairy cow (1.4), other cattle (1.0), Sheep/lamb (0.1), goat (0.1), hog/pig (0.4), turkey (0.02), horse (2.0), broiler (0.01).

[5] Data Source: American Society of Agricultural Engineers, 1999, Manure Production and Characteristics

APPENDIX B

DEFINITIONS OF TERMS USED IN THE *DAIRY ELEMENT*

DEFINITIONS:

1. AGRONOMIC APPLICATION RATE:

Fertilizer or manure application rate that is calculated to meet the difference between what the soil is able to supply and the total nutrient requirement of the crop(s) being grown.

~~1~~2. AFO (or CAFO):

AFO's (or CAFOs) are agricultural enterprises where animals are kept and raised in confined situations. AFO's congregate animals and their feed, manure and urine, dead animals, and production products in small areas. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures, fields, or on range land. Winter feeding of animals on pasture or rangeland is not considered an AFO for the purpose of the *Dairy Element*.

~~2~~3. ANIMAL UNITS (AU) Source: RWQCB***:***

Animals Type	AU Factor (By age of Animal Head	Holstein Factor (1.4 AU/)	Equivalent Animal Units
Milk Cow	1.00	1.40	1.40
Dry Cow	~~0.75~~ *0.80*	1.40	~~1.05~~ 1.12
Heifers (2yrs and older)	~~0.75~~ *0.73*	1.40	~~1.05~~ 1.02
Heifers (1 yr. to breeding)	~~0.70~~ *0.73*	1.40	~~0.98~~ 1.02
Calves (3 mo. to 1 yr.)	~~0.40~~ *0.35*	1.40	~~0.56~~ 0.49
Baby Calves (less than 3 mo.)	~~0.25~~ *0.21*	1.40	~~0.35~~ 0.29

4. AIR QUALITY ASSESSMENT:

See Technical Report - Appendix J, Component 9a.

~~3~~5. BASELINE CAPACITY OF A DAIRY:

The baseline capacity of a dairy is the animal unit capacity of a dairy site in Animal Units (AU) which is determined through an analysis of the dairy management program operated at the dairy. This will include, but not limited to the herd make up and size, Nitrogen and salt loading limits of the land used for solid and liquid manure usage, cropping program, and other factors deemed appropriate.

6. BIOLOGICAL RESOURCES SURVEY:

See Technical Report - Appendix J, Component 6.

~~***4. COMPREHENSIVE NUTRIENT MANAGEMENT PLAN (CNMP):***~~

~~See Technical Report - Appendix J, Section 2.~~

7. CEQA (California Environmental Quality Act):

Public Resources Code, Division 13, from Section 21000 to 21178.

8. CEQA GUIDELINES:
California Code of Regulations, Title 14, Chapter 3, from Section 15000 to 15387.

~~5~~9. COMPREHENSIVE DAIRY PROCESS WATER ~~DISPOSAL~~ APPLICATION PLAN (CDW~~D~~AP):
See Technical Report - Appendix J, ~~Section 3~~ Component 2b.

~~6~~10. CONDITIONAL USE PERMIT (CUP):
(See Article 19 of the Kings County Zoning Ordinance) Discretionary Zoning permits granted by the Planning Commission used to achieve the purposes of the zoning ordinance and give zone district regulations the flexibility necessary to achieve the objectives of the ordinance. The Planning Commission is empowered to grant and to deny applications for use permits and to impose reasonable conditions. Approval of a CUP is subject to review by the Board of Supervisors.

11. CULTURAL RESOURSES EVALUATION:
See Technical Report - Appendix J, Component 7.

~~7~~12. DAIRY:
The general term for agricultural enterprise principally engaged in the production of milk.

~~8~~13. DAIRY DEVELOPMENT OVERLAY ZONE (DDOZ):
That portion of Kings County where new dairies may be established.

~~9~~14. DAIRY ELEMENT:
An optional element of the General Plan authorized by Section 65303 of the California Government Code to address the issues related specifically to dairies.

~~10~~15. DAIRY FACILITY:
That portion of a dairy which includes the corrals, barns, feed storage, milk barn, lagoons and other manure handling facilities, but not including the associated farm land.

16. DAIRY MONITORING OFFICE:
The *Dairy Monitoring Office is* a subdivision of the Code Compliance Section of the Kings County Planning Agency. This *Office* operates a program that tracks the accumulated data, analyzes it to determine whether the Dairy Element standards are being met, and makes periodic reports to the Kings County Planning Commission. All records, reports, plans, programs, documentation and other material required as part of the monitoring and reporting requirements shall be maintained on the dairy site, and shall be made available to the personnel of the *Kings County Dairy Monitoring Office* upon request for review and inspection. The monitoring and reporting requirements are applicable to new dairies approved under this Dairy Element or the portion of a previously existing dairy that is expanded or effected by the expansion.

17. DAIRY PROCESS WATER:

Liquid manure and other water that has come into contact with manure or feed and managed by the dairy operation. Sometimes refereed to as "dairy waste water."

~~11~~18. DAIRY REVIEW LETTER (DRL):
A letter prepared by the Zoning Administrator at the request of a dairy owner or operator that establishes the baseline capacity of an existing dairy operation. This information can be used to determine what type of zoning approval will be required to expand a dairy operation.

~~12~~19. DAIRY SITE:
All of the land used for a dairy including the Dairy Facility and associated agricultural land.

~~13~~20. DAIRY SYSTEM:
This is the complete dairy operation including, but not limited to, the physical structures of the facility; the animal feeding program; the management of the herd and the herd itself; the cropland where process water, manure, and nutrients are used, dead animals, etc.; and integrated management program and practice of the operation. System is defined as a regular interacting, or interdependent, group of items forming a unified whole that is considered a functional unit.

21. DEAD ANIMAL MANAGEMENT PLAN (DAMP):
See Technical Report - Appendix J, Component 5.

22. ERME-II:
Environmental Resources Management Element - Phase II, adopted as part of the *Kings County General Plan* in 1976 and recinded and replace by the *1993 Kings County General Plan* adopted in December 1993.

~~14~~23. FUGITIVE DUST EMISSIONS CONTROL PLAN (FDECP):
See Technical Report – Appendix J, ~~Section 12~~ Component 9b.

24. GAS AND OIL WELL EVALUATION:
See Technical Report - Appendix J, Component 1e.

26. GEOTECHNICAL REPORT:
See Technical Report - Appendix J, Section 1 Component 1a.

26. GROUNDWATER EVALUATION
See Technical Report - Appendix J, Component 1b.

27. HAZARDOUS MATERIALS BUSINESS PLAN (HMBP):
See Technical Report - Appendix J, Component 3.

28. HYDROLOGIC SENSITIVITY ASSESSMENT (HAS):
See Technical Report - Appendix J, Component 1d.

29. IRRIGATION MANAGEMENT PLAN (IMP):
See Technical Report - Appendix J, Component 2e.

30. LEVEL OF SERVICE (LOS):
Refers to traffic flow on streets and roads.

~~***17. LIVESTOCK MANAGEMENT PLAN (LMP):***~~
~~See Technical Report - Appendix J, Section 6.~~

~~18~~31. MAJOR EXPANSION OF A DAIRY:
An increase in herd size (number of Animal Units) beyond the current baseline capacity of the Dairy site. This includes an increased in capacity/size of a dairy to accommodate more animal units (A.U.) than were previously allowed by an existing zoning permit, or the expansion a dairy which was established prior to the requirement for zoning permits. In addition, an increase in the number of animal units which necessitates the construction of additional facilities (corrals, barns, lagoons, etc.) or a new "Waste Discharge Requirement" as required by RWQCB, constitutes a major expansion for the facility and requires a zoning permit.

32. MANURE NUTRIENT MANAGEMENT PLAN (MNMP):
See Technical Report - Appendix J, ~~Section 2~~ Component 2a.

~~19~~33. MANURE TREATMENT MANAGEMETN PLAN (MTMP):
See Technical Report - Appendix J, ~~Section 4~~ Component 2c.

~~20~~34. MINOR EXPANSION OF A DAIRY:
An increase in herd size (number of Animal Units) below the current baseline capacity of the Dairy site, and/or additions to dairy's structures and facilities that do not increase the herd size.

35. NOx:
Nitrous Oxide, a precursor for the formation of ozone (smog).

~~21~~36. NUTRIENT SPREADING OVERLAY ZONE (NSOZ):
That portion of Kings County where new dairies will not be permitted, but where manure and dairy process water can be used to fertilize cropland.

~~22~~37. ODOR MANAGEMENT PLAN (OMP):
See Technical Report - Appendix J, ~~Section 5~~ Component 2d.

~~16~~38. ~~INTEGRATED~~ PEST AND VECTOR MANAGEMENT PLAN (~~I~~PVMP):
See Technical Report - Appendix J, ~~Section 8~~ Component 4.

39. PM_{10} and $PM_{2.5}$:
Particulate Matter less than ten microns and less than 2.5 microns in diameter, respectively.

~~23~~40. PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR):
An EIR as defined in Section 15168 of the CEQA Guidelines. Specifically for this project it is the Final and Draft PEIR documents for the Dairy Element project.

41. ROG:
Reactive Organic Gases, also referred to as VOC or Volatile Organic Gases, a precursor for the formation of ozone (smog).

~~24~~42. RWQCB:
California Regional Water Quality Control Board Central Valley Region

43. SENSITIVE SPECIES:
Plant or animal sp[ecies listed as threatened or endangered pursuant to the state or federal endangered species acts (CESA and ESA).

~~25~~44. SITE PLAN REVIEW (SPR):
(See Article 21 of the Kings County Zoning Ordinance) A zoning permit issued by the Zoning Administrator after making findings that the proposed use is in conformity with the intent provisions of the Zoning Ordinance, and as a guide for the issuance of building permits.

45. SJVUAPCD:
San Joaquin Valley Unified Air Pollution Control District.

46. SOILS EVALUATION:
See Technical Report - Appendix J, Component 1c.

~~26~~47. TECHNICAL REPORT:
See Appendix J.

48. TRAFFIC IMPACT STUDY:
See Technical Report - Appendix J, Component 8.

49. URBAN AREAS:
Those built-up areas of Kings County in and around the cities of Avenal, Corcoran, Hanford, and Lemoore, and the unincorporated areas of Armona, Home Garden, Kettleman City, Santa Rosa Rancheria, and Stratford.

50. ZONING ORDINANCE:
Kings County Ordinances No. 269, as amended, which regulates land in the unincorporated territory of the County of Kings, state of California.

APPENDIX C

QUESTIONNAIRE FORM

Kings County

Survey of Dairies

Please fill out the questionnaire as completely as possible. Write any additional comments on a separate sheet. If you have any questions, please call Steve Sopp at 559.582.3211, x 2675.

Please respond by July 21, 2000. Mail this form in the enclosed envelope or send or fax it to 559-584-8989:

Kings County Planning Agency
Kings County Government Center
Hanford, CA 93230
559.582.3211 x2670
fax 559.584.8989

The information provided will become the property of the County of Kings, and *will not* be made available to the public except in a composite form (i.e. totals, abstracts, or summaries). County staff may follow up with individual businesses to offer assistance with problems identified in this questionnaire.

A GENERAL INFORMATION

Dairy name _____
Person completing form_____
Phone_____
Fax_____

Physical address(es) of the dairy facility and support stock facility.

_____
_____
_____

Mailing address(es) of the dairy.

_____
_____
_____
_____

B FACILITIES AND EMPLOYMENT

What capital improvements have you made recently or will you make in the future?

For:	1999 $	2000 $	2001-2004 (total) $
Facility expansion			
Facility productivity improvements			
Replacing/upgrading older equipment			
Regulatory compliance			
Other/don't know			

Number of employees at this location (annual average) in the past, now, and in the future.

	1999	2000	2001	2002
Full time	____	____	____	____
Part time	____	____	____	____
Seasonal	____	____	____	____

Kings County
Survey of Dairies

C PRODUCTION AND MARKETS

How do you expect the growth of the dairy industry to change in the next two to three years?

- ☐ Grow more slowly than the past three years
- ☐ Grow as fast as the past three years
- ☐ Grow more quickly than the past three years

Why?_____

_____

_____

Please estimate your herd size (annual average) now and in the future.

	1999	2000	2004
Milk cows	_____	_____	_____
Dry cows	_____	_____	_____
Heifers 2 yr or less	_____	_____	_____
Heifers more than 2 yrs	_____	_____	_____
Calves less than 3 mos	_____	_____	_____
Calves 3 mos to 1 yr	_____	_____	_____
Total herd	_____	_____	_____

If planning to increase herd size, why?

- ☐ Have/will have excess milking barn capacity
- ☐ Need to increase efficiency
- ☐ Price of milk
- ☐ Demand for milk is increasing
- ☐ Technological improvements are making it possible
- ☐ Other _____

If not planning to increase herd size, why?

- ☐ Have a balanced ecosystem; don't want to upset
- ☐ Personal or family reasons
- ☐ Capital costs
- ☐ Planning to make technological improvements instead
- ☐ Plant can't be expanded
- ☐ Qualified labor not available
- ☐ Lack of land to spread dry manure
- ☐ Lack of land to dispose of wastewater
- ☐ Price of milk
- ☐ Other _____

Whether or not you are planning to increase herd size, what improvements would you need to make in order to increase production?

- ☐ More acres of land to spread dry manure
- ☐ More acres of land to dispose of wastewater
- ☐ More milking stalls
- ☐ Other improvements

(specify) _____

What cooperative are you a member of?

- ☐ California Dairies, Inc.
- ☐ Dairyman's Division of Land 'o Lakes
- ☐ Dairy Farmers of America
- ☐ Security Milk
- ☐ Hilmar Cheese
- ☐ Other _____

If you know, where does milk go for processing on a typical day?

Amount (lbs)		
	Local processor	SPECIFY PLANT AND ADDRESS
	Spot market	SPECIFY DESTINATION, IF KNOWN
	Dairy processes and sells	
	Out of area	SPECIFY PLANT(S) AND ADDRESS(ES)
	Total	

Kings County

Survey of Dairies

What land is irrigated by water generated by the dairy operation? What is the ownership and agreement? Give by parcel, address, or section number.

Address, parcel, section	Acreage	Owned/ Leased	Secured by agreement for this use?
		☐ Own ☐ Lease	☐ Yes ☐ No
		☐ Own ☐ Lease	☐ Yes ☐ No
		☐	☐
		☐	☐
		☐ Own ☐ Lease	☐ Yes ☐ No

What was your total production and revenue in 1999 and your expected production in the future?

	Amount (lbs)	Revenue ($)
1999	_____	_____
2000	_____	_____
2004	_____	_____

Operating capacity.

Present capacity used _____%

cows that could be added without expansion _____

D OPERATIONS

Year dairy established.

☐ 1978 or earlier ☐ After 1978

What is the acreage of your dairy facility, including corrals, milking facilities, barns, feed storage and manure handling areas? Do not include acreage used for growing crops.

_____

_____

Dry manure handling, revenue, or cost. (Please check all that apply and fill in the blanks.)

☐ Spread dry manure on my own crop land
_____ acres

☐ Sell excess dry manure to other farmers
Annual income: $ _____

☐ Sell excess dry manure to fertilizer processors ?
Annual income: $ _____

☐ Purchase manure to satisfy my own crop needs
Annual cost: $ _____

What are your other wastewater solutions?

☐ Sell excess wastewater to other farmers
Annual income: $_____

☐ Sell excess wastewater to manufacturing processors
Annual income: $_____

☐ Purchase wastewater to satisfy my own crop needs
Annual cost: $_____

Source of feed/silage. (Please total to 100%.)

Grow own feed on adjacent lands _____%

Grow own feed on other land I own not adjacent to dairy _____%

Purchase from other growers _____%

Other _____%

(specify) _____

Kings County

Survey of Dairies

What are the factors that are the *most important for the daily operation* of your business?

	Not at all	Somewhat	Important	Very important	Critical
Labor costs	1	2	3	4	5
Labor supply	1	2	3	4	5
Transportation	1	2	3	4	5
Interest rates	1	2	3	4	5
Energy costs	1	2	3	4	5
Feed costs	1	2	3	4	5
Regulatory compliance	1	2	3	4	5
Local property taxes	1	2	3	4	5
State or corporate income taxes	1	2	3	4	5
Market condition/economy	1	2	3	4	5
Other	1	2	3	4	5

(specify) _____

How will technology affect your operation in the future?

_____
_____
_____
_____
_____
_____

Please write any other comments on dairy production and the dairy industry, especially as related to Kings County.

_____
_____
_____
_____
_____
_____

Which factors are most difficult to *have control over?*

	Unimportant	Somewhat difficult	Difficult	Very difficult	Unmanageable
Labor costs	1	2	3	4	5
Labor supply	1	2	3	4	5
Transportation	1	2	3	4	5
Interest rates	1	2	3	4	5
Energy costs	1	2	3	4	5
Feed costs	1	2	3	4	5
Regulatory compliance	1	2	3	4	5
Local property taxes	1	2	3	4	5
State or corporate income taxes	1	2	3	4	5
Market condition/economy	1	2	3	4	5
Other	1	2	3	4	5

(specify) _____

APPENDIX D

FIGURES

APPENDIX "D" – FIGURES

Figure 1. - Location Map: Location of Kings County and surrounding counties – Page DE-4

Figure 2. - Theoretical Dairy Herd Capacity for Kings County – Page DE-15

Figure 3. - General Plan Designation and Spheres of Influence; features shown
- A. City Boundaries
- B. CSD/PUD Boundaries
- C. 'Spheres of Influence' of Districts providing urban type services
- D. General Plan Designations outside of areas in A. and B above.

Figure 4. - Zone Districts; features shown
- A. AL-10 – Limited Agricultural-10 (10 acres parcel minimum)
- B. AG-20 – General Agricultural-20 (20 acres parcel minimum)
- C. AG-40 – General Agricultural-40 (40 acres parcel minimum)
- D. AX – Exclusive Agricultural (40 acres parcel minimum)
- E. All other Zone Districts outside cities, rural communities, Rancheria, and NAS Lemoore

Figure 5. – FEMA Flood Zones; features shown
- A. Zone A – 100 year flood zoned
- B. Zone A – 500 year and 100 year (with water depth less than one foot) Flood Zones

Figure 6. - Existing Dairies; features shown
- A. Dairy facilities
- B. ¼ mile buffer
- C. ½ mile buffer

Figure 7. - Other CAFO's; features shown
- A. Poultry
- B. Swine
- C. Goat Dairies

Figure 8. – Communities; features shown
- A. City boundaries
- B. CSD/PUD/Rancheria boundaries
- C. NAS Lemoore

Figure 9. – Schools; features shown
- A. School site
- B. ½ mile buffer
- C. City and CSD/PUD boundaries

Figure 10. - Soil Map of Kings County; features shown

A. Soil characteristics (permeability, drainage, etc.)

Figure 11a. - Highest Recorded Water Table; Map of Northeastern Kings County; features shown

A. Groundwater depths of unconfined aquifer in Northeastern Kings County (source: Kings County Water District)

Figure 11a. - Highest Recorded Water Table; Map of Northeastern Kings County; features shown

A. Groundwater depths of shallow groundwater in Northeastern Kings County (source: Kings County Water District)

Figure 12. - Orchards and vineyards; features shown

A. Parcels shown on Assessor's records with orchards or vineyards

h:/Ord-gp/Genplan/Element/Dairy/DE-Text/DE-Appendix D Figs List.doc

FIGURE 3
General Plan Designations & Sphere of Influence

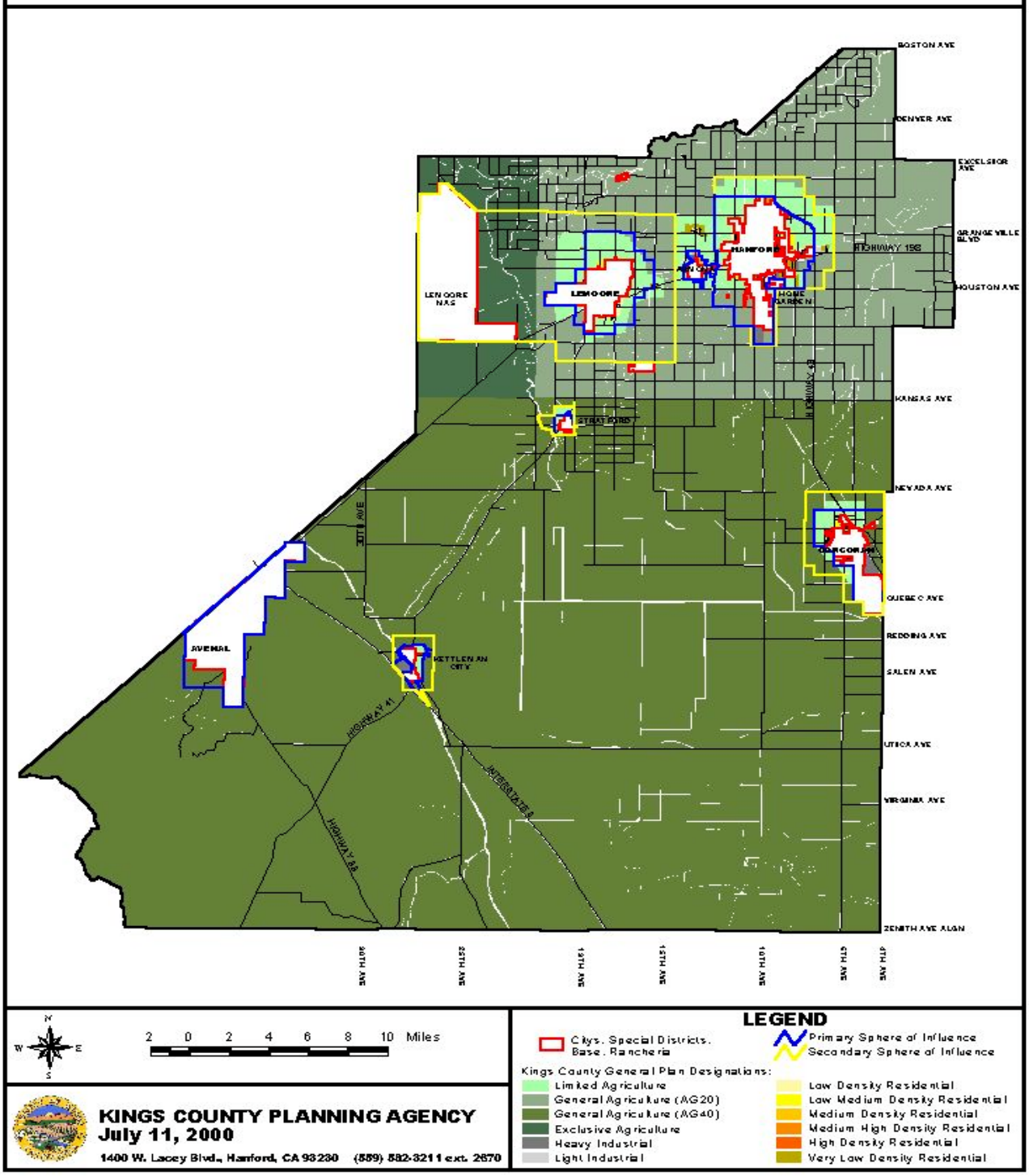


FIGURE 4
Zoning Districts

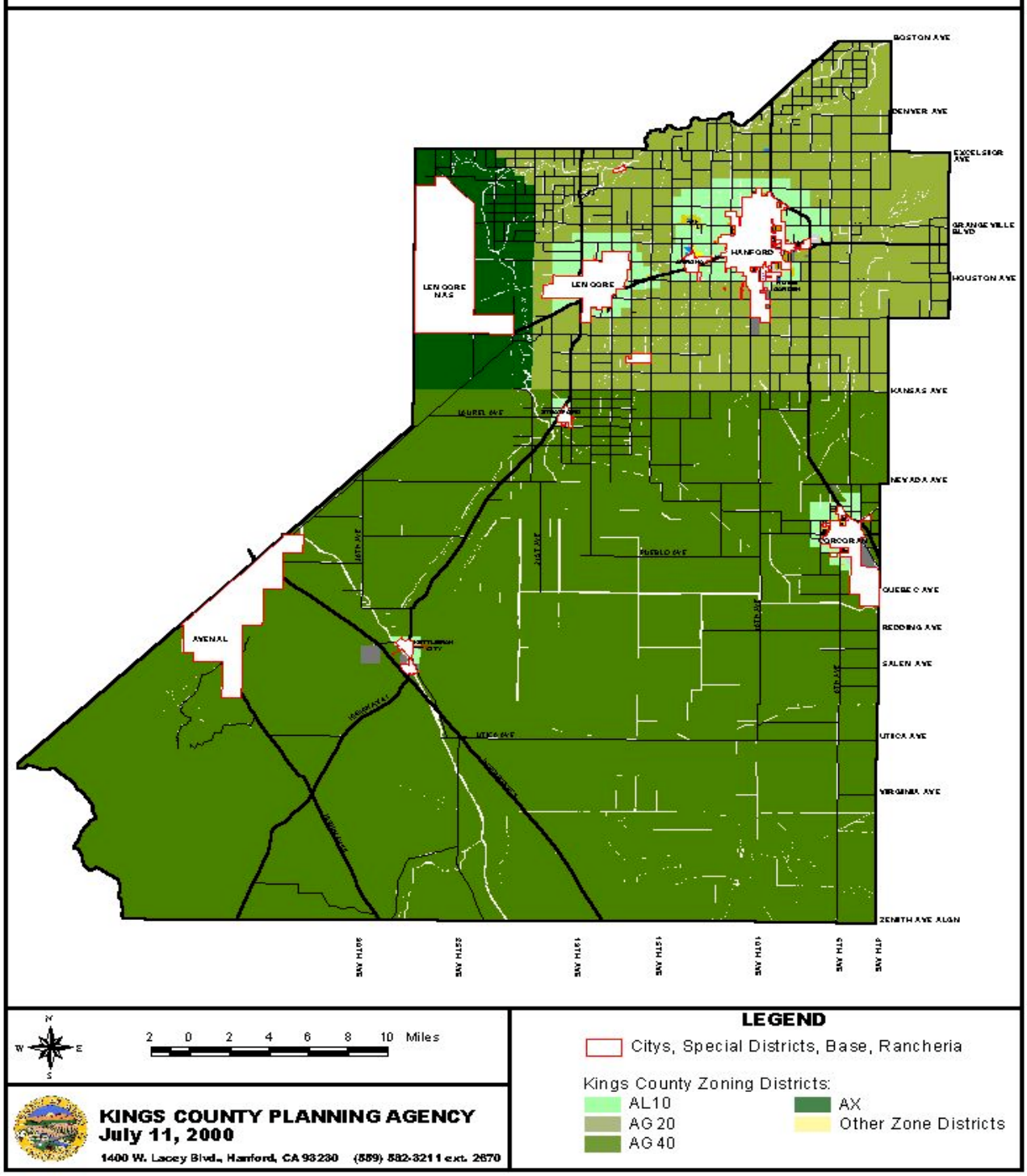
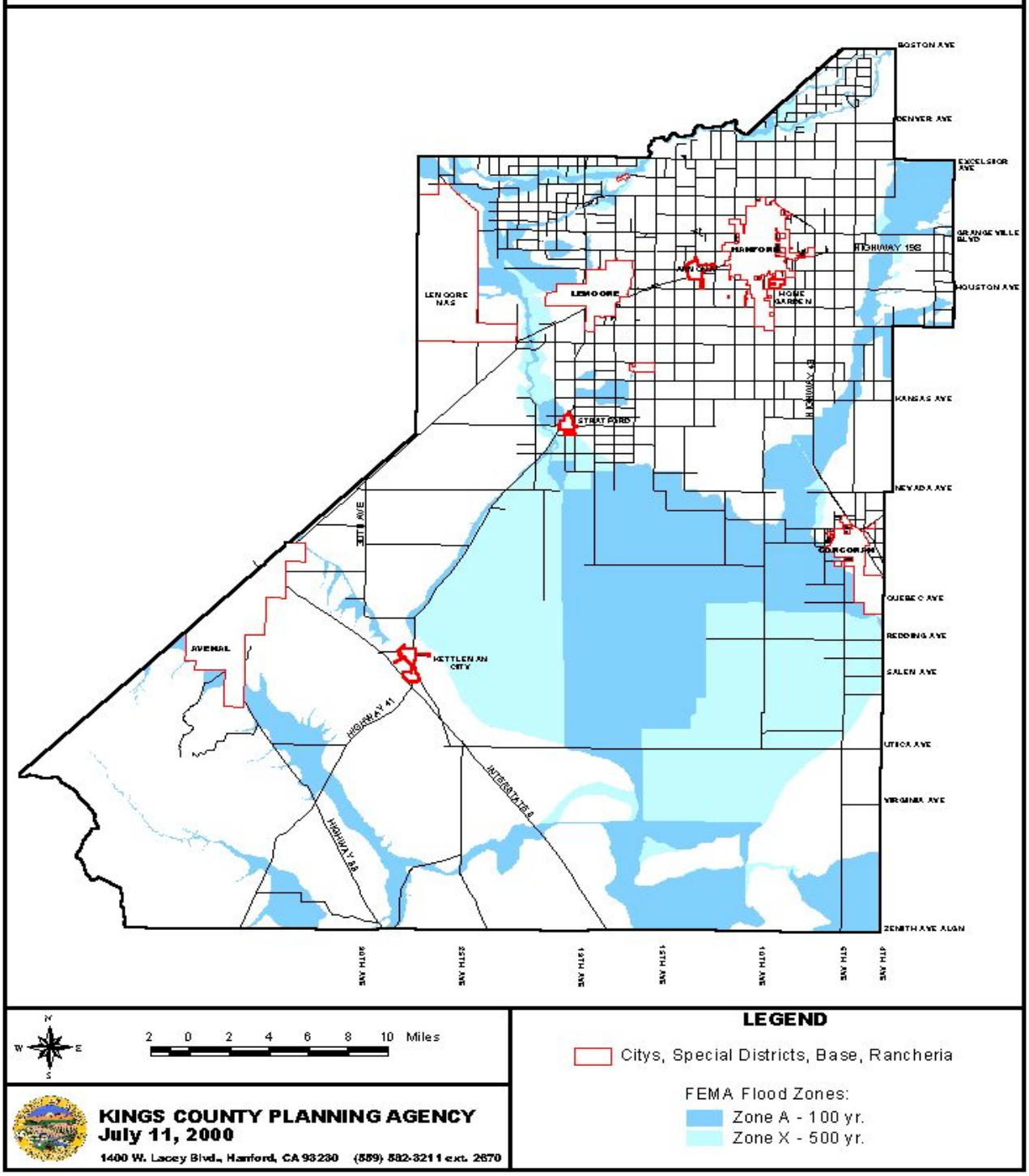


FIGURE 5
FEMA Flood Zones



2 0 2 4 6 8 10 Miles

LEGEND

Citys, Special Districts, Base, Rancheria

FEMA Flood Zones:
Zone A - 100 yr.
Zone X - 500 yr.

KINGS COUNTY PLANNING AGENCY
July 11, 2000
1400 W. Lacey Blvd., Hanford, CA 93230 (559) 582-3211 ext. 2670

FIGURE 6
Existing Dairies

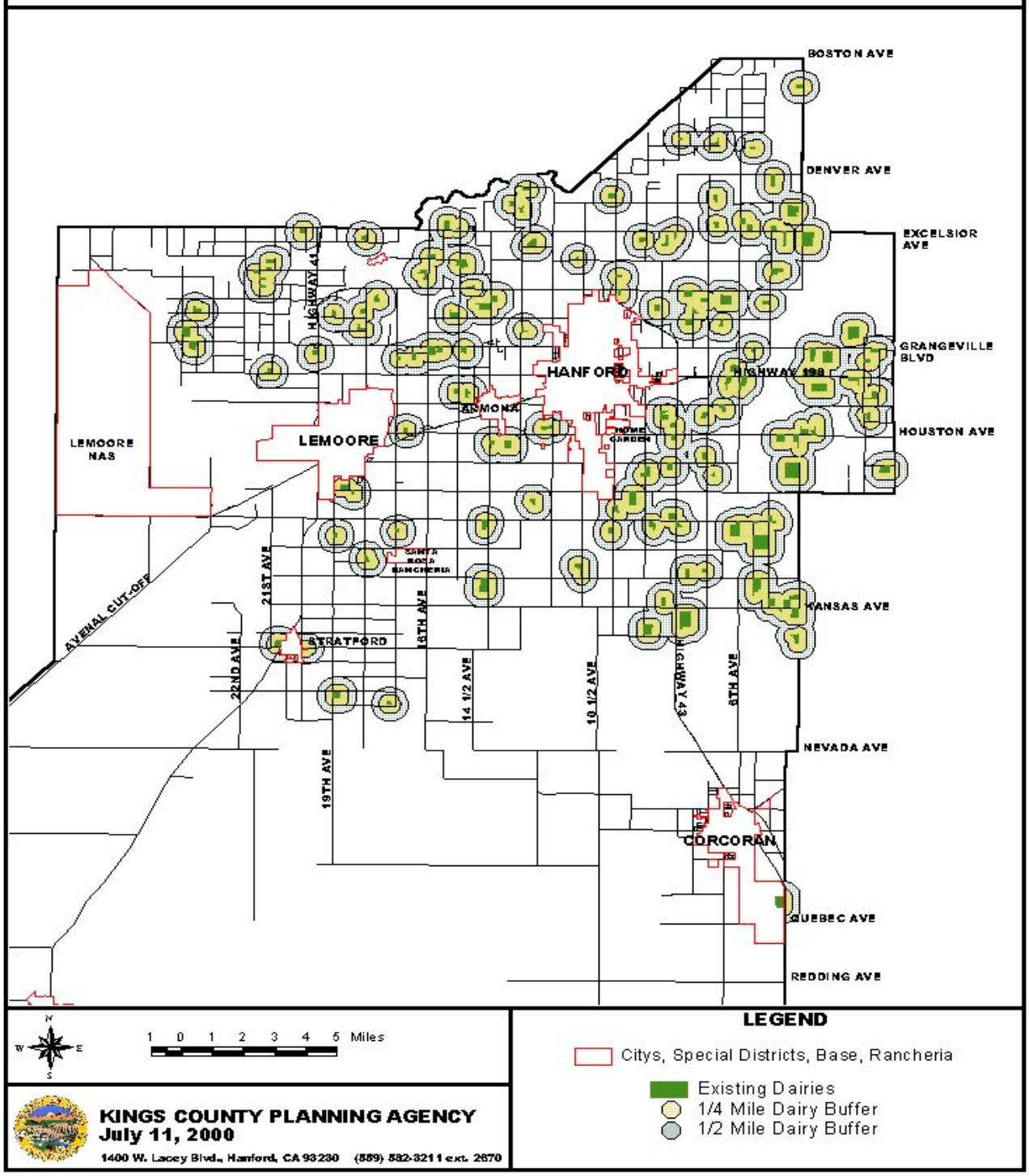


FIGURE 7
Other CAFO's

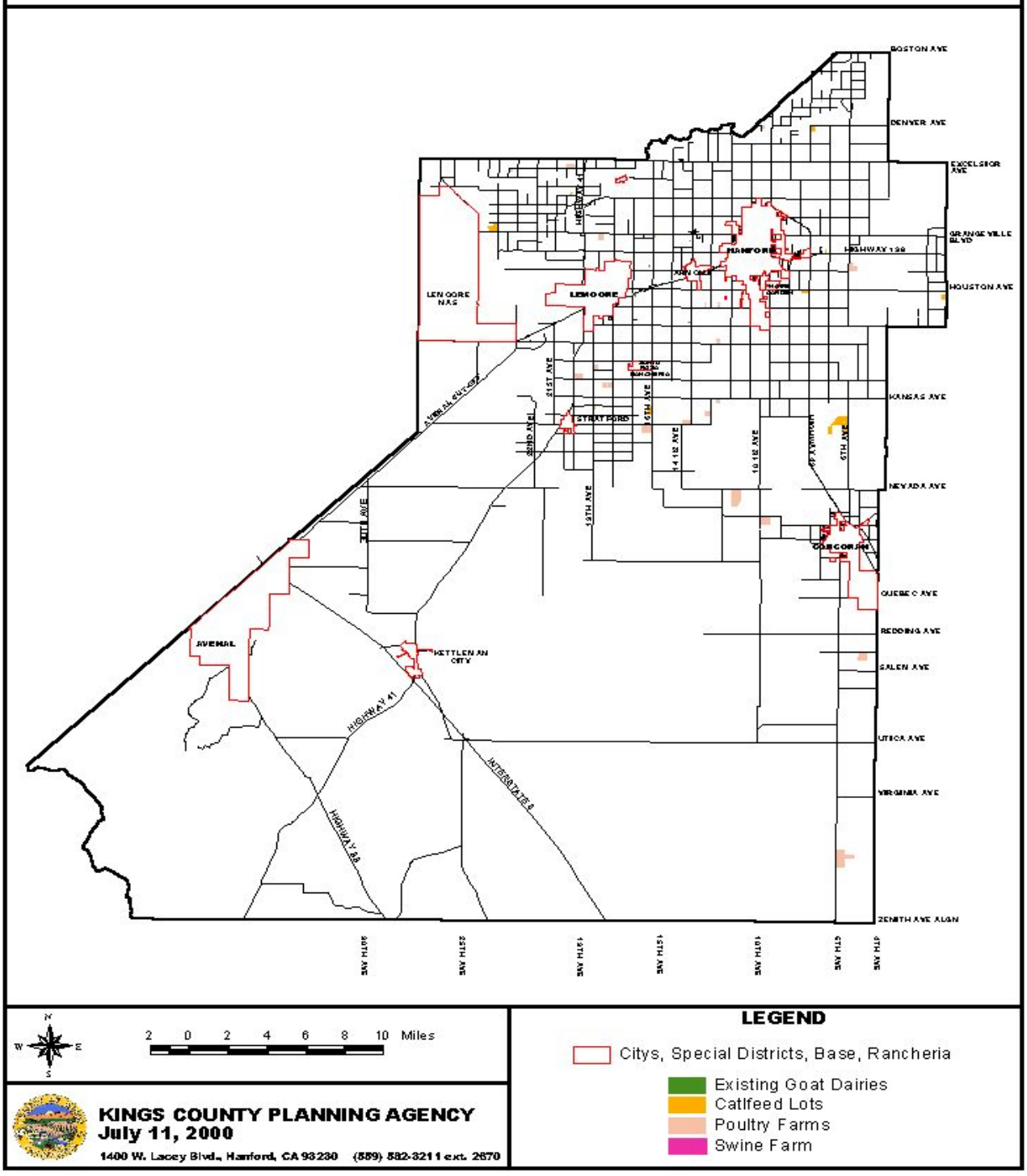


FIGURE 8
Communities

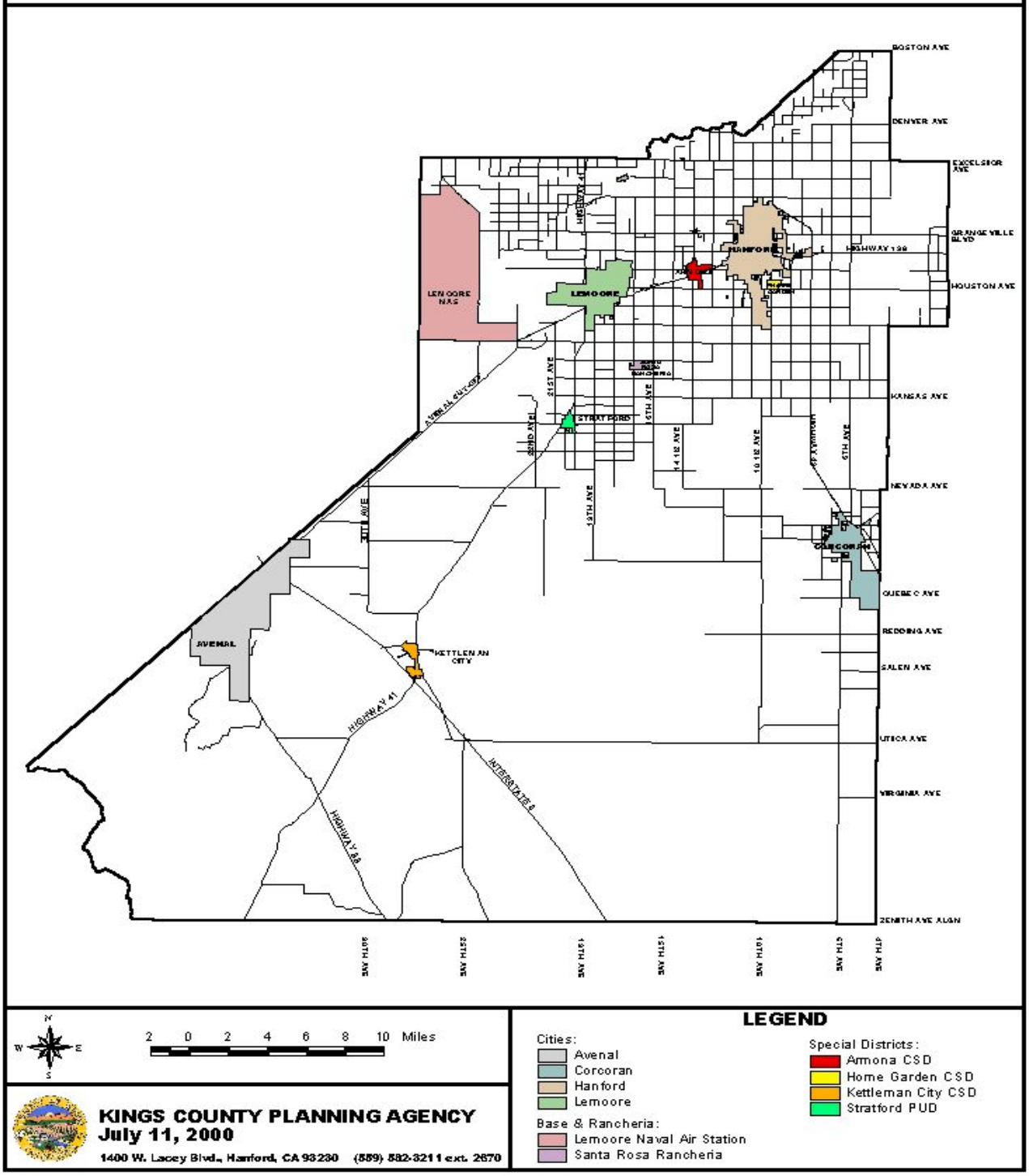


FIGURE 9
Schools

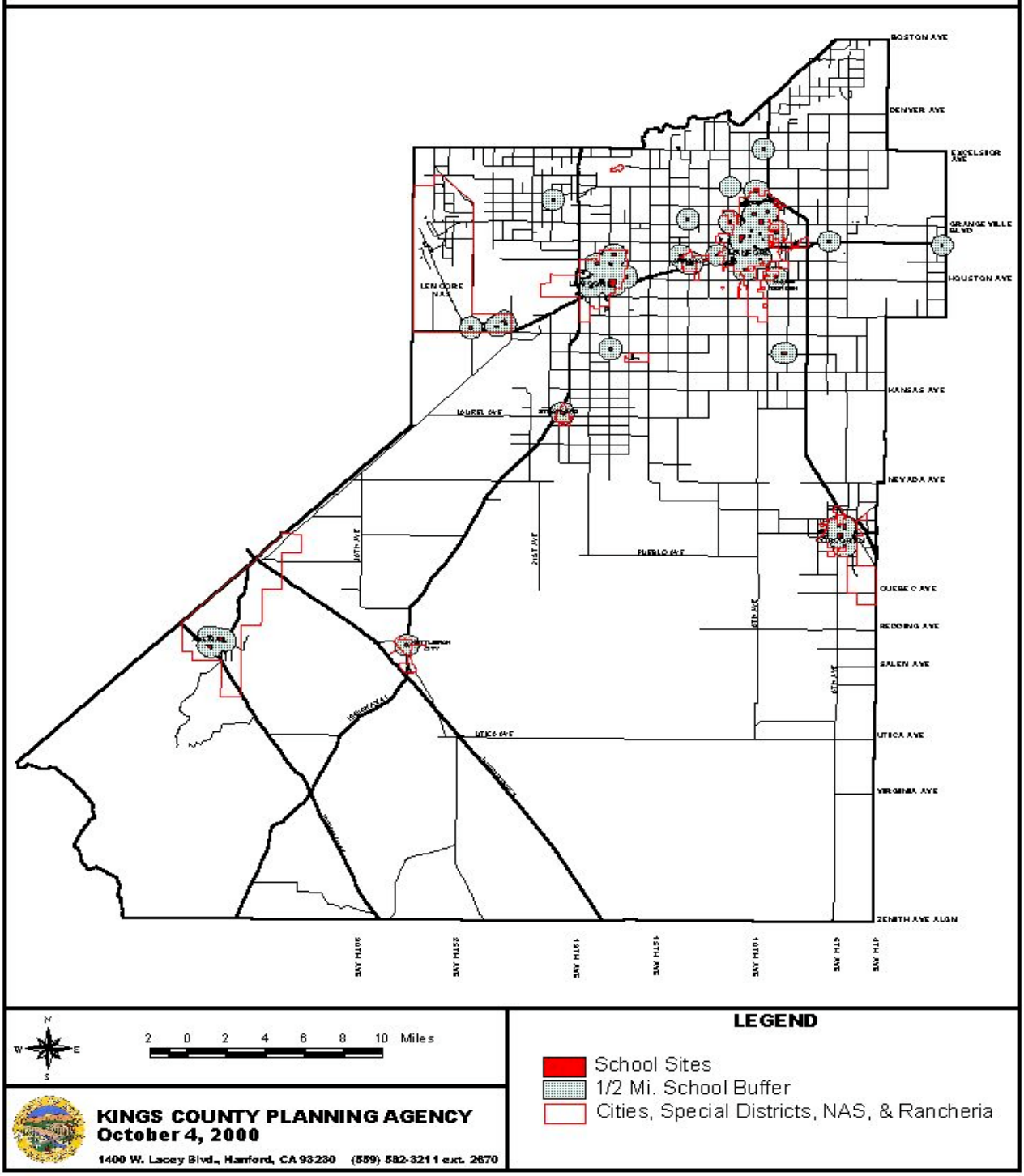


FIGURE 10
Soil Map of Kings County

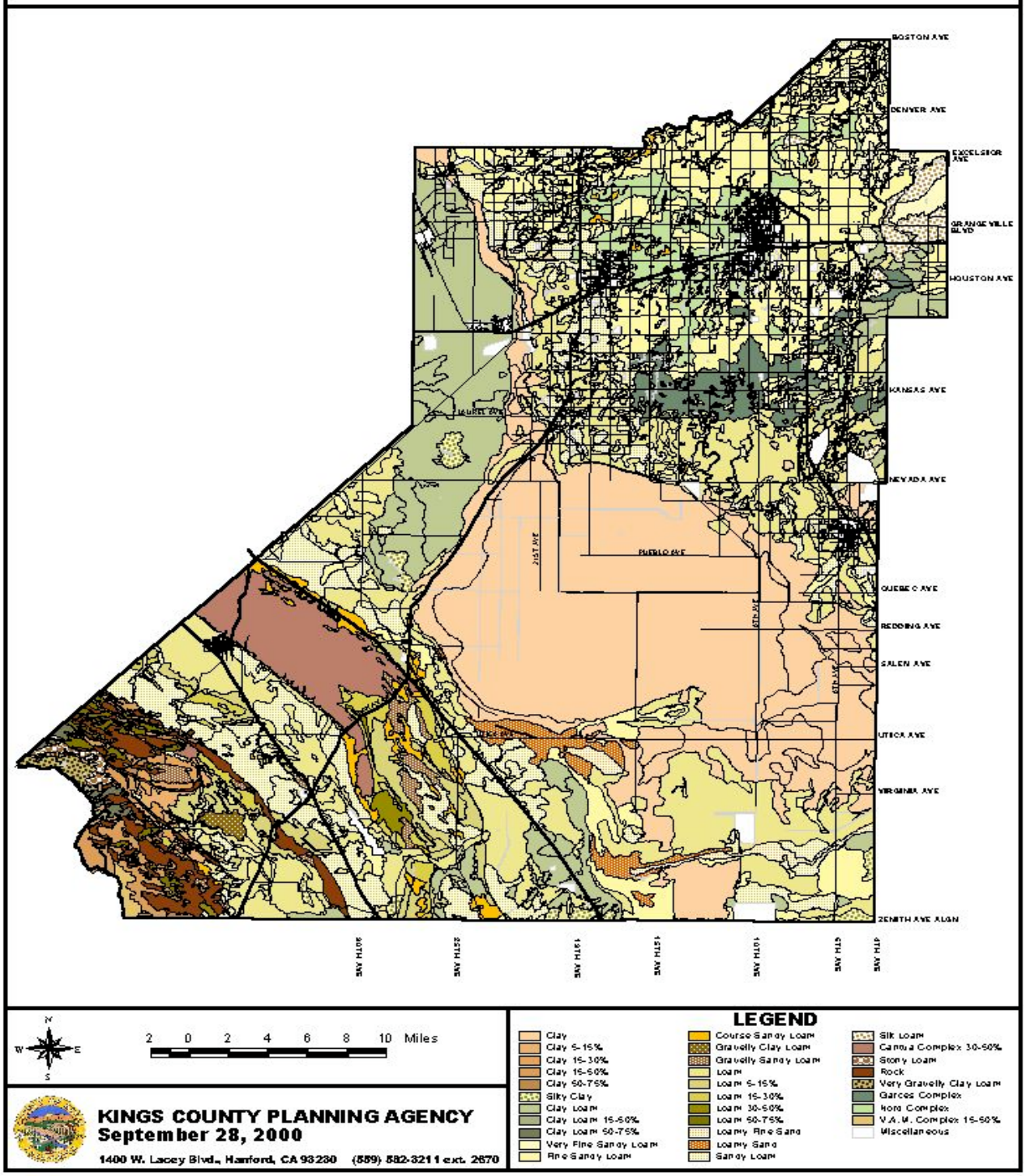


FIGURE 11a
Highest Recorded Water Table

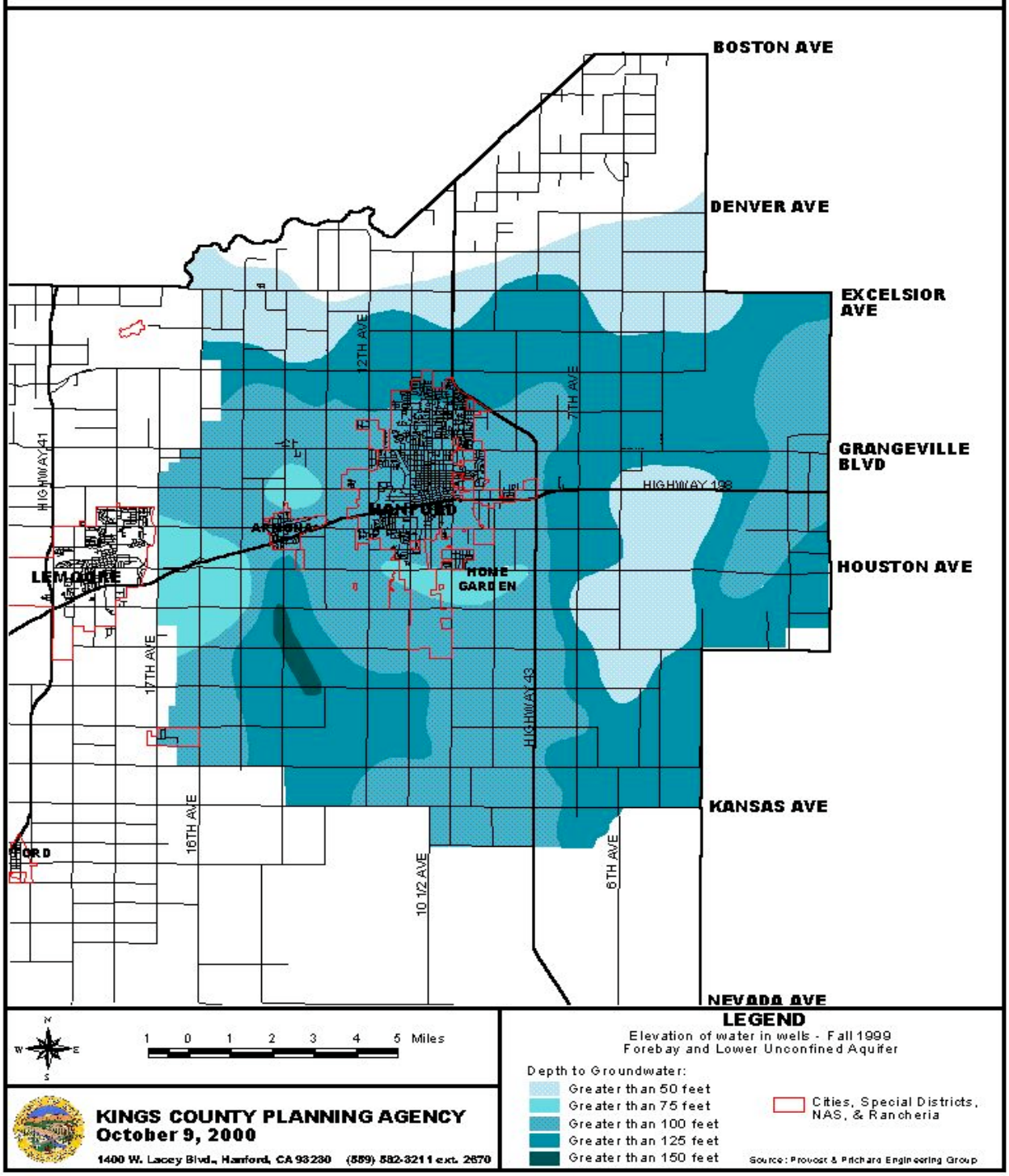


FIGURE 11b
Highest Recorded Water Table

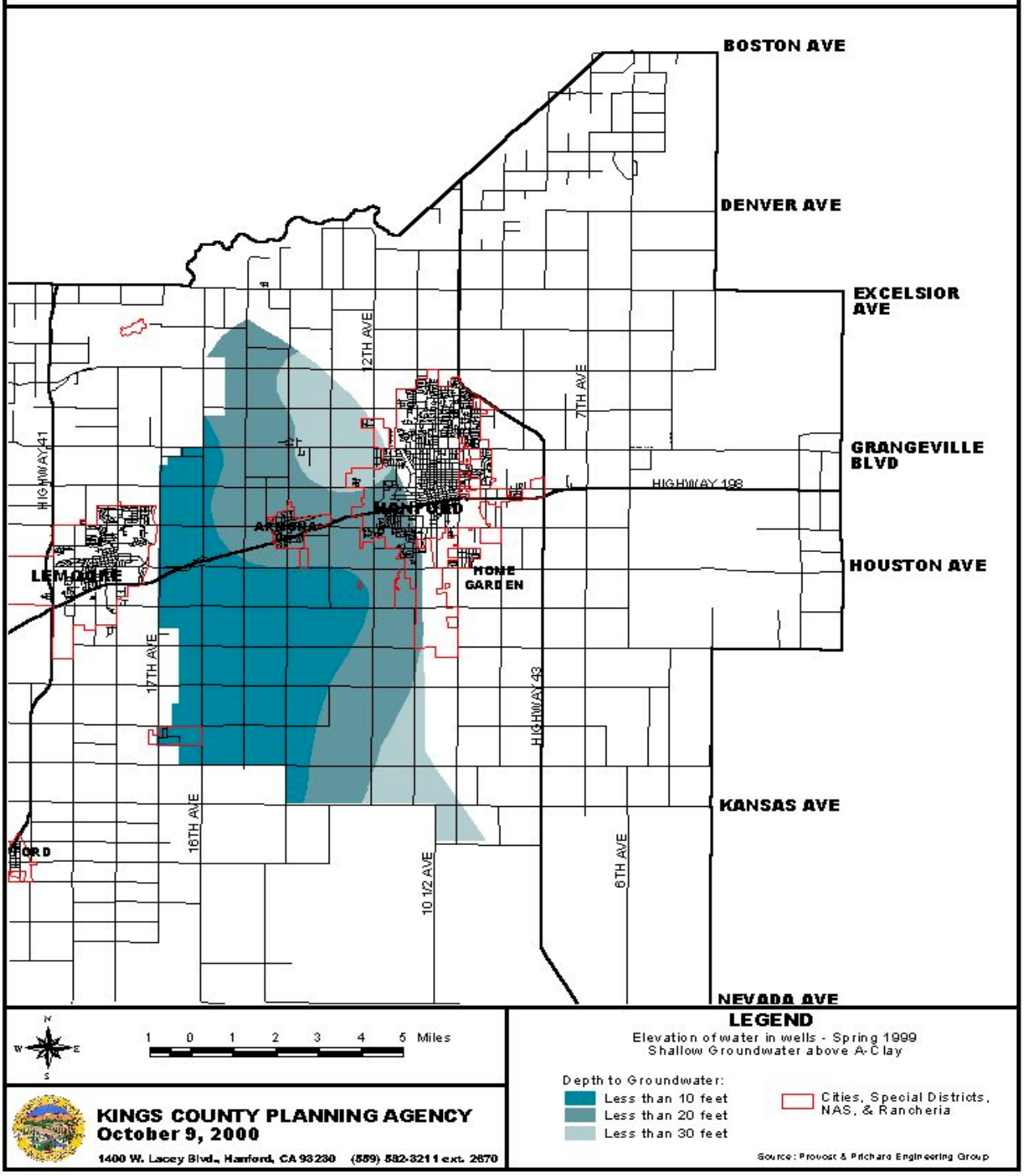
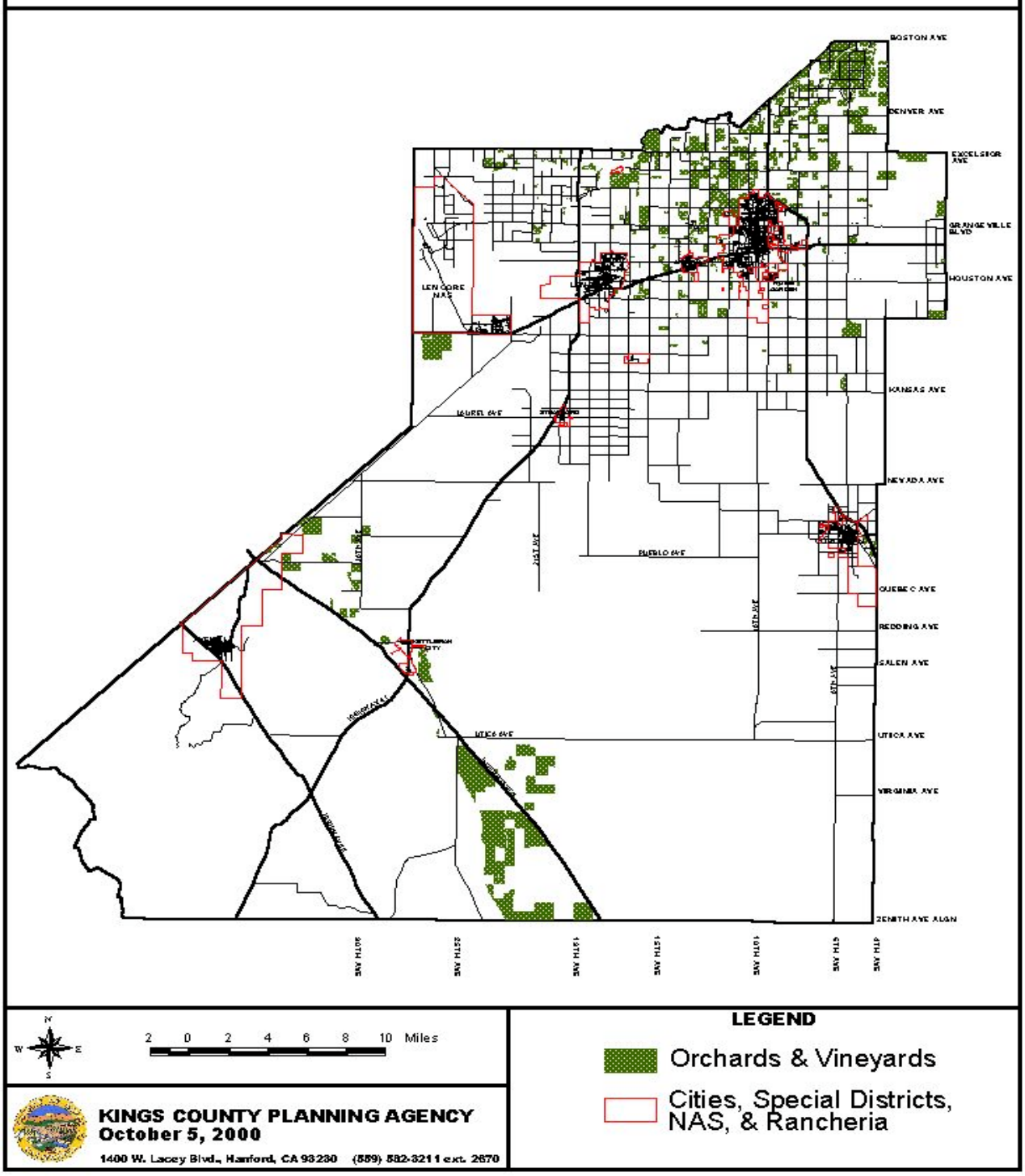


FIGURE 12
Orchards and Vineyards



APPENDIX E

ZONING ORDINANCE AMENDMENTS

Draft

PROPOSED CHANGES TO THE KINGS COUNTY ZONING ORDINANCE TO IMPLEMENT THE DAIRY ELEMENT OF THE KINGS COUNTY GENERAL PLAN

Sec. 402. AG-20 General Agricultural-20 District.

…

C. Permitted uses; site plan review:

The following uses may be permitted in accordance with the provisions of Article 21:

…

15. New bovine stock feed yards and expansions of existing bovine stock feeding yards, including dairy calf and heifer raising facilities; new bovine dairies and expansions of existing bovine dairies, including incidental dairy calf and heifer raising facilities. Expansions include, but are not limited to, additions of farmland associated with the manure management of dairy operations, increases in herd size including dairy calf and heifer raising facilities, changes to the dairy facility, including additional corrals, feed and manure storage areas, lagoons, barns and other structures, etc.; goat dairies.

D. Conditional uses; planning commission approval:

The following conditional uses may be permitted in accordance with the provisions of Article 19:

…

8. New, or major expansions to~~, animal sales and stock feeding yards;~~ poultry raising or keeping, exceeding five hundred (500) chickens and fifty (50) turkeys; ~~bovine and goat dairies;~~ and raising other small animals, including birds, mammals, and reptiles, commercially for food, feathers, fur, skins, etc., exceeding fifty (50) animals and their immature offspring; *new bovine dairies and expansions of existing bovine dairies which do not qualify under the Dairy Element of the Kings County General Plan for the issuance of a site plan review without additional mitigation of potential impacts*.

Sec. 403. AX Exclusive Agricultural District.

…

C. Permitted uses; site plan review:

The following uses may be permitted in accordance with the provisions of Article 21:

…

10. Expansions of existing bovine dairy herd sizes, including incidental dairy calf and heifer raising facilities; and changes to the dairy facility including additions of farmland associated with the manure management of dairy operations, additional corrals, feed and manure storage areas, lagoons, barns and other structures, etc.

Sec. 404. AL-10 Limited Agricultural-10 District.

C. Permitted uses; site plan review:

The following uses may be permitted in accordance with the provisions of Article 21:

…

12. Additions to an existing dairy's structures and facilities that do not increase the herd size.

…

D. Conditional uses, planning commission approval:

The following conditional uses may be permitted in accordance with the provisions of Article 19:

…

14. Expansions of bovine dairies that have been in continuous operation since 1978 or earlier, including incidental dairy calf and heifer raising facilities. Expansions include, but are not limited to, additions of farmland associated with the manure management of dairy operations, increases in herd size including dairy calf and heifer raising facilities, changes to the dairy facility, including additional corrals, feed and manure storage areas, lagoons, barns and other structures, etc.

Sec. 405. AG-40 General Agricultural-40 District.

…

C. Permitted uses; site plan review:

The following uses may be permitted in accordance with the provisions of Article 21:

…

12. New bovine stock feed yards and expansions of existing bovine stock feeding yards, including dairy calf and heifer raising facilities; new bovine dairies and expansions of existing bovine dairies, including incidental dairy calf and heifer raising facilities. Expansions include, but are not limited to, additions of farmland associated with the manure management of dairy operations, increases in herd size including dairy calf and heifer raising facilities, changes to the dairy facility, including additional corrals, feed and manure storage areas, lagoons, barns and other structures, etc.; goat dairies.

…

D. Conditional uses; planning commission approval:

The following conditional uses may be permitted in accordance with the provisions of Article 19:

…

8. New, or major expansions to~~, animal sales and stock feeding yards~~ poultry raising or keeping, exceeding five hundred (500) chickens and fifty (50) turkeys; ~~bovine and goat dairies;~~ and raising other small animals, including birds, mammals, and reptiles, commercially for food, feathers, fur, skins, etc., exceeding fifty (50) animals and their immature offspring*; new bovine dairies and expansions of existing bovine dairies which*

do not qualify under the Dairy Element of the Kings County General Plan for the issuance of a site plan review without additional mitigation of potential impacts.

Sec. 1711. General exceptions.

C. *Animal feeding operations.*

1. The provisions of this article shall not require the elimination of bovine and goat dairies, calf and heifer raising facilities, animal sales and stock feeding yards, other commercial animal ~~raising~~ *feeding* operations ~~of fifty (50) or more animals~~, or poultry keeping and raising operations of more than five hundred (500) chickens or fifty (50) turkeys *within the AG-20, AG-40, AX and AL-10 zone districts, which were* legally established prior to the effective date of the ordinance, provided however, that expansions to said uses may be permitted only upon granting of a conditional use permit *for poultry operation and bovine dairies in the AL-10 zone district, or issuance of a site plan review for bovine dairies in the AG-20, AG-40, and AX zone districts*~~, except that such permit shall not be required for minor alterations or accessory structures and uses located on the same site~~. Dairies, *dairy calf and heifer raising facilities,* animal sales and stock feeding yards, or poultry keeping and raising operations located within AG-20, AG-40, AX and AL-10 zones may discontinue operations for a period of time not to exceed two (2) years and reactivate operations at the same herd or flock size and in the same facility without first obtaining a conditional use permit *or site plan review*.
2. *A conditional use permit instead of a site plan review shall be required if improvements and expansion are made to any animal feeding operation without first obtaining the required zoning clearance.*
3. *Notwithstanding Section 1709.C., an addition to, or expansion of, an existing bovine dairy facility or site which is non-conforming solely due to its status as a dairy that was built and operated prior to this Ordnance's requirement for zoning permits, or a dairy that has had a zoning permit issued prior to the adoption of the Dairy Element of the Kings County General Plan may be allowed one time without bringing the existing portion of the dairy facility or site into compliance with the Dairy Element standards. However, all new additions and the expanded areas of the dairy shall conform to the Dairy Element standards.*

Sec. 1903. Application and fee.

A. The application for a conditional use permit shall be made to the planning commission in a form prescribed by the commission which shall include the following data:

…

(9) All applications for ~~a~~ bovine ~~dairy~~ *dairies and dairy calf and heifer raising facilities* shall ~~be accompanied by either~~ *include a technical report as described in the Dairy Element of the Kings County General Plan.*~~:~~

~~(a) A waste water and manure management and disposal plan, prepared and signed by a professional engineer registered in the State of California, which determines the design of a proposed new dairy, or expansion of an existing dairy, will comply~~

~~with the standard waste water discharge requirements provided by the Regional Water Quality Control Board, to adequately dispose of all waste water and manure generated or produced by the new or expanded dairy operation, along with a groundwater monitoring plan to ensure that the plan works, or~~

~~(b) Waste Discharge Requirements prepared by the Regional Water Quality Control Board specifically for that new or expanded dairy.~~

Sec. 1908. Action by the planning commission.

The planning commission may grant an application for the use permit as the use permit was applied for or in modified form if, on the basis of the application and the evidence submitted, the planning commission makes the following findings:

…

F. When an application is submitted for *an expansion of* a bovine dairy *in the AL-10 zone district, or other application for a dairy project as required by the Dairy Element of the Kings County General Plan, or this ordinance*, the following findings shall be made before granting a conditional use permit:

1. That the zoning administrator has included in his or her report to the planning commission the results of consultation with representatives of the county agricultural commissioner, the county farm and home advisor, the county health officer, the Kings Mosquito Abatement District, the Central California Regional Water Quality Control Board and the Kings County Farm Bureau Dairy Committee before the planning commission may grant the application.
2. Said application may be granted only if the planning commission is able to make ~~the following additional findings~~ *a finding that the Technical Report accompanying the site plan review application demonstrates that the dairy project will meet or exceed all applicable goals, objectives, and policies of the Dairy Element of the Kings County General Plan and provides a level of mitigation meeting or exceeding the mitigation measures in the Program EIR prepared for the Dairy Element.* ~~:~~

~~(a) The site is located a sufficient distance from the city limits or community or municipal service-type district boundaries of an urban area so that a conflict of land uses does not occur.~~

~~(b) The barns, corrals and waste disposal systems are located a sufficient distance from residences not associated with the dairy so that a conflict of land uses does not occur.~~

~~(c) There is sufficient land under the control of the applicant to provide for management and disposal of liquid wastes produced by the dairy.~~

~~(d) Pollution and nuisance conditions will not occur as a result of discharge, stockpiling, handling or storage of wastes generated by the dairy.~~

~~(e) The ponds, as part of the waste management system design, shall:~~

~~(1) Satisfy the requirements of the Central California Regional Water Quality Control Board and the county health officer to ensure the protection of water supply and public health and safety.~~

~~(2) Be located adjacent to or near the source of waste.~~

~~(3) Be located a minimum distance of three hundred (300) feet from a dwelling or public road, and a greater distance if practical.~~

~~(4) Be large enough so the wastes may be contained until used as part of crop irrigation water. Lagoons are required to be designed to contain enough winter time storage capacity for a minimum of 120 days.~~

~~(5) Have a minimum size based upon calculating the amount of water necessary for animal watering, washing, and animal equipment maintenance. Calculations shall be based upon the type of corral used, provided however, that the minimum figure shall be one hundred twenty-five (125) gallons per day per animal unit.~~

~~(6) The bottoms of waste water lagoons shall be at a minimum of five (5) feet above the highest anticipated ground water table. Exceptions may be made for specially engineered systems..~~

~~(7) Waste water lagoons must be lined with or underlain by soil containing a minimum of ten (10) percent clay and not more than ten (10) percent gravel or artificial material of equivalent permeability. Special engineering to prevent lateral and vertical seepage may be required for coarse textured strata. Soil samples and waste water lagoon design is subject to review and approval of the California Regional Water Quality Control Board..~~

~~(8) Have an approximately level bottom.~~

~~(9) Have banks sufficiently wide to provide for operation of maintenance vehicles.~~

~~(10) Have a minimum of one foot free board above the water surface at all times.~~

~~(11) Be maintained free of weeds on the banks to prevent mosquito breeding.~~

~~(f) In cases when there is evidence to indicate that the level of standards expressed in paragraph F.2.(e) of this section may be accomplished by alternative methods, such level of standards may be waived by the planning commission on an experimental basis, provided that within one year of the installation of such an experimental waste management system, a field review, and report to the planning commission, of such system shall be made by the zoning administrator and the consultants named in paragraph F.2.(e) of this section, to determine if such alternative methods are working satisfactorily. If the experiment has not been successful, the standards described in paragraph F.2.(e) of this section shall be required and the zoning administrator shall so notify the planning commission and the applicant.~~

Sec. 2101. Purposes and application.

…

Development of uses requiring site plan review ~~generally~~ are *ministerial projects, and as such, they are* exempt from environmental review ~~pursuant to~~ *under* the California Environmental Quality Act (CEQA), Public Resources Code Section 21000, et seq, and the Kings County *CEQA* ~~implementation~~ *Implementation* procedures. ~~However, at the discretion of the zoning administrator, any application for site plan review that in the judgment of the zoning administrator may have significant adverse effect on the environment may be required to have an environmental review pursuant to CEQA.~~

Sec. 2102. Site plan review application and fee.

A. The application for a site plan review shall include twelve (12) prints of the site plan, and be submitted to the zoning administrator. The site plan shall be drawn to scale and shall indicate clearly and with full dimensions the following information:

…

16. Applications for new bovine dairies or dairy calf and heifer raising facilities and expansion of existing bovine dairies or dairy calf and heifer raising facilities shall be accompanied by a technical report as described in the Dairy Element of the Kings County General Plan.

…

C. Within fifteen (15) working days after the *application for a* site plan *review* has been certified as complete by the zoning administrator, the zoning administrator shall ~~approve~~ *issue an approval of the site plan review*, ~~approve with conditions deemed necessary to protect the public health, safety and general welfare,~~ or ~~disapprove~~ *reject* the site plan *review application if it fails to meet the required standards*. ~~If a site plan is required to have environmental review the fifteen (15) working days does not start until the public comment period has been completed.~~ In approving the site plan, the zoning administrator shall find that:

…

14. When an application is submitted for a new bovine dairy or the expansion of an existing bovine dairy, including dairy calf and heifer raising facilities, in the AG-20 or AG-40 zone districts, or the expansion of an existing bovine dairy, including dairy calf and heifer raising facilities, in the AX zone district, the following findings shall be made by the zoning administrator before issuing a site plan review:

a. That the zoning administrator has documented the results of consultation with representatives of the County Agricultural Commissioner, the county farm and home advisor, the County Health Officer, the Kings Mosquito Abatement District, the Central California Regional Water Quality Control Board and the Kings County Farm Bureau Dairy Committee before issuing a site plan review.

b. Said site plan review may be issued only if the zoning administrator is able to make a finding that the Technical Report accompanying the site plan review application demonstrates that the dairy project will meet or exceed all applicable goals, objectives, and policies of the Dairy Element of the Kings County General Plan and provides a level of mitigation meeting or exceeding the mitigation measures in the Program EIR prepared for the Dairy Element.

Sec. 2503. Definitions.

For the purposes of this ordinance, certain words and terms used herein are defined as follows:

…

8. Animal unit: One mature horse or cow or as many animals as consume an equivalent amount of feed as a mature horse or cow. Some animal equivalents are:

Animal Type	**Age**	**Average weight (lb.)**	**Average lb. (TDN/day)**	**Animal Unit* (AU)**
Beef Cattle				
Mature beef cow				1.00
Cows - nursing part of yr.	2+	1,000	13.2	1.00
Bulls	2+	1,200	13.2	1.00
Yearling steers, bulls, heifers	1-2	627	9.9	0.75
Calves and weaners	3 mo.-1 yr.	354	6.6	0.50
Steers 2 yrs. and older	2+	930	13.2	1.00
Dairy Cattle:				
Milk Cows				1.00
Dry dairy cow *and bred heifers*	~~Mature~~			~~1.00~~ *0.80*
~~Cows giving 200 lb B.F./yr.~~	~~Mature~~	~~1,100~~	~~13.2~~	~~1.00~~
~~Cows giving 250 lb B.F./yr.~~	~~Mature~~	~~1,100~~	~~14.5~~	~~1.10~~
~~Cows giving 300 lb B.F./yr.~~	~~Mature~~	~~1,100~~	~~15.8~~	~~1.20~~
~~Cows giving 350 lb B.F./yr.~~	~~Mature~~	~~1,100~~	~~16.5~~	~~1.25~~
~~Cows giving 400 lb B.F./yr.~~	~~Mature~~	~~1,100~~	~~17.5~~	~~1.33~~
Bulls	Mature	1,200	13.2	1.00
Heifers, *large*:	2 years or older			~~1.00~~ *0.73*
Heifers, small	*1 to 2 years old*			*0.73*
Calves	3 months to 1 year *old*			0.35
Baby Calves	*less than 3 months old*			*0.21*

** Multiply Dairy Cow Breed Factor (i.e., Jersey 1.00, Guernsey 1.20, and Holstein 1.40) by Animal Units.*

~~Steers, bulls, heifers~~	~~1-2~~	~~600~~	~~8.7~~	~~0.70~~
~~Young dairy stock:~~				
	~~0-2 months~~			~~0.00~~
	~~2-6 months~~			~~0.25~~
	~~6-12 months~~			~~0.50~~
	~~1-2 years~~			~~0.85~~
Bulls	3 mo.-1 yr. *old*	300	5.3	0.40
Mature horse:				1.00
Sheep:				
Lambs: 70-90 pounds				0.15
Mature sheep				0.20

Hogs:		
Sows and boars (mature)		0.50
Piglets or weaners:		
	50 to 70	0.10
	70 to 90	0.25

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APPENDIX F

ECONOMIC ANALYSIS OF THE DAIRY INDUSTRY IN KINGS COUNTY

This document is incorporated in its entirety by reference into this *Dairy Element* of the *Kings County General Plan*

APPENDIX G

DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT (Draft-PEIR)

This document is incorporated in its entirety by reference as an attachment to this *Dairy Element* of the *Kings County General Plan*

APPENDIX H

FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT (Final-PEIR)

This document is incorporated in its entirety by reference as an attachment to this *Dairy Element* of the *Kings County General Plan*

APPENDIX I

A. Kings County Planning Commission's Resolution Recommending Approval of the *Dairy Element* of the Kings County General Plan

B. Kings County Board of Supervisors' Resolution Approving the *Dairy Element* of the Kings County General Plan

APPENDIX J

TECHNICAL REPORT CONTENTS

Draft

TECHNICAL REPORT:

The *Technical Report* is a series of reports, plans, and programs prepared by ~~a~~ qualified professionals that ~~is~~ are submitted with an application for a new dairy or expansion of an existing dairy. The ~~technical report~~ *Technical Report* shall includes various studies, plans, and programs necessary to describe ~~the dairy site, dairy facility, and the management and operation of the dairy. Additional documentation may be required prior to construction to verify that specific requirements will be included in the actual construction~~. how the proposed application, when implemented, will satisfy the standards set in the Dairy Element. In addition, a monitoring and record keeping program shall be included for each component that both documents how the component achieves the standard, and provides documentation by the dairy operator of the results of implementing the plans and programs identified in the *Technical Report*. The components of the *Technical Report* are ~~listed below~~:

SUMMARY OF TECHNICAL REPORT COMPONENTS:

1a. Geotechnical Report
1b. Groundwater Evaluation
1c. Soils Evaluation
1d. Hydrologic Sensitivity Assessment
1e. Gas and Oil Well Evaluation
2a. Manure Nutrient Management Plan (MNMP
2B. Comprehensive Dairy Process Water Disposal Plan (CDWDP)
2c. Manure Treatment Management Plan
2d. Odor Management Plan (OMP)
2e. Irrigation Management Program (IMP)
3. Hazardous Materials Business Plan (HMBP)
4. Pest and Vector Management Plan (PVMP)
5. Dead Animal Management Plan (DAMP)
6. Wildlife Survey
7. Cultural Resources Evaluation by the California Historic Resources Information System (CHRIS)
8. Traffic Impact Study
9a. Air Quality Assessment
9b. Fugitive Dust Emissions Control Plan (FDECP)
10. Light, Glare and Noise Assessment

TECHNICAL REPORT COMPONENTS:

1a. Geotechnical Report (Policy DE 2.1f, DE 3.2b and DE 4.1a.B.2.c):
The *Geotechnical Report* is a part of the *Technical Report* documentation prepared by a qualified professional, either a Professional Engineer or Licensed Geotechnical Engineer, and shall be submitted to the Kings County Planning Agency with the SPR or CUP application. The report shall, at a minimum, present the results of sufficient subsurface sampling and testing to classify and characterize the soils and groundwater conditions in areas of proposed dairy facility structures, corrals, feed and manure storage areas, lagoon, and cropland where process water and

manure are spread. The report shall include recommendations for foundation design, cut and fill slope design, levee or embankment design, and site grading. The recommendations shall specifically address, but not limited to, the following:

A. Soil consolidation and compression;
B. Shrink-swell potential;
C. Soil corrosivity;
D. Cut and fill slope stability under static and pseudo-static (earthquake) conditions;
E. Erosion potential

Prior to construction of ~~the~~ a proposed above-grade embankments for the manure separation pits and process water lagoons at ~~each of the~~ a dairy ~~facilities~~ facility, the owner/operator shall submit a revise geotechnical report, prepared by a qualified professional that presents any changes to the specifications for the construction of embankments, foundations, cut and fills using on-site surface soils. The geotechnical report shall be submitted to the Kings County Planning Department and shall include at least the following requirements:

A. Specific compaction testing requirements that ensure suitable compressive strength for the embankments. The compaction requirements shall specifically address the potential for leaching of salts and possible effects associated with hydrocompressibility of the emplaced soils.
B. Slope stability analysis for proposed embankment design. The slope stability analysis shall demonstrate that, under proposed design and requirements for fill compaction, the fill slopes will have a factor of safety of 1.25 or greater under static conditions and 1.0 or greater under pseudo-static (expected seismic shaking) conditions.

Following Construction:

A. Following construction of lagoons and separation pits, a registered Civil Engineer or licensed Geotechnical Engineer shall submit to the Kings County Planning Agency documentation and certification that the embankments have been constructed in compliance with design requirements. The documentation and certification shall also be maintained on the dairy site and be made available to Dairy Monitoring Office personnel upon request.
B. Following construction of lagoons and separation pits, a registered Civil Engineer or licensed Geotechnical Engineer shall submit to the Kings County Planning Agency documentation and certification that the bottoms and sides of the lagoons and separation pits has a permeability equal to, or less than, 10^{-5}~~$^{-6}$~~ cm/sec. The documentation and certification shall be maintained on the dairy site and be made available to Dairy Monitoring Office personnel upon request.
C. Annual inspection and reporting of findings by a Registered Civil Engineer or licensed Geotechnical Engineer of the inspection of the lagoons and separation pits, and any remedial action taken.

1b. Groundwater Evaluation (Policy DE 3.2a):

This evaluation may be done in conjunction with the Geotechnical Report described above. The *Technical Report* shall address the following:

A. *Depth to first groundwater:* Minimum separation from bottom of (lined and unlined) lagoons, manure and feed storage areas, and corrals shall be at least five (5) feet to the highest recorded groundwater level.
B. *Depth to first useable groundwater for human consumption:* The source of potable water for the dairy facility and nearby properties, and the safeguards to protect that water source must be identified.
C. *Proximity to watercourses:* Adjacent watercourses and improvements to protect watercourses from discharges from a dairy into watercourses or water bodies must be identified.

Documentation of the above information shall be submitted to the Kings County Planning Agency with the SPR or CUP application, and maintained on the dairy site and be made available to Dairy Monitoring Office personnel upon request.

In the event there is a variance between these standards and the RWQCB requirements, the more restrictive requirement shall prevail, unless RWQCB specifies a lesser standard in the permit they issue. In such a case the RWQCB standard will then prevail.

1c. Soils Report (Policy DE 2.1f and 3.2b):

The applicant for new dairies, or the expansion of existing dairies, shall file as part of the *Technical Report* a preliminary soils report on the Dairy Facility prepared by a Registered Civil Engineer. The preliminary soils report shall be based upon sufficient subsurface sampling and testing to classify and characterize the soils using test borings or excavations necessary to evaluate the soil beneath the proposed Dairy Facility. If the preliminary soils report indicates the presence of critically expansive soils or other soil problems, which if not corrected, could lead to structural defects or leakage of contaminates into the groundwater, a soil investigation shall be prepared by a Civil Engineer registered in the State of California and shall recommend design requirements that are likely to prevent possible structural damage to structures or lagoons proposed to be constructed within the Dairy Facility. The report shall include recommendations for foundation design, cut and fill slope design, and site grading.

1d. Hydrologic Sensitivity Assessment (HSA) (Policy DE 3.2h):

A *Hydrologic Sensitivity Assessment* (HSA) prepared by a qualified Certified Hydrogeologist or Professional Engineer shall be required as part of the *Technical Report* when either:

A. Drinking water wells screened above the E clay are located within one-half (½) mile of the dairy site, or where the E clay is not present, and therefore does not provide a hydrogeological barrier to pollutant transport, or
B. The site is located within the Kettleman Plains or Sunflower Valley (an area of limited water supply).

1e. Gas and Oil Well Evaluation (Policy DE 3.5a):

The *Technical Report* shall include a report that the California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) has reviewed their records for the potential presence of active and abandoned oil or gas wells at or adjacent to (within 100 feet) a proposed dairy site. If DOGGR identifies wells, the *Technical Report* shall include a scaled map showing the location of the wells on the Site Plan of the proposed dairy facility. Any abandoned oil or gas wells identified by DOGGR within the proposed dairy site located beneath or within 300 feet of a proposed dairy structure shall be properly closed in accordance with specification provided by DOGGR.

Documentation of any well closure or destruction pursuant to DOGGR standards shall be submitted to the Kings County Planning Agency.

2a. Manure Nutrient Management Plan (MNMP) (Objective 4.1, Policy 4.1a, 4.1b, 4.1c, 4.1e, and 4.1f):

The ~~*Comprehensive*~~ Manure *Nutrient Management Plan* (~~C~~**M**NMP) is a part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. The ~~C~~**M**NMP specifies practices that will be used to implement each component of the ~~C~~**M**NMP. The ~~C~~**M**NMP includes the following components as found in the USDA/USEPA *Unified National Strategy for Animal Feeding Operations*:

A. Feed Management - Animal diets and feed may be modified to reduce the amounts of nutrients in manure. ~~Feed management can include the use of low phosphorus corn and enzymes such as phytase, that can be added to non-ruminant animal diets to increase the utilization of phosphorus. Reduced inputs and greater utilization of phosphorus by the animal reduces the amount of phosphorus excreted and produces a manure with a nitrogen-phosphorus ratio closer to that required by crop and forage plants.~~

B. Manure Handling and Storage - Manure needs to be handled and stored properly to prevent water pollution from AFOs. Manure and wastewater handling and storage practices should also consider odor and other environmental and public health problems. Handling and storage considerations should include:

1. Diversion of clean water- Siting and management practices ~~should~~ may include diverting clean water from contact with feed lots and holding pens, animal manure, or manure storage systems. Clean water can include rainfall falling on roofs of facilities, run off from adjacent lands, or other sources. If clean water is not diverted away from manured or feed storage areas, the capacity of process water storage facilities (i.e., lagoons) shall be sufficient to collect and retain the additional runoff.
2. Prevent leakage - Construction and maintenance of buildings, collection systems, conveyance systems, and permanent and temporary storage facilities should prevent leakage of organic matter, nutrients, and pathogens to ground or surface water.
   a. All manure separation pits and process water lagoons shall be constructed so that the bottoms of the pits and lagoons are at least five feet above the highest expected groundwater levels.
   b. The pits and lagoons shall be maintained so that the integrity of the liners are ensured.
   c. The specific permeability of soils lining the pits and lagoons shall not be greater than 1×10^{-5} centimeters per second in compliance with the Geotechnical, Design, and Construction Guidelines published by the Natural Resource Conservation Service (1997).
   d. A qualified professional (i.e., Professional Engineer or Certified Engineering Geologist) shall certify that the liner system of a lagoon or pit is installed according to the NRCS design standards.
   e. The soil sampling and permeability testing program shall be designed to be representative of all soils lining all proposed pond areas.
   f. Construction of the lagoons shall be inspected by a qualified professional to ensure that geologic heterogeneities (e.g., channel deposits and sandy lenses) are identified and properly mitigated to ensure integrity of the liner in compliance with the NRCS standards. The liner must be protected against damage during operation and maintenance activities.
   g. Site drainage shall be included in the project design and construction of any manured area, including but not limited to, dairy surroundings, corrals, and ramps, pursuant to *Title 3, Division 2, Chapter 1, Article 22, §646.1 of the California Code of Regulations* to ensure that ponding does not occur.
   h. Regular maintenance of corrals and dry manure storage areas shall include filling of depressions. Care shall be taken not to disturb the seal layer in the corrals. Dairy personnel shall be taught to correctly use manure collection equipment.
   i. The potential for discharge of water-borne pathogens to existing and proposed domestic water supply wells shall be minimized by ensuring that the domestic wells are constructed in accordance with the California Well Standards and that appropriate minimum setbacks (150 feet, or other distance set in

the Waste Discharge Requirements issued for the dairy by the RWQCB) between domestic wells and potential sources of pollution are maintained.

3. Provide adequate storage for manure:
   a) Dry manure shall be stored in a manner to ensure all runoff from manure storage areas is captured and diverted to the dairy process water collection system.
   b. Dairy process water storage systems shall be designed and constructed to store, handle, and transport all of the quantity and contents of dairy process water produced on the Dairy Facility, runoff from the Dairy Facility, and rainfall that falls on the Dairy Facility. Location of manure storage areas shall consider proximity to water bodies, floodplains, and other environmentally sensitive areas.
4. Manure treatments - Manure ~~should~~ shall be ~~handled and~~ treated to reduce the loss of nutrients to the atmosphere during storage, to make the material a more stable fertilizer when land-applied or to reduce pathogens, vector attraction and odors, as appropriate.
5. Management of dead animals - Dead animals should be disposed of in a way that does not adversely affect ground or surface water or create public health concerns. Composting, rendering, and other practices are common methods used to dispose of dead animals.

C. Land Application of Manure - Land application is the most common, and usually most desirable method of utilizing manure because of the value of the nutrients and organic matter. Land application ~~should~~ shall be planned to ensure that the proper amounts of all nutrients are applied in a way that does not cause harm to the environment or to public health. Land application in accordance with the ~~C~~MNMP ~~should~~ shall minimize water quality and public health risk. Considerations for appropriate land application ~~should~~ shall include:

1. Nutrient balance - The primary purpose of nutrient management is to achieve the level of nutrients (e.g. nitrogen and phosphorus) required to grow the planned crop by balancing the nutrients that are already in the soil and from other sources with those that will be applied in manure, biosolids and commercial fertilizer. At a minimum, nutrient management should prevent the application of nutrients at rates that will exceed the capacity of the soil and planned crops to assimilate nutrients and prevent pollution. Soils and manure should be tested to determine nutrient content.
2. Timing and methods of application - Care must be taken when land-applying manure to prevent it from entering streams, other water bodies, or environmentally sensitive areas. The timing and methods of application should minimize the loss of nutrients to groundwater or surface water and the loss of nitrogen to the atmosphere. Manure application equipment should be calibrated to ensure that the quantity of material being applied is ~~what is planned~~ at agronomic rates. Manure application shall be avoided during periods of high winds (in excess of 15 miles per hour) and when winds are directed at populated areas within ½ mile of the manure application.

D. Land Management - Tillage, crop residue management, grazing management, and other conservation practices ~~should~~ shall be utilized to minimize movement to surface water and groundwater of soil, organic materials, nutrients, and pathogens from lands where manure is applied. ~~Forest riparian buffers, filter strips, field borders, contour buffer strips, and other conservation buffer practices should be installed to intercept, store and utilize nutrients or other pollutants that may migrate from fields on which manure is applied.~~

E. Record Keeping - ~~AFO~~ Dairy operators ~~should~~ shall keep records that indicate the quantity of manure produced and how the manure was utilized, including where, when, and amount of nutrients applied. Soil and manure testing ~~should~~ shall be incorporated into the record keeping system. These records ~~should~~ shall be ~~kept when manure leaves the AFO~~ maintained by the dairy and shall be made available to the

Dairy Monitoring Office personnel upon their request.

F. Other Utilization Options - Where the potential for environmentally sound land application is limited, alternative uses of manure, such as the sale of manure to other farmers, composting and sale of compost to home owners, and using manure for power generation may also be appropriate. All manure utilization options should be designed and implemented to reduce the risk to all environmental resources and must comply with Federal, State, Tribal and local law.

Nitrogen and salt loading estimates provided in the literature and by the RWQCB are general estimates to be used for planning purposes only. Each dairy shall implement and maintain a Nutrient and Irrigation Water Management Plan and a Monitoring and Reporting Program, as required by the RWQCB, to ensure that excess nitrogen and salt loading of crop lands does not occur. Specific requirements of these programs are described by the RWQCB in *Fact Sheet No. 4* for Dairies and the General Waste Discharge Requirements for Milk Cow Dairies (No. 96-270-01). After the dairies begin operation, the actual nitrogen and salt content of manure generated at the proposed dairies shall be determined by a State-certified laboratory using standard collection, chain-of-custody, and analytical techniques (a minimum of four times per year to account for seasonal variation). The numerical values obtained from the laboratory analyses shall be used to refine nitrogen and salt loading estimates. The dairy operators shall make the necessary adjustments to application rates or animal units maintained at the site, as appropriate, to remain within maximum loading rates established by the RWQCB. An annual report documenting on-site activities shall be submitted to the RWQCB (with a copy to Kings County Planning Department). At minimum, the annual report to the RWQCB shall include laboratory analytical data, calculations demonstrating on-site animal units, manure load generation, total nitrogen and salts generated, liquid manure application rates, crop type where liquid waste was applied, and fate of dry manure transported off-site. The RWQCB is responsible for reviewing the annual reports for adequacy and specifying modification of on-site activities, as appropriate.

~~3~~2b. Comprehensive Dairy Process Water ~~Disposal~~ Application Plan (CDW~~D~~AP) (Objective DE 4.2, Policy DE4.2a, 4.2b, 4.2c, and 4.2d):

The *Comprehensive Dairy Process Water ~~Disposal~~ Application Plan* (CDW~~D~~AP) is a part of the *Technical Report* submitted with an application for a new dairy or the expansion of an existing dairy. ~~It shall include *dairy process water use agreements* for land where dairy process water will be used. The agreements are between the dairy operator and the owner of the land where dairy process water will be used. The term of the agreement is the term of the zoning permit unless a new agreement is provided to the Planning Commission for review and approval prior to the expiration date of the agreement. The agreement is required for the dairy owners own land as well as land owned by other parties.~~

1. The applicant for the site plan review (SPR) or conditional use permit (CUP), for a new dairy or the expansion of an existing dairy shall submit an enforceable and recordable agreement for the use of the land where the dairy's process water and manure will be used. The agreement shall:
   a. Include the estimated amount of process water and manure that will be generated by the dairy (including an estimate of the Nitrogen and salt content of the dairy process water and manure.
   b. Identify all land, on and off the dairy site, where the dairy's process water will be applied by legal description or the property. Solid manure sold to other farmers or brokers does not have to be tracked; however, the amount transported from the dairy shall be documented. This agreement will be recorded

after issuance of the SPR for the proposed new dairy, or expansion of an existing dairy, but before the new dairy, or expansion area, becomes operational. This agreement is also required when the dairy operator owns the land where the dairy process water and solid manure will be used. The terms of the SPR, or CUP, shall not exceed the terms of the agreement. In order to operate the dairy, the operator must have a valid dairy process water and manure agreement in force. Termination of the agreement is a violation of the SPR, or CUP, and the dairy operation becomes illegal unless alternative land sufficient to manage the dairy's process water and solid manure is substituted and included in a new agreement that is recorded.

2. If a dairy owner/operator enters into an agreement with another landowner to use the dairy's process water on the other land, the following shall apply:
   a. The agreement shall state that it is for the proposed dairy or expansion, and identifies the Dairy Facility by name and location. The agreement shall include a legal description of all lands burdened by the obligation of the agreement.
   b. The land identified in the agreement for the use of the dairy process water does not have any other dairy process water or dairy water agreement currently upon it or added in the future.
   c. The agreement may not be transferred to any other dairy or animal-feeding operation without the prior notice to the Zoning Administrator. If such transfer occurs, the original dairy must cease operation or simultaneously enter into a new agreement elsewhere which the Zoning Administrator must approve. The Zoning Administrator's approval shall be in the form of a SPR modifying the dairy's zoning permit.
   d. The agreement must restrict the use of the land to cropping patterns that use the nutrients from the dairy process water generated from the new or expanded Dairy Facility. The lowest nutrient utilization rate of the cropping pattern shall be used in the calculations for nutrient utilization, unless the cropping patterns are based on the recommendations of a Certified Agronomist.
   e. The agreement shall be recorded after issuance of the SPR, or CUP, for the proposed new dairy. Or expansion of an existing dairy, but before the new dairy, or expansion area, becomes operational, and shall be binding upon the current property owner's successors in interest as long as the agreement is in force.
   f. The dairy operator shall have control of the timing of the dairy process water and manure application on the land subject to the agreement.
   g. The agreement becomes part of the SPR or CUP. The Zoning Administrator must approve any changes in the terms of the agreement before the change in the agreement is valid.

Record keeping shall include documentation by a Certified Agronomist of the utilization of the dairy process water and the crops nutrient demands. Copies of the documentation and utilization records of the dairy process water shall be maintained on site. All of the records shall be made available to the Dairy Monitoring Office personnel upon their request.

~~5~~2c. Manure Treatment Management Plan (MTMP) (Policy DE 5.1c, 6.2d, 6.2e, and 6.2f):

The *Manure Treatment Management Plan* (MTMP) is a part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. The owner/operator, or his or her agent, of a proposed new dairy or the expansion of an existing dairy, shall provide treatment of the manure generated by the flushing systems to reduce emissions of reactive organic gases, nitrous oxides, ammonia, methane, hydrogen sulfide, and odor. ~~The Kings County Zoning Administrator shall consult with the Cooperative Extension, Agriculture and Natural Sciences Department at the University of California, Davis, to determine whether the MTMP is sufficient.~~ The MTMP shall specify the treatment technology and a schedule for implementation. The appropriate treatment technology, or combination of technologies, shall be selected on the basis of expected manure volumes and site-specific management strategies. The selected treatment system shall be designed to minimize, to the extent economically feasible, the release of air emissions into the environment.

The most effective treatment systems that are currently available to reduce ROG emissions are:

A. Anaerobic digestion technologies, including covered lagoons, plug flow digesters, and complete mix digesters; or
B. Aerobic treatment systems, including activated sludge reactors, aerated lagoons, and aerated treatment tanks.

Each of the technologies listed above can be supplemented by enhancement of the biological decomposition of the treated manure. Biological decomposition, which can occur under aerobic and anaerobic conditions, can be improved through controlled addition of supplemental microbes or macroscopic organisms, such as worms, which are capable of metabolizing the manure constituents.

The MTMP shall include a monitoring and record keeping component of the treatment program. It shall document, at least but not limited to the following information: volume of dairy process water and manure treated; and the estimated reduction of ROG, ammonia, and methane. This estimate shall be based on the design capacity and the treatment efficiency of the treatment system as documented by a qualified professional or manufacture's documentation.

~~6~~2d. Odor Management Plan (OMP) (Policy DE 5.1b and 6.2d):

The *Odor Management Plan* (OMP) is a part of the *Technical Report* submitted with the application for a new dairy or the expansion of an existing dairy. The OMP may be incorporated into the MTMP. The purpose of the OMP is to reduce the potential for odor impacts to nearby receptors. The owner/operator, or his or her agent, shall prepare an OMP that specifies standard operating practices for livestock handling, and manure collection, treatment, storage, and land application. The OMP shall specifically address standard operating practices for livestock handling, and manure collection, treatment, storage, and land application. It shall also provide standard operating procedures/control measures to be implemented to protect receptors from potential odors that could be generated from dairy operations. At a minimum, the plan shall include the following components:

A. Manure Collection Areas:
   1. Clean out manure generated at the freestall barns and corrals at a frequency that will minimize odors;
   2. Keep cattle as dry and clean as possible at all times;
   3. Scrape manure from the corrals and bedding from the freestall barns and corrals at a frequency that will minimize odors.
B. Manure Treatment and Application
   1. Minimize moisture content of stockpiled manure/retained solids to a level that will reduce the potential for release of odorous compounds during storage.
   2. Minimally agitate stockpiled manure during loading for off-site transport;
   3. Mix process water with irrigation water prior to irrigation (dilution rate shall be adequate to minimize odor levels and maintain appropriate nutrient content in effluent);
   4. Apply process water containing ammonia so that it minimizes exposure to air;
   5. Clean up manure spills upon occurrence;
   6. Maintain and operate separation pits and process water lagoons to minimize odor levels.
   7. Avoid spreading in windy conditions, especially when it blows toward populated areas, or immediately before weekends or holidays when nearby neighbors are likely to be engaged in outdoor and recreational activities.
   8. If there is no storage facility, spread manure as frequently as possible during warm weather. Unload storages on schedule. To minimize the time that odor is released to the air, have machinery in good repair and labor ready before starting to unload.

9. Incorporate manure during or immediately after land application by injecting it into the soil or plowing or disking the soil. Where immediate incorporation is not possible, apply manure uniformly in a thin layer so that it will dry quickly.

C. General
1. Implement dust suppression measures to prevent the release of odorous compound-carrying fugitive dust;
2. During project operations, the dairy operator/owner shall respond to neighbors who are adversely affected by odors generated at the project site and take prompt corrective action.

D. Record Keeping:
The OMP shall include a complaint register kept at the dairy site. The register shall include each complaint received by the dairy, who received the complaint, and the date of the complaint. In addition, the documentation shall indicate what action was taken to determine the cause of the odor, action taken to resolve the odor problem, the results of the action, and whether additional action was required to eliminate the problem from re-occurring. The complaint register shall be available to the Dairy Monitoring Office personnel upon their request.

~~A final version~~ Amendments of the OMP shall be submitted for ~~review and approval~~ to the ~~Kings County Planning Department 60 days prior to any livestock being housed at the site~~ Zoning Administrator for approval.

~~8~~2e. Irrigation Management Program (IMP) (Policy DE 4.1b.C):

The *Irrigation Management Plan* (IMP) is a part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. The owner/operator shall prepare an IMP, and it shall include, but not be limited to, the following components:

A. Ensure that irrigation water and runoff from fields at each dairy unit do not migrate away from the project site, ~~and~~
B. Do not allow excessive nutrients to accumulate in one part of a field and create "hot spots". Ensure that the nutrients are spread evenly over the entire field, and
C. Coordinate the timing of irrigation to meet the crop needs and the capacity limits of the ponds.

~~4~~3. Hazardous Materials Business Plan (HMBP) (Policy DE 4.3a):

The *Hazardous Materials Business Plan* (HMBP) is a part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. A draft HMBP prepared pursuant to the Health and Safety Code Chapter 6.95, sections 25500 to 25520 shall be submitted with the application, and the final HMBP shall be filed with the Kings County Department of Environmental Health Services pursuant to their requirements after the zoning permit is issued.

The operator of the dairy shall review the HMBP at least annually and amend the plan if changes have been made. The amended plan shall be submitted to the Kings County Department of Environmental Health and a copy retained on site with the dairy's other reporting documentation. The HMBP shall be made available to the Dairy Monitoring Office personnel upon their request.

~~***7. Livestock Management Plan (LMP):***~~

~~*The Livestock Management Plan (LMP) is a part of the Technical Report submitted with each application to either establish a new dairy or expand an existing dairy. The LMP will identify practices to reduce methane emissions from ruminant livestock; and shall be consistent with the*~~

~~*voluntary practices incorporated in EPA's Ruminant Livestock Efficiency Program. The LMP shall be approved as a condition of approval by the Kings County Planning Commission and implemented during dairy operations. At a minimum, the LMP shall identify:*~~

~~*a) Practices to control disease and maintain herd health, such as use of appropriate antibiotics, vaccines, and other health maintenance products (e.g., regular deworming); management practices for sick and new animals (e.g., quarantine and treat sick and new animals immediately); and development of a health and medication record keeping system;*~~
~~*b) Feed quality and nutritional levels, feed intake levels, feed schedule;*~~
~~*c) Herd nutrition including adding molasses, sugar beet pulp, grape pomace, brewery waste, and distillers grains into the feed;*~~
~~*d) Methods for selecting cattle that are known to be efficiently productive.*~~

~~9~~4. ~~*Integrated*~~ Pest and Vector Management Plan (~~I~~PVMP) (Policy DE 4.3b):
The ~~*Integrated*~~ *Pest* ***and Vector*** *Management Plan* (~~I~~P**V**MP) is a part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. The ~~I~~P**V**MP (sometimes referred to as a fly and mosquito control plan) shall include methods of controlling flies, mosquitoes, and rodents under various conditions.

The ~~I~~P**V**MP shall be designed to use good housekeeping practices as the primary tool to combat vector infestation. The ~~I~~P**V**MP shall include, but not be limited to, measures that ensure good drainage of manured areas, frequent lane flushing, clean-up and maintenance along fence lines, and prompt repair of all leaking pipes and fixtures. ~~*Secondary measures to be included in the PVMP are biological controls, including, but not limited to, the use of parasitic beetles and mites (to control egg and larvae populations) and parasitic wasps (to control fly pupae populations)*~~. When housekeeping ~~*and biological*~~ controls prove ineffective (or have provided limited effectiveness), chemicals (i.e., pesticides) may supplement the program. When chemicals are used, special care shall be taken to select and apply chemicals that are compatible with existing biological controls that may be in use (i.e., those that do not kill the parasitic wasps). Other measures that may be considered in the PVMP are biological controls, including, but not limited to, the use of parasitic beetles and mites (to control egg and larvae populations) and parasitic wasps (to control fly pupae populations).

The Kings County Zoning Administrator shall distribute the ~~I~~P**V**MP to the Kings Mosquito Abatement District, Kings County Agricultural Commissioner, and the Kings County Division of Environmental Health Services for review and comment before final ~~*approval*~~ acceptance of the ~~I~~P**V**MP.

Record keeping for the PVMP shall consist of documentation kept at the dairy site that includes pest control methods used and the dates of the pest control activities. The PVMP shall also include a complaint register. The complaint register documentation shall indicate the who received the complaint; date a complaint was received, what and when action was taken to determine the cause of pest problem, action taken to resolve the problem, and the results action and whether additional action was required to resolve the problem. The complaint register shall be made available to Dairy Monitoring Office personnel upon their request.

~~10~~5. Dead Animal Management Plan (DAMP) (Policy DE 4.1d):

The *Dead Animal Management Plan* (DAMP) is a part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. The DAMP shall include a program of removing dead animals from the site within ~~*48*~~ 72 hours, or by the end of the first working day after a holiday ~~*or*~~ weekend. ~~*A contract with a service, such as Baker Commodities, will be sufficient if the contract terms specify the above schedule.*~~ Burial or otherwise disposing of the carcasses on site shall not be allowed unless by order of the Health Officer, Agricultural Commissioner, or other authority authorized to make such an order.

Record keeping for the DAMP shall consist of a log kept at the dairy site that documents the number of dead animals by date; the date and method of their removal, and location where the dead animals were taken when removed from the dairy site. The documentation shall be made available to Dairy Monitoring Office personnel upon their request.

~~11~~6. ~~Wildlife~~ Biological Resources Survey (Policy DE 3.3a):

The results of a ~~*Wildlife Habitat*~~ *Biological Resources Survey* shall be made a part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. The survey ~~for wildlife~~ of habitat for sensitive species and wetlands shall be conducted by a qualified wildlife biologist prior to initiation of grading for each dairy facility to confirm the presence or absence of any nesting activity at each location. If habitat for sensitive species or wetlands is found, appropriate measures shall be taken to avoid destruction of an active dens or nests. An appropriate buffer zone shall be established around any active den or nest based on consultation with representatives of the California Department of Fish and Game. Construction activities shall be restricted in this zone until the qualified biologist has determined that the young animals are no longer using the dens or nests. Passive relocation methods shall be used by the qualified biologist in the event that removal any wildlife from the impact area is deemed necessary by a regulatory agency with appropriate jurisdiction.

~~12~~7. Cultural Resources Evaluation by the California Historic Resources Information System (CHRIS) (Policy DE 3.1d and 3.1e):

The *Technical Report* shall include documentation that a review of records of known cultural resources has been completed by the California Historical Resources Information System (CHRIS) and that no significant cultural (historic or archaeological) resources would be disturbed by the proposed dairy development. If CHRIS indicates that known resources are present or suspected within the construction area of the proposed dairy development, the *Technical Report* shall include an evaluation of the resource by an archaeologist qualified under the Secretary of the Interior's Standards and Guidelines for archaeologists which includes an appropriate mitigation plan that will be implemented by the dairy developer.

This evaluation shall include an evaluation of paleontological and unique geologic feature resources.

8. TRAFFIC IMPACT STUDY (Policy DE 3.1g):

The *Technical Report* for new and expanded dairies shall include a Traffic Impact Study 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. Additionally, the Traffic Impact Study shall demonstrate that the proposed dairy project will not result in significant safety hazards.

9a. AIR QUALITY ASSESSMENT (Policy DE 5.1e, 5.1i, and 6.2e):

The *Technical Report* shall be required to estimate the anticipated net increase in ROG, NOx, and PM_{10} emissions generated from anticipated dairy operation compared to existing conditions and demonstrate that the net increase will not exceed the SJVUAPCD threshold limits for ROG, NOx, and PM_{10}.

~~12~~9b. Fugitive Dust Emissions Control Plan (FDECP) (Policy DE 5.1g and 5.1h):

The Fugitive Dust Emissions Control Plan (FDECP) is part of the *Technical Report* submitted with each application to either establish a new dairy or expand an existing dairy. The owner/operator shall prepare a FDECP which shall include, but not be limited to the following components:

A. Identification of all significant off-field source of fugitive dust emissions (e.g., unpaved roads, unpaved corrals and other open or vacant areas, and bulk material stockpiles);
B. Description of ~~Best Available Control Measures (BACMs)~~ the control measures used for controlling of fugitive emissions from all sources identified at the dairy facility and an estimate of control efficiency ~~provided by BACMs~~;
C. Discussion of compliance of identified ~~BACM~~ control measures with the requirements of the most recent Regulation VIII rules adopted by the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD);
D. Discussion of quality control/quality assurance procedures to ensure that ~~BACM~~ control measures are implemented and inspected;
E. Discussion of record keeping for quality control/quality assurance procedures;
F. Identification of person responsible for implementation of the FDECP implementation.

11. Light, Glare and Noise Assessment: (Policies DE 3.1a):

A. Provide an exterior lighting plan of the Dairy Facility showing all exterior lights and methods used to ensure that the lighting is so arranged to reflect light away from adjoining properties.
B. Provide a Noise Assessment of the Dairy Facility and any mitigation requirements necessary to comply with the noise level standards in the *Noise Element* of the *Kings County General Plan*.

APPENDIX K

OTHER GENERAL PLAN ELEMENT AMENDMENTS

CHANGES TO OTHER *KINGS COUNTY GENERAL PLAN* ELEMENTS TO IMPLEMENT THE DAIRY ELEMENT OF THE KINGS COUNTY GENERAL PLAN

1. Add the following Goal, Objective and Policy to the *Land Use Element* of the *Kings County General Plan* at page LU-12:

GOAL 9A: Restrict the locations where dairies may be located to those areas of the County where they are most compatible with surrounding uses and activities and environmental constraints as presented in the *Dairy Element*.

Objective 9A.1: Use specific standards to avoid potential land use conflicts through the site plan review (SPR) streamlined review process when approving new dairies and expansion of existing dairies.

Policy 9A.1a: Proposed new diaries and expansions of existing dairies, and associated dairy stock replacement facilities, may be approved though the SPR process if they meet all of the standards in the *Dairy Element* concerning siting, design, operation, monitoring and reporting.

2. Amend Land Use Program 2 on page LU-15 as follows:

Land Use Program 2 (2002 Update):

Bring the Kings County Zoning Ordinance into conformance with *General Plan* policies, as follows:

A. Consider changing zone district boundaries, or relying more heavily on administrative review rather than on the conditional use permit process, in order to streamline the planning process. Retain the opportunity for public review and comment on potentially significant projects.

~~Amend the Zoning Ordinance to include new zone districts "AG-20," "AG-40," and "Public Facilities." Rename the former "Light Agriculture" zone "Limited Agriculture." Eliminate the zone district formerly known as "Exclusive Agriculture."~~

B. Continue to apply ~~Apply~~ the "General Agriculture" (AG) zone to areas so designated on the General Plan map, with minimum parcel size as indicated (e.g., AG-20 and AG-40). Permit, or permit subject to administrative action, all agricultural uses in the AG zone. Require Conditional Use permits of all ~~livestock concentration activities,~~ agricultural service industries, agricultural airports, and other commercial operations which are now permitted, or are permitted subject to administrative approval, in agricultural zone districts.

New and expanding dairies, and dairy replacement stock facilities activities, shall be reviewed and processed as site plan reviews consistent with the policies found in the *Dairy Element*.

C. Apply the "Limited Agriculture" (AL) zone to areas so designated on the General Plan map, with a ten-acre minimum parcel size. Permit new non-intensive, temporary agricultural service activities and uses, such as kennels and veterinary hospitals, to locate in the AL zone. Do not approve uses for new livestock animal concentrations or ~~nuisance-producing~~ agricultural service industries in new permanent structures and facilities within areas designated "Limited Agriculture."

~~Specify the criteria for permitting the division of property for nonagricultural use in areas designated AG and AL. Consider minimum parcel size, length of property ownership, and required degree of consanguinity for recipients of gift parcels for homesites and life estates. Require environmental and agricultural evaluation of the proposed division.~~

~~Amend the Zoning Ordinance to eliminate the zoning permit granted by Administrative Approval. Process permits for these uses as either Site Plan Reviews or Conditional Use Permits, based on whether the particular use is subject to review pursuant to CEQA. Generally, those uses which do not require CEQA review should be processed as Site Plan Reviews, and those uses requiring CEQA review should be processed as Conditional Use Permits.~~

~~Define "residences or farm employee housing incidental to an agricultural use" as those units occupied by households deriving at least one-half of their gross income from agricultural sales or labor.~~

~~Remove airports and heliports from the list of permitted uses.~~

~~The minimum parcel size in the "Rural Residential Agricultural" zone district shall be 20,000 square feet although a larger minimum site area may be required to comply with environmental concerns, building codes, or improvement standards. However, the site shall be not less than one acre in size if both individual water supply and individual sewage waste disposal systems are to be utilized on the site.~~

~~However, retain the provision for smaller lot sizes of the existing "Rural Residential Estate" zone district for application to rural residential subdivisions employing a public water system.~~

~~Eliminate the existing "Urban Reserve" zone district and apply specific zoning that is consistent with the Land Use Element, but initiate more stringent review of development proposals to ensure compatibility of existing and proposed uses and conformance with adopted policies.~~

3. Amend Land Use Program 11 on page LU-17 as follows:

Land Use Program 11 (2002Update):

~~Prepare an Agriculture~~ Implement the *Dairy Element* ~~to be integrated with the contents of the Land Use, Open Space, and Resource Conservation Elements~~ of the *Kings County General Plan*.