

13.1 CUMULATIVE IMPACTS

The California Environmental Quality Act (CEQA) Guidelines require that all Environmental Impact Reports (EIR) contain an analysis of cumulative impacts to which the project might contribute. An EIR must discuss the “cumulative impact” of a project when its incremental effect would be cumulatively considerable. State CEQA Guidelines Section 15355 defines cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” A cumulative impact “consists of an impact which is created as a result of the combination of the project evaluated in the EIR, together with other projects causing related impacts” [CEQA Guidelines Section 15130(a)(1)]. The discussion of cumulative impacts “shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone” [CEQA Guidelines Section 15130(b)]. By requiring an evaluation of cumulative impacts, CEQA attempts to minimize the possibility that an EIR will overlook large-scale environmental impacts by only focusing on the effects of a single project.

Further, the CEQA Guidelines state that “[l]ead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used” [Section 15130(b)(3)]. The cumulative impacts analysis “shall examine reasonable, feasible options for mitigating or avoiding the project’s contribution to any significant cumulative effects” [CEQA Guidelines Section 15130(b)(5)]. With some projects, “the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis” [CEQA Guidelines Section 15130(c)].

CEQA Guidelines Section 15130(a)(3) also states that an EIR may determine that a project’s contribution to a significant cumulative impact would be rendered less than cumulatively considerable, and thus not significant, if a project is required to implement or fund its fair share of a mitigation measure(s) designed to alleviate the cumulative impact.

CEQA requires that one of two methods of establishing a future baseline be used:

1. A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
2. A summary of projections contained in an adopted General Plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency (CEQA Guidelines, Section 15130 (b)(1)).

For the cumulative analysis for the Oliveira Dairy Expansion project, the projections used were described and evaluated in the Program Environmental Impact Report for the Merced County Animal Confinement Ordinance Revision (ACO EIR), certified by Merced County on October 22, 2002. The ACO EIR evaluated cumulative effects for new and expanding animal confinement facilities in Merced County, including the proposed project. Therefore, the cumulative impact analysis for this EIR will incorporate the analysis contained in the ACO EIR as summarized below and as modified to reflect current environmental conditions in the county.

13.1.1 DEFINITION OF GEOGRAPHIC SCOPE OF CUMULATIVE IMPACTS ANALYSIS

Cumulative analyses included in the ACO EIR are assessed based on an understanding of projected growth or specific projects within a defined geographical area. The extent of the area evaluated varies depending on which environmental issue is being assessed. For example, because hydrologic effects in one watershed would be unrelated to those in another, the cumulative assessment area for surface and groundwater hydrology is defined as the San Joaquin River watershed. In contrast, the area addressed in the air quality evaluation is the San Joaquin Valley Air Basin. The geographic area of each cumulative effect is set forth in the summary of potential cumulative effects in Section 13.1.3 below.

13.1.2 TIERING FROM THE CUMULATIVE IMPACTS ANALYSIS OF THE ACO EIR

“Tiering” refers to the relationship between a program-level EIR (where long-range programmatic cumulative impacts are the focus of the environmental analysis) and subsequent environmental analyses such as this subject document, which focus primarily on issues unique to a smaller project within the larger program or plan. Through tiering a subsequent environmental analysis can incorporate, by reference, discussion that summarizes general environmental data found in the program EIR that establishes cumulative impacts and mitigation measures, the planning context, and/or the regulatory background. These broad-based issues need not be reevaluated subsequently, having been previously identified and evaluated at the program stage.

In the case of the Oliveira Dairy Expansion project, the cumulative analysis for this EIR is tiered from the ACO EIR (Merced County 2002) as discussed in Chapter 1, *Introduction*, of this EIR.

13.1.3 SUMMARY OF THE CUMULATIVE IMPACTS ANALYSIS OF THE ACO EIR

The ACO EIR presents an assessment of the cumulative impacts associated with the construction and operation of animal confinement facilities in Merced County. Because the Oliveira Dairy Expansion project was included in the forecast contained in the ACO EIR, the potential cumulative impacts identified by the ACO EIR for new and expanding animal confinement facilities would apply. Environmental issue areas listed below are assessed for cumulative impacts. Where applicable, ACO EIR mitigation measures adopted to reduce the magnitude of potential cumulative effects that apply to the Oliveira Dairy Expansion project are listed. For the text of the adopted ACO EIR mitigation measures, see Appendix M, *ACO Final EIR - Summary of Impacts and Mitigation Measures*.

Aesthetics: As identified in the ACO EIR, the geography for cumulative effects to aesthetics is Merced County. The ACO EIR found that the following cumulative significant effect for aesthetics would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Generation of substantial light and glare

Merced County adopted Mitigation Measure AES-2 for this cumulative impact as set forth in the ACO EIR, and has applied the measure to the Oliveira Dairy Expansion project. With adoption of this mitigation measure, the cumulative impacts to aesthetics in Merced County would be considered less than significant as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

Because the aesthetic effects of the Oliveira Dairy Expansion project would be less than significant as determined in the Initial Study/Notice of Preparation (IS/NOP) (see Appendix A, *Notice of Preparation and Initial Study*) for the project, construction and operation of the proposed dairy expansion would not make a cumulatively considerable contribution to this less-than-significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project on aesthetics would be less than significant.

Agricultural Resources: As identified in the ACO EIR, the geography for cumulative effects to agricultural resources is Merced County. No significant cumulative impacts were identified in the ACO EIR; the cumulative impacts to agricultural resources in Merced County would be considered less than significant as identified in the ACO EIR and as modified to reflect current environmental conditions in the county. Because the agricultural resource effects of the Oliveira Dairy Expansion project would be less than significant as identified in the IS/NOP for the project, construction and operation of the proposed dairy expansion would not make a cumulatively considerable contribution to this less-than-significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project on agricultural resources would be less than significant.

Air Quality and Greenhouse Gas Emissions: The geography for cumulative effects to air quality is the San Joaquin Valley Air Basin. The ACO EIR found that the following cumulative impacts to air quality and greenhouse gas emissions would be significant and unavoidable within the San Joaquin Valley Air Basin.

- Fugitive dust emissions from construction activities
- Ozone precursor emissions from dairy operations, farm equipment, and increased traffic
- PM₁₀ emissions from fugitive dust during project operations
- Ammonia and hydrogen sulfide emissions from animal confinement facility operations
- Greenhouse gas emissions from animal confinement facility operations
- Adverse odor from project operations

The ACO EIR found that the following significant cumulative impact to air quality would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Exhaust emissions (ROG, NO_x, CO, and PM₁₀) related to construction activities

Merced County adopted Mitigation Measures AQ-1 through AQ-8 for the foregoing cumulative impacts as set forth in the ACO EIR, and has applied the measures to the Oliveira Dairy Expansion project, as applicable. The cumulative impacts to air quality in the San Joaquin County Air Basin would be considered significant as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

The project level-impact of implementing the Oliveira Dairy Expansion project from ozone precursors (VOC and NO_x) would exceed the SJVAPCD significance thresholds. Because of the magnitude of emissions from the project and pollutant concentrations in the San Joaquin Valley Air Basin, and because the Air Basin is in nonattainment for both federal and state ozone standards, the project's contribution to this effect would be cumulatively considerable. Thus, the cumulative impact of the Oliveira Dairy Expansion on air quality would be significant and unavoidable.

Cumulative impacts due to GHG emissions are discussed in Impact GHG-1 in Chapter 8, *Greenhouse Gas Emissions and Energy Use*. The proposed project would not exceed established significance thresholds for GHG emissions, and cumulative impacts due to GHG emissions were determined to be less than significant.

Biological Resources: The geography for cumulative effects to biological resources is the San Joaquin Valley. The ACO EIR found that the following cumulative impact to biological resources would be significant and unavoidable within the San Joaquin Valley:

- Loss and/or degradation of riparian habitat

The ACO EIR found that the following significant cumulative impacts to biological resources would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Loss of special status species
- Loss of wildlife habitat
- Loss and/or modification to wetlands
- Interference with the activities of night-active wildlife and/or animal movement/migration patterns
- Potential selenium and heavy metal effects to biological resources

Merced County adopted Mitigation Measures BIO-1 through BIO-7 for the foregoing cumulative impacts as set forth in the ACO EIR, and has applied the measures to the Oliveira Dairy Expansion project, as applicable. The cumulative impacts to riparian habitat in the San Joaquin Valley would be considered significant as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

Because mitigation measures identified within the Oliveira Dairy Expansion project EIR would reduce potential impacts to loss of biological resources to a less-than-significant level, impacts to biological resources were determined to be less than significant, and there would be no cumulatively considerable contribution to cumulative biological resources effects. Thus, the cumulative impact of the Oliveira Dairy Expansion on biological resources would be less than significant.

Cultural Resources: As identified in the ACO EIR, the geography for cumulative effects to cultural resources is Merced County. The ACO EIR found that the following cumulative significant effect for cultural resources would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Possible disturbance of known and unknown prehistoric and/or historic resources

Merced County adopted Mitigation Measure CUL-1 for this cumulative impact as set forth in the ACO EIR, and has applied the measure to the Oliveira Dairy Expansion project, as applicable. Impacts to cultural resources are isolated incidents that are project-specific, and generally do not contribute to a cumulative condition. Therefore, the cumulative impacts to cultural resources in Merced County would be considered less than significant as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

Because mitigation measures identified within the Oliveira Dairy EIR would reduce potential impacts from the loss of unknown cultural resources, including tribal cultural resources, to a less-than-significant level, impacts to cultural resources were determined to be less than significant, and construction and operation of the dairy expansion would not make a cumulatively considerable contribution to this less-than-significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project on cultural resources would be less than significant.

Geological Resources: As identified in the ACO EIR, the geography for cumulative effects from geologic hazards is Merced County. The ACO EIR found that the following cumulative significant effects for geological resources would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Construction stormwater quality
- Embankment failure leading to erosion and slope failure
- Seismic damage due to seismic shaking

Merced County adopted Mitigation Measures GEO-1 through GEO-3 for these cumulative impacts as set forth in the ACO EIR, and has applied the measures to the Oliveira Dairy Expansion project, as applicable. The cumulative impacts to geological resources in Merced County would be considered less than significant after mitigation as identified in the ACO EIR and as modified to reflect current environmental conditions in the county. Because the geological resource effects of the Oliveira Dairy Expansion project would be less than significant as determined in the IS/NOP for the project, construction and operation of the proposed dairy expansion would not make a cumulatively considerable contribution to this less-than-significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project on geological resources would be less than significant.

For an evaluation of cumulative effects due to water quality during construction, see the discussion in Hydrology and Water Quality, below.

Hazards: As identified in the ACO EIR, the geography for cumulative effects from hazards is Merced County. The ACO EIR found that the following cumulative significant effects for hazards would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Nuisance mosquitoes
- Nuisance flies
- Manure pathogens
- Residual manure at closed facilities

Merced County adopted Mitigation Measures HAZ-1 through HAZ-4 for these cumulative impacts as set forth in the ACO EIR, and has applied the measures to the Oliveira Dairy Expansion project, as applicable. The cumulative impacts from hazards in Merced County would be considered less than significant after mitigation as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

Because mitigation measures identified within the Oliveira Dairy EIR would reduce potential impacts due to hazards to a less-than-significant level, impacts due to hazards were determined to be

less than significant, and there would be no cumulatively considerable contribution to cumulative biological resources effects. Thus, the cumulative impact of the Oliveira Dairy Expansion on biological resources would be less than significant.

For an evaluation of cumulative effects from manure pathogens, see Hydrology and Water Quality below.

Hydrology and Water Quality: As identified in the ACO EIR, the geography for cumulative effects to hydrology is the San Joaquin River Watershed. The ACO EIR found that the following cumulative significant effect for hydrology and water quality would be significant and unavoidable within the San Joaquin River Watershed:

- Development in the zone of high sensitivity to groundwater contamination

The ACO EIR also found that the following significant cumulative impact to hydrology and water quality would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Modification of surface water drainage patterns
- Increase in runoff
- Exposure to flood risks
- Water supply well pathways for pollutant migration

Merced County adopted Mitigation Measures WQ-1 through WQ-6 for the foregoing cumulative impacts as set forth in the ACO EIR, and has applied the measures to the Oliveira Dairy Expansion project, as applicable. The cumulative effects due to the degradation of groundwater resources in the San Joaquin River Watershed would be considered significant and unavoidable as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

Even with implementation of water quality mitigation measures, because the project-level groundwater quality effects of the Oliveira Dairy Expansion would be significant and unavoidable, construction and operation of the Oliveira Dairy Expansion would make a cumulatively considerable contribution to these water quality significant and unavoidable effects. Further, impacts to water quality at off-site locations as a result of project operations was found to be significant and unavoidable, even with implementation of mitigation, and would make a cumulatively considerable contribution to this significant and unavoidable water quality impact due to pathogens and other contaminants. Thus, the cumulative impact of the Oliveira Dairy Expansion on surface water and groundwater quality would be significant and unavoidable.

Land Use: As identified in the ACO EIR, the geography for cumulative effects to land use is Merced County. The ACO EIR found that the following cumulative impact for land use would be significant and unavoidable within Merced County:

- Land use conflicts with rural residences

The ACO EIR found that the following significant cumulative impacts for land use would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Conversion of cultivated land to confined animal facilities
- Land use conflicts with urban and sensitive land uses

Merced County adopted Mitigation Measures LU-2 and LU-3 for the foregoing cumulative impacts as set forth in the ACO EIR, and has applied the measures to the Oliveira Dairy Expansion project, as applicable. Adverse effects to existing rural residences adjacent to existing animal confinement facilities were identified as significant and unavoidable as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

Adverse effects to existing rural residences adjacent to the Oliveira Dairy Expansion project were determined to be less than significant following implementation of mitigation measures identified in the Oliveira Dairy Expansion project EIR. Because the land use effects of the Oliveira Dairy Expansion project would be less than significant, construction and operation of the dairy expansion would not make a cumulatively considerable contribution to this significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project to land use would be less than significant.

Mineral Resources: As identified in the ACO EIR, the geography for cumulative effects to mineral resources is Merced County. The ACO EIR found that the following cumulative significant effect for mineral resources would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Loss of mineral resources

Merced County adopted Mitigation Measure MIN-1 for the foregoing cumulative impact as set forth in the ACO EIR, and has applied the measure to the Oliveira Dairy Expansion project, as applicable. The cumulative impacts to mineral resources in Merced County would be considered less than significant with mitigation as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

Because the mineral resource effects of the Oliveira Dairy Expansion project would be less than significant as determined in the IS/NOP, construction and operation of the proposed dairy expansion would not make a cumulatively considerable contribution to this less-than-significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project on mineral resources would be less than significant.

Noise: As identified in the ACO EIR, the geography for cumulative effects to the noise environment is Merced County. The ACO EIR found that the following cumulative significant effect for noise would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Creation of excessive noise levels

Merced County adopted Mitigation Measure NSE-1 for this cumulative impact as set forth in the ACO EIR, and has applied the measure to the Oliveira Dairy Expansion project, as applicable. The cumulative impacts to the noise environment in Merced County would be considered less than significant with mitigation as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

The cumulative impact to the noise environment in Merced County would be considered less than significant as identified in the ACO EIR and as modified to reflect current environmental conditions in the county. Because the noise effects of the Oliveira Dairy Expansion project would be less than

significant as determined in the IS/NOP for the project, construction and operation of the proposed dairy expansion would not make a cumulatively considerable contribution to this less-than-significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project on noise would be less than significant.

Population and Housing: As identified in the ACO EIR, the geography for cumulative effects to population and housing is Merced County. No significant cumulative impacts were identified in the ACO EIR; the cumulative impacts to population and housing in Merced County would be considered less than significant as identified in the ACO and as modified to reflect current environmental conditions in the county. Because the population and housing effects of the Oliveira Dairy Expansion project would be less than significant as identified in the IS/NOP for the project, construction and operation of the dairy expansion would not make a cumulatively considerable contribution to this less-than-significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project on population and housing would be less than significant.

Public Services: As identified in the ACO EIR, the geography for cumulative effects to public services is Merced County. No significant cumulative impacts were identified in the ACO EIR; the cumulative impacts to public services in Merced County would be considered less than significant as identified in the ACO and as modified to reflect current environmental conditions in the county. Because the public services effects of the Oliveira Dairy Expansion project would be less than significant as identified in the IS/NOP for the project, construction and operation of the dairy expansion would not make a cumulatively considerable contribution to this less-than-significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project on public services would be less than significant.

Recreation: As identified in the ACO EIR, the geography for cumulative effects to recreation resources is Merced County. No significant cumulative impacts were identified in the ACO EIR; the cumulative impacts to recreation resources in Merced County would be considered less than significant as identified in the ACO and as modified to reflect current environmental conditions in the county. Because the recreation resources effects of the Oliveira Dairy Expansion project would be less than significant as identified in the IS/NOP for the project, construction and operation of the dairy expansion would not make a cumulatively considerable contribution to this less-than-significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project on recreation resources would be less than significant.

Transportation and Circulation: As identified in the ACO EIR, the geography for cumulative effects to transportation and circulation is the San Joaquin Valley. The ACO EIR found that the following cumulative significant effect for transportation and circulation would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Addition of traffic on area roadways and high-weight vehicles on rural roads

Merced County adopted Mitigation Measure TRF-1 for this cumulative impact as set forth in the ACO EIR, and has applied the measure to the Oliveira Dairy Expansion project, as applicable. With adoption of this mitigation measure, the cumulative impacts to traffic and roadways in Merced County would be considered less than significant as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

Because the transportation and circulation effects of the Oliveira Dairy Expansion project would be less than significant as determined in the IS/NOP for the project, construction and operation of the dairy expansion would not make a cumulatively considerable contribution to this less-than-significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion on transportation and circulation would be less than significant.

Utilities and Service Systems: As identified in the ACO EIR, the geography for cumulative effects to utilities and service systems is Merced County. The ACO EIR found that the following cumulative significant effects for utilities and service systems would be considered less than significant with the implementation of mitigation measures identified in the ACO EIR:

- Interference with irrigation district facilities

Merced County adopted Mitigation Measure PF-2 for this cumulative impact as set forth in the ACO EIR, and has applied the measure to the Oliveira Dairy Expansion project, as applicable. With adoption of this mitigation measure, the cumulative impacts to utilities and service systems in Merced County would be considered less than significant as identified in the ACO EIR and as modified to reflect current environmental conditions in the county.

Because the utilities and services effects of the Oliveira Dairy Expansion project would be less than significant as identified in the IS/NOP for the project, the construction and operation of the dairy expansion would not make a cumulatively considerable contribution to this significant cumulative effect. Thus, the cumulative impact of the Oliveira Dairy Expansion project on utilities and services would be less than significant.

13.2 GROWTH INDUCEMENT AND SECONDARY EFFECTS

CEQA Guidelines Section 15126.2(d) requires that an EIR identify any growth-inducing impacts that may result from a project. The CEQA Guidelines define a growth-inducing impact as:

...the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth... It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Induced growth as defined in this section of CEQA includes the direct employment, population, or housing growth of a project as well as the secondary or indirect growth accompanying direct growth. New employees from commercial development and new population from residential development represent direct growth, and induce additional economic activity in a given area from the increase in aggregate spending generated as purchases of goods and services. New employment also adds to the demand for local housing, although since all employees employed in a given community will not necessarily live in that community, this housing demand increase will tend to be less than the increase in employment. A project can induce growth by lowering or removing infrastructure barriers to growth, improving transportation access to an area, introducing a new use into an area, or by creating an amenity such as tourist-oriented facilities that attract new population or economic activity.

13.2.1 DIRECT GROWTH

Implementation of the Oliveira Dairy Expansion project would not result in any direct growth inducement. The dairy currently employs a staff of approximately seven workers, three of whom live on site. With implementation of the proposed project, the number of employees would increase to approximately 14 workers. The three existing employee residences would be removed with project implementation, and no new residences would be constructed on site. The existing workforce within Merced County (118,500 workers, of whom 8.2 percent, or 9,700 people, were unemployed in December 2018) could accommodate additional labor needs for construction or operation of the project without requiring the importation of large numbers of workers (EDD 2018). Similarly, any additional housing demands caused by project employees could be accommodated by existing and planned housing resources within Merced County.

13.2.2 INFRASTRUCTURE BARRIERS TO GROWTH

A project could be expected to induce growth by removing an infrastructure barrier to growth. Infrastructure barriers can be both physical (e.g., lack of a road for access or sufficient sewage treatment capacity), or they can be institutional (e.g., the lack of some regulatory condition or capacity to allow development to occur).

The proposed Oliveira Dairy Expansion project is located in an active agricultural district. Because animal confinement facilities do not require additional public facilities beyond those typically provided in agricultural areas, the animal confinement operations themselves would not be expected to increase the demand for public facilities beyond the levels provided and planned for by public utilities. The project is not growth inducing from the perspective of adding new infrastructure because no new infrastructure that could induce growth is proposed or required by the proposed project. The Oliveira Dairy Expansion is currently served by some services and infrastructure, and would not result in the need for any major new systems or substantial alterations to these utility systems (see Appendix A, *Notice of Preparation and Initial Study*). Thus, implementation of the Oliveira Dairy Expansion project would not serve to reduce an infrastructure barrier to growth.

13.2.3 INSTITUTIONAL BARRIERS TO GROWTH

The proposed project could also result in induced growth if it removed a policy or political (institutional) barrier to urban growth. The following discussion qualitatively evaluates this impact.

The proposed dairy project is consistent with Merced County land use plans, and does not include any changes in zoning or land use designations that would directly or indirectly increase the potential for growth. Therefore, the Oliveira Dairy Expansion project would not induce growth beyond that which has been anticipated in Merced County planning documents.

13.3 EFFECTS FOUND NOT TO BE SIGNIFICANT

On the basis of the Notice of Preparation (NOP) for the Oliveira Dairy Expansion project, in addition to comments received on the NOP, it was determined that the following environmental issues did not need to be evaluated in this EIR:

- Aesthetics;
- Agriculture and Forestry Resources;
- Geology;
- Hazards/Hazardous Materials;
- Mineral Resources;
- Noise;
- Population and Housing;
- Public Services;
- Recreation;
- Transportation/Traffic;
- Utilities and Service Systems.

As allowed for by State CEQA Guidelines Section 15128, the reasons for this determination are contained in the Initial Study for the Oliveira Dairy Expansion project that is included in Appendix A, *Notice of Preparation and Initial Study*, of this document.

The following potentially significant effects were found not to be significant or less than significant after mitigation as evaluated in this EIR and the Initial Study / Notice of Preparation:

- Construction-related emissions
- Carbon monoxide emissions from operational equipment and increased traffic
- PM₁₀ and PM_{2.5} emissions from fugitive dust during project operations
- Expose nearby residents to substantial pollutant concentrations from the emissions of toxic air contaminants from project construction and operations
- Expose nearby residents to substantial pollutant concentrations from emissions of criteria air pollutants
- Adverse odor from project operations
- Conflict with or obstruct implementation of the applicable air quality plan
- Nest Disturbance and loss of foraging habitat for Swainson's hawk
- Loss of foraging and nesting habitat for sensitive and migratory bird species
- Loss of nesting habitat for tricolored blackbird
- Loss of habitat for the San Joaquin kit fox and/or American badger
- Impacts to additional special-status wildlife species
- Loss and/or degradation of special-status plant species
- Loss and/or degradation of riparian and vernal pool habitat or sensitive natural communities; loss or modification of wetlands
- Interference with on-site wildlife movement corridor

- Potential selenium and heavy metals effects to on-site biological resources
- Conflict with local policies or ordinances protecting biological resources
- Cause a substantial adverse change in the significance of a historical, archaeological, or paleontological resource, or a unique geological feature
- Result in the accidental discovery and disturbance of human remains
- Cause a substantial adverse change in the significance of a tribal cultural resource
- Greenhouse gas emissions from project construction and operation
- Wasteful or inefficient consumption of energy
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency
- Increased fly production and related nuisance effects
- Create significant nuisance conditions due to increased mosquito production
- Degradation of water quality due to storm water runoff during project construction
- Degradation of surface water quality from operation of the Oliveira Dairy Expansion
Decrease groundwater supplies
- Modification of surface water drainage patterns and an increase in runoff
- Risk release of pollutants due to project inundation in flood zones
- Water supply pathways for pollutant migration
- Impacts to water quality due to septic systems located in limited on-site soils
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan
- Consistency with Merced County Land Use Plans and policies adopted to protect the environment, including setback standards
- Land use compatibility with existing off-site residential uses adjacent to the project area
- Land use compatibility with existing wildlife uses adjacent to the project area
- Growth Inducement and Secondary Effects
- Irreversible Commitment of Resources
- Potential Environmental Damage from Accidents

The project's contribution to the following significant cumulative effects was found to be not cumulatively considerable with implementation of mitigation as evaluated in this EIR:

- Cumulative impacts to aesthetics
- Cumulative impacts to agricultural resources
- Cumulative impacts to biological resources
- Cumulative impacts to cultural resources
- Cumulative impacts to geological resources
- Cumulative impacts due to GHG emissions
- Cumulative impacts to hazards
- Cumulative impacts to land use
- Cumulative impacts to mineral resources

- Cumulative noise impacts
- Population and Housing
- Cumulative transportation and traffic effects
- Cumulative impacts to utilities and service systems

13.4 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL EFFECTS

The significant unavoidable environmental effects of the proposed project are as follows:

- Ozone precursor emissions from dairy operations, farm equipment, and increased traffic
- Groundwater contamination from operation of the Oliveira Dairy Expansion
- Impacts to water quality at off-site locations as a result of project operations
- Cumulative air quality impacts
- Cumulative hydrology and water quality impacts

Merced County is unable to mitigate any of these potentially significant adverse environmental impacts to a less-than-significant level; all of the adverse impacts of the proposed project identified above would remain significant and unavoidable.

13.5 SIGNIFICANT IRREVERSIBLE CHANGES

CEQA Guidelines Section 15126.2 requires the evaluation of significant irreversible environmental changes, stating that “uses of nonrenewable resources during the initial and continued phases of a proposed project may be irreversible since a large commitment of these resources makes removal or nonuse thereafter unlikely.” This section of the EIR evaluates whether the project would result in the irretrievable commitment of resources, or would cause irreversible changes in the environment. Also, this section identifies any irreversible damage that could result from environmental accidents associated with the proposed project.

13.5.1 IRREVERSIBLE COMMITMENT OF RESOURCES

Implementation of the proposed project would result in the expansion of an existing dairy facility; it would also require both direct and indirect expenditures of energy. Indirect energy would be consumed by the use of construction materials for the project (e.g., energy resource exploration, power generation, mining and refining of raw materials into construction materials used, including placement). Direct energy impacts would result from the total fuel consumed in vehicle propulsion (e.g., construction vehicles, heavy equipment, and other vehicles using the facility). Additional energy resource demands would be used for the heating and cooling of buildings, transportation of people and goods, and lighting and other associated energy needs.

Construction and operation of the proposed project would contribute to the incremental depletion of resources, including renewable and non-renewable resources. Resources such as lumber and other forest products are generally considered renewable resources and would be replenished over the lifetime of the project. For example, lumber supplies are increased as seedlings mature into trees. Therefore, the development of the project would not result in the irreversible commitment of renewable resources. Nevertheless, there would be an incremental increase in the demand for these resources over the life of the project.

Non-renewable resources, such as natural gas, petroleum products, asphalt, petrochemical construction materials, steel, copper and other metals, and sand and gravel are considered to be commodities that are available in a finite supply. The processes that created these resources occur over a long period of time. Therefore, the replacement of these resources would not occur over the life of the project. To varying degrees, these materials are all readily available and some materials, such as asphalt or sand and gravel, are abundant. Other commodities, such as metals, natural gas, and petroleum products, are also readily available, but they are finite in supply given the length of time required by natural processes to create them.

The demand for all such resources is expected to increase regardless of whether or not the project is developed. As discussed in the ACO EIR, the number of dairy facilities in the San Joaquin Valley is expected to increase under the cumulative herd forecast. Therefore, if not consumed by this project, these resources would likely be committed to other projects in the region intended to meet this anticipated growth. The investment of additional resources in the project would be typical of the level of investment normally required for dairies of this scale. Mitigation measures have been included in this EIR to reduce and minimize the impact to renewable and non-renewable resources.

13.5.2 IRREVERSIBLE ENVIRONMENTAL CHANGES

Irreversible long-term environmental changes associated with the proposed project are evaluated in Chapters 5 to 11 of this EIR. These irreversible environmental changes would include an increase in operational air emissions and greenhouse gases, among other impacts. Design features have been incorporated into the proposed project and mitigation measures have been included in this EIR to minimize the effects of the environmental changes associated with the development of the project. The project would result in significant and unavoidable impacts in the following issue areas: air quality, and hydrology and water resources as listed above in Section 13.4, *Significant Unavoidable Environmental Effects*.

13.5.3 POTENTIAL ENVIRONMENTAL DAMAGE FROM ACCIDENTS

Potential impacts and irreversible damage that could result from environmental accidents associated with the project have been previously evaluated in Section VII, *Hazards* in the IS/NOP (see Appendix A). The project proposes no uniquely hazardous uses, and its operation would not be expected to cause environmental accidents that would affect other areas.