I. NOISE

The Noise section discusses the fundamentals of sound and noise measurements, describes the existing noise environment at the project site, provides federal, state, and local noise guidelines and policies, and evaluates potential noise impacts that would be encountered at the project site. Mitigation measures have been incorporated where an identified noise impact would exceed a defined regulatory threshold.

1. Existing Conditions

a. Noise Definitions and Terminology

Noise, as used herein, is defined as unwanted sound. Noise is a complex physical phenomenon that varies with time, geographic location, proximity to the source, and duration of the noise event. The effects of noise are generally considered in two ways: 1) how a proposed project may increase existing noise levels and potentially affect surrounding land uses; and, 2) how a proposed land use may be affected by noise from existing and surrounding land uses. Since instruments that detect small changes in atmospheric pressure that are perceived as sound cannot distinguish between that which is wanted (e.g., birds singing, waves on a beach, etc.) and that which is not (e.g., traffic or railroad noise), measurements of "noise" are more accurately described as measurements of sound pressure.

Noise sources and sound intensities can vary significantly from one area of the project site to another. Variables that affect how noise is perceived include vehicular and equipment volume and activities, proximity to the noise source, time of day, speed, roadway configuration, and the acoustical and topographical characteristics of the site. For example, Highway 101 traffic noise could be substantial at a given location if the noise measurement is taken during peak hour traffic at a short distance from the highway. Given the same conditions, the same noise measured at a distance of 1,000 feet away would be perceived as barely noticeable. Similarly, residences that are located in close proximity to frequently occurring or intense agricultural operations (e.g., harvest and crush season at the winery) would experience higher noise levels than residences that are located farther away or better shielded from the noise producing activity. Generally, a 1.0 dBA increase in the noise level is the minimum perceptible change the human ear can detect. A 3.0 dBA change is readily noticeable by most people, and a 10.0 dBA change would be perceived as twice as loud or approximately a doubling of the noise level.

Topography also plays a significant role in the perception of noise. Road segments that are cut below or significantly elevated above the grade at which noise is measured will generally produce a quieter noise environment. Likewise, residential sites that take advantage of natural topographical shielding conditions would experience lower noise levels than residences that do not. Sites that have abundant vegetation and an undulating profile (soft sites) will absorb sound pressure waves much better than an area that is predominantly asphalt or concrete (hard site). In its present state, the project site would be considered a soft site because of its undulating topography and the abundance of vineyards and natural vegetation. After development, the site would still be considered a soft site because much of the existing landforms and vineyards would remain unchanged. Additional noise terminology along with an overview of sound measurements is located in Appendix F.

b. Existing Noise Environment

1) Transportation Noise Sources

Sources of transportation noise affecting portions of the project site mainly include traffic traveling on public roadways such as Highway 101 and Upper Los Berros Road. Other typical transportation noise sources such as railroad noise and air traffic with low altitude flight patterns are not located close enough to significantly affect noise levels at the project site.

Noise from vehicular traffic is currently the largest noise source in the project area and is anticipated to be the largest noise source in the future. The project site is bordered by Highway 101 to the west. Highway 101 carries the heaviest traffic volume of any roadway in the county; it connects cities, towns, multiple residential, commercial/retail, and industrial areas throughout the state. In addition to the highway, there are several county roads that border the project site to the south and east that serve existing rural residential areas.

Noise readings from multiple areas throughout the project site were taken to establish pre-project baseline conditions for automobile noise sources. Several readings were taken at each of the residential sub-cluster areas, and four other areas off-site on adjacent County roadways (refer to Figure V.I.-1).

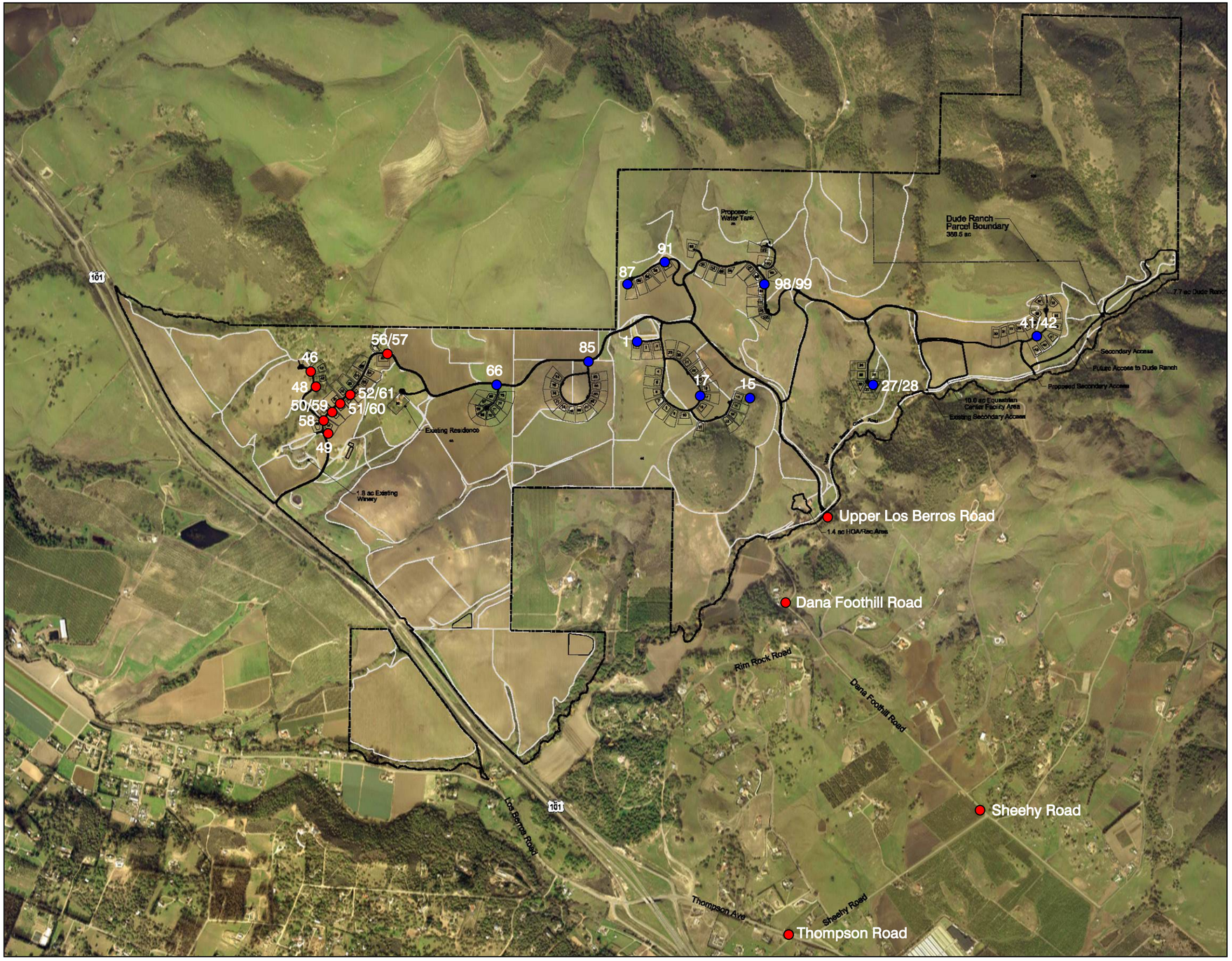
(a) Highway 101

Noise from vehicular traffic on Highway 101 was measured at multiple areas throughout residential Sub-cluster C (Lots 46 through 56) on Monday, February 6, 2006. These locations were selected to evaluate noise from Highway 101 because proposed lots would be located much closer to the noise source than the other proposed residential clusters. Since noise levels are relative to topography and distance, if a noise threshold were to be exceeded, it would likely occur at the lots located closest to the source.

Observed traffic density on Highway 101 during the investigation of the project site was medium-heavy. A total of eight measurement locations were selectively chosen to evaluate traffic noise produced by the highway (refer to Figure V.I.-1). Traffic counts were not collected for Highway 101 during the noise measurements due to the distance from the highway, intervening topography, and the presence of oak woodland vegetation that obscures the view of the highway from many of the parcels. Measured vehicular noise levels are summarized in Table V.I.-1.

TABLE V.I.-1
Measured Noise Levels (Highway 101)

Location	Noise Levels (dBA)			Location	Noise Levels (dBA)		
	L_{EQ}	Max	Min		L_{EQ}	Max	Min
Lot 58	43.3	56.3	39.6	Lot 50/59	45.7	68.2	39.9
Lot 49	46.4	64.7	42.8	Lot 51/60	45.2	67.1	38.7
Lot 46	46.0	62.7	42.2	Lot 52/61	45.1	67.8	38.8
Lot 48	45.5	61.2	42.1	Lot 56/57	41.8	62.6	37.2



NORTH
Not to Scale

● Transportation Source Noise Measurement Locations ● Stationary Source Noise Measurement Locations

Noise Measurement Locations
FIGURE V.I.-1

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Table V.I.-2 summarizes existing and future traffic volumes for Highway 101, based on data obtained from Caltrans:

TABLE V.I.-2
Existing and Forecast Traffic Volumes (Highway 101)

Highway 101	AADT (veh)	Peak Hour (veh)
2004	62,345	6,398
2010	70,416	6,850
2030	97,319	8,941

Source: Caltrans "Traffic and Vehicle Data Systems Unit" website, 2007.

(b) County Roadways

Noise from vehicular traffic on four County roads was measured during the afternoon of Monday, February 6, 2006 to establish pre-project baseline conditions. Noise readings were conducted on Dana Foothill Road, Sheehy Road, Upper Los Berros Road, and North Thompson Road because project-generated traffic would mainly be utilizing these roads to access the site (refer to Figure V.I.-1). Table V.I.-3 summarizes existing noise levels and traffic volumes for affected County roads.

TABLE V.I.-3
Measured Noise Levels (County Roads)

Location	Period of Measurement	Noise Levels (dBA)	Traffic Volumes		
		L_{EQ}	Number	Veh/min	Veh/hr
Upper Los Berros Road	3:00 p.m. – 3:05 p.m.	45.7	5	1	60
Dana Foothill Road	3:20 p.m. – 3:25 p.m.	46.0	4	0.8	48
Sheehy Road	3:45 p.m. – 3:50 p.m.	48.8	7	1.4	84
North Thompson Road	4:05 p.m. – 4:10 p.m.	68.1	38	7.6	456

2) Stationary Noise Sources

(a) Ambient Conditions

The project site contains a mixture of existing sources of stationary noise resulting from agricultural operations and equipment use in the winery area, maintenance and storage yard, vineyard, and orchards. The wine tasting, processing, and warehousing facilities associated with the winery would be the closest and most obvious source of stationary noise for Residential Sub-cluster C (Lots 46 through 64) of the development. When in full operation during the harvest or "crush" season, the processing facility would be considered the focal point of stationary noise producing activities.

The other residential areas proposed throughout the project site would be more subject to noise resulting from active agricultural equipment, including, but not limited to, tractors, trucks, mowers, and all-terrain vehicles (ATVs). Table V.I.-4 provides the ambient baseline noise condition for various areas throughout the project site (refer to Figure V.I.-1 for locations).

TABLE V.I.-4
Ambient Noise Levels

Location	Noise Levels (dBA)			Location	Noise Levels (dBA)		
	L_{EQ}	Max	Min		L_{EQ}	Max	Min
Lot 66	38.6	51.6	36.5	Lot 87	37.5	52.1	36.6
Lot 85	39.2	60.2	36.4	Lot 91	37.3	51.2	36.1
Lot 1	38.8	50.9	34.3	Lot 98/99	38.2	52.7	37.8
Lot 17	40.3	51.4	35.3	Lot 127/128	40.9	55.0	32.1
Lot 15	39.6	54.2	34.6	Lot 41/42	41.2	58.0	31.8

(b) Field Operations Equipment Noise

Field equipment use currently produces the most significant sources of noise at the project site. Large-scale agricultural operations occur, which requires large amounts of labor both hand and mechanical. Grapes are hand harvested and loaded into tractors and harvesters for transport to the winery processing facility. Harvesting typically occurs during the month of October, and occurs during the hours between 4:00 a.m. and 2:00 p.m. During the harvest season, approximately 11 small tractors are operating throughout the vineyard each day. During the remainder of the year, approximately four small tractors and two ATVs operate in the vineyard each day. Mowing occurs between the months of February through November. Disking, ripping, plowing, and seed sowing occurs throughout the year as needed. Typical operating hours within the vineyard is 6:30 a.m. to 5:00 p.m. Nighttime activities are limited to spraying (9:00 p.m. to 7:00 a.m.) during the months of March through August. Nighttime spraying occurs five nights per week, and two to four sprayers and tractors are operating during the spraying operation.

The following list of equipment and machinery is currently used at the project site by the Laetitia vineyard and winery:

- Eight wheel diesel tractors, which are used for approximately 90 percent of the field operations, including mowing, spraying pest control, discing, spreading compost, and spreading cover crop seed;
- One rubber-track layer tractor, which is used for mowing, ripping, discing;
- One people mover (workers meet in one spot and are transported to work areas);
- Seven ATVs used for irrigating and moving through the vineyard;
- Four pick-up trucks are used for a variety of operations;
- Two four-wheel drive golf carts; and,
- Three to four small yard harvesters.

To quantify the magnitude of noise an individual residence might experience from active equipment use in close proximity to the property line, equipment noise was measured at the maintenance building on the afternoon of Wednesday, March 8, 2006. As a general worst-case scenario, five pieces of major equipment were grouped together to simulate the fast-pace nature of harvest season where it is likely that multiple pieces of large farm equipment could operate in very close proximity to one another within the same field. Equipment used in the simulation included one large mower (120 hp), two small mowers (74 hp), one rubber-wheeled tractor, and one ATV. Measurements were conducted at distances of 180 and 360 feet, with five, three, or one piece of equipment operating per measurement period respectively. Each measurement was conducted during a five-minute interval. Table V.I.-5 provides the results of the equipment noise measurements.

TABLE V.I.-5
Equipment Noise Sources

Noise Sources	Distance (feet) From Source(s)	Noise Levels (dBA)		
		L_{EQ}	Max	Min
All five pieces of equipment	180	67.4	69.5	64.5
	360	59.3	67.2	55.0
Large mower, small mower, ATV	180	64.5	67.6	54.3
	360	56.5	65.1	54.0
Large mower	180	60.4	69.4	56.8
	360	54.9	63.2	53.2

2. Regulatory Setting

Noise is regulated at the federal, state, and local levels through regulations, policies, and/or local ordinances. Local policies are commonly adaptations of federal and state guidelines, based on prevailing local conditions or special requirements.

a. Federal Policies and Regulations

The Federal Noise Control Act of 1972 Section 2 [42 U.S.C. 4091] states the following:

> (a) The Congress finds (1) that inadequately controlled noise presents a growing danger to the health and welfare of the Nation's population, particularly in urban areas; (2) that the major sources of noise include transportation vehicles and equipment, machinery, appliances, and other products of commerce; and (3) that, while primary responsibility for control of noise rests with State and local governments, Federal action is essential to deal with major noise sources in commerce control of which require national uniformity and treatment.
>
> (b) The Congress declares that it is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare.

To that end, it is the purpose of this Act to establish a means for effective coordination of Federal research and activities in noise control, to authorize the establishment of Federal noise emission standards for projects distributed in commerce, and to provide information to the public respecting the noise emission and noise reduction characteristics of such products.

b. State and Local Policies and Regulations

1) California Government Code

The contents of General Plan *Noise Element*s and the methods used in their preparation have been determined by the requirements of Section 65302 (f) of the California Government Code and by the *Guidelines for the Preparation and Content of the Noise Element of the General Plan* prepared by the California Department of Health Services and included in the 1900 State of California *General Plan Guidelines*. The General Plan *Guidelines* require that major noise sources and areas containing noise-sensitive land uses be identified and quantified by preparing generalized noise exposure contours for current and projected conditions. Contours may be prepared in terms of either the Community Noise Equivalent Level (CNEL) or the Day-Night Average Level (L_{dn}), which are descriptors of total noise exposure at a given location for an annual average day. The CNEL and L_{dn} are generally considered to be equivalent descriptors of the community noise environment within plus or minus one dB.

2) County of San Luis Obispo Noise Element

The *County of San Luis Obispo Noise Element* provides a policy framework within which potential noise impacts may be addressed during project review and long range planning. The *Noise Element* is divided into two separate documents and contains policies, performance goals, and procedures for addressing identified noise impacts. The County *Noise Element Policy Document and Acoustic Design Manual* sets noise exposure standards for noise sensitive land uses, and performance standards for new commercial and industrial uses. A companion document, the *Technical Reference Document*, contains background information on the methods used to develop noise exposure information and guidelines for those involved in land use choices and in project design and review. Together these documents comprise the *Noise Element*, and provide methods for reducing noise exposure.

Noise standards are established in the *Noise Element* for sensitive noise receptors. Noise standard applicability is usually limited to evaluating planned residential developments located along highways, arterial routes, frontage roads, railroad tracks, and stationary noise sources where planned or existing residential developments or noise sensitive land uses would be adversely affected by existing or increased project-related noise levels in the area.

The *Noise Element* provides a policy framework within which potential future noise impacts can be minimized. The County of San Luis Obispo has also adopted noise ordinances, which may be used to address noise levels generated by existing industrial, commercial, and residential uses that are not regulated by federal or state noise level standards. The regulation of noise sources such as traffic on public roadways, railroad line operations, and aircraft in-flight is preempted by existing federal and/or state regulations, meaning that such sources generally may not be addressed by a noise ordinance. The County *Noise Element* addresses the prevention of noise

conflicts from all of these sources. The applicable policies of the *Noise Element* include the following:

> *New Development and Stationary Noise Sources*
> New development of noise-sensitive land uses may be permitted only where location or design allow the development to meet the standards for existing stationary noise sources.
>
> *New or Modified Stationary Noise Sources*
> Noise created by new stationary sources, or by existing stationary sources which undergo modifications that may increase noise levels, shall be mitigated to not exceed the noise level standards for lands designated for noise-sensitive uses.
>
> *Land Use & Transportation Noise Sources*
> [Table V.I.-6] shall be used to determine the appropriateness of designating land for noise sensitive uses, considering noise exposure from transportation sources. [Table V.I.-6] shows the ranges of noise exposure that are considered to be acceptable, conditionally acceptable, or unacceptable for various land uses.
>
> In **acceptable** noise environments, development may be permitted without requiring specific noise studies or specific noise reducing features.
>
> In **conditionally acceptable** noise environments, development should be permitted only after noise mitigation has been designed as part of the project, to reduce noise exposure to the levels specified by the following policies. In these areas, further studies may be required to characterize the actual noise exposure and appropriate means to reduce it.
>
> In **unacceptable** noise environments, development in compliance with the policies generally is not possible.

The County's Land Use Ordinance (LUO) Section 22.10.120.A.4 Exceptions to Noise Standards states the following:

> *Noise sources associated with construction provided such activities do not take place before 7 a.m. or after 9 p.m. on any day except Saturday or Sunday, or before 8 a.m. or after 5 p.m. on Saturday or Sunday.*

In addition to the above policies, the *Noise Element* identifies specific outdoor activity area and interior noise thresholds for transportation and stationary noise sources. These thresholds are discussed further below (refer to Thresholds of Significance).

TABLE V.I.-6
Land Use Compatibility for New Development near Transportation Sources

Land Use[1]	Exterior Noise Exposure, Ldn or CNEL (dB)					
	55	60	65	70	75	80
Residential						
Bed and Breakfast, **Hotel, Motel**						
Schools, Libraries, Museums, Hospitals, Churches, Nursing Homes, **Public Assembly**						
Outdoor Sports, **Recreation**						
Offices						

	Acceptable, no mitigation required
	Conditionally Acceptable, Mitigation required
	Unacceptable, mitigation may not be feasible

[1]*Bold type denotes land uses proposed for the Laetitia Agricultural Cluster Project.*

Source: County of San Luis Obispo General Plan Noise Element

3. Thresholds of Significance

The threshold of significance for noise related impacts is the exceedance of a standard as established in the County's *Noise Element* by any proposed development project. Where the established standard is already exceeded, a significant increase in a noise level is taken as one decibel.

The *Noise Element* establishes separate standards for transportation noise, which is generated by automobiles, trucks, trains and airplanes, and stationary noise, which is generated by industrial and commercial facilities including loading and unloading of materials. The applicable County standards (thresholds) for evaluating noise impacts from transportation noise are 60 dBA (L_{dn}) for outdoor activity areas and 45 dBA (L_{dn}) in interior spaces (refer to Table V.I.-7). The *Noise Element* states that outdoor activity areas include patios and backyard recreation areas, but do not generally include the front yards of residences that extend to the edge of the roadway. Stationary noise thresholds are 50 dBA daytime and 45 dBA nighttime, as measured from the property boundary.

a. Noise Element Specific Policies

The *Noise Element* provides a process for new residential development to follow in an effort to achieve acceptable interior and exterior levels. The noise thresholds contained in the *Noise Element* represent maximum acceptable noise levels. New development should minimize noise exposure and noise generation to the maximum extent feasible. The *Noise Element* was written in 1990 and adopted in 1992. Noise contours were developed in 1990 based on the year 2010 as a buildout target date. Although the noise contours found in the *Noise Element* provide good general information used for planning purposes, since they were developed over 16 years ago, they are somewhat outdated and tend to underestimate the actual 60 dB and 65 dB Ldn noise contours as measured in the field for present day conditions.

1) Transportation Noise Sources

The County *Noise Element* states that new development of noise sensitive land uses shall not be permitted in areas exposed to existing or projected future levels of noise from transportation noise sources which exceed 60 dB L_{dn} or CNEL unless the project design includes effective mitigation measures to reduce noise in outdoor activity areas and interior spaces below the levels specified for the given noise sensitive land uses identified in Table V.I.-7.

TABLE V.I.-7
Maximum Allowable Noise Exposure-Transportation Noise Sources

Land Use	Outdoor Activity Areas[1] L_{dn}/CNEL, dB	Interior Spaces	
		L_{dn}/CNEL, dB	L_{EQ}, dB[2]
Residential (Except Temporary)	60 [3]	45	–
Bed and Breakfast, Hotels, Motels	60 [3]	45	–
Hospitals, Nursing and Personal Care	60 [3]	45	–
Public Assembly and Entertainment	–	–	35
Offices	60 [3]	–	45
Churches, Meeting Halls	–	–	45
Schools, Libraries, Museums	–	–	45
Outdoor Sports and Recreation	70	–	–

[1]Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
[2]As determined for a typical worst-case hour during periods of use.
[3]For other than residential uses, where an outdoor activity area is not proposed, the standard shall not apply. Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed.

Source: Noise Element, San Luis Obispo County General Plan 1992

2) Stationary Noise Sources

The County *Noise Element* states that new development of noise-sensitive land uses shall not be permitted where the noise level due to existing stationary noise sources will exceed noise level standards unless effective noise mitigation measures have been incorporated into the design of the development to reduce noise exposure to or below the allowable threshold (refer to Table V.I.-8).

TABLE V.I.-8
County of San Luis Obispo Stationary Noise Standards

Level	Daytime (7 am-10 pm)	Nighttime (10 pm-7 am)
Hourly average level (L_{eq}) dB	50	45
Maximum level (Max) dB	70	65
Maximum level, dB-Impulsive Noise	65	60

Source: Noise Element, San Luis Obispo County General Plan 1992

3) Existing and Cumulative Noise Impacts

Pursuant to the *Noise Element*, the County shall consider implementing mitigation measures where existing noise levels produce significant noise impacts to noise-sensitive land uses or where new development may result in cumulative increases of noise upon noise-sensitive land uses. Significant noise impacts result in an increase of one dBA to the existing environment.

b. CEQA Guidelines

Appendix G of the CEQA Guidelines and the County Initial Study Checklist indicate that significant noise impacts occur when the project:

- Exposes people to noise levels in excess of standards established in local noise ordinances or general plan noise elements;
- Causes a substantial permanent or temporary increase in noise above levels existing without the project; or,
- Results in the exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels.

Noise impacts of any project are considered significant if noise resulting from construction or operation occurs beyond the specified level and/or time frame set by the County of San Luis Obispo.

c. Construction Noise

Construction noise generated during development of the proposed project could result in significant noise impacts affecting adjacent noise-sensitive land uses (primarily residences). In general, the grading phase of project construction tends to create the highest noise levels because of the operation of heavy equipment. Construction noise would be a short-term impact,

occurring during the development phases of the project. Generally, other than limiting exceptionally noisy activities to certain times and days of the week, the County currently has no noise threshold for temporary construction related impacts. However, noise reduction plans can be implemented on a case-by-case basis as warranted. In the event that significant noise would result due to a long-term construction project, or unique situations where significant short-term noise impacts are identified, a noise reduction plan should be prepared.

4. Impact Assessment and Methodology

a. Transportation Noise Assessment

1) Vehicle Traffic

From a practical standpoint, the peak-period Leq noise level is essentially equivalent to the Ldn noise level previously discussed. For most situations involving noise from vehicular traffic, the peak-period Leq can be used as the Ldn level, avoiding the need for 24 hours of continuous measurement. Peak period Leq was the methodology used in evaluation of traffic noise impacts for the proposed project.

The procedure for assessing vehicular traffic noise impacts on County roads included measuring the peak-period noise levels at select locations surrounding the project site, and counting the traffic generating the noise during the period of measurement (refer to Figure V.I.-1 and Tables V.I.-3 and V.I.-4). The measured peak-period noise levels were then adjusted logarithmically to determine the "future" noise levels by using the estimated traffic volume predictions for various road segments contained in the Transportation and Circulation section of the EIR. Logarithms were used because they produce linear correlations, which can then be used to more readily evaluate future noise levels. Generally speaking, doubling the traffic volume will produce a three dB increase in the ambient noise environment. Similarly, doubling the distance from the receiver to the noise source will produce a three dB drop in the perceived noise level.

b. Stationary Noise Assessment

Stationary noise impacts were assessed by measuring the noise levels from various activities and sources at select locations within the project site, and comparing the measured noise readings to published threshold values in the County *Noise Element*. Approximate five-minute duration measurements were taken at each location (refer to Table V.I.-5). The noise meter recorded the maximum and minimum one-second noise levels. Further analysis of stationary noise was based on time integrated average noise levels (L_{eq}).

5. Project-specific Impacts and Mitigation Measures

Noise impacts are generally composed of three basic elements: a noise source, the transmission path, and a receiver. The emphasis of noise control in land use planning is usually placed upon acoustical treatment of the transmission path and the receiving structures where noise thresholds are anticipated to be exceeded. The following section discusses potential noise impacts associated with the proposed project and provides mitigation measures where necessary.

a. Project-wide

1) Short-term Construction Related Noise Impacts

Development of the proposed project would create temporary increases in the ambient noise level during construction; however, there are few existing residential sensitive receptors surrounding the project site that would be impacted by construction noise. The types of construction noise would differ among the various phases as the development progresses, depending on the particular activities and equipment used.

During the initial phases of construction, it is estimated that most of the construction noise would be limited to grading and earthwork operations, which would only impact the few rural residences located along the boundaries of the project site. However, during subsequent phases of development, residences constructed and occupied in the early phases prior to completion of the project would become additional sensitive receptors, which would be impacted by later phases of construction. The newly constructed residences would be located in close proximity to various construction activities, which could result in potentially significant construction related noise impacts. These noise sources could potentially interfere with normal daytime activities. Nighttime construction noise impacts would not occur because County ordinances limit construction to the hours of 7:00 a.m. to 10:00 p.m.

NS Impact 1 **Development of the proposed project would expose existing and newly constructed sensitive residential receptors to temporary construction-related noise impacts, resulting in a direct short-term impact.**

NS/mm-1 At the time of application for subdivision improvement plans or grading permits, the applicant shall submit a Noise Reduction Plan prepared by a qualified acoustical consultant for review and approval by the County Planning Department. The Noise Reduction Plan shall include but is not limited to:

a. Limit all phases of construction to the hours of 7:00 a.m. to 10:00 p.m. Monday through Friday as required by County ordinance;
b. Regular notification of all existing and future residences within 1,000 feet of the site boundary concerning the construction schedule;
c. Shield especially loud pieces of stationary construction equipment;
d. Locate portable generators, air compressors, etc. away from sensitive noise receptors;
e. Limit grouping major pieces of equipment operating in one area to the greatest extent feasible;
f. Place heavily trafficked areas such as the maintenance yard, equipment, tool, and other construction oriented operations in locations that would be the least disruptive to surrounding sensitive noise receptors;
g. Use newer equipment that is quieter and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for

any purpose on or related to the job shall be equipped with a muffler or baffle of a type recommended by the manufacturer;

h. Conduct worker-training meetings to educate and encourage noise awareness and sensitivity. This training should focus on worker conduct while in the vicinity of sensitive receptors (i.e. minimizing and locating the use of circular saws in areas adjacent to sensitive receptors and being mindful of shouting and the loud use of attention drawing language); and,

i. Notify surrounding residences in advance of the construction schedule when unavoidable construction noise and upcoming construction activities likely to produce an adverse noise environment are expected. Noticing shall provide phone number of project monitor, County inspector, construction foreman etc. This notice shall be given one week in advance, and at a minimum of one day in advance of anticipated activities have changed. Project representative shall verbally notify all surrounding residential owners.

Residual Impact Temporary construction noise impacts would be considered *less than significant with mitigation, Class II.*

2) Traffic Noise Associated With Highway 101

As seen in Table V.I.-1, existing noise levels at the closest proposed residential receptor sites (Lots 46 through 64) range from approximately 41 to 46 dBA L_{dn}. The outdoor noise threshold defined in the *Noise Element* is 60 dBA L_{dn} for transportation noise sources. The sound pressure level from two equal sources is three dB greater than the sound pressure level of just one source; therefore, it takes approximately one doubling of the traffic volume to produce a three dBA increase in noise levels (FHWA, 1995, 2010). As seen Table V.I.-2, traffic volumes on Highway 101 are not expected to double within the next 25 years; therefore, traffic noise generated on Highway 101 is not expected to significantly impact the project site and mitigation measures are not required.

3) Traffic Noise on Surrounding County Roadways

(a) Noise Affecting the Project Site

Noise impacts are typically quantified in two distinct ways; impacts associated with existing noise levels on new development, and impacts associated with new development on existing noise levels. The project site would be directly accessed from existing rural County roads. The existing road network surrounding the project site does not carry significant volumes of average daily or peak-hour traffic to create noise levels that would exceed the outdoor noise threshold as defined in the *Noise Element* at any portion of the project site (refer to Table V.I.-9). Therefore, traffic noise from existing County roads is not expected to significantly impact the project site and mitigation measures are not required.

(b) Traffic Noise Generated by the Proposed Project

The proposed project would create new daily vehicle trips that would utilize the existing rural County roads surrounding the project site. Since there is a direct relationship between an increase in traffic volumes and an increase in noise levels, any project-generated traffic would be expected to increase noise levels on surrounding County roads. Using traffic volume predictions developed by Fehr & Peers, EIR transportation consultants, Table V.I.-9 provides an estimate of the noise level increase associated with project-generated traffic. The project-generated p.m. peak-hour trip volume of 145 trips is the same for all surrounding roads because there is essentially one primary access route to the project site from Highway 101 or the community of Nipomo to the south.

TABLE V.I.-9
Predicted Traffic and Noise Levels (County Roads)

Location	Measured Noise Levels (L_{EQ} dBA)	Measured Traffic Volumes (Veh/hr)[1]	Project Generated PM Peak-Hour Traffic (Veh/hr)[1]	Predicted Noise Level Increase (L_{EQ} dBA)
Upper Los Berros Road	45.7	60	145	5.3
Dana Foothill Road	46.0	48	145	6.0
Sheehy Road	48.8	84	145	4.4
North Thompson Road	68.1	456	145	1.2

[1]Project generated traffic volumes obtained from Fehr & Peers, EIR transportation consultants.

It is expected that noise levels on Upper Los Berros Road, Dana Foothill Road, and Sheehy Road would not exceed the 60 dBA outdoor noise threshold with the addition of project generated traffic.

Since the outdoor noise threshold is 60 dBA, only North Thompson Road is currently above the allowable threshold as defined by the *Noise Element*. The fact that noise levels on North Thompson Road are predicted to increase by approximately one dBA or more with the addition of project-generated traffic indicates that a significant noise impact as defined by the *Noise Element* would occur due to development of the proposed project. However, based on further review of guidance from the FHWA, traffic noise increases of 3 dB or less are barely perceptible by the human ear (FHWA, 1995, 2010). Therefore, although the project would contribute to existing ambient noise levels that currently exceed identified thresholds, this increase would not adversely affect sensitive land uses because the increase would be barely perceptible, and soft ground surfaces located between the outdoor use areas of sensitive receptors and the roadway would provide noise attenuation (6 dB per doubling of distance from the roadway).

~~CEQA defines a Class I impact as: "A significant, unavoidable, and adverse impact that cannot be effectively mitigated. No measures could be taken to avoid or reduce these adverse effects to insignificant or negligible levels." Typically, a one dBA increase would not be considered a Class I noise impact; however, since existing outdoor noise levels associated with vehicle traffic~~

~~on North Thompson Road are well above the threshold typically requiring mitigation, the estimated one dBA increase is significant and cannot be effectively mitigated.~~

NS Impact 2 **Development of the proposed project would create significant amounts of new vehicle traffic traveling on North Thompson Road, which would exacerbate the current exceedance of the 60 dBA outdoor noise threshold as defined by the Noise Element. Project-generated vehicle traffic traveling on North Thompson Road would result in a direct long-term noise impact.**

There are no feasible measures to mitigate this impact.

Residual Impact There are no effective measures to mitigate existing and future noise levels on North Thompson Road; however, the projected noise increase would be approximately 1.2 decibels, which would be barely perceptible within outdoor use areas of residences located along the roadway, based on guidance provided through the Federal Highway Administration (FHWA). ~~t~~Therefore, impacts due to project-generated vehicle traffic would be considered less than significant. ~~*significant and unavoidable, Class I.*~~

4) Stationary Noise Sources

The wine processing facility is the central hub of activity during the brief, but intense operations of harvest season. Around mid-October, the grapes are fully ripe and ready for picking. The vineyard works very quickly at harvest time to make sure all of the grapes are picked at their optimal ripeness. Teams of pickers move down the rows of vines harvesting the fruit into baskets, which are then emptied into one-ton bins where they are taken out of the field by forklift and loaded onto trucks. The fruit is then received at the winery, where it is immediately pressed to begin the winemaking process. All of the grapes from the estate are harvested in less than a month, while winery operations continue throughout the fall.

The fast-paced environment during harvest season requires frequent vehicle movements to transfer the fruit to the processing facility, in addition to the multiple pieces of mechanical equipment operating within the facility processing the fruit. Lots 46 through 64 within Phase Two would be most impacted by operations occurring during the harvest because of their close proximity to the processing facility and the large number of vehicle movements associated with transporting the fruit to the facility. Harvest operations typically begin at 4:00 a.m., which is during the "nighttime" period, as defined by the County. The hourly Leq during the nighttime period, as defined by the County, shall not exceed 45 dBA at the property line of the nearest residential receptor. The hourly daytime threshold is 50 dBA. Although direct noise measurements were not obtained at the residential property lines during the harvest season, based on ambient noise levels measured at Lots 46 through 64 during a period of minimal activity within the immediate area (Lots 58 and 49 measured approximately 43 to 46 dBA), it is reasonably concluded that the hourly nighttime L_{eq} threshold of 45 dBA and the 50 dBA daytime hourly L_{eq} would be frequently exceeded within portions of Lots 46 through 64 during the multiple fast-paced activities associated with the harvest season.

Per the *Noise Element*, when mitigation is required to satisfy the policies contained in Chapter 3.3, the following sequence of mitigation measures shall be considered in the following order of preference:

1. Site layout, including setbacks, open space separation and shielding of noise-sensitive uses with non noise-sensitive uses;
2. Acoustic treatment and design of buildings; and,
3. Structural measures, including construction of earthen berms or noise barriers.

Due to the proposed site layout and close proximity of lots to the processing facility (i.e., lots 49 and 58) to the processing facility, measures such as site layout, open space separation, and shielding of noise-sensitive uses with non-noise-sensitive uses are not practical in this situation. Acoustic measures would not mitigate impacts at the residential property line, and earthen berms and/or sound walls are not practical because they would be required to completely surround the residential property lines to be effective. Therefore, significant stationary noise impacts are expected from activities associated with winery operations during the harvest season that cannot be effectively mitigated while meeting the proposed project's goals in its entirety.

NS Impact 3 **Development of the proposed project would expose residential parcels of Sub-cluster C (Lots 46 through 65) to stationary noise levels associated with activities resulting from operations at the processing facility during harvest season estimated to exceed the hourly nighttime L_{eq} threshold of 45 dBA and the hourly daytime 50 dBA L_{eq} thresholds, resulting in a direct long-term noise impact. Development of the proposed project would expose residential parcels throughout the project site to equipment noise levels associated with vineyard operations estimated to exceed the hourly nighttime Leq threshold of 45 dBA and the hourly daytime 50 dBA L_{eq} thresholds, resulting in a direct long-term noise impact.**

~~Aside from an alternative project design, there are no feasible measures to mitigate this impact.~~

NS/mm-2 Upon submittal of subdivision improvement plans, the applicant shall submit construction plans showing a noise attenuation wall located along the northern and northeastern perimeter of the existing access road and parking area adjacent to the existing winery. The wall shall be reviewed by a County-approved acoustical consultant and designed to block the line of sight as measured between the winery access road and parking area and residential lots 46 through 65. The design of the wall shall consist of colors, materials, and articulating features consistent with the surrounding natural landscape.

Residual Impact Aside from providing additional distance between proposed residential lots and the winery, vineyards and orchards, and agricultural access roads, ~~T~~there are no effective measures to fully mitigate noise levels resulting from daily agricultural operations and the processing facility during

harvest season; therefore, impacts would be considered *significant and unavoidable, Class I.*

5) Agricultural Equipment Noise

Equipment noise levels from agricultural operations are expected to range from approximately 55 to 61 dBA at a distance of approximately 360 feet from the source to the residential lot line. The reason for the wide range is due to the variability of several factors such as the number of noise producing pieces of operating equipment, their proximity to each other in relation to the residential property line, their distance from the property line, the time of day, intervening topography, elevation differences, atmospheric conditions, etc.

According to Laetitia management, grape harvesting typically occurs in October, and between the hours of 4:00 a.m. and 2:00 p.m. During the harvest season, approximately 11 small tractors are operating throughout the vineyard each day. Disking, ripping, plowing, and seed sowing occurs throughout the year as needed. Typical operating hours within the vineyard is 6:30 a.m. to 5:00 p.m. Nighttime activities are limited to spraying (9:00 p.m. to 7:00 a.m.) during the months of March through August. Nighttime spraying occurs five nights per week, and two to four sprayers and tractors are operating during the spraying operation.

Since nighttime equipment use frequently occurs at the project site, the 45 dBA Leq nighttime noise threshold would be the more significant threshold as compared to the 50 dBA daytime standard. As defined by the *Noise Element*, "new development of noise-sensitive land uses may be permitted only where location or design allow the development to meet the standards for existing stationary noise sources." Since it would not be practical to design noise-attenuating barriers for all residential lots proposed, changing the site layout would make no difference because most of the proposed residential lots would be completely surrounded by active farming operations, equipment use restrictions would be the most practical mitigating measure. Using a worst-case scenario approach combined with the measured equipment noise levels, an appropriate setback distance for equipment use can be estimated. Table V.I.-5 showed the results of various noise levels associated with different numbers of vineyard equipment operating at the same time and the effect of noise attenuation due to distance for the topography of the project site. The worst-case scenario is realized when more pieces of equipment operate adjacent to a residential property line in close proximity to one another.

With five pieces of equipment operating within close proximity to one another at a distance of 360 feet, a noise level of approximately 61 dBA was measured. The same noise measured at a distance of 180 feet produced a noise level of approximately 67 dBA, or roughly six dBA of sound attenuation due to a doubling of the distance. Extending this concept, at a distance of 720 feet from the source, a noise level of 55 dBA would be expected. To achieve the 45 dBA nighttime noise threshold with five pieces of equipment operating, it is estimated that a setback distance of approximately 2,200 feet would be required.

Impacts associated with equipment use in the fields could be mitigated through the use of adequate setbacks and equipment restrictions (e.g., limiting the duration and number of pieces of equipment operating in close proximity to the property line at any given time); however, the buffer distance required (2,200 feet) renders this strategy impractical and would create significant secondary related agricultural impacts associated with disruption of existing farming

practices at the site. Therefore, significant noise impacts are expected from activities and equipment use associated with vineyard operations, which cannot be effectively mitigated without creating significant impacts to existing agricultural operations (refer to NS Impact 3 above).

6) Wastewater Collection and Treatment Facility

The applicant proposes to treat domestic and winery processing wastewater by constructing a sewage collection system, wastewater treatment and recycling facility, and an agricultural reclamation system. Domestic wastewater would be collected from residences~~,~~ and the homeowner association facility~~, and equestrian center~~ by an underground sewage collection system consisting of individual submersible grinder pumps, three community pump stations, and pipelines. The collection system would connect to each residence (102 lots), the homeowner's association building, ~~equestrian facility,~~ ranch headquarters, and the dude ranch. Low-pressure sewer force mains and two lift stations would be constructed throughout the project site. Submersible, two-horsepower grinder pumps would be installed on each proposed lot. Five to 15-horsepower, community, submersible pumps would be installed in up to three locations. All pumps would be installed within enclosed underground tanks. Grinder pumps located on each lot would operate approximately 30 minutes per day, and community pump stations would operate three hours per day.

Stationary noise control issues generally focus upon two objectives: to prevent the introduction of new noise-producing uses in a noise sensitive area, and to prevent encroachment of noise-sensitive land uses upon existing noise-generating facilities. The County attempts to achieve these objectives by applying performance standards and by requiring that new noise-sensitive uses in proximity to existing noise sources include receiver-based mitigation measures when noise impacts are anticipated. The primary sources of stationary noise associated with wastewater collection and treatment systems include the different types of aforementioned mechanical equipment and ancillary activities. Federal and State employee health and safety regulations (OSHA and Cal-OSHA) would control noise generation within the facility or in close proximity to many types of mechanical equipment for worker safety.

The homeowner's association owned and operated mutual water company would execute a contract with a licensed wastewater system operator to run the facility. Responsibilities of the company would include a daily two-hour (or as long as it takes to service daily operations) site visit, seven days a week including holidays. The company would also be responsible for response during emergency situations. The treatment facilities would include automatic high liquid level alarms that would alert operations staff in the event of system failure. Liquid solids would be collected privately under contract, and solids would be disposed at a County-approved wastewater facility. Calculations estimate one trip per week would be required to transport solids offsite. Traffic noise associated with operation of the facility is considered to be insignificant.

Additionally, the wastewater treatment facility would be equipped with a permanent standby diesel generator and automatic power transfer switch, to be utilized in the event of a power outage. The generator would be located outside of the treatment facility building within an enclosed structure. Noise attenuating features such as baffling of exhaust openings would be included.

The nearest existing residential structure is a caretaker/facilities residence, located approximately 200 feet to the northwest of the proposed wastewater facility site. The outdoor activity area for the existing caretaker residence is located behind the house, on the opposite side and away from the treatment facility building. The existing maintenance building is located between the house and the proposed treatment building location. The house provides a substantial noise attenuating structure between the treatment building and the outdoor activity area, the maintenance building provides an additional noise barrier between the source and receiver, the individual wastewater treatment process would be housed within a noise attenuating building, all air intake and exhaust openings will be appropriately baffled; therefore, noise impacts from operation of the wastewater treatment facility affecting the existing residence are considered to be less than significant.

The property lines of the nearest proposed residential lots, Sub-cluster C (Lots 58-61), are generally located to the north of the treatment facility, approximately 400 feet at the closest distance, with intervening vineyards separating the two locations. Based on the project plans, the outdoor activity areas for these lots would be located adjacent to the structure, farther north than the closest adjacent property line, further reducing the audibility of treatment facility noise due to sound attenuation as a function of distance. There is also a substantial positive change in grade between the individual building pads for these lots and the treatment building elevation, which would provide for additional sound attenuation due to ground absorption. Noise impacts from operation of the wastewater treatment facility are considered to be insignificant on a project-wide basis.

Back-up generator noise emissions for operation of the facility during power outages are not anticipated to significantly impact adjacent residential locations. The generator would be located adjacent to and outside of the treatment building within an enclosed structure. The generator enclosure would include noise attenuating baffling on all exhaust doors/openings. Since the closest proposed residential lots are located a substantial distance away from the proposed treatment facility location and due to the previously mentioned topographical and shielding conditions existing at the site, noise impacts from operation of the emergency back-up generator on proposed residential outdoor activity areas is considered to be insignificant on a project-wide basis.

Exterior noise emissions from permanent infrastructure operations (e.g., submersible grinder pumps, community pump stations, and other associated collection/conveyance equipment) do not have the potential to exceed locally acceptable standards at nearby noise-sensitive residential land uses. The proposed collection system equipment (one two-horsepower grinder pump and five to 15-horsepower lift station pumps) generally would not be considered loud mechanical equipment. Additionally, this equipment would be housed in noise attenuating underground vault/enclosures, which would not directly expose any of the proposed residential lots to noise emissions from these sources. Therefore, significant noise-related impacts are not anticipated from the sewer collection system.

7) Other Proposed Site Infrastructure

This section includes noise related issues associated with the ranch headquarters. ~~and equestrian facility~~. The ranch headquarters would house the homeowner's association offices, provide for community recreational opportunities including a meeting room, outdoor patio area with

barbecue and fire pit, a pool, and tennis courts among other things. ~~The equestrian facility would include a corral/outdoor riding arena, wash rack, office, and a barn with paddocks for up to 20 horses and hay/feed storage.~~

While use of these facilities would include activities that would temporarily raise ambient noise levels in the immediate vicinity of the localized activity, neither facility would be expected to exceed stationary noise thresholds of 50 dBA Leq daytime or 45 dBA Leq nighttime during normal operating activities at the nearest existing or proposed residential receiver. However, due to the rural nature of the project site, if either the ranch headquarters facility ~~or the equestrian facility~~ were to include regularly scheduled private outdoor events that are amplified (e.g. use of microphone and loudspeakers), the 50 dBA Leq daytime or 45 dBA Leq nighttime stationary noise threshold could easily be exceeded. Prohibiting amplified events at the ranch headquarters ~~and the equestrian facilities~~ would eliminate the impact, resulting in a Class II impact.

NS Impact 4 **Development of the proposed project could potentially expose existing and proposed residential parcels to stationary noise levels resulting from amplified events estimated to exceed the hourly nighttime Leq threshold of 45 dBA and the hourly daytime 50 dBA Leq thresholds, resulting in a direct long-term noise impact.**

NS/mm-3~~2~~ Prior to final plan submittal, the applicant shall include provisions in the CC&R's prohibiting amplified events at the ranch headquarters. ~~and the equestrian facilities.~~

Residual Impact With implementation of mitigation, impacts due amplified events would be non-existent, considered *significant but mitigable, Class II*.

6. Cumulative Impacts

a. Cumulative Traffic Noise Levels

Traffic noise impacts would occur due to increased vehicular trips that would result from the proposed project, in addition to General Plan Build-out volumes of the surrounding roadway network. A Class I noise impact was previously discussed for North Thompson Road due to existing plus project-generated traffic noise levels. As the project area grows and reaches General Plan Build-out, this situation will only worsen. The transportation-related noise generated by the proposed project would be cumulatively significant; therefore, a Class I cumulative traffic noise impact is also expected for North Thompson Road. Using traffic volume predictions developed by Fehr & Peers, EIR transportation consultants, Table V.I.-10 provides an estimate of the noise level increase associated with project-generated plus cumulative traffic volumes for the other three County roads discussed.

TABLE V.I.-10
Predicted Cumulative Traffic and Noise Levels (County Roads)

Location	Measured Noise Levels (L_{EQ} dBA)	Measured Traffic Volumes (Veh/hr)[1]	Project + Cumulative PM Peak-Hour Traffic (Veh/hr)[1]	Predicted Cumulative Noise Level Increase (L_{EQ} dBA)
Upper Los Berros Road	45.7	60	219	6.7
Dana Foothill Road	46.0	48	219	7.5
Sheehy Road	48.8	84	219	5.6
North Thompson Road	68.1	456	219	1.7

[1]Project generated traffic volumes obtained from Fehr & Peers, EIR transportation consultants.

It is expected that cumulative noise levels on Upper Los Berros Road, Dana Foothill Road, and Sheehy Road would not exceed the 60 dBA outdoor noise threshold with the addition of cumulative plus project generated traffic.

NS Impact 5 **Development of the proposed project would significantly contribute to cumulative vehicle traffic on North Thompson Road, which would exacerbate the current exceedance of the 60 dBA outdoor noise threshold as defined by the Noise Element under cumulative conditions, resulting in a direct long-term noise impact.**

~~There are no feasible measures to mitigate this impact.~~Implementation of the proposed project would result in an approximately 1.7 decibel increase in transportation-related noise under cumulative conditions. Because this increase would not likely be noticeable by sensitive receptors (FHWA, 1995, 2010), the creation of additional traffic noise under cumulative conditions would not result in a cumulatively considerable noise impact.

Residual Impact There are no effective measures to mitigate existing and future noise levels on North Thompson Road; therefore, project-specific impacts due to project-generated vehicle traffic would be considered significant. Under cumulative conditions, the increase of traffic-related noise by 1.7 decibels would not be noticeable by sensitive receptors, therefore, the cumulative impact would be *less than significant, Class III.* ~~*significant and unavoidable, Class I.*~~

b. Cumulative Stationary Sources

Cumulative stationary related noise levels are not expected to exceed the noise threshold from operation of the headquarters ~~and equestrian facilities,~~ and wastewater treatment facility. The dude ranch is not currently part of the proposed project, but could potentially include up to 75 rooms and offer opportunities for visitors to partake in a variety of activities. It is expected that the dude ranch, if it ever becomes a project, is anticipated to produce a similar noise environment as that of the headquarters. ~~and equestrian facilities.~~ In the event that special, private events occur at the dude ranch, amplified sound would result in noise, and would contribute to the cumulative noise environment.

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