3.9 NOISE

A noise study was prepared for the Proposed Project (Wieland Acoustics, Inc. 2011). The following section summarizes that study, which can be found in Appendix H.

3.9.1 Environmental Setting

3.9.1.1 Noise Descriptors

The following paragraphs briefly define the noise descriptors used throughout this section.

Decibels. The magnitude of a sound is typically described in terms of sound pressure level (SPL) which refers to the root-mean-square (rms) pressure of a sound wave and can be measured in units called microPascals (μPa). However, expressing sound pressure levels in terms of μPa would be very cumbersome since it would require a very wide range of numbers. For this reason, sound pressure levels are stated in terms of decibels, abbreviated dB. The decibel is a logarithmic unit that describes the ratio of the actual sound pressure to a reference pressure (20 μPa is the standard reference pressure level for acoustical measurements in air). Since decibels are logarithmic units, sound pressure levels cannot be added or subtracted by ordinary arithmetic means. For example, if one automobile produces a sound pressure level of 70dB when it passes an observer, two cars passing simultaneously would not produce 140 dB. In fact, they would combine to produce 73 dB.

A-Weighting. While sound pressure levels define the amplitude of sound, this alone is not a reliable indicator of loudness. Human perception of loudness depends on characteristics of the human ear. In particular, the frequency or pitch of a sound has a substantial effect on how humans will respond. Human hearing is limited not only to the range of audible frequencies, but also in the way it perceives sound pressure levels within that range. In general, the healthy human ear is most sensitive to sounds between 1,000 Hz to and 5,000 Hz, and perceives both higher and lower frequency sounds of the same magnitude as being less loud. In order to better relate noise to the frequency response of the human ear, a frequency-dependent rating scale, known as the A-Scale, is used to adjust (or "weight) the sound level measured by a sound level meter. The resulting sound pressure level is expressed in A-weighted decibels of dBA. When people make relative judgments of the loudness or annoyance of most ordinary everyday sounds, their judgments correlate well with the A-weighted sound levels of those sounds. A range of noise levels associated with common indoor and outdoor activities is shown on Figure 3.9-1.

Equivalent Sound Level (L_{eq}). Many noise sources produce levels that fluctuate over time; examples include mechanical equipment that cycles on and off, or construction work which can vary sporadically. The equivalent sound level (L_{eq}) describes the average acoustic energy content of noise for an identified period of time, commonly 1 hour. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustical energy over the duration of the exposure. For many noise sources, the L_{eq} will vary depending on the time of day – a prime example is traffic noise which rises and falls depending on the amount of traffic on a given street or freeway.

Day-Night Sound Level (L_{dn}). It is recognized that a given level of noise may be more or less tolerable depending on the duration of the exposure experienced by an individual, as well as the time of the day during which the noise occurs. The day-night sound level (L_{dn}) is a measure of the cumulative 24-hour noise exposure that considers not only the vibration of the A-weighted noise level but also the duration and the time of day of disturbance. The L_{dn} is derived from the twenty-four A-weighted 1-hour L_{dn}'s that occur in a day, with "penalties" applied to the L_{dn}'s occurring during the nighttime hours (10 p.m. to 7 a.m.) to account for increased noise sensitivity during these hours. Specifically, the L_{dn} is calculated by adding 10 dBA to each of the nighttime L_{dn}'s, and then taking the average value for all 24 hours. It is noted that various federal, state, and local agencies have adopted L_{dn} as the measure of community noise, including the United States Environmental Protection Agency (EPA). Figure 3.10-2 indicates the typical outdoor L_{dn} at various locations for typical noise sources.

3.9.1.2 Vibration Descriptors

The following paragraphs briefly define the vibration descriptors used throughout this section.

Peak Particle Velocity (PPV). Vibration consists of rapidly fluctuating motions with an average motion of zero. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak amplitude of the vibration velocity. The accepted unit for measuring PPV in the United States is inches per second (in/s). PPV is only applicable to this project in the assessment of potential building damage due to ground-borne vibration from construction activities (PPV is related to the stresses that are experienced by buildings subjected to ground-borne vibration).

Vibration Velocity Level (L_v). Although PPV is appropriate for evaluating the potential for building damage, it is not suitable for evaluating human response to ground-borne vibration. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to an "average" vibration amplitude. However, the actual average level is not a useful measure of vibration because the net average of a vibration signal is zero. Instead, vibration velocity level (L_v) is used for evaluating human response. L_v describes the root mean square (rms) velocity amplitude of the vibration. This rms value may be thought of as a "smoothed" or "magnitude-averaged" amplitude. The rms of a vibration signal is typically calculated over a 1 second period. The maximum L_v describes the maximum rms velocity amplitude that occurs during a vibration measurement.

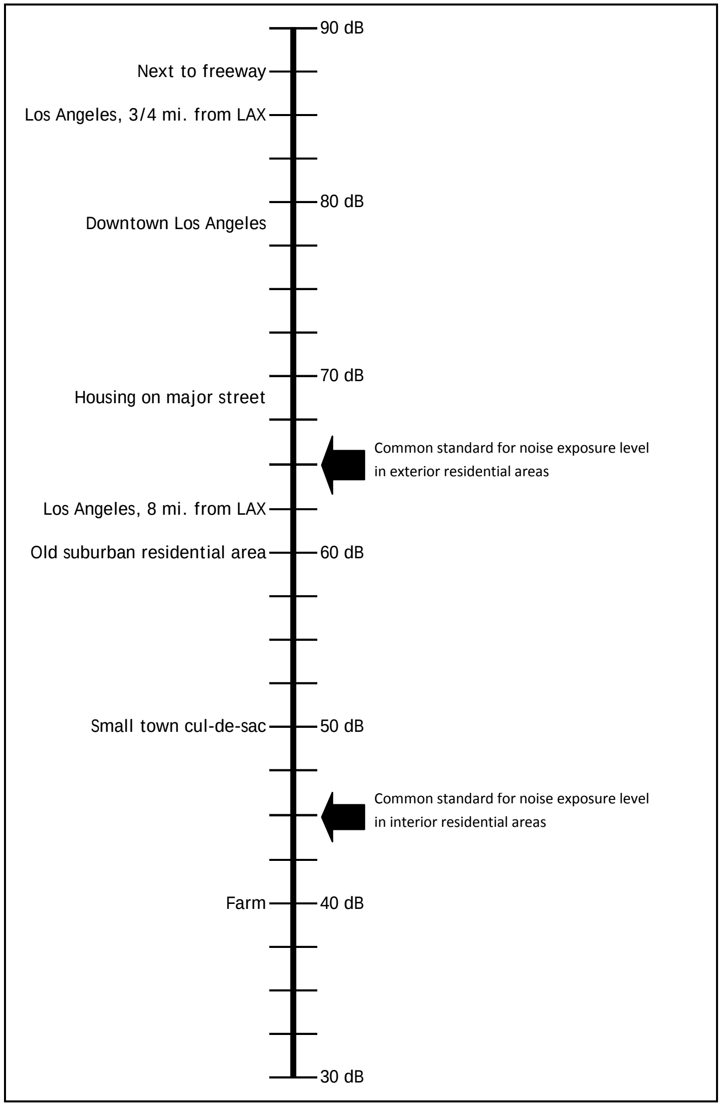

Figure 3.9-1. Common Noise Sources and A-Weighted Noise Levels

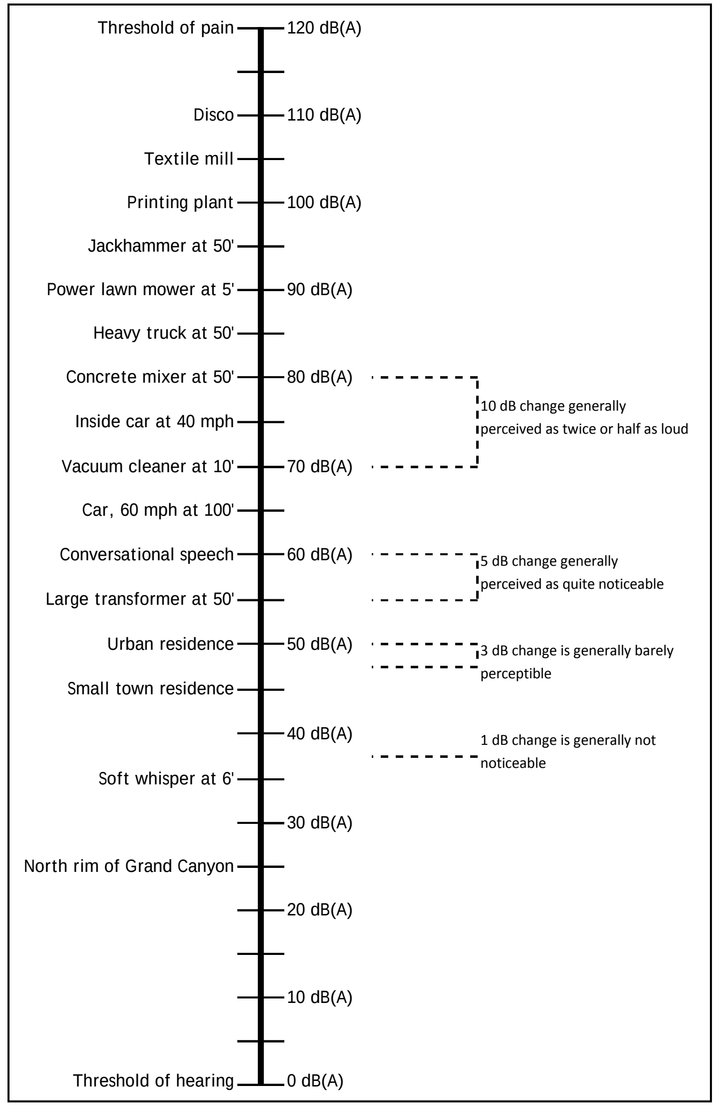

Figure 3.9-2. Common CNEL and L_{dn} Exposure Levels at Various Locations

L_v can be measured in inches per second (in/s). However, expressing these levels in terms of in/s would be very cumbersome since it would require a very wide range of numbers. For this reason, L_v is stated in terms of decibels. Although it is not a universally accepted notation, the abbreviation “VdB” is used to denote vibration velocity level decibels in order to reduce the potential for confusion with sound level decibels. The VdB is a logarithmic unit that describes the ratio of the actual rms velocity amplitude to a reference velocity amplitude. The accepted reference velocity amplitude is $1x10^6$ in/s in the USA.

3.9.1.3 Regulatory Environment

County of Kern General Plan. The following summarizes those policies from the General Plan for the County of Kern that are relevant to the Project with regard to noise:

1. Review discretionary industrial, commercial, or other noise-generating land use projects for compatibility with nearby noise-sensitive land uses.
2. Utilize good land use planning principles to reduce conflicts related to noise emissions.
3. Prohibit new noise-sensitive land uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design. Such mitigation shall be designed to reduce noise to the following levels:
    a. 65 dB L_{dn} or less in outdoor activity areas;
    b. 45 dB L_{dn} or less within interior living spaces or other sensitive interior spaces.
4. Ensure that new development in the vicinity of airports will be compatible with existing and projected airport noise levels as set forth in the ALUCP (Airport Land Use Compatibility Plan).
5. Employ the best available methods of noise control.

The following summarizes those implementation measures from the General Plan that are relevant to the Project with regard to noise:

1. Review discretionary development plans, programs and proposals, including those initiated by both the public and private sectors, to ascertain and ensure their conformance to the policies outlined in this element.
2. Review discretionary developments to ensure compatibility with adopted Airport Land Use Compatibility Plans.
3. Require proposed commercial and industrial uses or operations to be designed or arranged so that they will not subject residential or other noise sensitive land uses to exterior noise levels in excess of 65 dB L_{dn} and interior noise levels in excess of 45 dB L_{dn}.
4. At the time of any discretionary approval, such as a request for a General Plan Amendment, zone change or subdivision, the developer may be required to submit an acoustical report indicating the means by which the developer proposes to comply with the noise standards. The acoustical report shall:

   a. Be the responsibility of the applicant.
   b. Be prepared by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.
   c. Be subject to the review and approval of the Kern County Planning Department and the Environmental Health Services Department. All recommendations therein shall be complied with prior to final approval of the project.

5. Noise analyses shall include recommended mitigation, if required, and shall:
   a. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
   b. Include estimated noise levels for existing and projected future (10-20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.
   c. Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
   d. Included estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, a rationale for acceptance of the project must be provided.
6. Develop implementation procedures to ensure that requirements imposed pursuant to the findings of an acoustical analysis are conducted as part of the project permitting process.

County of Kern Municipal Code. The Municipal Code for the County of Kern does not provide quantitative standards for noise intrusion from one property onto another (such as from a well site to a nearby residence), nor does it provide quantitative standards for controlling noise from construction activities. With regard to construction noise, Section 8.36.020 of the Municipal Code provides the following qualitative standards:

> *It is unlawful for any person to do, or cause to be done, any of the following acts within the unincorporated areas of the county: …*
>
> *H. To create noise from construction, between the hours of nine (9:00) p.m. and six (6:00) a.m. on weekdays and nine (9:00) p.m. and eight (8:00) a.m. on weekends, which is audible to a person with average hearing faculties or capacity at a distance of one hundred fifty (150) feet from the construction site, if the construction site is within one thousand (1,000) feet of an occupied residential dwelling except as provided below:*
> *1. The resource management director or his designated representative may for good cause exempt some construction work for a limited time.*
> *2. Emergency work is exempt from this section.*

County of Kern Airport Land Use Compatibility (ALUC) Plan. The County's ALUC Plan states that the maximum CNEL considered normally acceptable for residential uses outside the influence area of the airports covered by the Plan is 65 dB. Community Noise Equivalent Level (CNEL), like L_{dn}, is a measure of the cumulative 24-hour noise exposure that considers not only the variation of the A-weighted noise level but also the duration and the time of day of the disturbance. CNEL differs from L_{dn} in that it also applies a "penalty" of 5 dB to the hourly average noise levels that occur during the evening hours (7 p.m. to 10 p.m.). For many common noise sources, the levels measured in CNEL are very similar to those measured in L_{dn}. In this study it has been assumed that CNEL and L_{dn} are interchangeable. For other types of land uses in an airport's vicinity, the Plan identifies the following examples of acceptable noise levels:

Table 3.9-1
ALUC Noise Compatibility Criteria

Land Use Category	CNEL, dB				
	50-55	**55-60**	**60-65**	**65-70**	**70-75**
Residential	CA	NA	MA	NU	CU
Schools, libraries, hospitals, amphitheaters	NA	MA	NU	CU	CU
Churches, auditoriums, concert halls	NA	MA	MA	NU	CU
Transportation, parking, cemeteries	CA	CA	CA	NA	MA
Offices, retail trade, livestock breeding	CA	NA	MA	MA	NU
Service commercial, wholesale trade, warehousing, light industrial, golf courses, riding stables, water	CA	CA	NA	MA	MA
General manufacturing, utilities, extractive industry	CA	CA	CA	NA	NA
Nursing homes	CA	CA	NA	NU	NU
Cropland	CA	CA	CA	CA	NA
Parks, playgrounds, zoos, outdoor spectator sports	CA	NA	NA	MA	NU

CA: Clearly acceptable. The activities associated with the specified land use can be carried out with essentially no interference from the noise exposure.
NA: Normally acceptable. Noise is a factor to be considered in that slight interference with outdoor activities may occur. Conventional construction methods will eliminate most noise intrusions upon indoor activities.
MA: Marginally acceptable. The indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used. Under other circumstances, the land use should be discouraged.
NU: Normally unacceptable. Noise will create substantial interference with both outdoor and indoor activities. Noise intrusion upon indoor activities can be mitigated by requiring special noise insulation construction. Land uses which have conventionally constructed structures and/or involve outdoor activities which would be disrupted by noise should generally be avoided.
CU: Clearly unacceptable. Unacceptable noise intrusion upon land use activities will occur. Adequate structural noise insulation is not practical under most circumstances. The indicated land use should be avoided unless strong overriding factors prevail and it should be prohibited if outdoor activities are involved.

Flight patterns for each airport should be considered in the review process. Acoustical studies or on-site noise measurements may be required to assist in determining the compatibility of sensitive uses.

Vibration Criteria. Neither the General Plan nor the Municipal Code for the County of Kern provide guidance on acceptable vibration criteria. Therefore, the noise study prepared for the Proposed Project considered the following vibration criteria (Wieland 2011).

Perceptibility. Criteria developed by the Federal Transit Administration indicate that when ground-borne vibration exceeds 72 to 80 VdB, it is usually perceived as annoying to occupants of residential buildings.

Vibration Safety Limits for Buildings. General vibration damage criteria developed by the Federal Transit Administration are summarized as follows:

Table 3.9-2
FTA Construction Vibration Damage Criteria

Building Category	PPV (in/s)
Reinforced concrete, steel or timber (no plaster)	0.5
Engineered concrete and masonry (no plaster)	0.3
Non-engineered timber and masonry buildings	0.2
Buildings extremely susceptible to vibration damage	0.12

Caltrans uses the following criteria to evaluate the severity of problems associated with vibration:

Table 3.9-3
Caltrans Vibration Damage Criteria

	PPV (in/s)	
Building Category	Continuous Sources	Transient Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.08	0.12
Fragile buildings	0.1	0.2
Historic and some old buildings	0.25	0.5
Older residential structures	0.3	0.5
New residential structures	0.5	1.0
Modern industrial/commercial buildings	0.5	2.0

3.9.1.4 Existing Noise Environment

The sensitive land uses within the study area consist of scattered single-family homes. Existing sources of noise that currently affect the study area are traffic and aircraft operations at NAWS China Lake and Inyokern Airport. Traffic noise has not been considered in this study because: (a) the Project would not alter the traffic volumes on any of the local streets; and (b) the Proposed Project is not noise-sensitive and, therefore, would not be affected by traffic noise.

Noise Measurements. With the exception of occasional aircraft overflights, the ambient noise level at the residences in the study area is generally very quiet. For this reason, it was determined that a single measurement would be sufficient to document the ambient noise level throughout the study area. This measurement was obtained at the location shown in Figure 3.9-3. The results of the noise measurements are provided in the noise study and indicate an average ambient noise level of about 34.5 dBA (Wieland 2011).

NAWS China Lake. NAWS China Lake, located northeast of the study area, includes Armitage Airfield, from which most aircraft operations originate, and the Baker Range, which is used primarily for military test and evaluation and training for air-to-surface weapon systems. In additional to three runways, Armitage Airfield contains aircraft maintenance facilities, aircraft hangars, ordnance handling and storage facilities, ground support equipment maintenance facilities, and extensive research, development, test, and evaluation facilities.

In April 2011, NAWS China Lake updated their Air Installations Compatible Use Zones (AICUZ) Study. This study, among other things, identifies the noise exposures generated in the surrounding communities by operations at the Station. Figure 3.9-4 provides the noise contour map developed for NAWS China Lake as part of the AICUZ Study. Referring to the figure, it can be seen that the CNEL is less than 60 dB throughout the study area. Assuming that the L_{dn} generated by Station operations is essentially the same as the CNEL, the aircraft noise exposure in the study area is less than the County's L_{dn} standard of 65 dB.

Inyokern Airport. Inyokern Airport is a local airfield owned by the Indian Wells Valley Airports District – Kern County, and located northwest of the Project's study area. There are approximately 31,200 aircraft operations per year at the airport; approximately 38.5% of these operations are associated with local aircraft, with the remainder associated with itinerant aircraft.

On September 23, 2008 the County of Kern adopted its *Airport Land Use Compatibility Plan* which, among other things, identifies the noise exposures generated in the surrounding communities by operations at every public airport in the county. Figure 3.9-5 provides the noise contours identified in the Plan for Inyokern Airport. Referring to the figure, it is noted that the nearest well site (Well 30) to the airport is located about 2.8 miles outside of the 60 dB CNEL contour. Assuming that the L_{dn} generated by airport operations is essentially the same as the CNEL, the aircraft noise exposure in the study area is much less than the County's L_{dn} standard of 65 dB.

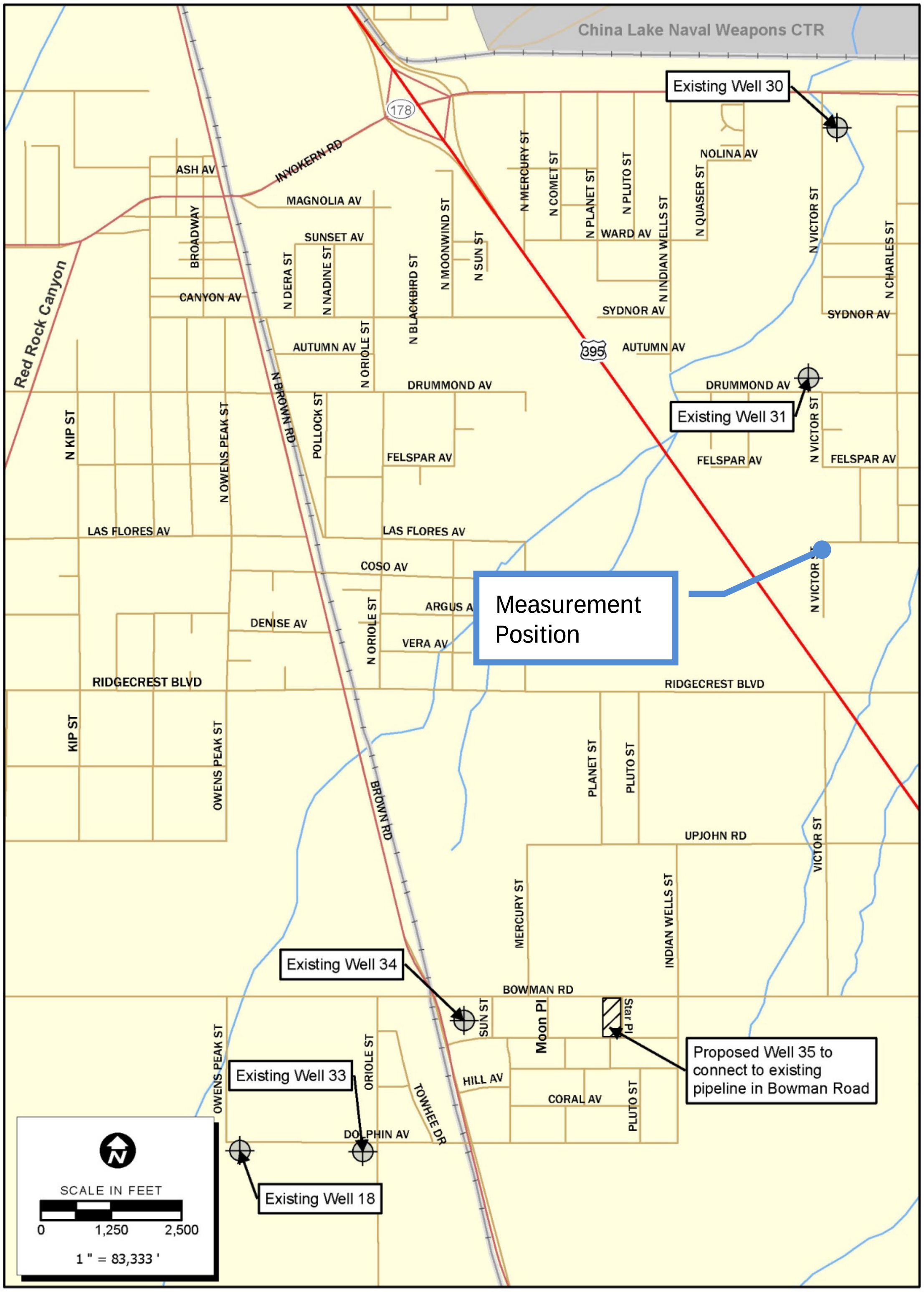

Figure 3.9-3 Ambient Noise Measurement Position

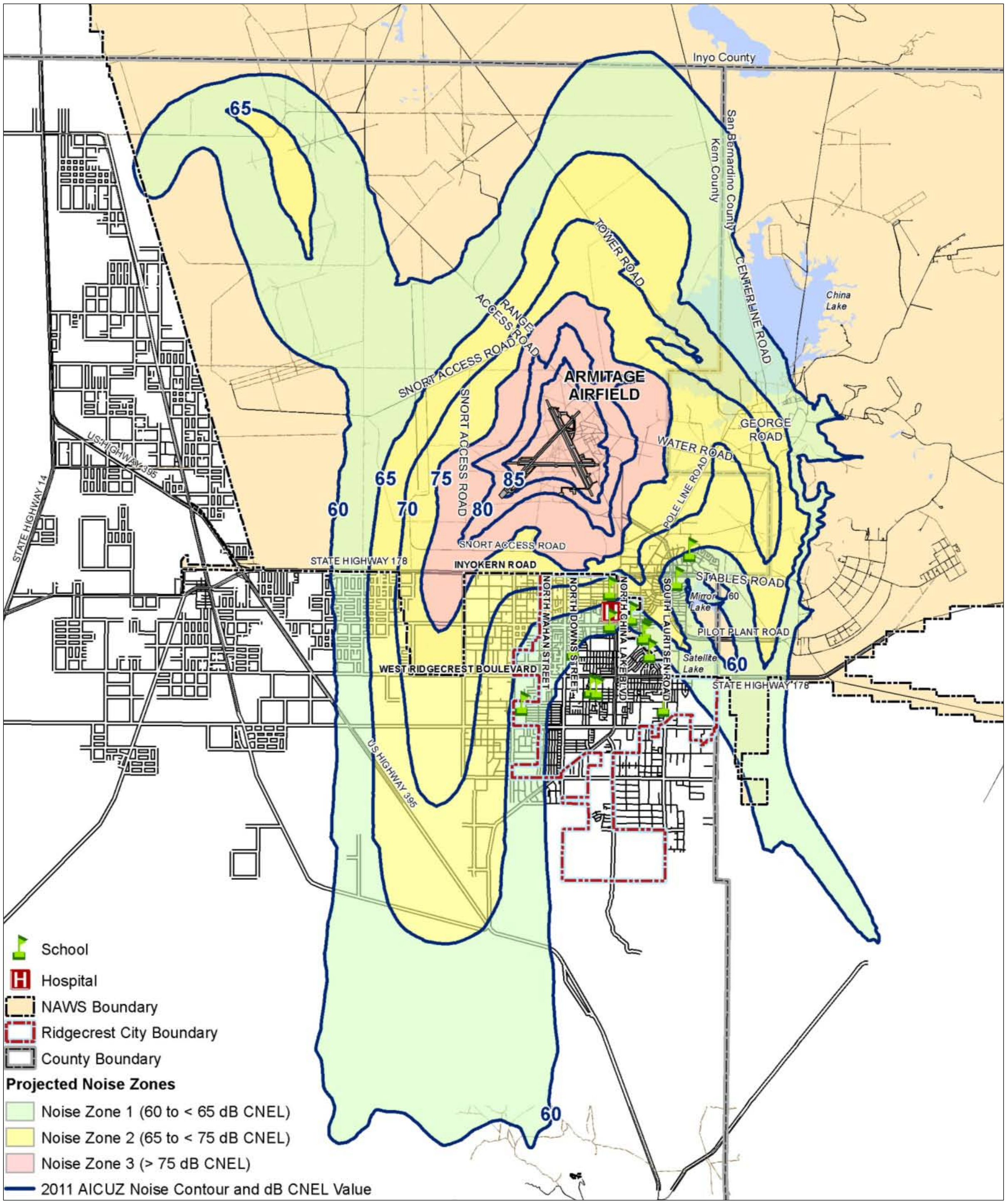

Figure 3.9-4. 2011 AICUZ Noise Environment for NAWS China Lake

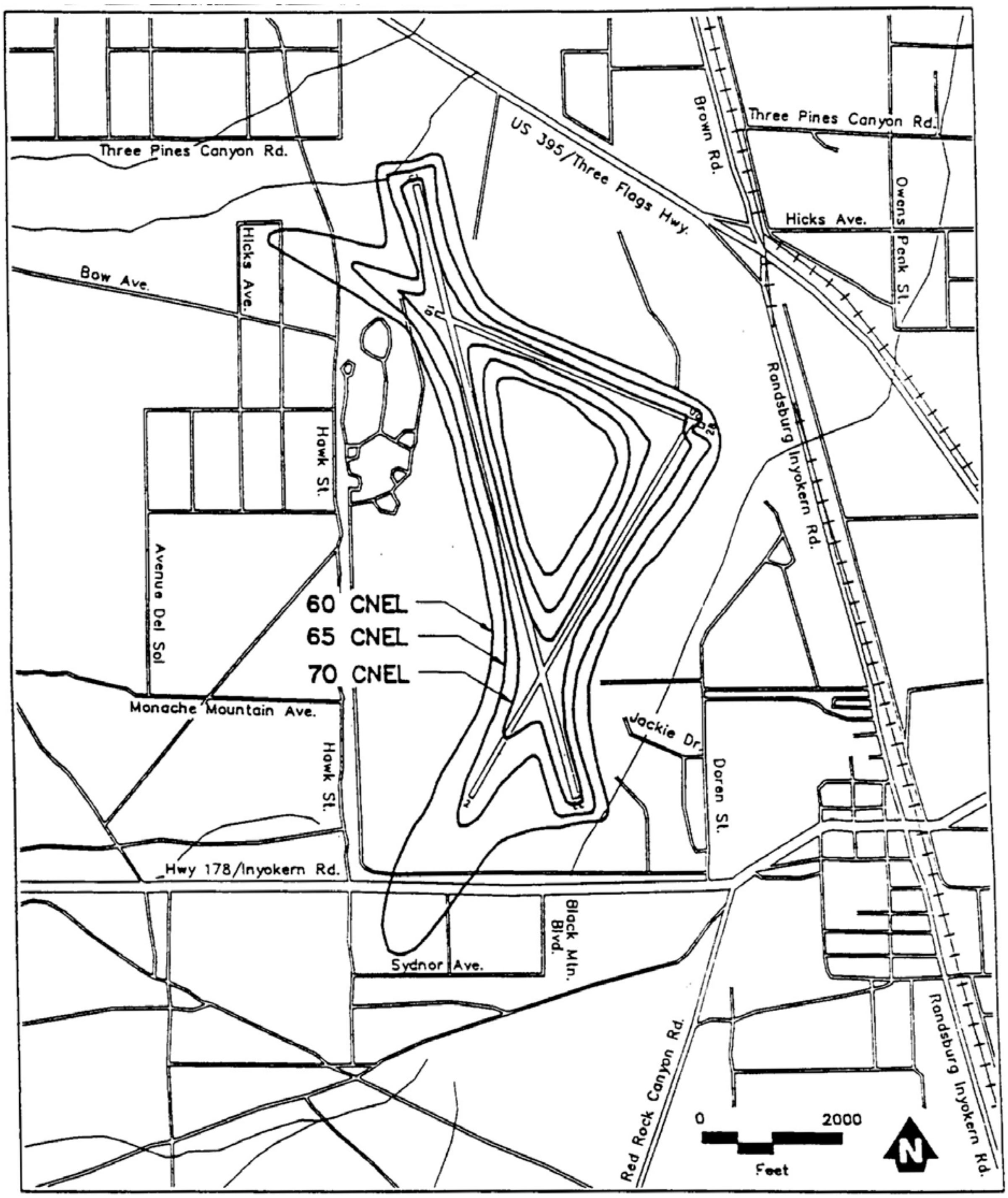

Figure 3.9-5. Noise Contours for Inyokern Airport

3.9.2 Thresholds of Significance

Based on the criteria discussed above, and the CEQA guidelines, a significant impact will be assessed if any of the following conditions occur:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the General Plan or Noise Ordinance of the County of Kern, or applicable standards of other agencies. This impact would occur if:
  - Project operational noise sources were to subject residential or other noise-sensitive land uses to exterior noise levels in excess of 65 dB L_{dn}; or
  - Project construction was to occur during nighttime hours (9:00 p.m. to 6:00 a.m. weekdays; 9:00 p.m. to 8:00 a.m. weekends), be within 1,000 feet of a residence, and be audible at a distance of 150 feet from the construction site.
- Exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels. This impact would occur if any construction activity caused the vibration velocity level (L_v) to exceed 72 to 80 VdB at an adjacent residential building. Because of the potential for damage, a significant impact would also be assessed if the PPV exceeded 0.20 in/s at any existing building.
- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Proposed Project. This impact would occur if:
  - The existing ambient noise level is less than 65 dB L_{dn} at any off-site sensitive receptor and Proposed Project construction activities increase the L_{dn} above 65 dB; or
  - The existing ambient noise level is 65 dB L_{dn} or greater at any off-site sensitive receptor and Proposed Project construction activities increase the L_{dn} by 3 dB or more.
- A substantial permanent increase in ambient noise levels in the Proposed Project vicinity above levels existing without the Proposed Project. This impact would occur if:
  - The existing ambient noise level is less than 65 dB L_{dn} at a residential or other noise sensitive land use, and noise generated by the Proposed Project's operation increases the noise levels above an L_{dn} of 65 dB; or
  - The existing ambient noise level is 65 dB L_{dn} or greater at a residential or other noise sensitive land use, and noise generated by the Proposed Project's operation increases the ambient noise level by 3 dB or more.
- The Proposed Project would expose people residing or working in the Proposed Project area to excessive noise levels as a result of activities at an airport or private airstrip.

3.9.3 Environmental Impacts

The following section analyzes the future noise conditions for the Proposed Project.

3.9.3.1 Construction Noise

Construction would occur during both phases of the Proposed Project. Phase 1 would consist of improvements to existing Wells 18 and 34, and Phase 2 would construct proposed Well 35.

Table 3.9-4 summarizes the analysis of the construction noise levels at the property boundary of the nearest noise-sensitive receivers to the construction activities (Wieland Acoustics Inc. 2011). Table 3.9-5 compares the estimated construction noise levels with the existing ambient noise levels and estimates the noise increases due to construction of the Proposed Project.

Table 3.9-4
Estimated Construction Noise Levels Due to Proposed Project

Construction Phase / Equipment Item	Maximum Equipment Noise Level @ 50', per unit[a]	Usage Factor[a, b]	Number of Units[c]	Hours of Operation (Per Day / Per Night)	Distance to Closest Receiver	L_{dn} @ Closest Receiver
Phase 1 – Well 18 [d]						
Crane	83 dBA	0.16	1	8 / 0	990 ft	44 dB
Truck	84 dBA	0.4	1	2 / 0	990 ft	43 dB
Combined:						**47 dB**
Phase 1 – Well 34 [d]						
Crane	83 dBA	0.16	1	8 / 0	3,200 ft	34 dB
Truck	84 dBA	0.4	1	2 / 0	3,200 ft	33 dB
Combined:						**37 dB**
Phase 2 – Well 35						
Drill Rig	85 dBA	1	1	15 / 9	3,560 ft	54 dB
Grader	85 dBA	0.4	1	8 / 0	3,560 ft	39 dB
Excavator	85 dBA	0.4	1	8 / 0	3,560 ft	39 dB
Backhoe	80 dBA	0.4	1	8 / 0	3,560 ft	34 dB
Combined:						**55 dB**

Notes:

a. Maximum noise levels and usage factors obtained or estimated from References 1, 3 and 4.
b. Usage Factor is the percentage of time equipment is operating in noisiest mode while in use.
c. Assumed number of units operating.
d. Although improvements to Wells 18 and 34 would occur during the same phase, they are analyzed separately because they are separated by a distance of over 4,500 feet and the nearest noise-sensitive receiver is different for each well.

Table 3.9-5
Estimated Noise Increases – Proposed Project Construction

Construction Phase	Construction L_{dn} @ Closest Receiver	Ambient L_{dn} @ Closest Receiver	Combined L_{dn}	L_{dn} Increase Due to Construction
Phase 1 – Well 18	47 dB	52 dB	53 dB	1 dB
Phase 1 – Well 34	37 dB	53 dB	53 dB	0 dB
Phase 2 – Well 35	55 dB	53 dB	57 dB	4 dB

Referring to Table 3.9-5, construction activities are not expected to increase the L_{dn} at the nearest sensitive receptors to a level greater than the 65 dB threshold. Therefore, the impact would be less than significant. The only construction activity that would occur during the nighttime hours (9:00 p.m. to 6:00 a.m. weekdays, and 9:00 a.m. to 8:00 a.m. weekends) is associated with the Phase II drilling at new Well 35. However, because the nearest residential property is well over 1,000 feet away there is no significant impact.

3.9.3.2 Vibration Conditions

Construction would occur during both phases of the Proposed Project. Phase 1 would consist of improvements to existing Wells 18 and 34, and Phase 2 would construct proposed Well 35. Phase 1 construction is not anticipated to generate noticeable levels of ground-borne vibration because it involves only surface construction and does not use heavy machinery. However, Phase 2 may generate ground-borne vibration because it involves earthmoving with heavy machinery to grade the new well site and dig a trench for the associated pipeline. Using standard calculation techniques provided by the Federal Transit Administration, Table 3.9-6 summarizes the analysis of the Phase 2 construction vibration levels at the nearest buildings. Because the maximum vibration levels are typically associated with a single piece of construction equipment, only one piece of heavy equipment in considered in the analysis.

Table 3.9-6
Estimated Construction Vibration Levels – Proposed Project

Construction Phase / Equipment Item	Equipment Vibration Level @ 25’ [a]		Distance to Closest Receiver	Vibration Level @ Closest Receiver	
	PPV, in/sec	L_v, VdB		PPV, in/sec	L_v, VdB
Phase 2 – Well 35					
Heavy Equipment (Grader, Excavator, or Backhoe)	0.089	87	4,600 ft	0	19
Notes: a. Vibration levels obtained from Reference 1.					

Referring to Table 3.9-6, there would be no significant vibration impacts associated with the construction of Phases 1 and 2 of the Proposed Project because the vibration velocity level (L_V) would not exceed 72 VdB and the PPV would not exceed 0.20 in/s at the nearest sensitive receptor.

3.9.3.3 Operational Noise

Operation of the Proposed Project would include noise from Wells 18, 34, and 35. Table 3.9-7 summarizes the analysis of operational noise levels at the property boundary of the nearest noise-sensitive receivers to the well sites. Table 3.9-8 compares the estimated noise levels with the existing ambient noise levels and estimates the noise increases due to operation of the Proposed Project.

Table 3.9-7
Estimated Operational Noise Levels – Proposed Project

Well / Equipment Item	Average Sound Power Level	Hours of Operation (Per Day/ Per Night)	Distance to Closest Receiver	L_{dn} @ Closest Receiver
Well 18				
Well building	84 dBA	15 / 9	990 ft	30 dB
Generator testing	118 dBA	0.25 / 0	990 ft	38 dB
Combined:				**39 dB**
Well 34				
Well building	84 dBA	15 / 9	3,200 ft	12 dB
Generator testing	118 dBA	0.25 / 0	3,200 ft	22 dB
Combined:				**22 dB**
Well 35				
Well building	84 dBA	15 / 9	3,560 ft	11 dB
Generator testing	118 dBA	0.25 / 0	3,560 ft	21 dB
Combined:				**21 dB**

Table 3.9-8
Estimated Noise Increases – Proposed Project

Well	Operational L_{dn} @ Closest Receiver	Ambient L_{dn} @ Closest Receiver	Combined L_{dn}	L_{dn} Increase Due to Operations
Well 18	39 dB	52 dB	52 dB	0 dB
Well 34	22 dB	53 dB	53 dB	0 dB
Well 35	21 dB	53 dB	53 dB	0 dB

Referring to Table 3.9-8, operation of the Proposed Project would not increase the estimated exterior L_{dn} above 65 dB at the nearest noise-sensitive receivers. Therefore, there would be no significant noise impacts related to operation of the Proposed Project.

3.9.4 Mitigation Measures

There are no significant noise impacts associated with the construction or operation of the Proposed Project. No mitigation measures are required.

3.9.5 Residual Impacts After Mitigation

There are no significant unmitigated noise impacts associated with the construction and operation of the Proposed Project.

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