



5.8 Noise

5.8 NOISE

The purpose of this section is to evaluate noise source impacts on-site and to surrounding land uses as a result of implementation of the proposed project. This section evaluates short-term construction-related impacts, as well as future buildout conditions. Mitigation measures are also recommended to avoid or lessen the project's noise impacts. Information in this section is based on the *Town of Mammoth Lakes General Plan 2007* (General Plan) and the *Town of Mammoth Lakes Municipal Code* (Municipal Code). For the purposes of mobile source noise modeling and contour distribution, traffic information contained in the *Mammoth Community and Multi-Use Facilities Focused Traffic Impact Analysis*, prepared by LSC Transportation Consultants, dated July 29, 2016 (refer to [Appendix 11.4, *Traffic Impact Analysis*](#)) was used. Noise measurement and traffic noise modeling data can be found in [Appendix 11.6, *Noise Data*](#).

5.8.1 EXISTING SETTING

NOISE SCALES AND DEFINITIONS

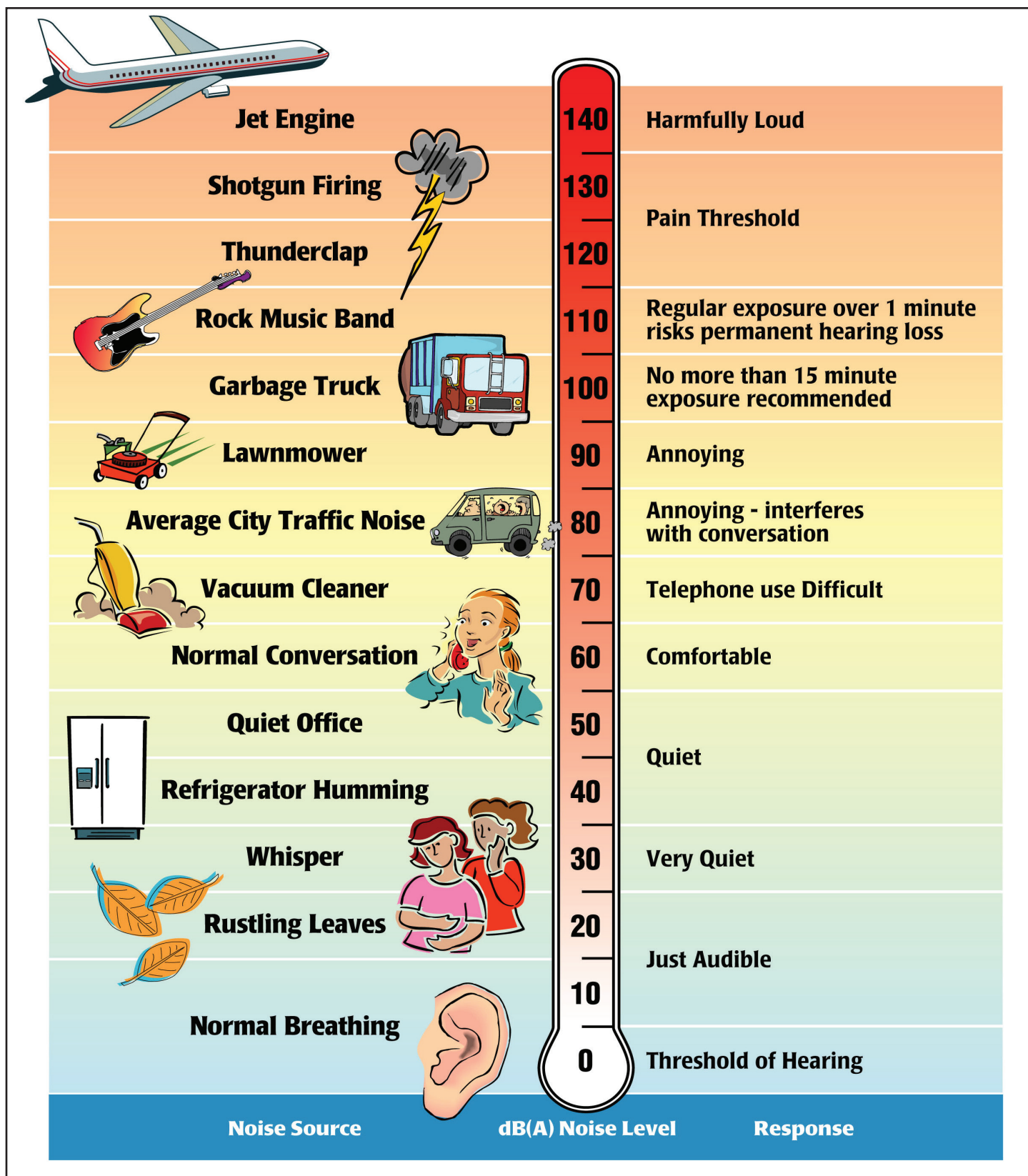
Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud, and 20 dBA higher four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are illustrated on [Exhibit 5.8-1, *Sound Levels and Human Response*](#).

Many methods have been developed for evaluating community noise to account for, among other things:

- The variation of noise levels over time;
- The influence of periodic individual loud events; and
- The community response to changes in the community noise environment.

Numerous methods have been developed to measure sound over a period of time; refer to [Table 5.8-1, *Noise Descriptors*](#).



Source: Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA/ONAC 550/9-74-004), March 1974.

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ENVIRONMENTAL IMPACT REPORT
MAMMOTH CREEK PARK WEST
NEW COMMUNITY MULTI-USE FACILITIES
Sound Levels and Human Response

Exhibit 5.8-1

**Table 5.8-1
Noise Descriptors**

Term	Definition
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound to a reference pressure (20 micropascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the human ear is between 2,000 and 4,000 cycles per second (hertz).
Equivalent Sound Level (L_{eq})	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is the value that expresses the time averaged total energy of a fluctuating sound level.
Maximum Sound Level (L_{max})	The highest individual sound level (dBA) occurring over a given time period.
Minimum Sound Level (L_{min})	The lowest individual sound level (dBA) occurring over a given time period.
Community Noise Equivalent Level (CNEL)	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. These adjustments are +5 dBA for the evening, 7:00 PM to 10:00 PM, and +10 dBA for the night, 10:00 PM to 7:00 AM.
Day/Night Average (L_{dn})	The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq} . The L_{dn} is calculated by averaging the L_{eq} 's for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 PM to 7:00 AM) by 10 dBA to account for the increased sensitivity of people to noises that occur at night.
Exceedance Level (L_n)	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% (L_{01} , L_{10} , L_{50} , L_{90} , respectively) of the time during the measurement period.
Source: Cyril M. Harris, <i>Handbook of Noise Control</i> , dated 1979.	

HEALTH EFFECTS OF NOISE

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. However, many factors influence people's response to noise. The factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the noise, the attitude towards the source and those associated with it, and the predictability of the noise, all influence people's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses will range from "not annoyed" to "highly annoyed."

The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on the community can be organized into six broad categories:

- Noise-Induced Hearing Loss;
- Interference with Communication;
- Effects of Noise on Sleep;
- Effects on Performance and Behavior;
- Extra-Auditory Health Effects; and
- Annoyance.

According to the United States Public Health Service, nearly ten million of the estimated 21 million Americans with hearing impairments owe their losses to noise exposure. Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. It can also disrupt effective communication between teachers and pupils in schools, and can cause fatigue and vocal strain in those who need to communicate in spite of the noise.

Interference with communication has proved to be one of the most important components of noise-related annoyance. Noise-induced sleep interference is one of the critical components of community annoyance. Sound level, frequency distribution, duration, repetition, and variability can make it difficult to fall asleep and may cause momentary shifts in the natural sleep pattern, or level of sleep. It can produce short-term adverse effects on mood changes and job performance, with the possibility of more serious effects on health if it continues over long periods. Noise can cause adverse effects on task performance and behavior at work, and non-occupational and social settings. These effects are the subject of some controversy, since the presence and degree of effects depends on a variety of intervening variables. Most research in this area has focused mainly on occupational settings, where noise levels must be sufficiently high and the task sufficiently complex for effects on performance to occur.

Annoyance can be viewed as the expression of negative feelings resulting from interference with activities, as well as the disruption of one's peace of mind and the enjoyment of one's environment. Field evaluations of community annoyance are useful for predicting the consequences of planned actions involving highways, airports, road traffic, railroads, or other noise sources. The consequences of noise-induced annoyance are privately held dissatisfaction, publicly expressed complaints to authorities, and potential adverse health effects, as discussed above. In a study conducted by the United States Department of Transportation, the effects of annoyance to the community were quantified. In areas where noise levels were consistently above 60 dBA CNEL, approximately nine percent of the community is highly annoyed. When levels exceed 65 dBA CNEL, that percentage rises to 15 percent. Although evidence for the various effects of noise have differing levels of certainty, it is clear that noise can affect human health. Most of the effects are, to a varying degree, stress related.

GROUND-BORNE VIBRATION

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak or vibration signal, while RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is typically used for evaluating potential building damage, whereas RMS is typically more suitable for evaluating human response. Typically, ground-borne vibration, generated by man-made activities, attenuates rapidly with distance from the source of vibration. Man-made vibration issues are therefore usually confined to short distances (i.e., 500 feet or less) from the source.

Both construction and operation of development projects can generate ground-borne vibration. In general, demolition of structures preceding construction generates the highest vibrations. Construction equipment such as vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible vibration during construction activities. Heavy trucks can also generate ground-borne vibrations that vary depending on vehicle type, weight, and pavement conditions.

SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day, and sensitivity of the receptor. The effects of noise on humans can range from temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. Noise, or the lack thereof, is a factor in the aesthetic perception of some settings, particularly those with religious or cultural significance. Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities, and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours. Sensitive uses within the immediate project area include residential uses to the west and north. Additional existing sensitive receptors located in the project vicinity include hotels, motels, schools, hospitals, libraries, parks, and places of worship; refer to [Table 5.8-2, *Sensitive Receptors*](#).

AMBIENT NOISE MEASUREMENTS

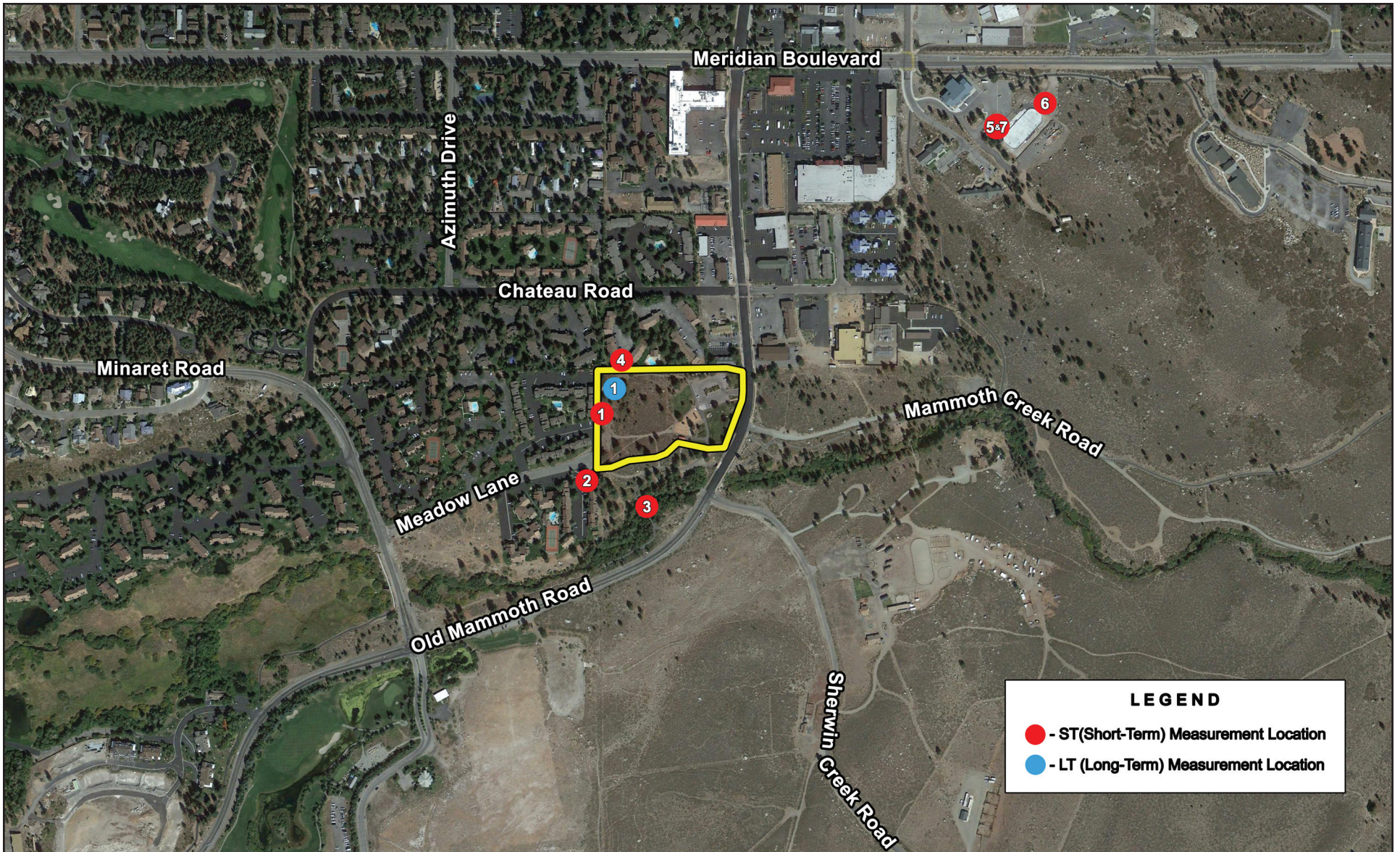
In order to quantify existing ambient noise levels in the project area, Michael Baker International conducted noise measurements on January 12-13, 2016; refer to [Exhibit 5.8-2, *Noise Measurement Locations*](#), and [Table 5.8-3, *Noise Measurements*](#). The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the project site. Short-term measurements were taken at each site between 1:54 p.m. and 7:48 p.m. on January 12, 2016. A long term measurement was taken starting on January 12, 2016 at 2:49 p.m. to January 13, 2016 at 11:19 a.m. Meteorological conditions were clear skies, cold temperatures, with light wind speeds (approximately 0 to 5 miles per hour), and low humidity.

**Table 5.8-2
Sensitive Receptors**

Type	Name	Distance from Project Site (feet)	Orientation from Project Site	Location/Description
Residential	Residential Uses	Adjoining	North	Chateau Blanc Condominiums, 3199 Chateau Rd.
		75	Southwest	Mammoth Creek Condominiums, 96 Meadow Lane
		Adjoining	West	La Vista Blanc Condominiums, 122 Meadow Lane
		Adjoining	Northwest	Chateau De Montagne Condominiums, 3311 Chateau Road
		390	West	Sunrise Condominiums, 50 Meadow Lane
Hotels/ Motels	Sierra Nevada Resort	2,305	North	164 Old Mammoth Road
	Mammoth Creek Inn	90	Northeast	663 Old Mammoth Road
	Snowcreek Resort	2,830	Southwest	1254 Old Mammoth Road
Schools	Mammoth High School	1,785	Northeast	365 Sierra Park Road
	Mammoth Middle School	2,170	Northeast	1600 Meridian Boulevard
	Mammoth Elementary School	2,775	Northeast	1500 Meridian Boulevard
Places of Worship	LightHouse Church	700	North	501 Old Mammoth Road
	The Church of Jesus Christ of Latter-day Saints	1,570	Northwest	2174 Meridian Blvd
	Mammoth Lakes Lutheran Church	1,465	Northeast	379 Old Mammoth Road
	Kingdom Hall of Jehovah's Witnesses	2,040	Northeast	181 Sierra Manor Road
Hospitals	Mammoth Hospital	2,455	Northeast	85 Sierra Park Road
Libraries	Mammoth Lakes Branch Library	1,500	Northeast	400 Sierra Park Road
Recreation/ Parks	Sierra Star Golf Course	1,440	Northwest	2001 Sierra Star Parkway
	Town Loop trail	Adjoining	South/East	North of Old Mammoth Road
	Snowcreek Golf Course	800	Southwest	2 Fairway Drive
Note: 1. Distances are measured from the exterior project boundary to the property boundaries of other uses only and not from individual construction projects/areas within the interior of the project site. Source: Google Earth, 2016.				

**Table 5.8-3
Noise Measurements**

Measurement Location Number	Location ¹	Leq (dBA)	L _{min} (dBA)	L _{max} (dBA)	Peak (dBA)	Time
ST-1	Mammoth Creek Park West, just east of La Vista Blanc Condominiums	45.3	27.4	69.5	64.6	1:54 p.m.
ST-2	Mammoth Creek Park West, just east of Mammoth Creek Condominiums	40.2	35.4	47.7	63.8	2:07 p.m.
ST-3	Mammoth Creek Park West, just north of the Mammoth Creek pedestrian bridge	48.2	45.0	61.9	67.5	2:21 p.m.
ST-4	Chateau Blanc Condominiums, just north of Mammoth Creek Park West	40.9	34.4	59.1	69.8	2:42 p.m.
ST-5	Existing Skate Rink, adjacent to audience stands (4 recreational ice skaters)	55.3	45.4	73.2	87.7	3:43 p.m.
ST-6	Adjacent to chiller units and equipment storage room (10 feet from chiller)	75.2	73.0	78.1	95.5	3:46 p.m.
ST-7	Existing skate rink during a hockey practice game (league play)	69.6	50.1	99.4	104.3	7:48 p.m.
LT-1	Mammoth Creek Park West, just east of La Vista Blanc Condominiums (long-term measurement site)	55.1	15.7	80.1	102.9	2:49 p.m. - 11:19 a.m.
Notes: 1. Noise measurements in residential areas were selected to determine the ambient noise levels surrounding the project site. As such, measurements were taken along the north, western, and southwestern property boundaries. Source: Michael Baker International, January 12-13, 2016.						



LEGEND

- - ST(Short-Term) Measurement Location
- - LT (Long-Term) Measurement Location

Source: Google Earth, 2016.

- Project Site

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ENVIRONMENTAL IMPACT REPORT MAMMOTH CREEK PARK WEST NEW COMMUNITY MULTI-USE FACILITIES **Noise Measurement Locations**

Exhibit 5.8-2

MOBILE SOURCES

In order to assess the potential for mobile source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the project area. The existing roadway noise levels in the vicinity of the project site were projected. Noise models were run using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108) together with several roadway and site parameters. These parameters determine the projected impact of vehicular traffic noise and include the roadway cross-section (such as the number of lanes), roadway width, average daily traffic (ADT), vehicle travel speed, percentages of auto and truck traffic, roadway grade, angle-of-view, and site conditions ("hard" or "soft"). The model does not account for ambient noise levels (i.e., noise from adjacent land uses) or topographical differences between the roadway and adjacent land uses. Noise projections are based on modeled vehicular traffic as derived from the project's *Traffic Impact Analysis*.

A 30- to 50-mile per hour (mph) average vehicle speed was assumed for existing conditions based on empirical observations and posted maximum speeds along the adjacent roadways. Existing modeled traffic noise levels can be found in [Table 5.8-4, Existing Traffic Noise Levels](#). As shown in [Table 5.8-4](#), noise within the area from mobile noise ranges from 51.2 dBA to 65.1 dBA.

**Table 5.8-4
Existing Traffic Noise Levels**

Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)		
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour
Old Mammoth Road					
North of Meridian Boulevard	10,229	58.8	88	28	9
Between Chateau Road and Meridian Boulevard	9,635	58.5	83	26	8
South of Project Driveway	5,968	56.4	51	16	5
Meridian Boulevard					
West of Old Mammoth Road	16,239	65.1	381	120	38
East of Old Mammoth Road	14,649	64.7	343	109	34
Chateau Road					
West of Old Mammoth Road	1,707	51.2	15	5	1
Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level					
Source: Noise modeling is based upon traffic data within the Mammoth Community and Multi-Use Facilities Focused Traffic Impact Analysis, prepared LSC Transportation Consultants, July 29, 2016.					

STATIONARY NOISE SOURCES

The project area consists of residential, institutional, commercial, recreational, and office uses served by a grid system of arterial, commuter, secondary, and local roadways. The primary sources of stationary noise in the project vicinity are urban-related activities (e.g., parking areas, conversations, and commercial areas). The noise associated with these sources may represent a single-event or a continuous occurrence.

5.8.2 REGULATORY SETTING

This section summarizes the laws, ordinances, regulations, and standards that are applicable to the project. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, Federal and State agencies provide standards and guidelines to the local jurisdictions.

STATE OF CALIFORNIA GUIDELINES

California Environmental Quality Act

CEQA was enacted in 1970 and requires that all known environmental effects of a project be analyzed, including environmental noise impacts. Under CEQA, a project has a potentially significant impact if the project exposes people to noise levels in excess of standards established in the local general plan or noise ordinance. Additionally, under CEQA, a project has a potentially significant impact if the project creates a substantial increase in the ambient noise levels in the project vicinity above levels existing without the project. If a project has a potentially significant impact, mitigation measures must be considered. If mitigation measures to reduce the impact to less than significant levels are not feasible due to economic, social, environmental, legal, or other conditions, the most feasible mitigation measures must be considered.

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county, town, and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services, as shown in [Table 5.8-5, *Land Use Compatibility for Community Noise Environments*](#). The guidelines rank noise land use compatibility in terms of “normally acceptable”, “conditionally acceptable”, “normally unacceptable”, and “clearly unacceptable” noise levels for various land use types. Single-family homes are “normally acceptable” in exterior noise environments up to 60 CNEL and “conditionally acceptable” up to 70 CNEL. Multiple-family residential uses are “normally acceptable” up to 65 CNEL and “conditionally acceptable” up to 70 CNEL. Schools, libraries, and churches are “normally acceptable” up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

Table 5.8-5
Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure (Ldn or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 – 60	55 - 70	70-75	75-85
Residential - Multiple Family	50 – 65	60 - 70	70 – 75	70 - 85
Transient Lodging - Motel, Hotels	50 – 65	60 - 70	70 – 80	80 - 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 - 70	70 – 80	80 - 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 - 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 - 85
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 75	72.5 - 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	NA	70 – 80	80 - 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 - 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 - 80	75 – 85	NA
NA = Not Applicable; Ldn = Day/Night Average; CNEL = community noise equivalent level; dBA = A-weighted decibels				
Notes:				
<u>Normally Acceptable</u> - Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.				
<u>Conditionally Acceptable</u> - New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.				
<u>Normally Unacceptable</u> - New Construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.				
<u>Clearly Unacceptable</u> – New construction or development should generally not be undertaken.				
Source: Office of Planning and Research, California, <i>General Plan Guidelines</i> , October 2003.				

TOWN OF MAMMOTH LAKES

Municipal Code

Title 8.0 (Health and Safety) of the Municipal Code covers all noise standards. Chapter 8.16 (Noise Regulation) of the Municipal Code sets forth all noise regulations controlling unnecessary, excessive and annoying noise and vibration in the Town. As outlined in Chapter 8.16 and as indicated in Table 5.8-6, *Exterior Noise Limits*, maximum exterior noise levels are based on land use. Although there is a slight variation between the exterior noise standards in the Municipal Code and the General Plan's Noise Element, the Town defers to the standards noted in the Municipal Code. The Municipal Code standards are more recent and remain the standard until the Town can update the Noise Element to be consistent.

**Table 5.8-6
Exterior Noise Limits**

Receiving Land Use Category	Time Period	Rural/Suburban	Suburban	Urban
One and Two Family Residential	10 p.m. – 7 a.m.	40	45	50
	7 a.m. – 10 p.m.	50	55	60
Multi-Family Dwelling Residential	10 p.m. – 7 a.m.	45	50	55
	7 a.m. – 10 p.m.	50	55	60
Limited Commercial Some Multiple Dwellings	10 p.m. – 7 a.m.	55		
	7 a.m. – 10 p.m.	60		
Commercial	10 p.m. – 7 a.m.	60		
	7 a.m. – 10 p.m.	65		
Light Industrial	Anytime	70		
Heavy Industrial	Anytime	75		
Notes: 1. Levels are not to be exceeded more than thirty minutes in any hour. 2. The classification of different areas of the community in terms of environmental noise zones shall be determined by the noise control officer, based upon assessment of community noise survey data. Additional area classifications should be used as appropriate to reflect both lower and higher existing ambient levels than those shown. Industrial noise limits are intended primarily for use at the boundary of industrial zones rather than for noise reduction within the zone.				
Source: Town of Mammoth Lakes, <i>Municipal Code</i> .				

The following is taken from the Municipal Code:

Section 8.16.070 Exterior noise limits

- A. The noise standards for the various categories of land use identified by the noise control officer as presented in Table 1 (refer to Table 5.8-6) shall, unless otherwise specifically indicated, apply to all such property within a designated zone.*
- B. No person shall operate or cause to be operated any source of sound at any location within the town or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any other property to exceed:*
- 1. The noise standard for that land use as in Table 1 (refer to Table 5.8-6) for a cumulative period of more than thirty minutes in any hour; or*
 - 2. The noise standard plus five dB for a cumulative period of more than fifteen minutes in any hour; or*
 - 3. The noise standard plus ten dB for a cumulative period of more than five minutes in any hour; or*
 - 4. The noise standard plus fifteen dB for a cumulative period of more than one minute in any hour; or*
 - 5. The noise standard plus twenty dB or the maximum measured ambient level, for any period of time.*

- C. *If the measured ambient level differs from that permissible within any of the first four noise limit categories above the allowable noise exposure standard shall be adjusted in five dB increments in each category as appropriate to encompass or reflect the ambient noise level.*
- D. *In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.*
- E. *If the measurement location is on a boundary between two different zones, the noise level applicable to the lower noise zone plus five dB, shall apply.*
- F. *If possible, the ambient noise shall be measured at the same location along the property line utilized in subsection B of this section with the alleged offending noise source inoperative. If for any reason the alleged offending noise source cannot be shut down, the ambient noise must be estimated by performing a measurement in the same general area of the source but at a sufficient distance such that the noise from the source is at least ten dB below the ambient in order that only the ambient level is measured. If the difference between the ambient and the noise source is five to ten dB, then the level the ambient itself can be reasonably determined by subtracting a one decibel correction to account for the contribution of the source.*
- G. *In the event the alleged offensive noise, as judged by the noise control officer, contains a steady, audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, or contains music or speech conveying informational content, the standard limits set forth in Table 1 (refer to Table 5.8-6) shall be reduced by five dB.*

Additionally, the Code states the following regarding applicable interior noise standards:

Section 8.16.080 Interior noise standards

- B. *No person shall operate, or cause to be operated within a dwelling unit, any source of sound or allow the creation of any noise which causes the noise level when measured inside a neighboring receiving dwelling unit to exceed:*
 - 1. *The noise standard as specified in Table 2 (refer to Table 5.8-7, Interior Noise Limits) for a cumulative period of more than five (5) minutes in any hour; or*

**Table 5.8-7
Interior Noise Limits**

Noise Zone	Type of Land Use	Time Interval	Allowable Interior Noise Level
All	Multifamily Residential	10 p.m. – 7 a.m.	35
		7 a.m. – 10 p.m.	45

Source: Town of Mammoth Lakes, Municipal Code.

- 2. *The noise standard plus five decibels (5 dB) for a cumulative period of more than one minute in any hour; or*

3. *The noise standard plus ten decibels (10 dB) or the maximum measured ambient, for any period of time.*
- C. *If the measured ambient level differs from that permissible within any of the noise limit categories above, the allowable noise exposure standard shall be adjusted in five decibel (5 dB) increments in each category as appropriate to reflect the ambient noise level.*
- D. *In the event the alleged offensive noise, as judged by the noise control officer, contains a steady, audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, or contains music or speech conveying informational content, the standard limits set forth in Table 2 shall be reduced by five dB.*

In addition to interior and exterior noise standards, the Town provides regulations for construction activities and other types of noises in Section 8.16.090, *Prohibited Acts*, of the Town's Municipal Code. The following noise regulations were taken for Section 8.16.090 for regulations relevant to the proposed project:

5. *Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects between the hours of ten p.m. and seven a.m. in such a manner as to cause a noise disturbance across a residential real property line or at any time to violate the provisions of this section.*
6. *Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work is subject to the hours of work permitted by this code, except for emergency work of public service agencies.*
 - a. *At residential properties:*
 - i. *Mobile equipment: Maximum noise levels for nonscheduled, intermittent, short-term operation (less than ten days) of mobile equipment; refer to Table 5.8-8, Maximum Noise Levels for Short-Term Mobile Equipment Noise.*

Table 5.8-8
Maximum Noise Levels for Short-Term Mobile Equipment Noise

Acceptable Hours Operation	Type I Areas Single-Family Residential	Type II Areas Multi-Family Residential	Type III Areas Semi-Residential Commercial
Daily, except Sundays and legal holidays 7 a.m. to 8 p.m.	75 dBA	80 dBA	85 dBA
Daily, 8 p.m. to 7 a.m. and all day Sundays and legal holidays	60 dBA	65 dBA	70 dBA
Source: Town of Mammoth Lakes, <i>Municipal Code</i> .			

- ii. *Stationary equipment: Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of ten days or more) of stationary equipment; refer to Table 5.8-9, Maximum Noise Levels for Long-Term Stationary Equipment Noise.*

**Table 5.8-9
Maximum Noise Levels for Long-Term Stationary Equipment Noise**

Acceptable Hours Operation	Type I Areas Single-Family Residential	Type II Areas Multi-Family/Residential	Type III Areas Semi-Residential/ Commercial
Daily, except Sundays and legal holidays 7 a.m. to 8 p.m.	60 dBA	65 dBA	70 dBA
Daily, 8 p.m. to 7 a.m. and all day Sundays and legal holidays	50 dBA	55 dBA	60 dBA
Source: Town of Mammoth Lakes, <i>Municipal Code</i> .			

General Plan

Goal C.6 in the 2007 General Plan recognizes that community character would be enhanced by minimizing noise. Policies and actions that would implement this goal include the following:

- Policy C.6.A. Minimize community exposure to noise by ensuring compatible land uses around noise sources.
- Policy C.6.B. Allow development only if consistent with the Noise Element and the policies of this Element. Measure noise use for establishing compatibility in dBA CNEL and based on worst-case noise levels, either existing or future, with future noise levels to be predicted based on projected 2025 levels.
- Policy C.6.C. Development of noise-sensitive land uses shall not be permitted in areas where the noise level from existing stationary noise sources exceeds the noise level standards described in the Noise Element.
- Policy C.6.D. Require development to mitigate exterior noise to “normally acceptable” levels in outdoor areas.
 - Action C.6.D.1. Assess existing sources of outdoor noise and develop criteria and standards for outdoor noise.
- Policy C.6.E. Address noise issues through the planning and permitting process.
- Policy C.6.F. Require mitigation of all significant noise impacts as a condition of project approval.

- Policy C.6.G. Require preparation of a noise analysis or acoustical study, which is to include recommendations for mitigation, for all proposed projects that may result in potentially significant noise impacts.
 - Action C.6.G.1. Adopt significance thresholds to be used to assess noise impacts for projects reviewed under the CEQA process, and develop a list of acceptable mitigations that might be applied to mitigate noise impacts to acceptable levels, including specific guidelines for their implementation.
 - Action C.6.G.2. Adopt criteria and location maps that specify the locations and circumstances under which a noise analysis or acoustical study will need to be prepared for a proposed project. Develop guidelines for conducting such studies.

Noise policies are also provided in the Town's 1997 Noise Element. It should be noted that the Noise Element was not updated in the Town's 2007 General Plan.

Prevention of Adverse Noise Impacts due to Transportation Noise Sources:

- Policy 4.2.1 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} outdoor activity areas or 45 dB L_{dn} in interior spaces.
- Policy 4.2.2 Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed 60 dB L_{dn} within outdoor activity areas and 45 dB L_{dn} within interior spaces of existing noise sensitive land uses.

Prevention of Adverse Noise Impacts due to Stationary Noise Sources:

- Policy 4.2.3 New development of noise-sensitive land uses shall not be permitted where the noise level from existing stationary noise sources exceeds the noise level standards of Table VII (refer to Table 5.8-10, *Maximum Allowable Noise Exposure for Stationary Noise Sources*).

**Table 5.8-10
Maximum Allowable Noise Exposure for Stationary Noise Sources**

Level	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Level, dB ¹	50	45
Maximum Level, dB ¹	70	65
Note: 1. As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.		

- Policy 4.2.4 Noise created by proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standards of Table VII (refer to Table 5.8-10).

Control of Existing Noise Nuisances:

- Policy 4.2.5 The provisions of the existing noise ordinance of the Town of Mammoth Lakes (Chapter 8.16 of the Municipal Code) should be consistent with the goals and policies of the Noise Element, and be appropriate for the specific needs of the Town.

5.8.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

Appendix G, of the *CEQA Guidelines* contains analysis guidelines related to the assessment of noise impacts. These guidelines have been utilized as thresholds of significance for this analysis. As stated in Appendix G, a project would create a significant environmental impact if it would:

- Expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (refer to Impact Statement N-1);
- Expose persons to or generate excessive ground borne vibration or ground borne noise levels (refer to Impact Statement N-2);
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (refer to Impact Statements N-3 and N-4);
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (refer to Impact Statement N-1);
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels (refer to Section 8.0, *Effects Found Not To Be Significant*); and/or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels (refer to Section 8.0, *Effects Found Not To Be Significant*).

Based on these standards, the effects of the proposed project have been categorized as either a “less than significant impact” or a “potentially significant impact.” Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

NOISE IMPACT CRITERIA

Significance of Changes in Traffic Noise Levels

An off-site traffic noise impact typically occurs when there is a discernable increase in traffic and the resulting noise level exceeds an established noise standard. In community noise considerations,

changes in noise levels greater than 3 dB are often identified as substantial, while changes less than 1 dB will not be discernible to local residents. A 5 dB change is generally recognized as a clearly discernable difference.

As traffic noise levels at sensitive uses likely approach or exceed the 65 CNEL standard, a 3.0 dB increase as a result of the project is used as the increase threshold for the project. Thus, the project would result in a significant noise impact if a permanent increase in ambient noise levels of 3.0 dB occurs upon project implementation and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

Significance of Changes in Cumulative Traffic Noise Levels

The project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds the perception level (i.e., auditory level increase) threshold. The combined effect compares the "cumulative with project" condition to the "existing" conditions. This comparison accounts for the traffic noise increase from the project generated in combination with traffic generated by projects in the cumulative projects list. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

- Combined Effects: The cumulative with project noise level ("Future With Project") would cause a significant cumulative impact if a 3.0 dB increase over existing conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use.

Although there may be a significant noise increase due to the proposed project in combination with other related projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the proposed project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

- Incremental Effects: The "Future With Project" causes a 1.0 dBA increase in noise over the "Future No Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

Significance of Changes in Exterior Noise Levels

The project would normally have a significant noise impact if it would:

- Exceed the stationary source noise criteria for the Town of Mammoth Lakes as identified in Table 5.8-6.

5.8.4 IMPACTS AND MITIGATION MEASURES

SHORT-TERM CONSTRUCTION NOISE IMPACTS

N-1 GRADING AND CONSTRUCTION WITHIN THE AREA COULD RESULT IN SIGNIFICANT TEMPORARY NOISE IMPACTS TO NEARBY NOISE SENSITIVE RECEIVERS.

Impact Analysis: Construction activities associated with the project would generate perceptible noise levels during the demolition, grading, paving, and building construction phases. Proposed access to the site for the removal of excavated soils and delivery of heavy equipment would primarily occur via Old Mammoth Road in the eastern portion of the project site as well as Meadow Lane to the west of the project site. High groundborne noise levels and other miscellaneous noise levels can be created by the operation of heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, scrapers, and other heavy-duty construction equipment. Table 5.8-11, Maximum Noise Levels Generated by Construction Equipment, indicates the anticipated noise levels of construction equipment. The average noise levels presented in Table 5.8-11 are based on the quantity, type, and Acoustical Use Factor for each type of equipment that is anticipated to be used.

**Table 5.8-11
Maximum Noise Levels Generated by Construction Equipment**

Type of Equipment	Acoustical Use Factor ¹ (percent)	L _{max} at 50 Feet (dBA)
Crane	16	81
Dozer	40	82
Excavator	40	81
Generator	50	81
Grader	40	85
Other Equipment (greater than five horse power)	50	85
Paver	50	77
Pile Driver (impact)	20	101
Pile Driver (sonic)	20	96
Roller	20	80
Tractor	40	84
Truck	40	80
Welder	40	73
Note: 1. Acoustical use factor (percent): Estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation. Source: Federal Highway Administration, Roadway Construction Noise Model (FHWA-HEP-05-054), January 2006.		

Project grading and site preparation would require up to 6,500 cubic yards of excavation and export. The primary construction equipment noise sources used during construction would be during earthwork activities (use of graders, excavators, dozers), and building construction (use of forklifts, tractors/loaders/backhoes, and a crane). Graders typically generate the highest noise levels, emitting approximately 85 dBA at a distance of 50 feet (pile driving would not be required for this project).

Point sources of noise emissions are atmospherically attenuated by a factor of 6.0 dBA per doubling of distance. This assumes a clear line-of-sight and no other machinery or equipment noise that would mask project construction noise. The shielding of buildings and other barriers that interrupt line-of-sight conditions further reduce noise levels from point sources.

Construction noise impacts generally occur when construction activities occur in areas immediately adjoining noise sensitive land uses, during noise sensitive times of the day, or when construction durations last over extended periods of time. The closest existing sensitive receptor to the construction area is the La Vista Blanc Condominiums (residences) located adjacent to the project site boundary on the west. Additionally, the Chateau Blanc Condominiums are located adjacent to the project site boundary on the north. The majority of the construction would occur at distances of 100 to 300 feet or more from the nearest sensitive receptors and would not be expected to interfere with normal residential activities. These noise levels could intermittently occur for a few days when construction equipment is operating in close proximity to the resort condominiums. The remainder of the time the construction noise levels would be much less because the equipment would be working in a large area farther away from the existing sensitive uses.

The Town has established noise standards for construction activity in Section 8.16.090 of the Town Noise Ordinance (refer to [Table 5.8-8](#)). Pursuant to Section 8.16.090, the maximum exterior noise levels allowed in multi-family residential areas for mobile (e.g., excavator, backhoe, dozer, loader, etc.) and stationary equipment (e.g., generators, compressors, pumps, etc.) during 7:00 a.m. to 8:00 p.m. Monday through Saturday are 80 dBA and 65 dBA, respectively. In addition, the maximum exterior noise levels allowed in multi-family residential areas for mobile and stationary equipment during 8:00 p.m. to 7:00 a.m. Monday through Saturday, and all day Sunday and legal holidays, are 64 dBA and 55 dBA, respectively. All mobile and stationary internal-combustion powered equipment and machinery are required to be equipped with suitable exhaust and air-intake silencers in proper working order under the Town Noise Ordinance. As the majority of the construction would occur at distances of 100 to 300 feet from the closest receptors (i.e., the La Vista Blanc Condominiums and the Chateau Blanc Condominiums), the loudest construction noise level of 85 dBA would be reduced to 79 dBA and would not exceed the limits in Section 8.16.090 of the Town's Municipal Code. Additionally, haul trucks traveling along Meadow lane would be approximately 50 feet from the closest receptors. As indicated in [Table 5.8-11](#), trucks have a maximum noise level of 80 dBA at 50 feet. Therefore, noise from truck hauling would also not exceed the Town's standards.

Adherence to the Town's Municipal Code Section 8.16.090 requirements, and compliance with Mitigation Measure NOI-1 would reduce short-term construction noise impacts by requiring mobile equipment to be muffled and requiring best management practices for hauling activities. In addition, Mitigation Measure NOI-1 would require a disturbance coordinator to respond to construction noise complaints and direct equipment away from sensitive receptors to further reduce construction-related noise. As construction would be limited to daytime hours per Town's Municipal Code Section 8.16.090 and due to the short-term nature of construction activities, construction-related noise would be less than significant with mitigation.

Mitigation Measures:

- NOI-1 Prior to issuance of any Grading Permit or Building Permit for new construction, the Public Works Director, or designee, shall confirm that the Grading Plan, Building Plans, and specifications stipulate that:
- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers and other State required noise attenuation devices.
 - The Contractor shall provide a qualified “Noise Disturbance Coordinator.” The Disturbance Coordinator shall be responsible for responding to any local complaints about construction noise. When a complaint is received, the Disturbance Coordinator shall notify the Town within 24-hours of the complaint and determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall implement reasonable measures to resolve the complaint, as deemed acceptable by the Public Works Director, or designee. The contact name and the telephone number for the Disturbance Coordinator shall be clearly posted on-site.
 - When feasible, construction haul routes shall be designed to avoid noise sensitive uses (e.g., residences, schools, hospitals, etc.).
 - During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers.
 - Construction activities that produce noise shall not take place outside of the allowable hours specified by the Town’s Municipal Code Section 8.16.090 (7:00 a.m. and 8:00 p.m. Monday through Saturday; construction is prohibited on Sundays and/or federal holidays).

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

VIBRATION IMPACTS

N-2 PROJECT IMPLEMENTATION WOULD NOT RESULT IN SIGNIFICANT VIBRATION IMPACTS TO NEARBY SENSITIVE RECEPTORS.

Impact Analysis: Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) appears to be conservative even for sustained pile driving. Pile driving levels often exceed 0.2 inch/second at distances of 50 feet, and 0.5 inch/second at 25 feet without any apparent damage to buildings.

Construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The typical vibration produced by construction equipment is illustrated in Table 5.8-12, Typical Vibration Levels for Construction Equipment.

**Table 5.8-12
Typical Vibration Levels for Construction Equipment**

Equipment	Approximate peak particle velocity (inches/second) at: ^{1,2}			
	15 feet	25 feet	50 feet	100 feet
Large bulldozer	0.191	0.089	0.031	0.01
Loaded trucks	0.164	0.076	0.027	0.01
Small bulldozer	0.006	0.003	0.001	0.00
Jackhammer	0.075	0.035	0.012	0.00
Vibratory compactor/roller	0.452	0.210	0.074	0.03

Notes:

1. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006.
2. Calculated using the following formula:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines*
D = the distance from the equipment to the receiver

As indicated in Table 5.8-12, based on the FTA data, vibration velocities from typical heavy construction equipment that would be used during project construction range from 0.006 to 0.452 inch-per-second peak particle velocity (PPV) at 15 feet from the source of activity. It should be noted that the vibratory compactor/roller is the only piece of equipment that would exceed the 0.2 in inch-per-second PPV threshold at this conservative distance. With regard to the proposed project, groundborne vibration would be generated primarily during site clearing and grading activities on-site and by off-site haul-truck travel. These activities would occur at distances of 50 feet or more from the closest sensitive receptors to the north and west (i.e., the La Vista Blanc Condominiums and the Chateau Blanc Condominiums). Additionally, the use of any vibratory compactor/rollers would not occur within 50 feet of the closest sensitive receptors because the proposed parking and community facilities are buffered from the sensitive receptors. Therefore, as demonstrated in Table 5.8-12, the

anticipated vibration levels at 50 feet or more would not exceed the 0.2 inch-per-second PPV significance threshold during construction. It should be noted that 0.2 inch-per-second PPV is a conservative threshold, as that is the construction vibration damage criteria for non-engineered timber and masonry buildings.¹ Buildings within the project area would be better represented by the 0.5 inch-per-second PPV significance threshold (construction vibration damage criteria for a reinforced concrete, steel or timber buildings).²

Section 8.16.090(B)(7) of the Town's Municipal Code also includes a threshold for the perception of groundborne vibration (0.01 inch-per-second PPV). Although the project site is approximately 50 feet away from the closest receptors, the primary construction areas would be 100 feet away or more. As depicted in [Table 5.8-12](#), vibration levels would be barely perceptible at this distance. In addition, per the Town's requirements, construction activities would occur between the hours of 7:00 a.m. and 8:00 p.m. Monday through Friday. These activities would not occur during recognized sleep hours for residents. Therefore, proposed construction activities associated with the project would not expose sensitive receptors to excessive groundborne vibration levels. Vibration impacts associated with construction would be less than significant and no mitigation measures are required.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM (MOBILE) NOISE IMPACTS

N-3 TRAFFIC GENERATED BY THE PROPOSED PROJECT WOULD NOT SIGNIFICANTLY CONTRIBUTE TO EXISTING TRAFFIC NOISE IN THE AREA OR EXCEED THE TOWN'S ESTABLISHED STANDARDS.

Impact Analysis:

The "Future Without Project" and "Future With Project" scenarios were compared for long-term conditions. In [Table 5.8-13, *Future Traffic Noise Levels*](#), the noise levels (dBA at 100 feet from centerline) depict what would typically be heard 100 feet perpendicular to the roadway centerline. As indicated in [Table 5.8-13](#) under the "Future Without Project" scenario, noise levels at a distance of 100 feet from the centerline would range from approximately 52.3 dBA to 65.4 dBA. The highest noise levels under "Future Without Project" conditions would occur along Meridian Boulevard, west of Old Mammoth Road. Under the "Future With Project" scenario, noise levels at a distance of 100 feet from the centerline would range from approximately 52.4 dBA to 65.4 dBA. The highest noise levels occurring under these conditions would also occur along Meridian Boulevard, west of Old Mammoth Road. [Table 5.8-13](#) also compares the "Future Without Project" scenario to the "Future With Project" scenario. The proposed project would increase noise levels on the surrounding roadways by a maximum of 0.1 dBA along Chateau Road, west of Old Mammoth Road. Therefore, noise levels resulting from the proposed project would be less than significant.

¹ Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006.

² Ibid.

**Table 5.8-13
Future Traffic Noise Levels**

Roadway Segment	Future Without Project					Future With Project					Difference in dBA @ 100 feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Old Mammoth Road											
North of Meridian Boulevard	11,713	59.4	101	32	10	11,776	59.4	101	32	10	0
Between Chateau Road and Meridian Boulevard	11,395	59.2	98	31	10	11,403	59.2	98	31	10	0
South of Project Driveway	8,575	58.0	74	23	7	8,603	58.0	74	12	7	0
Meridian Boulevard											
West of Old Mammoth Road	17,119	65.4	402	127	40	17,216	65.4	403	128	40	0
East of Old Mammoth Road	15,423	64.9	361	114	36	15,429	64.9	361	114	36	0
Chateau Road											
West of Old Mammoth Road	2,226	52.3	13	6	2	2,234	52.4	19	6	2	0.1
Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level											
Source: Noise modeling is based upon traffic data within the Mammoth Community and Multi-Use Facilities Focused Traffic Impact Analysis, prepared LSC Transportation Consultants, July 29, 2016.											

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM (STATIONARY) NOISE IMPACTS

N-4 THE PROPOSED PROJECT WOULD NOT RESULT IN A SIGNIFICANT INCREASE IN LONG-TERM STATIONARY AMBIENT NOISE LEVELS.

Impact Analysis: The project proposes new community multi-use facilities that include a 13,000 square foot community center, an ice rink (winter), the RecZone (a summer recreation/event area), improvements to the existing playground, an active outdoor recreation area, and parking facilities. Primary noise sources associated with these facilities are mechanical equipment (i.e., chillers and pumps), recreational noise, event noise, and parking lot noise.

Mechanical Equipment. The proposed project would require the use of heating, ventilation, and air conditioning units (HVAC) for the indoor community center facilities as well as chillers and pumps for the ice rink. The HVAC systems would be located at the proposed building (either inside or roof mounted) and typically result in noise levels that average between 40 and 50 dBA L_{eq} at 50 feet from the equipment. As the buildings would be located approximately 100 feet and 150 feet from the closest sensitive receptors to the west (La Vista Blanc Condominiums) and north (Chateau Blanc

Condominiums), respectively, HVAC noise levels would be 44 dBA or less and would not exceed the Town's noise standard (55 dBA in the daytime and 50 dBA at night)³.

Based on noise measurements of the chillers and mechanical equipment at the existing ice rink, noise levels for this equipment are approximately 75 dBA at 10 feet. The equipment would be located within a mechanical room located approximately 125 feet from the property line of the closest sensitive receptor (La Vista Blanc Condominiums to the west). At this distance noise from the mechanical equipment would be 55 dBA due to distance attenuation alone. However, the proposed mechanical room enclosure has concrete masonry unit (CMU) walls that would further attenuate noise levels. The CMU enclosure would be approximately eight feet high and would block the line of sight between the chiller and the receptors. A CMU barrier would attenuate chiller noise by a minimum of 8 dBA⁴, which would reduce the noise levels to 45 dBA at the La Vista Blanc Condominiums property line (the closest receptors, which are located approximately 125 feet away from the proposed mechanical room). This noise level would not exceed the Town's standards and is similar to the ambient levels (40 and 45 dBA; refer to [Table 5.8-3](#)) and would not be noticeable at the sensitive receptors. Impacts would be less than significant in this regard.

Community Center. The community center would include various rooms that would host various community activities and would also support the ice rink and RecZone. The community activities are anticipated to include educational programs, fitness classes, games, arts and crafts programs, camps, and training courses, among others. Noise associated with these activities primarily consists of conversations from groups of people. Normal conversation typically generates noise levels of 60 to 65 dBA at a distance of 3 feet. The activities associated with the community center would be located indoors, which would reduce transmission of noise to exterior areas by 24 dBA⁵. Additionally, Community center activities would also be oriented away from the sensitive receptors and would be located 150 feet away from the closest sensitive receptors (Chateau Blanc Condominiums). At this distance, and considering the indoor-to-outdoor attenuation of the building, the community center noise levels would not be audible at the closest receptors and impacts would be less than significant.

Ice Rink. The proposed ice rink would be located in the central portion of the site. The closest sensitive receptors would be the La Vista Blanc Condominiums approximately 150 feet to the west and the Chateau Blanc Condominiums located 220 feet to the north. The proposed community facilities building would be located between the ice rink and the closest sensitive receptors and would act as a noise barrier. It should be noted that the northwest portion of the community facilities building would not be constructed until phase 2. However, a solid wall barrier would be constructed in the interim and would also provide sound attenuation. Based on the measured noise levels in [Table 5.8-3](#), recreational skating would be 55.3 dBA and hockey would be 69.6 dBA at the edge of the ice rink. The measured noise levels include sounds from individuals skating as well as noise from contact with the dasher boards surrounding the existing ice rink. At the propose project, these noise levels would be reduced by the intervening community center building and distance attenuation (i.e., reduced

³ The Town's noise standards of 55 dBA in the daytime and 50 dBA at night for multi-family uses are per the Noise Ordinance (Municipal Code Chapter 8.16 [Noise Regulation]). The Town currently utilizes the standards in the Noise Ordinance, which have superseded the 1997 Noise Element standards (the noise element was not updated in the 2007 General Plan Update).

⁴ Based on an 8 dB reduction for barriers per the Federal Highway Administration, *Roadway Construction Noise Model Users Guide*, January 2006.

⁵ U.S. Environmental Protection Agency, *Protective Noise Levels (EPA 550/9-79-100)*, November 1978.

intensity as sound energy travels away from the source). As such, noise levels associated with recreational skating and ice hockey would be reduced at the property line of the La Vista Blanc Condominiums (the closest sensitive receptors, located approximately 150 feet west) to 32.3 dBA and 46.6 dBA, respectively.⁶ Additionally, the ice rink would be covered with a roof, which would further reduce noise levels. The resultant noise levels would be below the Town's exterior standard during the 7:00 a.m. to 10:00 p.m. period. However, ice hockey activities have the potential to exceed the 10:00 p.m. to 7:00 a.m. nighttime standard of 50 dBA. Therefore, Mitigation Measure NOI-2 would be required to ensure that ice hockey activities end at 10:00 p.m. With implementation of Mitigation Measure NOI-2, impacts would be less than significant in this regard.

The outdoor ice rink could generate crowd noise from the viewing area. Noise generated by groups of people (i.e., crowds) is dependent on several factors including vocal effort, impulsiveness, and the random orientation of the crowd members. Crowd noise is estimated at 60 dBA at one meter (3.28 feet) away for raised normal speaking.⁷ This noise level would have a +5 dBA adjustment for the impulsiveness of the noise source, and a -3 dBA adjustment for the random orientation of the crowd members.⁸ Therefore, crowd noise would be approximately 62 dBA at one meter from the source. Noise has a decay rate due to distance attenuation, which is calculated based on the Inverse Square Law for sound propagation. Based upon the Inverse Square Law, sound levels decrease by 6 dBA for each doubling of distance from the source.⁹ The proposed community center building (and interim phase 1 sound wall) and ice rink roof would also shield the receptors from crowd noise. As a result, crowd noise at the property line of the nearest receptor (La Vista Blanc Condominiums), located 150 feet away from the project site, would be 28.8 dBA, which would not exceed the Town's noise standards. As such, the viewing area on the project site would not introduce an intrusive noise source over existing conditions or exceed the Town's noise standards. Thus, a less than significant impact would occur in this regard.

In addition, use of an ice resurfacer/zamboni would also produce noise during operation of the ice rink. Noise from this equipment typically ranges from 64 to 71 dBA at 50 feet from the source. The nearest existing sensitive receptors (La Vista Blanc Condominiums) are located approximately 200 feet to the west from the center of the ice rink. However, the ice rink would be surrounded on the west and north by the proposed community facilities and support/mechanical buildings (and interim phase 1 sound wall), which would attenuate noise levels from the zamboni. Therefore, due to the attenuation from distance and intervening structures, noise levels from ice resurfacing equipment would be reduced to 44 dBA or lower at the La Vista Blanc Condominiums, which is below the Town's noise standards. Impacts would be less than significant in this regard.

The ice resurfacer would be stored on the west side of the proposed building, next to the mechanical room and electrical room. Ice resurfacing is anticipated to occur on an average of two to three times per day and a maximum of seven times per day during a hockey or holiday event. After resurfacing, a roll-up door would be raised on the west side of the building and the ice shavings would be deposited approximately 10 to 15 feet away from the building. The ice resurfacer would not be actively grooming

⁶ Based on distance attenuation rate of 6 dB per doubling of distance per the inverse square law for sound and a 15 dB reduction for intervening structures per the Federal Highway Administration, *Roadway Construction Noise Model Users Guide*, January 2006.

⁷ M.J. Hayne, et al, *Prediction of Crowd Noise*, Acoustics, November 2011.

⁸ *Ibid.*

⁹ Cyril M. Harris, *Noise Control in Buildings*, 1994.

anything on the outside of the facility. After dropping the ice shavings, the resurfacers would re-enter the garage. Deposition of the ice shavings would be infrequent and have a short duration (five to 15 minutes at a time). The garage would be located approximately 110 feet from the western property line and 140 feet from the closest receptor (balconies at the La Vista Blanc Condominiums). Noise levels from the resurfacers would be 55 dBA at the La Vista Blanc Condominiums. Noise levels from these operations occur over short durations are representative of the L_{max} values and would be even lower when measured on the time-averaged scale that the Town's standards are based on. It should be noted that these operations are lower intensity than resurfacing, and would generate lower noise levels than the reference noise levels identified above. Additionally, as noted above, the ice resurfacers activities on the west side of the garage would be infrequent and have a short duration and noise levels would be even lower on a time-averaged scale. The La Vista Blanc balconies facing the project are approximately six to eight feet deep and would generally not be occupied or frequently used during the project's winter peak recreational period. Based on the levels of noise produced and the distance to the La Vista Blanc Condominiums, noise levels would not exceed the Town's standards.

Mammoth Recreation Zone. The RecZone would operate on the ice rink area during the summer months. Potential recreational activities could include roller skating, basketball, volleyball, dodgeball, soccer, badminton, and tennis, among others. Average recreational noise levels generated during organized sports games are approximately 58.4 dBA at a distance of 50 feet from the focal point or effective noise center of the playing surface.¹⁰ The closest sensitive receptors to the recreation zone (La Vista Blanc Condominiums) would be approximately 140 feet away. Additionally, the community center building (and interim phase 1 sound wall) would be located between the recreation zone and sensitive receptors and act as a noise barrier. As such, noise levels from the recreation zone would be reduced to 34.5 dBA at the closest sensitive receptors. Additionally, as noted in the ice rink discussion above, crowd noise in this area would also not exceed the Town's standards. Impacts would be less than significant in this regard.

The various activities at the community center could also involve events with amplified live or recorded music. Amplified music is typically 88 dBA at 20 feet and would be 55.5 dBA at the closest receptors (La Vista Blanc Condominiums), conservatively assuming the worst-case scenario that the noise source would be at the western edge of the ice rink/recreation zone (approximately 100 feet from the western property line). As such, noise levels would have the potential to exceed the Town's daytime standard. Therefore, Mitigation Measure NOI-3 is required to ensure that amplified noise sources (speakers, bandstands, etc.) are located at a sufficient distance (i.e., 160 feet) from the property line and sound levels are limited to 82 dBA at 20 feet during the day to comply with the Town's standards. Additionally, Mitigation Measure NOI-3 prohibits amplified music after 10:00 p.m., unless the volume of the amplification system is adjusted to not exceed 78 dBA at 20 feet from the source. This adjustment would ensure that noise levels do not exceed the Town's nighttime standard at the property line. Impacts would be less than significant with implementation of Mitigation Measure NOI-3.

¹⁰ Reference event noise measurement taken at an Orange County Women's Soccer League game on June 3, 2007. Noise monitoring equipment used for the soccer game consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a 4189 pre-polarized free-field microphone. This monitoring equipment complies with applicable requirements of the American National Standards Institute for Type I (precision) sound level meters.

Park Playground. The park playground is currently approximately 200 feet away from the Chateau Blanc Condominiums (the closest sensitive receptors). The proposed project would not relocate the park and the size of the playground would remain the same. Playground noise is typically 60 dBA at approximately 40 feet away.¹¹ Playground noise would be approximately 46 dBA at the Chateau Blanc Condominium property line (the closest sensitive receptors, located 180 feet to the north), which is within the Town's standards. Additionally, the park playground is an existing use, and noise levels would not increase substantially over existing conditions with implementation of the proposed project. Impacts would be less than significant in this regard.

Active Outdoor Recreation Area. The active outdoor recreation area would be located west of the proposed structures and would potentially include a dog park, a BMX bicycle dirt track (during summer months), sledding hill (during winter months), and/or a community garden. The potential activities would be located as close as 60 feet east of the La Vista Blanc Condominiums, but most activities would be 100 feet away or more. Noise generated from activities within the active outdoor recreation area would primarily consist of people congregating, conversations, children playing, and dogs barking.

Noise levels typically associated with dog parks (barking, conversations) is 52 dBA at 50 feet. Noise associated with children playing (e.g., sledding, biking, etc.) is typically 56 dBA at 50 feet. Activities at the active outdoor recreation area would occur throughout an approximately 600 square foot area and would not be focused in one location. On average, noise from active outdoor recreation areas would be approximately 100 feet from the closest La Vista Blanc receptors to the west. At this distance, recreational noise would be approximately 50.0 dBA.

Noise from the active outdoor recreation area may be audible at the building interiors along the property line. The outdoor-indoor attenuation rate for typical construction is 24 dBA with windows closed and 12 dBA with windows open.¹² Therefore, active outdoor recreation area noise would be reduced to 26 dBA with windows closed and 38 dBA with windows open and would not exceed the Town's daytime exterior standards. An exceedance of the Town's nighttime standard could occur. Therefore, Mitigation Measure NOI-2 would be required to prohibit use of the active outdoor recreation area after 10:00 p.m. Impact in this regard would be less than significant with implementation of Mitigation Measure NOI-2.

Parking. Noise associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. Also, noise would primarily remain on-site and would be intermittent (during peak-events). However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Parking lot noise can also be considered a "stationary" noise source. Estimates of the maximum noise levels associated with some parking lot activities are presented in Table 5.8-14, Maximum Noise Levels Generated by Parking Lots.

¹¹ Edward L. Pack Associates, Inc., *Noise Assessment Study for the Rocketship School*, October 23, 2015.

¹² U.S. Environmental Protection Agency, *Protective Noise Levels (EPA 550/9-79-100)*, November 1978.

Table 5.8-14
Maximum Noise Levels Generated by Parking Lots

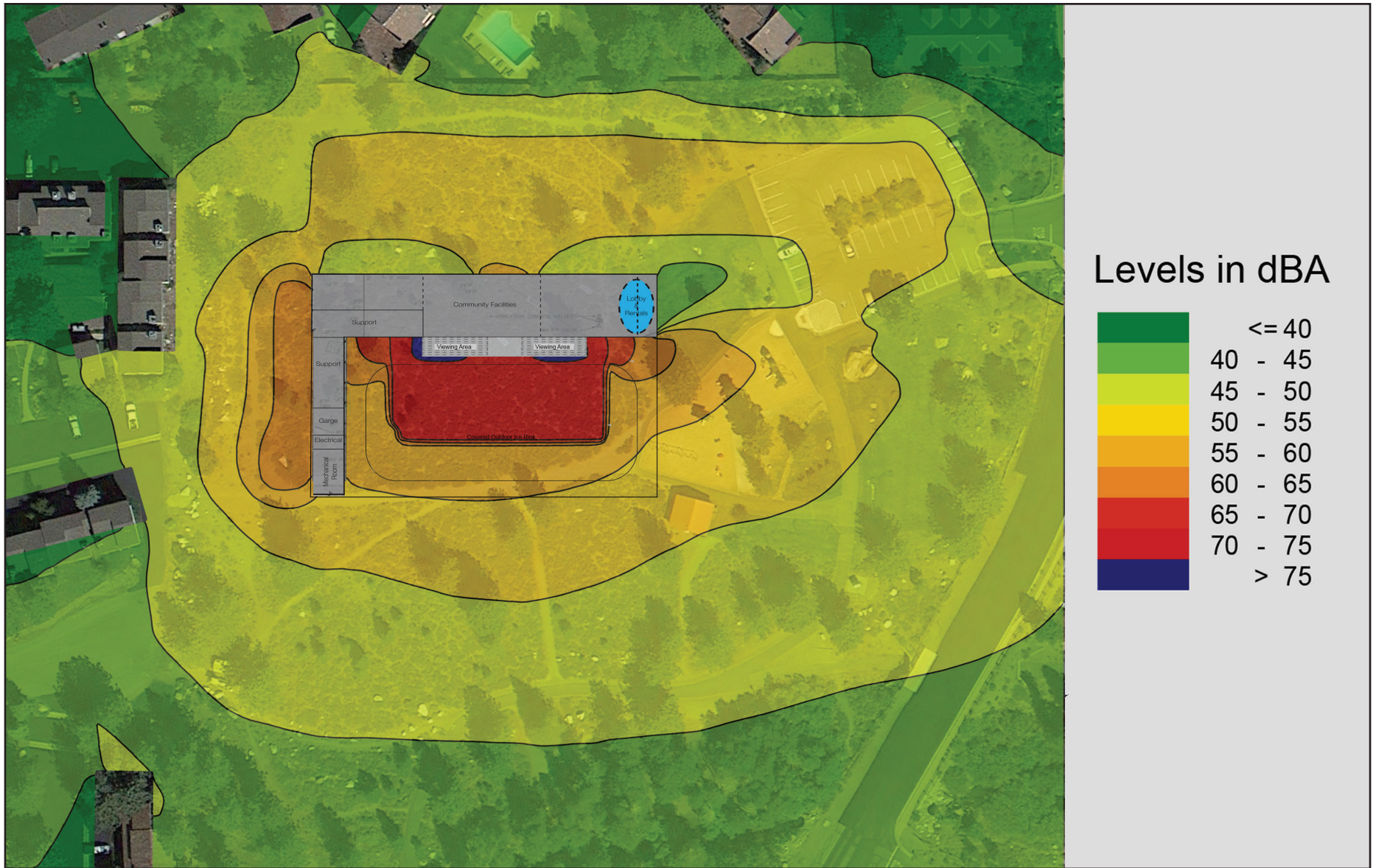
Noise Source	Maximum Noise Levels at 50 Feet from Source
Car door slamming	63 dBA L_{eq}
Car starting	60 dBA L_{eq}
Car idling	61 dBA L_{eq}

The noise generated in the parking lot would be at a distance of approximately 50 feet from the nearest sensitive receptors. Additionally, parking lot noise currently exists at the project site from current park use. Although the parking lot is proposed to expand to the west, noise associated with parking activities would not expose sensitive receptors to noise levels in excess of the Town's Noise Standards as the noise would be partially masked by landscaping and intervening topography that would be within the building setbacks. Additionally, the noise levels in [Table 5.8-14](#) are event noise levels and would not occur for long enough periods of time to result in an exceedance of the Town's time-averaged standards. Therefore, the sensitive receptors would not be exposed to excessive noise from parking areas. A less than significant impact would occur in this regard.

Combined Noise Levels

Noise levels associated with the worst-case simultaneous activities during the winter (i.e., ice hockey, crowd noise, active outdoor recreation, and the mechanical equipment) and during the summer (i.e., recreation zone and crowd noise) were modeled with the SoundPLAN three-dimensional noise model. SoundPLAN allows computer simulations of noise situations, and creates noise contour maps using reference noise levels, topography, point and area noise sources, mobile noise sources, and intervening structures. Noise contours associated with the worst-case recreational activities are depicted in [Exhibit 5.8-3, *Recreational Noise Contours*](#), and represent the collective noise level from simultaneous activities (described in the analysis above) at the project site with implementation of Mitigation Measures NOI-2 and NOI-3. As indicated in [Exhibit 5.8-3](#), the combined noise levels during the worst-case scenario would not exceed the Town's noise standards.

As noted above, the Town's noise standards of 55 dBA in the daytime and 50 dBA at night for multi-family uses are per the Noise Ordinance (Municipal Code Chapter 8.16). The Town currently utilizes the standards in the Noise Ordinance, which have superseded the 1997 Noise Element standards (the noise element was not updated in the 2007 General Plan Update. However, [Exhibit 5.8-3](#) and the analysis above demonstrate that the proposed project would not exceed the Town's Noise Ordinance Standards or the General Plan 1997 Noise Element standards (50 dBA hourly L_{eq} in the daytime and 45 dBA hourly L_{eq} at night, as well as the 70 dBA maximum daytime and the 65 dBA maximum nighttime levels. It should be noted that occasional special events (occasional outdoor gatherings, public dances, shows, and sporting and entertainment events) would be required to apply for an Administrative Permit (Special Event Permit). As noted in the Noise Ordinance (Municipal Code Chapter 8.16.100 – Exemptions), such events are exempted from the specific limits set by the Noise Ordinance.



NOT TO SCALE

Michael Baker
INTERNATIONAL



12/16 • JN 151373

ENVIRONMENTAL IMPACT REPORT
MAMMOTH CREEK PARK WEST
NEW COMMUNITY MULTI-USE FACILITIES
Recreational Noise Countours

Exhibit 5.8-3

The implementation of Mitigation Measures NOI-2 and NOI-3 would be required to ensure compliance with the Town's noise standards. Impacts would be less than significant with implementation of Mitigation Measures NOI-2 and NOI-3.

Mitigation Measures:

- NOI-2 Prior to issuance of the certificate of occupancy for the new Community Multi-Use Facilities, the Town's Community Development and Economic Manager shall ensure that operational hours of ice hockey and hockey tournaments at the ice rink and the active outdoor recreational area do not occur past 10:00 p.m. This limitation shall be enforced by the Parks and Recreation Director.
- NOI-3 Prior to occupancy of the community center, the Town shall develop and implement a Noise Control Plan for event operations that have live or recorded amplified music. The Noise Control Plan shall contain the following elements:
- Amplified noise sources (e.g., speakers, bandstands, etc.) shall be located more than 160 feet from the project's western and northern boundaries. Speaker systems shall also be directed away from the nearest sensitive receptors.
 - Amplification systems that would be used during the daytime (7:00 a.m. to 10:00 p.m.) shall include and utilize a processor to control the maximum output that the speakers can reach. Noise levels during this period shall not exceed 82 dBA at 20 feet from the source. Activities permitted pursuant to Municipal Code Chapter 8.16.100 – Exemptions, shall not be subject to this limit. All other non-permitted activities shall be subject to the limits set forth in this mitigation measure.
 - Amplification systems that would be used after 10:00 p.m. shall include and utilize a processor to control the maximum output that the speakers can reach. Noise levels during this period shall not exceed 78 dBA at 20 feet from the source. Activities permitted pursuant to Municipal Code Chapter 8.16.100 – Exemptions, shall not be subject to this limit. All other non-permitted activities shall be subject to the limits set forth in this mitigation measure.
 - The contact telephone number and email addresses of the appropriate Parks and Recreation Department representatives shall be posted at each facility entrance for neighbors to lodge noise complaints or other concerns. Complaints shall be addressed in a diligent and responsive manner.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

5.8.5 CUMULATIVE IMPACTS

Table 4.1, *Cumulative Projects List*, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a

significant cumulative effect may occur. The following discussions are included per topic area to determine whether a significant cumulative effect would occur.

SHORT-TERM CONSTRUCTION NOISE IMPACTS

- **GRADING AND CONSTRUCTION WITHIN THE AREA COULD RESULT IN SIGNIFICANT SHORT-TERM NOISE IMPACTS TO NEARBY NOISE SENSITIVE RECEIVERS, FOLLOWING IMPLEMENTATION OF MITIGATION MEASURES.**

Impact Analysis: Construction activities associated with the proposed project and cumulative projects may overlap, resulting in construction noise in the area. However, construction noise impacts primarily affect the areas immediately adjacent to the construction site. The closest cumulative project is the Mammoth Creek Inn expansion project, located approximately 200 feet to the northeast across Old Mammoth Road. This project would add 12 units to the existing inn and would not require extensive earthwork or heavy equipment that generates the loudest construction noise levels. The next closest cumulative project is Snowcreek VIII project, located as close as 350 feet to the south. It should be noted that the Snowcreek VIII site is over 200 acres in size and majority of the site is 1,000 feet away or more. The two projects (proposed project and Snowcreek VIII) are also separated by Old Mammoth Road. As such, cumulative noise impacts would not occur due to site distance. The proposed project and Snowcreek VIII would be required to comply with the Town's Municipal Code limitations on allowable hours of construction. The Mammoth Creek Gap Closure Project is located approximately 450 feet to the south of the proposed project and would not result in significant cumulative construction noise impacts, as this is a trail improvement project and would not involve substantial disturbance activities. The proposed project would also implement Mitigation Measure NOI-1 to reduce construction noise impacts to less than significant levels. Therefore, the project's contribution to cumulative noise impacts would be less than significant.

Mitigation Measures: Refer to Mitigation Measure NOI-1.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

VIBRATION IMPACTS

- **PROJECT IMPLEMENTATION WOULD NOT RESULT IN SIGNIFICANT VIBRATION IMPACTS TO NEARBY SENSITIVE RECEPTORS.**

Impact Analysis: As stated above, construction activities associated with the proposed project and cumulative projects may overlap. Despite the potential for overlap, groundborne vibration generated at the project site during construction would not be in exceedance of the Federal Transit Administration 0.2 inch/second threshold. In addition, there would be no vibration impacts associated with operations at the project site. The nearest cumulative projects are Mammoth Creek Inn, located 200 feet northeast; Snowcreek VIII, located approximately 350 feet south; and the Mammoth Creek Gap Closure Project, located approximately 450 feet to the south of the proposed project site. No cumulative vibration impacts would occur at this distances. Therefore, vibration impacts of the proposed project would not be cumulatively considerable. Further, the cumulative development projects would be required to implement any required mitigation measures that may be

prescribed pursuant to CEQA provisions. Therefore, the project's contribution to cumulative vibration impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM (MOBILE) NOISE IMPACTS

- **TRAFFIC GENERATED BY THE PROPOSED PROJECT WOULD NOT SIGNIFICANTLY CONTRIBUTE TO EXISTING TRAFFIC NOISE IN THE AREA OR EXCEED THE TOWN'S ESTABLISHED STANDARDS.**

Impact Analysis: The cumulative mobile noise analysis is conducted in a two-step process. First, the combined effects from both the proposed project and other projects are compared. Second, for combined effects that are determined to be cumulatively significant, the project's incremental effects then are analyzed. The project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "cumulative with project" condition to "existing" conditions. This comparison accounts for the traffic noise increase from the project generated in combination with traffic generated by projects in the cumulative projects list. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

Combined Effects. The cumulative with project noise level ("Future With Project") would cause a significant cumulative impact if a 3.0 dB increase over existing conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use.

Although there may be a significant noise increase due to the proposed project in combination with other related projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the proposed project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

Incremental Effects. The "Future With Project" causes a 1.0 dBA increase in noise over the "Future Without Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded. Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Consequently, only proposed projects and growth due to occur in the general vicinity of the project site would contribute to cumulative noise impacts. Table 5.8-15, Cumulative Noise Scenario, lists the traffic noise effects along roadway segments in the project vicinity for "Existing", "Future Without Project", and "Future With Project", including incremental and net cumulative impacts.

**Table 5.8-15
Cumulative Noise Scenario**

Roadway Segment	Existing	Future Without Project	Future With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference In dBA Between Existing and Future With Project	Difference In dBA Between Future Without Project and Future With Project	
Old Mammoth Road						
North of Meridian Boulevard	58.8	59.4	59.4	0.6	0	No
Chateau Road to Meridian Boulevard	58.5	59.2	59.2	0.7	0	No
South of Project Driveway	56.4	58.0	58.0	1.6	0	No
Meridian Boulevard						
West of Old Mammoth Road	65.1	65.4	65.4	0.3	0	No
East of Old Mammoth Road	64.7	64.9	64.9	0.2	0	No
Chateau Road						
West of Old Mammoth Road	51.2	52.3	52.4	1.2	0.1	No
Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level						
Source: Noise modeling is based upon traffic data within the Mammoth Community and Multi-Use Facilities Focused Traffic Impact Analysis, prepared LSC Transportation Consultants, July 29, 2016.						

First, it must be determined whether the “Future With Project” increase above existing conditions (*Combined Effects*) is exceeded. Per [Table 5.8-15](#), this criteria is not exceeded along any of the segments. Next, under the *Incremental Effects* criteria, cumulative noise impacts are defined by determining if the forecast ambient (“Future Without Project”) noise level is increased by 1.0 dB or more. Based on the results of [Table 5.8-15](#), there would not be any roadway segments that would result in significant impacts, as they would not exceed either the combined or the incremental effects criteria. The proposed project would not result in long-term mobile noise impacts based on project generated traffic as well as cumulative and incremental noise levels. Therefore, the proposed project, in combination with cumulative background traffic noise levels, would result in a less than significant cumulative impact in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LONG-TERM (STATIONARY) NOISE IMPACTS

- THE PROPOSED PROJECT WOULD NOT RESULT IN A SIGNIFICANT INCREASE IN LONG-TERM STATIONARY AMBIENT NOISE LEVELS.

Impact Analysis: Although the related cumulative projects have been identified within the project study area, the noise generated by stationary equipment on-site cannot be quantified due to the speculative nature of conceptual nature of each development. However, each cumulative project would require separate discretionary approval and CEQA assessment, which would address potential noise impacts and identify necessary attenuation measures, where appropriate. Additionally, as noise dissipates as it travels away from its source, noise impacts from stationary sources would be limited to each of the respective sites and their vicinities. The nearest related project to the project site would be Mammoth Creek Inn, which is a 12 unit expansion on the existing structure. Future operations of the expanded Mammoth Creek Inn would be similar to existing conditions and would not contribute to a cumulative long-term noise impact. The next closest cumulative project is Snowcreek VIII (located approximately 350 feet to the south). It should be noted that the Snowcreek VIII site is over 200 acres in size and majority of the site is 1,000 feet away or more. The two projects (proposed project and Snowcreek VIII) are also separated by Old Mammoth Road. As such, cumulative stationary noise impacts would not occur due to site distance. As noted above, the proposed project would not result in significant stationary noise impacts. The proposed project would not result in stationary long-term equipment that would significantly affect surrounding sensitive receptors with the implementation of Mitigation Measures NOI-2 and NOI-3. Thus, the proposed project and identified cumulative projects are not anticipated to result in a significant cumulative impact.

Mitigation Measures: Refer to Mitigation Measures NOI-2 and NOI-3.

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

5.8.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No unavoidable significant impacts related to air quality have been identified following implementation of the recommended Mitigation Measures NOI-1 through NOI-3 and compliance with the applicable Federal, State, and local regulatory requirements.