4.10 NOISE

This section evaluates the potential noise and vibration impacts that could result from implementation of the proposed project due to temporary construction impacts and long-term operational impacts. The section describes the existing noise environment, identifies sensitive receptors to noise and vibration that could be affected by the proposed project, presents relevant noise and vibration regulations and standards, evaluates the potential effects of construction and operation on these receptors, and identifies mitigation measures as appropriate. This section is based on the *Noise Impact Assessment for Carmel Lagoon EPB, SRPS, and ISMP Project, Monterey County, CA* prepared by Ambient Air Quality and Noise Consulting (Ambient, 2016), contained in **Appendix I**.

Public and agency comments related to noise and vibration were received during the public scoping period, and are summarized below:

- Evaluate potential impacts associated with construction noise; and
- Evaluate potential noise impacts from operation of pumps associated with the proposed EPB project component.

To the extent that issues identified in public comments involve potentially significant effects on the environment according to the CEQA and/or are raised by responsible agencies, they are identified and addressed within this EIR. For a complete list of public comments received during the public scoping period, refer to **Appendix A**, **NOP and Public Comment Letters**.

4.10.1 Environmental Setting

4.10.1.1 Noise Characteristics

Noise is generally defined as sound that is loud, disagreeable, or unexpected. Sound, as described in more detail below, is mechanical energy transmitted in the form of a wave because of a disturbance or vibration.

AMPLITUDE

Amplitude is the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels (dB) on a logarithmic scale. For example, a 65 dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). Amplitude is interpreted by the ear as corresponding to different degrees of loudness. Laboratory measurements correlate a 10 dB increase in amplitude with a perceived doubling of loudness and establish a 3 dB change in amplitude as the minimum audible difference perceptible to the average person.

FREQUENCY

Frequency is the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz (Hz). One Hz equals one cycle per second. The human ear is not equally sensitive to sound of different frequencies. Sound waves below 16 Hz or above 20,000 Hz cannot be heard at all, and the ear is more sensitive to sound in the higher portion of this range than in the lower. To approximate this sensitivity, environmental sound is usually measured in A-weighted decibels (dBA). On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA. Common community noise sources and noise levels are depicted in **Table 4.10-1**.

Table 4.10-1. Typical Noise Levels in the Environment

Common Outdoor Noise Source	Noise Level (dBA)*	Common Indoor Noise Source
	120 dBA	
Jet fly-over at 300 meters		Rock concert
	110 dBA	
Pile driver at 20 meters	**100 dBA**	
		Night club with live music
	90 dBA	
Large truck pass by at 15 meters		
	80 dBA	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 meters	**70 dBA**	Vacuum cleaner at 3 meters
Commercial/Urban area daytime		Normal speech at 1 meter
Suburban expressway at 90 meters	**60 dBA**	
Suburban daytime		Active office environment
	50 dBA	
Urban area nighttime		Quiet office environment
	40 dBA	
Suburban nighttime		
Quiet rural areas	**30 dBA**	Library
		Quiet bedroom at night
Wilderness area	**20 dBA**	
Most quiet remote areas	**10 dBA**	Threshold of human hearing
Threshold of human hearing	**0 dBA**	

* Typical A-weighted sound levels. The A-weighted decibel scale approximates the frequency response of the human ear.

ADDITION OF DECIBELS

Because decibels are logarithmic units, sound levels cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces a sound level of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together would produce an increase of 5 dB.

SOUND PROPAGATION & ATTENUATION

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path, and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, depending on ground surface characteristics. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground

attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between a line source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation for soft surfaces results in an overall attenuation rate of 4.5 dB per doubling of distance from a line source.

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in an approximate 5 dB of noise reduction. Taller barriers provide increased noise reduction.

NOISE DESCRIPTORS

The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the sound-pressure level in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz, and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies, which is referred to as the "A-weighted" sound level (expressed in units of dBA). The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-weighted noise scale. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but these scales are rarely used in conjunction with environmental noise.

The intensity of environmental noise fluctuates over time, and several descriptors of time-averaged noise levels are typically used. For the evaluation of environmental noise, the most commonly used descriptors are L_{eq}, L_{dn}, and CNEL. The energy-equivalent noise level, L_{eq}, is a measure of the average energy content (intensity) of noise over any given period. Many communities use 24-hour descriptors of noise levels to regulate noise. The day-night average noise level, L_{dn}, is the 24-hour average of the noise intensity, with a 10-dBA "penalty" added for nighttime noise (10 p.m. to 7 a.m.) to account for the greater sensitivity to noise during this period. CNEL, the community equivalent noise level, is similar to L_{dn} but adds an additional 5-dBA penalty for evening noise (7 p.m. to 10 p.m.). Common noise descriptors are summarized in **Table 4.10-2**.

Table 4.10-2. Common Acoustical Terms and Descriptors

Descriptor	Definition
Decibels (dB)	A unit-less measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to referenced sound pressure amplitude. The reference pressure is 20 micro-pascals.
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level in dB that approximates the frequency response of the human ear.
Energy Equivalent Noise Level (L_{eq})	The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value (in dBA) is calculated.
Minimum Noise Level (L_{min})	The minimum instantaneous noise level during a specific period of time.
Maximum Noise Level (L_{max})	The maximum instantaneous noise level during a specific period of time.
Day-Night Average Noise Level (DNL or L_{dn})	The 24-hour L_{eq} with a 10 dBA "penalty" for noise events that occur during the noise-sensitive hours between 10:00 p.m. and 7:00 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours to account for increases sensitivity to noise during these hours.
Community Noise Equivalent Level (CNEL)	The CNEL is similar to the L_{dn} described above, but with an additional 5 dBA "penalty" added to noise events that occur between the hours of 7:00 p.m. to 10:00 p.m. The calculated CNEL is typically approximately 0.5 dBA higher than the calculated L_{dn}.

HUMAN RESPONSE TO NOISE

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases. The acceptability of noise and the threat to public well-being are the basis for land use planning policies preventing exposure to excessive community noise levels.

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and habituation to noise over differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted: the so-called "ambient" environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged. Regarding increases in A-weighted noise levels, knowledge of the following relationships will be helpful in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans;

- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference;
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected. An increase of 5 dB is typically considered substantial; and
- A 10-dB change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

NOISE-SENSITIVE RECEPTORS

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are also considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest sensitive receptors consist predominantly of residential dwellings, the nearest of which are generally located adjacent to and north of the proposed project area. Carmel River Elementary School and the Mission Ranch Hotel is located adjacent to, and north of, the proposed project site, south of 14th Avenue. In addition, Junipero Serra School and Carmel Mission Basilica/Museum are also located north of the proposed project site and east of Dolores Street. With the exception of Junipero Serra School and Carmel Mission Basilica/Museum, which are within the City, the other nearest residential land uses, as well as, Carmel River Elementary School and the Mission Ranch are located within the unincorporated portion of Monterey County. The nearest land uses are depicted in **Figure 4.2-1** in **Section 4.2, Air Quality**.

AMBIENT NOISE ENVIRONMENT

To document existing ambient noise levels at the proposed project site, short-term ambient noise measurements were conducted on July 29, 2015. Noise measurements were conducted using a Larson Davis Laboratories, Type I, Model 820 integrating sound-level meter positioned at a height of approximately 4.5 feet above ground level. Measured ambient noise levels are summarized in **Table 4.10-3**. Noise measurement locations are depicted in Figure 2 of the study in **Appendix I**. Based on the noise measurement surveys conducted, average-hourly daytime noise levels generally range from the low to upper 40's, in dBA L_{eq}. Ambient noise levels during the late evening and nighttime hours are roughly 5 to 10 dBA below daytime ambient noise levels. Based on the noise measurement surveys conducted, ambient noise levels in the proposed project area are estimated to be approximately 60 dBA CNEL/L_{dn}, or less. Ambient noise levels were primarily influenced by vehicular traffic on area roadways.

Table 4.10-3. Ambient Noise Measurements*

Location**	Monitoring Period	Noise Level (dBA)	
		L_{eq}	L_{max}
1 – Carmel River Beach Parking Lot	0845-0900	44.0	58.4
	1020-1035	48.8	68.7
	1400-1410	47.9	66.3
2 – River Park Place	0910-0920	42.4	58.7
	1430-1440	47.4	55.2
3 – Mission Ranch Parking Lot	0938-0948	46.7	62.1
	2215-2230	40.6	57.3
4 – Dolores Street, West of Junipero Serra School	0953-1003	47.3	68.4
5 – Monte Verde Street, Southern Terminus	1006-1013	40.2	48.3
6 – Carmelo Street	0820-0830	44.7	59.6
	1500-1510	46.3	64.2

** Noise measurements were conducted on July 29, 2015 using a Larson Davis Laboratories, Type I, Model 820 integrating sound-level meter positioned at a height of approximately 4.5 feet above ground level.*
***Noise measurement locations are depicted in Figure 2 of the Noise Study (**Appendix I**).*

4.10.1.2 Vibration Characteristics

There are no Federal, State, or local regulatory standards for ground-borne vibration. However, various criteria have been established to assist in the evaluation of vibration impacts. For instance, the Caltrans has developed vibration criteria based on potential structural damage risks and human annoyance. Caltrans-recommended criteria for the evaluation of ground-borne vibration levels, with regard to structural damage and human annoyance, are summarized in **Table 4.10-4** and **Table 4.10-5**, respectively. The criteria differentiate between transient and continuous/frequent sources. Transient sources of ground-borne vibration include intermittent events, such as blasting; whereas, continuous and frequent events would include the operations of equipment, including construction equipment, and vehicle traffic on roadways (Caltrans 2002, 2004).

Table 4.10-4. Damage Potential to Buildings at Various Ground-borne Vibration Levels

Structure and Condition	Vibration Level (in/sec ppv)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely Fragile Historic Buildings, Ruins, Ancient Monuments	0.12	0.08
Fragile Buildings	0.2	0.1
Historic and Some Old Buildings	0.5	0.25
Older Residential Structures	0.5	0.3
New Residential Structures	1.0	0.5
Modern Industrial/Commercial Buildings	2.0	0.5

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans 2002, 2004

Table 4.10-5. Annoyance Potential to People at Various Ground-borne Vibration Levels

Human Response	Vibration Level (in/sec ppv)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely Perceptible	0.04	0.01
Distinctly Perceptible	0.25	0.04
Strongly Perceptible	0.9	0.10
Severe	2.0	0.4

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans 2002, 2004

The ground-borne vibration criteria recommended by Caltrans for evaluation of potential structural damage is based on building classifications, which take into account the age and condition of the building. For residential structures and newer buildings, Caltrans considers a minimum peak-particle velocity (ppv) threshold of 0.5 inches per second (in/sec) for transient sources and 0.3 in/sec for continuous/frequent sources to be sufficient to protect against building damage. With the exception of fragile buildings, ruins, and ancient monuments, continuous ground-borne vibration levels below approximately 0.2 in/sec ppv are unlikely to cause structural damage. In terms of human annoyance, continuous vibrations in excess of 0.04 in/sec ppv and transient sources in excess of 0.25 in/sec ppv are identified by Caltrans as being "distinctly perceptible." Within buildings, short periods of ground vibration in excess of 0.2 in/sec ppv are generally considered to result in increased levels of annoyance (Caltrans 2002, 2004).

4.10.2 Regulatory Environment

4.10.2.1 State

CALIFORNIA BUILDING CODE

The 2014 CBC (Chapter 12, Appendix Section 1207.11.2) regulates environmental noise intrusion. Interior noise levels attributable to exterior sources cannot exceed 45 CNEL. Regulated structures proposed where exterior noise levels exceed 60 CNEL require an acoustical analysis demonstrating that the proposed design will maintain interior noise levels at or below 45 CNEL. Further, if the interior standard can only be met with the windows closed, then the proposed buildings shall be supplied with some form of mechanical ventilation.

4.10.2.2 Regional/Local

RELEVANT PLANNING DOCUMENTS

The 1982 Monterey County General Plan, Carmel Area Land Use Plan, Carmel Area Coastal Implementation Plan, Point Lobos State Reserve and Carmel River State Beach General Plan, CCA, and California PRC contain a variety of policies related to noise hazards. Please refer to **Section 4.9, Land Use and Planning** for a description of these regulations and plans, and **Appendix C, Applicable Land Use Plans, Policies, and Regulations Consistency Analysis for the Carmel Lagoon Project** for a list of relevant policies and the consistency analysis.

The Noise Element of the 1982 Monterey County General Plan, which is currently applicable within the coastal zone, contains policies and noise standards designed to protect the community from the harmful and annoying effects associated with exposure to excessive noises. The 1982 Monterey County General Plan includes maximum allowable exterior noise criteria for evaluation of land use compatibility. Noise compatibility of proposed development is determined in comparison to these standards. Land use compatibility noise standards are categorized as "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable." The County's land use compatibility noise standards are summarized in **Table 4.10-6**.

Table 4.10-6. Land Use Compatibility for Exterior Community Noise

Land Use Category	Noise Range (L_{dn} or CNEL) dB			
	I	II	III	IV
Passively Used Open Spaces	50	50-55	55-70	70+
Auditoriums, Concert Halls, Amphitheaters	45-50	50-65	65-70	70+
Residential – Low Density Single Family, Duplex, Mobile Homes	50-55	55-70	70-75	75+
Residential – Multi Family	50-60	60-70	70-75	75+
Transient Lodging – Motels, Hotels	50-60	60-70	70-80	80+
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-60	60-70	70-80	80+
Actively Used Open Spaces – Playgrounds, Neighborhood Parks	50-67	---	67-73	73+
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-70	---	70-80	80+
Office Buildings, Business, Commercial, and Professional	50-67	67-75	75+	---
Industrial, Manufacturing, Utilities, Agriculture	50-70	70-75	75+	---
Noise Range I -- Normally Acceptable: Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.				
Noise Range II -- Conditionally Acceptable: 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.				
Noise Range III – Normally Unacceptable: New construction or development should generally 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.				
Noise Range IV: Clearly Unacceptable: New construction or development should generally not be undertaken.				
Source: County, 1982				

COUNTY OF MONTEREY CODE OF ORDINANCES

The County of Monterey Noise Control Ordinance is included in Chapter 10.60 of the County's Code of Ordinances. The County's noise ordinance establishes a maximum noise-level standard of 85 dB at 50 feet for non-transportation noise sources. The County's noise ordinance was recently updated in 2014 to also include nighttime noise limitations for non-transportation noise sources. During the nighttime hours between 10:00 p.m. and 7:00 a.m., noise levels shall not exceed 45 dBA L_{eq} or 65 dBA L_{max}, measured at the property line of the noise source. Noise generated by some activities, including but not limited to, devices associated with religious services, emergency vehicles, commercial agricultural operations, and outdoor gatherings, are exempt. The ordinance applies in coastal and non-coastal unincorporated areas of the County.

CITY OF CARMEL-BY-THE-SEA GENERAL PLAN

The City of Carmel-by-the-Sea General Plan Noise Element identifies land use compatibility noise standards for various types of land uses. Land use compatibility noise standards are categorized as "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable," consistent with those identified in the 1982 County of Monterey General Plan (refer to **Table 4.10-6**)

CITY OF CARMEL-BY-THE-SEA CODE OF ORDINANCES

The City noise ordinance is contained in Section 8.56 of the City's Municipal Code. The purpose of the City's noise ordinance is to prohibit unnecessary, excessive and annoying noises from sources in the City. The City's noise ordinance also identifies hourly limitations for construction activities that require a building permit. Accordingly, construction activities are typically limited to between the hours of 8:00 a.m. to 6:30 p.m., Monday through Saturday. The noise ordinance also identifies sources considered to be exempt from noise ordinance standards, including noise emanating from equipment operated in the public interest or for emergency or safety purposes.

Noise standards and limitations are also identified in various other sections of the City's municipal code. For instance, Section 17.28.020 establishes noise limitations for electrical and mechanical equipment, such as generators for electrical power, pumps, and heating or air conditioning systems. Noise levels from stationary equipment are limited to a noise emission standard of 60 dB or three dB above ambient whichever is greater, as measured at the property boundary. Use of electrical power generators is limited to periods when electrical power from the utility is not available. During such periods generators should be run intermittently to the extent practical to minimize the disturbance of neighbors. In addition, Section 17.14.050 establishes noise standards applicable to commercial districts. For commercial uses located within 300 feet of a residential (R-1) land use, noise levels are limited to 50 dBA measured at the property line of the receiving land use. This noise standard is reduced by 5 dBA for noise consisting of a "steady whine, screech or hum, or is repetitive or percussive or contains music or speech."

4.10.3 Impacts and Mitigation

4.10.3.1 Significance Criteria

Based on Appendix G of the State CEQA Guidelines, the project would result in significant impacts related to noise and vibration if it would:

a. expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

b. expose persons to or generation of excessive groundborne vibration or groundborne noise levels;

c. have substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

d. have a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

e. 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, would the project expose people residing or working in the project area to excessive noise levels; or

f. for a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

4.10.3.2 Impact Analysis Overview

APPROACH TO ANALYSIS

The noise and vibration impact assessment evaluates short-term impacts associated with construction of the proposed project. It also assesses long-term operational impacts (i.e., those resulting from operation of the proposed EPB and SRPS project components). The impact discussion analyzes substantial increases in ambient noise levels in the vicinity of the proposed project component sites. In addition, the assessment uses local noise standards and applicable daytime exceptions as the basis for significance thresholds. The assessment of potential noise impacts was conducted using information on existing ambient noise levels and the anticipated noise that would be produced during construction and operation of the proposed project. The assessment of vibration impacts was conducted using information on anticipated vibration during construction and operation of the proposed project based on anticipated equipment and activities to occur at each site.

The evaluation of permanent and temporary noise impacts were based on noise standards identified in local general plans and noise ordinances. For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 3 dB, or greater. As previously noted, increases of less than 3 dB are generally not discernible to the human ear. Projects resulting in a substantial increase in ambient noise levels of 3 dB, or greater, that exceed the above thresholds would be considered to have a potentially significant impact.

In accordance with the County's noise control ordinance, construction-generated noise levels would be considered significant if daytime noise levels would exceed 85 dB at 50 feet from the source. Nighttime noise levels would be considered significant if nighttime noise levels at the property line of the nearest noise-sensitive land use would exceed 45 dBA L_{eq} or 65 dBA L_{max}.

Long-term operational noise levels from non-transportation sources would be considered potentially significant if resultant noise levels at the nearest property line were to exceed 50 dBA L_{eq} during the daytime hours (7:00 a.m. to 10:00 p.m.) or 45 dBA L_{eq} during the nighttime hours (10:00 p.m. to 7:00 a.m.) For noise sources that are tonal, such as pumps and motors, these standards are reduced by 5 dBA to account for the increased potential for annoyance. Intermittent non-transportation noise that exceeds 65 dBA L_{max} at the nearest property line during the nighttime hours would also be considered to have a potentially significant impact. These standards are consistent with the County's nighttime noise standards, which were recently updated in 2014, as well as the City's noise ordinance standards. It is also important to note that these daytime noise standards, when averaged over a 24-hour period, would equate to an average daily noise level of approximately 50-55 dBA CNEL/L_{dn}, which would be below the land use compatibility standards identified by the County and City for noise-sensitive land uses. As a result, compliance with these hourly limitations would also ensure consistency with applicable general plan land use policies and related noise standards for land use compatibility.

Ground-borne vibration levels would be considered to have a potentially significant impact if resultant vibration levels at the nearest structures would exceed 0.3 in/sec ppv for structural damage and 0.2 in/sec ppv for annoyance to building occupants, based on Caltrans-recommended thresholds (refer to **Tables 4.10-4** and **4.10-5**).

Methodology

A combination of existing literature, noise level measurements, and application of accepted noise prediction and sound propagation algorithms were used for the prediction of short-term construction and long-term operational noise levels. Stationary source noise levels were evaluated based on represented noise level data obtained from existing environmental documentation. Noise levels at nearby land uses were calculated based on an average noise attenuation rate of 6 dB per doubling of distance from the source. Ground-borne vibration levels were calculated based on representative vibration levels obtained for similar equipment and methodologies recommended by the California Department of Transportation for construction related activities (Federal Transit Administration 2006; Caltrans 2004.)

AREAS OF NO IMPACT

The proposed project would not result in impacts related to the some of the significance criteria, as explained below. Impact analyses related to the other criteria are addressed in the following section.

(b) Result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels. (No impact during operation of the proposed project). Operation of the proposed onsite stationary equipment, including the emergency generator and water pumps located in the underground vault, would not result in detectable increases in ground-borne vibration at nearby structures.

(d) Have a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (No impact during operation of the proposed project). Criterion d evaluates short-term impacts. Operations of the proposed project would have long-term impacts, which are evaluated under criterion c.

(e) 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, would the project expose people residing or working in the project area to excessive noise levels? (No impact during construction or operation of the proposed project). The proposed project would not affect airport operations nor result in the installation of sensitive land uses in the vicinity of an airport. As a result, evaluation of potential exposure to aircraft noise is not discussed further.

(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs or be out of compliance with Federal, State, and local statutes and regulations related to solid waste. (No impact during construction or operation of the proposed project). The proposed project would not affect private airstrip operations nor result in the installation of sensitive land uses in the vicinity of an airport. As a result, evaluation of potential exposure to aircraft noise is not discussed further.

4.10.3.3 Impacts and Mitigation Measures

Impact NV-1: Construction Ground-Borne Vibration and Noise. Construction of the proposed project would not expose sensitive receptors to excessive ground-borne vibration and noise levels. (Criterion b) (EPB: Less-than-Significant with Mitigation) (SRPS: Less-than-Significant) (ISMP: Less-than-Significant) (Project Overall: Less-than-Significant with Mitigation)

Increases in ground-borne vibration levels associated with the proposed project would be primarily associated with short-term construction-related activities. Construction activities would involve the use

of various off-road equipment, such as tractors, dozers, and haul trucks. For the proposed EPB project component, the reconstruction of Carmelo Street may also require the use of vibratory rollers and installation of the proposed sheet pile wall and would require the use of vibratory pile drivers.

Ground-borne vibration levels associated with representative construction equipment are summarized in **Table 4.10-7**. With the exception of pile drivers, ground vibration generated by construction equipment would not be projected to exceed approximately 0.08 in/sec ppv at 25 feet. For typical construction activities, not including pile driving, predicted vibration levels at the nearest offsite structures, would not exceed the minimum recommended criteria for structural damage and human annoyance (0.2 and 0.1 in/sec ppv, respectively). As a result, ground vibration levels associated with the SRPS and ISMP project components would have a less-than-significant impact.

Ground vibration levels associated with pile driving can vary depending on multiple factors such as the type of pile being installed (e.g., vinyl sheet, steel sheet, steel post, timber post, concrete post), depth of penetration, length of pile, soil conditions, and the type and size of the pile driving hammer being used (e.g., impact, vibratory). For lighter weight sheet piles, the piles are typically driven into the soil with the use of a vibratory pile driver. In some instances, depending on soil conditions, impact pile drivers may also be used. In order to protect the vinyl piling from potential damage, vibratory hammers having lower impact energy are used. The energy ratings of pile driver hammers can vary from approximately 2,000 foot-pounds (ft-lbs) to more than 50,000 ft-lbs for piles anticipated to have high bearing loads. For sheet piles, the energy ratings of pile-driving hammers can vary ranging from approximately 2,000 ft-lbs to as much as 15,000 ft-lbs for heavier-weight materials, such as steel sheet piles. As noted above, the specific size of the hammer used would depend on pile driving conditions (Ahlvin 1988; University of Maryland 2015).

Table 4.10-7. Representative Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity at 25 Feet (In/Sec)
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozers/Tractors	0.003
Hoe Ram	0.089
Vibratory Roller	0.21
Pile Driver	0.644-1.518
Large Bulldozer	0.089
Source: FTA 2006, Caltrans 2004	

The proposed vinyl sheet pile locations associated with the proposed EPB project component are depicted in **Figure 4.2-1** in **Section 4.2, Air Quality**. The nearest residential structures are located approximately 38 to 120 feet from the proposed pile driving area. Assuming a distance of 38 feet to the nearest structures and sheet pile hammer energy ratings of 2,000 to 15,000 ft-lbs, predicted ground vibration levels at the nearest residential structures would range from approximately 0.1 to 0.4 in/sec ppv. Ground vibration levels could potentially exceed the thresholds for structural damage (i.e., 0.3 in/sec ppv). In addition, pile driving activities would result in detectable vibration levels at the nearest residences that could exceed 0.2 in/sec ppv and could result in increased levels of annoyance to building occupants, particularly during the more sensitive nighttime hours. Predicted ground-borne vibration

levels at the nearest residential structure associated with other construction activities (e.g., excavation, road demolition, road paving, and control building construction) would be approximately 0.06 in/sec ppv, or less, and would not exceed the thresholds for structural damage or human annoyance. Because ground vibration levels associated with sheet pile driving could potentially exceed applicable thresholds, ground-borne vibration levels associated with the proposed EPB project component would be potentially significant. Implementation of **Mitigation Measure NV-1 (Ground-Borne Vibration and Noise Reduction Measures)** would reduce the impact to a less-than-significant level.

Impact Conclusion

Ground-borne vibration would primarily be associated with pile drivers. Therefore, ground-borne impacts associated with the proposed SRPS and ISMP project components are less-than-significant. The pile driving associated with the proposed EPB project component would result in excessive construction-related groundborne vibration and groundborne noise at the proposed EPB project component site, resulting in a significant impact. Implementation of **Mitigation Measure NV-1** would reduce this potentially significant impact to a less-than-significant level.

Mitigation Measure

Mitigation Measure NV-1: Ground-Borne Vibration and Noise Reduction Measures (Applies to EPB project component). To reduce ground vibration impacts associated with sheet pile driving, the following measures are recommended for construction of the EPB project component.

a. Implement **Mitigation Measure NV-2 (Construction Noise Reduction Measures)**.

b. Prior to initiation of pile driving activities, a Construction Vibration Mitigation Plan (CVMP) shall be developed to minimize construction vibration damage using all reasonable and feasible means available. The CVMP shall identify all areas where pile driving would result in ground vibrations at nearby structures that would exceed 0.3 in/sec ppv for potential structural damage or an annoyance threshold of 0.2 in/sec at occupied structures (e.g., residential dwellings). The CVMP shall specify the design/construction methods and equipment specifications sufficient to meet these thresholds. The CVMP shall be reviewed and approved by County planning staff prior to initiation of pile driving activities.

c. With the permission of property owners, the contractor or designated representative(s) shall conduct pre-construction monitoring surveys for structures located within potentially affected areas that could exceed applicable thresholds for structural damage. The pre-construction surveys shall document existing structural conditions (e.g., cracks in stucco). The contractor or designated representative(s) shall respond to any complaints of damage resulting from vibration-generating activities promptly, within 5 working days after the complaint is received. Reported structural damages identified in the complaint shall be compared to pre-construction survey data/reports and a determination made as to whether damages are a result of construction-induced vibration levels. Confirmed damages shall be promptly repaired to pre-construction conditions, or better. Repairs shall be initiated within 14 working days. Pre-construction survey requirements and methodologies shall be included in the CVMP.

d. Ground-borne vibration levels associated with pile driving activities shall be monitored when pile driving activities occur within 75 feet of existing structures. With the permission of property owners, monitoring should be conducted at the nearest building façade. In instances where monitoring cannot be conducted at the structure, vibration monitoring shall be conducted at the nearest accessible location (e.g., property line) and resultant

vibration levels at the building façade calculated based on monitored vibration levels and commonly applied ground-attenuation rates that are reflective of site conditions. If vibration levels at the structure are found to exceed 0.3 in/sec ppv, pile driving activities shall be halted immediately and alternative construction methods implemented to maintain vibration levels below this threshold. Vibration monitoring requirements and methodologies shall be included in the CVMP.

Impact NV-2: <u>Construction Noise</u>. Construction activities associated with the proposed EPB and SRPS project components and implementation of the proposed ISMP project component would result in a substantial temporary or periodic (i.e., short-term) increase in ambient noise levels in the vicinity of the proposed project and would exceed noise level standards and/or result in nuisance impacts at sensitive receptors. (Criterion a and d) (EPB: Significant and Unavoidable) (SRPS: Less-than-Significant with Mitigation) (ISMP: Less-than-Significant) (Project Overall: Significant and Unavoidable)

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g., land clearing, grading, excavation, and paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Although noise ranges are generally similar for all construction phases, the initial site preparation phase tends to involve the most heavy-duty equipment having a higher noise-generation potential. Noise levels associated with individual construction equipment likely required for construction of the proposed project are summarized in **Table 4.10-8**.

Table 4.10-8. Typical Construction Equipment Noise Levels

Equipment	Typical Noise Level (dBA) at 50 feet	
	L_{max}	L_{eq}
Air Compressor	78	74
Backhoe	78	74
Compactor	83	76
Concrete Mixer	79	75
Crane, Mobile	81	73
Dozer	82	78
Excavator	81	77
Forklift	85	81
Generator	81	78
Grader	85	81
Loader	79	75
Truck	77	73
Paver	77	74

Equipment	Typical Noise Level (dBA) at 50 feet	
	L_{max}	L_{eq}
Pile Driver	101	94
Pneumatic Tool	85	82
Roller	80	73
Source: FTA 2006		

As depicted in **Table 4.10-8**, intermittent noise levels generated by individual pieces of construction equipment typically ranges from approximately 77 dBA to 101 dBA L_{max} at 50 feet. Average-hourly noise levels typically range from approximately 73 dBA to 94 dBA L_{eq} at 50 feet (Federal Transit Administration 2006).

Noise-sensitive land uses located in the vicinity of the proposed SRPS project component consist primarily of residential dwellings. The nearest dwellings are located north of proposed SRPS project component area, across Scenic Road. The Carmel River Beach Trail Head is also located at the State Beach Parking Lot, which is adjacent to and north of the proposed SRPS project component proposed location. During construction of the proposed SRPS project component, short-term construction noise levels at nearby residences could reach levels up to approximately 84 dBA L_{eq}. Haul trucks required for the delivery of construction materials (e.g., rock and sand) would also result in short-term detectable increases in traffic noise levels along nearby roadways. The sounding of backup alarms, as well as, brake squeal and material dumping activities can generate instantaneous noise levels in excess of 85 dBA L_{max}. Instantaneous noise levels associated with nearby off-road equipment, on-road haul truck operations, and material handling activities could generate levels in excess of 85 dBA L_{max} at nearby residential uses.

The highest proposed project-generated construction noise levels would be associated with pile driving activities during construction of the proposed EPB project component, which would occur at distance of approximately 38 to 120 feet from the nearest residential property lines. Based on these distance and the maximum noise levels noted in **Table 4.10-8**, predicted noise levels at the property line of the nearest residential uses during pile driving could reach levels of up to approximately 96 dBA L_{eq} and 103 dBA L_{max}.

Construction-generated noise levels associated with construction of the proposed project components would exceed the County's instantaneous daytime noise standard of 85 dBA at 50 feet. Furthermore, although not proposed at this time, in the event that construction activities were to occur during the nighttime hours, resultant noise levels at the property line of the nearest residences would exceed the County's noise standards of 45 dBA L_{eq} and 65 dBA L_{max}. Construction activities would result in a substantial increase in ambient noise levels that could exceed applicable noise standards. In addition, construction activities occurring during the more noise-sensitive nighttime hours, if required, would be anticipated to result in increased levels of annoyance and potential sleep disruption.

With implementation of **Mitigation Measure NV-2**, construction activities would be limited to the less noise-sensitive daytime hours of 8:00 a.m. and 6:30 p.m., Monday through Saturday. These hourly restrictions are consistent with the City's more restrictive hourly limitation. Noise-generating construction activities would also be prohibited on Sundays and State-recognized holidays.

With implementation of **Mitigation Measure NV-2**, a Construction Noise Mitigation Plan (CNMP) would also be required to identify areas of potential impact associated with major noise-generating activities

(e.g., pile-driving) and the noise mitigation measures to be employed to reduce resultant noise levels in an effort to achieve the County's instantaneous noise standard of 85 dBA. Noise-reduction measures commonly used to reduce construction noise levels include the use of equipment mufflers and engine shrouds, selection of quieter equipment, and use of sound-absorbing materials, enclosures, or temporary barriers. The use of mufflers and engine shrouds can reduce equipment noise levels by up to 10 dB. The use of enclosures and barriers can reduce noise levels by approximately 5 to 15 dB. For most construction activities and off-road equipment associated with the proposed EPB and SRPS project components, these measures would likely be sufficient to reduce instantaneous noise levels to below 85 dBA. Implementation of **Mitigation Measure NV-2** would reduce temporary noise impacts at the proposed SRPS project component site to a less-than-significant level. However, given the proximity of existing residential land uses to the proposed pile driving locations, construction of the proposed EPB project component would likely still exceed the County's noise standard at the nearest residential property lines. Implementation of **Mitigation Measure NV-2** would reduce construction noise at the proposed EPB project component site, but would not reduce the impact to a less-than-significant level. Therefore, construction noise impacts associated with the proposed EPB project component would remain significant and unavoidable even with implementation of mitigation measures.

The proposed ISMP project component would not result in the construction of a structure. Activities carried out as part of the implementation of the proposed ISMP project component may result in temporary increased noise levels; however, noise levels associated with proposed ISMP project component activities are not likely to exceed the County's noise standards. Implementation of the proposed ISMP project component would have a less-than-significant impact.

Impact Conclusion

For most construction activities and off-road equipment associated with the proposed EPB and SRPS project components, these measures would likely be sufficient to reduce instantaneous noise levels to below 85 dBA. Implementation of **Mitigation Measure NV-2** would reduce temporary noise impacts at the proposed SRPS project component site to a less-than-significant level. However, given the proximity of existing residential land uses to the proposed pile driving locations, construction of the proposed EPB project component would likely still exceed the County's noise standard at the nearest residential property lines. Implementation of **Mitigation Measure NV-2** would reduce construction noise at the proposed EPB project component site, but would not reduce the impact to a less-than-significant level. Therefore, construction noise impacts associated with the proposed EPB project component would remain significant and unavoidable.

Mitigation Measure

Mitigation Measure NV-2: <u>Construction Noise Reduction Measures</u>. (Applies to EPB and SRPS project components).

1) Prior to initiation of construction, a CNMP shall be prepared. The CNMP shall identify all areas where pile driving or other major noise-generating construction activities would result in noise levels at nearby land uses that would exceed instantaneously levels of 85 dBA. The CNMP shall be reviewed and approved by County planning staff prior to initiation of construction. The CNMP shall include, at a minimum, the following components:

    - Identification of noise-reduction measures to be implemented with a noise-reduction goal sufficient to achieve the County's instantaneous noise standard of 85 dBA. Noise-reduction measures may include, but are not limited to, the use of quieter equipment,

equipment enclosures/surrounds, construction of temporary noise barriers, and/or installation of equipment noise control.

- A construction noise complaint and response program. Notification and response procedures/measures to be implemented in response to noise-related complaints shall be identified. The name(s) of designated noise-control representative(s) and daytime contact information shall be included.
- A construction noise monitoring program sufficient to provide verification that resultant noise levels associated with noise-generating construction activities would not exceed the County's daytime intermittent noise standard of 85 dBA.

2) Advance written notification shall be provided to property owners and building occupants that are located adjacent to construction areas. Notification shall be provided a minimum of 5 days prior to initiation of project construction. The notification shall identify the name and phone number of the construction representative to be contacted regarding construction-related complaints, as well as, County of Monterey Planning Department contact information. Additional information regarding anticipated hours and dates of construction and recommended measures to minimize noise-related impacts (e.g., closure of building windows) shall also be included in the notification.
3) Noise-generating construction activities shall be limited to between the hours of 8:00 a.m. and 6:30 p.m., Monday through Saturday. Noise-generating construction activities shall be prohibited on Sundays and State-recognized holidays.
4) Construction equipment should be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds should be closed during equipment operation.
5) Lay-down yards and semi-stationary equipment such as pumps or generators shall be located at the furthest practical distance from noise-sensitive land uses.
6) Quieter equipment shall be selected to the extent locally available.

Impact NV-3: <u>Operational Noise</u>. Operation of the proposed project would result in a substantial permanent (i.e., long-term) increase in ambient noise levels, and would exceed noise level standards and/or result in nuisance impacts at sensitive receptors. (Criteria a, c, and d) (EPB: Significant and Unavoidable) (SRPS: Less-than-Significant) (ISMP: No Impact) (Project Overall: Significant and Unavoidable)

Implementation of the proposed project would not result in substantial increases in traffic volumes along area roadways. Typically, a doubling of vehicle traffic would be required before a noticeable increase (i.e., 3 dBA, or greater) in traffic noise levels would occur. The operation of the proposed project would not result in a doubling of vehicle traffic. Please refer to **Section 4.12, Traffic and Circulation**. No sources of instantaneous, single-event noise would be associated with the long-term operation of the proposed project. Therefore, noise impacts associated with the operation of the proposed SRPS project component are less-than-significant.

However, the proposed EPB project component would include the installation of stationary equipment, including water pumps and an emergency generator that would result in long-term operational noise

levels. The proposed pump station and control building housing the emergency generator would be generally located adjacent to and east of Carmelo Street, just north of 17th Avenue (refer to **Figure 4.2-1** in **Section 4.2, Air Quality**). Operational noise levels associated with the pumps and emergency generator associated with the proposed EPB project component are discussed below.

PUMPS

The pump station would include the installation of two 100-hp submersible pumps (one duty pump and one back-up pump) and one approximate 25-hp submersible jockey pump. The submersible pumps would be installed below grade within an approximate 12-foot diameter precast concrete vault. Based on representative manufacturer data obtained for equipment of similar size, operational noise levels for the pumps would range from approximately 83 to 87 dBA at one meter (Flowserve, 2016.) Assuming operation of both the duty and jockey pumps were to occur simultaneously, combined operational noise levels would be approximately 89 dBA. However, these noise levels are for non-submersible pumps operating under free-field conditions. Given that the pumps would be submerged and located below grade within a concrete vault, operational noise levels at the surface would be reduced by approximately 10 dBA, or more.

The nearest receptor property lines are located approximately 40 feet to the west, across Carmelo Street, and approximately 85 feet to the northeast. Based on these distances, the noise levels discussed above, and taking into consideration a minimum reduction of 10 dBA for the concrete vault, the highest predicted noise levels at the property line of the nearest land uses would range from approximately 49 dBA L_{eq} at the northeast residential property line to approximately 56 dBA L_{eq} at the residential property line to the west.

EMERGENCY GENERATOR

A standby emergency generator would be installed at the site to provide auxiliary power to the pump station during power outages. The generator would be housed within a proposed control building to be located adjacent to and east of Carmelo Street, approximately 40 feet north of the proposed pump station. The size of the proposed generator would be approximately 240 brake horsepower. The design, building materials, and sound attenuation characteristics of the proposed control building have not yet been identified. In accordance with air quality permitting requirements, routine testing of the generator would be limited to 50 hours per year. Although no daily hourly limitations are specified, emergency generators are typically tested for approximately one hour on a monthly basis.

Noise sources associated with emergency generators and control buildings typically include cooling fans, engine noise, exhaust noise, and structural/mechanical noise caused by mechanical vibration of various structural parts and components. Based on representative manufacturer data obtained for equipment of similar size, combined operational noise levels at full load are estimated to range from approximately 86 to 95 dBA at seven meters (Cummins Power, 2008). With the inclusion of sound attenuation, including exhaust mufflers/silencers and enclosures, operational noise levels for generators can be reduce by approximately 20 dB, or more.

The nearest receptor property lines are located approximately 10 feet to the northeast and approximately 40 feet to the west, across Carmelo Street. Assuming operational noise level of 95 dBA at seven meters and a nominal reduction of 5 dB for building attenuation without the inclusion of added noise attenuation features/design, predicted noise levels at the property line of the nearest land uses would range from approximately 85 dBA L_{eq} at the residential property line to the west to approximately 97 dBA L_{eq} at the northeast residential property line.

COMBINED NOISE LEVELS

Assuming that both the pumps and the emergency generator were to operate simultaneously, predicted noise levels would be approximately 77 dBA L_{eq} at the nearest residential property line to the west, across Carmelo Street, and approximately 87 dBA L_{eq}, at the property line of the residence to the north. Predicted noise levels would exceed applicable daytime and nighttime noise thresholds of 45 dBA L_{eq} and 40 dBA L_{eq}, respectively. Operational activities associated with the proposed EPB project component would result in a substantial increase in ambient noise levels that could exceed applicable noise standards. This impact is potentially significant.

In accordance with **Mitigation Measure NV-3**, stationary-source noise levels for the pump house and generator would be required to reduce operational noise levels in an effort to achieve daytime and nighttime noise standards of 45 dBA L_{eq} and 40 dBA L_{eq}, respectively. These noise limitations are consistent with applicable County and City noise standards and include an added -5 dB penalty to account for the increased levels of annoyance associated with tonal noise sources generated by pumps and motors. Commonly applied noise-reduction measures typically include the use of enclosures, noise-absorbing materials, acoustical vents/baffles, and exhaust silencers. Overall, noise-reductions commonly associated with these measures can vary from approximately 10 to 25 dB, depending on the type of equipment installed and facility design. However, even if maximum noise reductions of up to 25 dB were to be achieved, predicted operational noise levels for both the pump station and the generator/control building would still be projected to exceed applicable thresholds at the nearest residential property line. Implementation of **Mitigation Measure NV-3** would reduce operation noise, but would not reduce the impact to a less-than-significant level. Therefore, operational noise impacts associated with the proposed EPB project component would remain significant and unavoidable even with implementation of mitigation measures.

Impact Conclusion

The operation of the proposed SRPS project component would not result in a substantial, permanent increase in ambient noise levels as the vehicle trips require are minimal and there are no stationary noise sources. The predicted operational noise levels for both the pump station and the generator/control building at the proposed EPB project component site are projected to exceed applicable thresholds at the nearest residential property line. Implementation of **Mitigation Measure NV-3** would reduce operational noise, but would not reduce the impact to a less-than-significant level. Therefore, operational noise impacts associated with the proposed EPB project component would remain significant and unavoidable.

Mitigation Measure

Mitigation Measure NV-3: Conduct Acoustical Analysis for Operational Noise Levels. (Applies to EPB project component). Prior to construction of the pump station and control building/emergency generator, an acoustical analysis shall be prepared to assess operational noise levels. The acoustical analysis shall identify appropriate site design and noise-attenuation features to be implemented with a noise-reduction goal sufficient to achieve daytime and nighttime noise standards of 45 dBA L_{eq} and 40 dBA L_{eq}, respectively. Noise standards shall be applied at the property line of the nearest noise-sensitive land use. The acoustical analysis shall be submitted to and approved by the County of Monterey Planning Department prior to construction.

4.10.4 References

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