

4.12 Noise and Vibration

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This section evaluates the potential noise and vibration impacts associated with construction and operation of the Monterey Peninsula Water Supply Project (MPWSP or proposed project). This section describes the existing noise environment, identifies nearby sensitive receptors, and presents relevant local noise ordinances and standards. This evaluation focuses on noise and vibration impacts on humans and structures; noise and vibration effects on marine and terrestrial wildlife are addressed in Sections 4.5, Marine Biological Resources, and 4.6, Terrestrial Biological Resources, respectively.

4.12.1 Key Concepts and Terminology

4.12.1.1 Noise

Sound is mechanical energy transmitted by pressure waves through a medium such as air or water; the manner in which sound travels through this medium is influenced by the physical properties of the medium (such as temperature, density, and humidity). Noise is often defined as unwanted sound. Of the various noise descriptors used to characterize the loudness of a sound, the sound pressure level has become the most common.

The human ear is not equally sensitive to all frequencies on the audible sound spectrum; for this reason, human response is factored into sound descriptions in a process called “A-weighting.”

expressed as “dBA.” The dBA, or A-weighted decibel, is a scale of noise measurement that approximates the range of sensitivity of the human ear to sounds of different frequencies. On this scale, the normal range of human hearing extends from about 0 dBA to about 140 dBA.

Sound can vary in intensity by over 1 million times within the range of human hearing; for this reason, the decibel scale is based on logarithms (a system used to shorten calculations in mathematics), which keeps sound pressure measurements within a convenient and manageable range. Because the decibel scale is logarithmic in nature, two noise sources do not combine in a simple additive fashion. For example, if two sources each produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. The noise levels presented in this section are expressed in dBA, unless otherwise indicated.

Stationary noise sources such as idling vehicles or onsite construction equipment are considered “point sources,” and noise originating from these sources “attenuates,” or decreases, based on certain physical principles (e.g., spherical spreading¹). In accordance with these principles, this analysis assumes that noise originating from a point source within 200 feet of a receiver attenuates at a rate of 6.0 dBA per doubling of distance, and noise from a point source greater than 200 feet away attenuates at a rate of 7.5 dBA per doubling of distance (Caltrans, 2009). Application of these attenuation rates account for such factors as the absorption of noise waves into ground surfaces, vegetation, and intervening structures.

Noise Exposure and Community Noise

The sound pressure level is a measure of noise experienced by an individual at a given moment, and noise exposure is a measure of noise experienced over a period of time. However, consistent noise levels rarely persist over a long period of time. In fact, community noise varies continuously with time and in relation to the contributing sources of sound within the noise environment. Community noise is primarily the product of many distant noise sources that combine to create a relatively stable background noise environment, and individual contributors to the community noise level are generally unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition and subtraction of distant noise sources as well as changes in atmospheric conditions. The addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens) makes community noise constantly variable throughout a day.

Because of these successive additions of sound to the community noise environment, the community noise level varies from instant to instant. Therefore, to appropriately characterize the community noise environment and evaluate cumulative noise impacts, noise exposure must be measured over a period of time. This time-varying nature of environmental noise is characterized using statistical noise descriptors. In addition to dBA, the following noise descriptors are used in this evaluation:

¹ Noise attenuates as sound waves spherically spread over hard and soft surfaces.

| | |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dB | The decibel (dB) scale is used to quantify sound intensity, with 0 dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. |
| dB(A) | A-weighted decibels (dBA) are measured using a filter that de-emphasizes the frequencies below 1,000 hertz (Hz) and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies. |
| L_{eq} | The energy-equivalent sound level (L_{eq}) provides a single numerical value for noise measured over a specified period of time. The L_{eq} is the average noise exposure level for the given time period. |
| L_{max} | The instantaneous maximum noise level (L_{max}) measured during the measurement period. |
| L_{dn} or DNL | The day-night average sound level (DNL) is the average of the A-weighted sound levels occurring during a 24-hour period and accounts for the greater sensitivity of most people to noise at night. DNL "penalizes" noise occurring between 10:00 p.m. and 7:00 a.m. by adding 10 dBA to nighttime noise levels. |
| CNEL | Similar to DNL, the community noise equivalent level treats each evening noise event as though it were three, which adds a 4.77-dB "penalty" for noise events occurring between 7:00 p.m. and 10:00 p.m. Nighttime events are multiplied by ten, which adds a 10-dB penalty to noise events occurring between 10:00 p.m. and 7:00 a.m. |

Effects of Noise on People

The effects of noise on people can be placed into three categories: the subjective effects of annoyance, nuisance, and dissatisfaction; interference with activities such as speech, sleep, and learning; and physiological effects such as hearing loss or sudden startling. Environmental noise typically produces effects in the first two categories. Workers at industrial plants often experience noise in the third category. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important method of predicting human reactions to a new noise environment is to compare the new noise level to the existing noise level to which one has adapted (i.e., the ambient noise level). In general, the more a new noise level exceeds the former ambient noise level, the less acceptable the new noise environment will be judged. A California Department of Transportation (2009) study reports the following human responses to changes in noise levels:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived.
- Outside of the laboratory, a 3-dBA increase is considered a "barely perceptible" difference (i.e., the change in noise is perceived but does not cause a human response).
- An increase of at least 5 dBA is required before any noticeable change in human response is expected.
- A 10-dBA increase is subjectively heard as an approximate doubling in loudness.

4.12.1.2 Groundborne Vibration

Vibration is an oscillatory motion through a solid medium. In contrast to airborne noise, groundborne vibration is not a common environmental problem. It is unusual for individuals to perceive vibration from sources such as buses and trucks, even in locations near major roads. However, some common vibration sources produce groundborne vibration that can be felt (e.g., construction activities such as blasting, pile driving, and operating heavy equipment).

There are several methods employed to quantify vibration. The measurement used in this analysis—peak particle velocity (PPV)—is defined as the maximum instantaneous peak of the vibration signal. PPV is used to describe vibration impacts on buildings and structures and is expressed in inches per second (in/sec). Typically, groundborne vibration generated by human activity attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures); people (residents, especially the elderly and sick); and locales with vibration-sensitive equipment such as hospitals, research labs, and production facilities for computer-chip manufacturing.

The responses of human receptors and structures to vibration are influenced by a combination of factors, including soil/rock type, distance from the source, duration, and the number of perceived events. Energy transmitted through the ground as vibration can reach levels that cause structural damage; however, humans are very sensitive, and the vibration amplitudes that can be perceived by humans are well below the levels that cause architectural or structural damage. Caltrans (2004) characterizes the annoyance potential of vibration as follows: 0.01 in/sec PPV is “barely perceptible,” 0.04 in/sec PPV is “distinctly perceptible,” 0.1 in/sec PPV is “strongly perceptible,” and 0.4 in/sec PPV is “severe.”

In general, cosmetic or architectural damage to modern residential and commercial buildings can occur at vibrations over 0.5 in/sec PPV. For architectural damage to historic buildings, this analysis uses a vibration threshold of 0.12 in/sec PPV (Wilson, Ihrig, & Associates et al., 2012). To put these vibration levels in context, a locomotive traveling at 50 miles per hour at a distance of 25 feet from the track centerline can result in vibrations of 0.12 in/sec PPV, while an impact pile driver can produce vibration in the range of 0.644 in/sec PPV at a distance of 25 feet (FTA, 2006).

4.12.2 Setting

4.12.2.1 Existing Noise Environment

Much of the project area experiences relatively moderate (50 to 60 dBA, L_{eq}) noise levels due to its proximity to noise sources. Vehicle traffic is the predominant source of noise throughout the project area. During peak traffic hours, vehicle noise generally ranges between 50 and 80 dBA, L_{eq} depending on distance from the major roadways. Coastal winds can generate peak noise levels in the range of 50 to 60 dBA, L_{max} . Typical noise sources in the vicinity of the proposed project components are described below.

Typical Noise Sources

Coastal Dunes and Agricultural Areas

Land uses in the vicinity of the proposed Seawater Intake System, MPWSP Desalination Plant, and Desalinated Water Pipeline are dominated by farmland, grazing land, and industrial uses such as the CEMEX sand mining facility at the coast, and the Monterey Regional Water Pollution Control Agency (MRWPCA) Regional Wastewater Treatment Plant and Monterey Regional Environmental Park to the east and southeast of the MPWSP Desalination Plant site, respectively. The proposed Transmission Main would be aligned north-south along the Monterey Peninsula Recreational Trail on the west side of Highway 1. The primary sources of noise in these areas are vehicle traffic along Highway 1, farm equipment, industrial vehicles (i.e., truck hauling) and equipment, and coastal winds.

Mixed-Use Commercial Areas

Land uses in the vicinity of the proposed Monterey Pipeline and Valley Greens Pump Station (both site options) are best characterized as commercial uses mixed with residential, institutional, and quasi-public uses. The primary sources of noise are vehicle traffic on local roadways, vehicle horns, human voices (in conversation), and other urban sounds such as music, indoor appliances, and outdoor power and heating, ventilation, and cooling equipment.

Residential Areas

The proposed Transfer Pipeline, ASR Conveyance Pipelines, ASR Pump-to-Waste Pipeline, ASR-5 and ASR-6 Wells, and Main System–Hidden Hills Interconnection Improvements are located in residential areas. The primary noise sources are vehicle traffic, school children, and household appliances.

Inland Open Space Areas

The proposed Terminal Reservoir and ASR Pump Station would be located in an undeveloped portion of the former Fort Ord military base. The noise environment includes the distant sound of vehicles traveling along General Jim Moore Boulevard amid naturally occurring sounds such as wind and chirping birds.

Office/Industrial Areas

Land uses adjacent to the proposed Ryan Ranch–Bishop Interconnection Improvements are primarily office and industrial, including various medical facilities. Vehicles traveling along Ragsdale Drive and Highway 68 are the primary source of noise.

Noise Measurements

Short-term and long-term noise measurements were collected in March 2013 and April 2014 to characterize ambient noise conditions at sensitive receptors located near project components. Short-term (10-minute) L_{eq} and L_{max} measurements were taken at ten locations during daytime hours. At locations where the potential exists for nighttime construction work, L_{eq} and L_{max} measurements were also taken during nighttime hours. One long-term (24-hour) measurement

was taken at the proposed MPWSP Desalination Plant site on Charles Benson Road. **Tables 4.12-1** and **4.12-2** present the measured short-term and long-term noise levels, respectively. **Figure 4.12-1** shows the noise monitoring locations where representative measurements were collected for each project component.

As indicated in **Table 4.12-1**, short-term daytime noise measurements ranged from 44.7 and 66.4 dBA L_{eq} , while peak noise levels ranged from 57.1 to 79.8 dBA L_{max} . Although noise sources varied from location to location, automobile traffic was the predominant source of noise at most monitoring locations.

One long-term (24-hour) noise measurement was collected at the proposed MPWSP Desalination Plant site (see **Figure 4.12-1**) on March 21 and 22, 2013. This noise measurement demonstrates that the MPWSP Desalination Plant would operate in a location where the daytime ambient noise environment is dominated by truck traffic and agricultural operations. See **Table 4.12-2** for the measured average daytime L_{eq} (7:00 a.m. to 10:00 p.m.), nighttime L_{eq} (10:00 p.m. to 7:00 a.m.), and DNL values. The predominant noise sources in the vicinity of the MPWSP Desalination Plant site were agricultural equipment at adjacent farmlands to the west, haul trucks and industrial equipment at the MRWPCA Regional Wastewater Treatment Plant to the east and the Monterey Peninsula Landfill and Monterey Regional Environmental Park to the south. **Table 4.12-2** shows the measured average daytime L_{eq} (7:00 a.m. to 10:00 p.m.), nighttime L_{eq} (10:00 p.m. to 7:00 a.m.), and DNL values.

Sensitive Receptors

Human response to noise varies considerably from one individual to another. Noise at various levels can interfere with sleep, concentration, and communication and cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries (i.e., where people engage in prayer, study, and contemplation) are also sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive land uses. The following subsections describe the locations of sensitive receptors in the vicinity of the proposed project components.

Subsurface Slant Wells

The closest sensitive receptor to the proposed subsurface slant wells are the mobile home park on Dunes Drive, which is approximately 0.75 mile (4,000 feet) south, and residences on Drew Street, approximately 0.8 mile (4,300 feet) to the southeast. Noise levels at this receptor are represented by monitoring location S3, shown in **Figure 4.12-1**.

Source Water Pipeline

There are two rural residences on Neponset Road approximately 1,100 feet (0.2 mile) north of the Source Water Pipeline alignment. Noise measurements taken at monitoring location S1 (see **Figure 4.12-1**) represent the noise environment at these sensitive receptors.

**TABLE 4.12-1
SHORT-TERM NOISE MEASUREMENTS FOR THE PROJECT COMPONENTS^a**

| Map ID ^b | Measurement Location | Time | L _{eq} | L _{max} | Predominant Noise Source(s) during Monitoring |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------|------------------|----------------------------------------------------------------------------------------|
| S1 | Neponset Road and Lapis Road → Rural residence located 3,900 feet west of MPWSP Desalination Plant site | 10:43 a.m. to 10:53 a.m. ^c | 61.8 | 75.0 | Vehicle traffic on Highway 1 and trucks at adjacent Dole Food Company processing plant |
| | | 10:51 p.m. to 11:01 p.m. ^d | 50.5 | 65.2 | |
| S2 | Cosky Road → Residential area in northern Marina, 600 feet east of Desalinated Water Pipeline | 11:05 a.m. to 11:15 a.m. ^c | 66.4 | 79.8 | Vehicle traffic, barking dog |
| | | 11:27 p.m. to 11:37 p.m. ^d | 42.3 | 47.6 | |
| S3 | Dunes Drive → Marina Dunes RV Park, 3,700 feet west of Desalinated Water Pipeline and 4,000 feet south of subsurface slant wells | 10:51 a.m. to 11:01 a.m. ^d | 54.5 | 60.3 | Distant vehicle traffic on Highway 1 |
| | | 11:08 p.m. to 11:18 p.m. ^d | 51.5 | 57.1 | |
| S4 | Ardennes Circle → Fitch Park military housing area, 50 feet northeast of ASR-5 Well site | 12:02 p.m. to 12:12 p.m. ^c | 54.3 | 62.4 | Vehicle traffic |
| | | 11:55 p.m. to 12:05 a.m. ^d | 52.0 | 72.9 | |
| S5 | Mescal Street → Residential area in Seaside, 1,600 feet west of Terminal Reservoir and ASR Pump Station | 12:22 p.m. to 12:32 p.m. ^c | 59.1 | 70.9 | Vehicle traffic |
| S6 | Franklin Street → Private residence near Franklin Street/Van Buren Street intersection in Monterey, adjacent to Monterey Pipeline | 1:36 p.m. to 1:46 p.m. ^c | 60.2 | 69.3 | Vehicle traffic |
| | | 12:28 a.m. to 12:38 a.m. ^d | 45.8 | 61.3 | |
| S7 | Eardley Street → Residence in Pacific Grove adjacent to proposed Monterey Pipeline | 2:03 p.m. to 2:13 p.m. ^c | 61.0 | 68.5 | Vehicle traffic |
| | | 12:48 a.m. to 12:58 a.m. ^d | 45.8 | 63.4 | |
| S8 | Tierra Grande Drive → Residential area in unincorporated Monterey County, adjacent to proposed Main System–Hidden Hills Interconnection Improvements | 3:13 p.m. to 3:23 p.m. ^c | 44.7 | 64.7 | Wind, birds |
| S9 | Canada de la Segunda Road → Private residence located approximately 700 feet north of the Valley Greens Pump Station site (Option 1) | 9:52 a.m. to 10:02 a.m. ^d | 64.3 | 73.2 | Vehicle traffic along Carmel Valley Road |
| S10 | York School located on York Road, 900 feet northeast of Ryan Ranch-Bishop Interconnection Improvements | 10:24 a.m. to 10:34 a.m. ^d | 45.8 | 60.1 | Distant vehicle traffic |

NOTES:

- ^a Noise measurements were taken at representative locations (see **Figure 4.12-1**) to characterize the existing noise environment in the project area.
- ^b Map ID = Noise monitoring locations shown on **Figure 4.12-1**.
- ^c Short-term (10-minute) noise measurement collected on March 20, 2013.
- ^d Short-term (10-minute) noise measurement collected on April 13, 2014.

SOURCE: ESA, 2013; 2014.

**TABLE 4.12-2
 LONG-TERM NOISE MEASUREMENT – MPWSP DESALINATION PLANT**

| Map ID ^a | Measurement Location | Daytime L _{eq} (7:00 a.m. to 10:00 a.m.) | Nighttime L _{eq} (10:00 p.m. to 7:00 a.m.) | DNL | Predominant Noise Sources during Monitoring |
|---------------------|----------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------|-----|----------------------------------------------------|
| L1 | Charles Benson Road, adjacent to MPWSP Desalination Plant site | 62 | 49 | 62 | Agricultural and industrial equipment, haul trucks |

NOTE:

^a Map ID = Noise monitoring locations shown on **Figure 4.12-1**.

SOURCE: ESA, 2013.

MPWSP Desalination Plant

The closest noise-sensitive receptors to the proposed MPWSP Desalination Plant site are the two rural residences on Neponset Road (noise monitoring location S1); these residences are approximately 0.4 mile (2,200 feet) and 0.75 mile (3,900 feet) west of the site, respectively.

Desalinated Water Pipeline

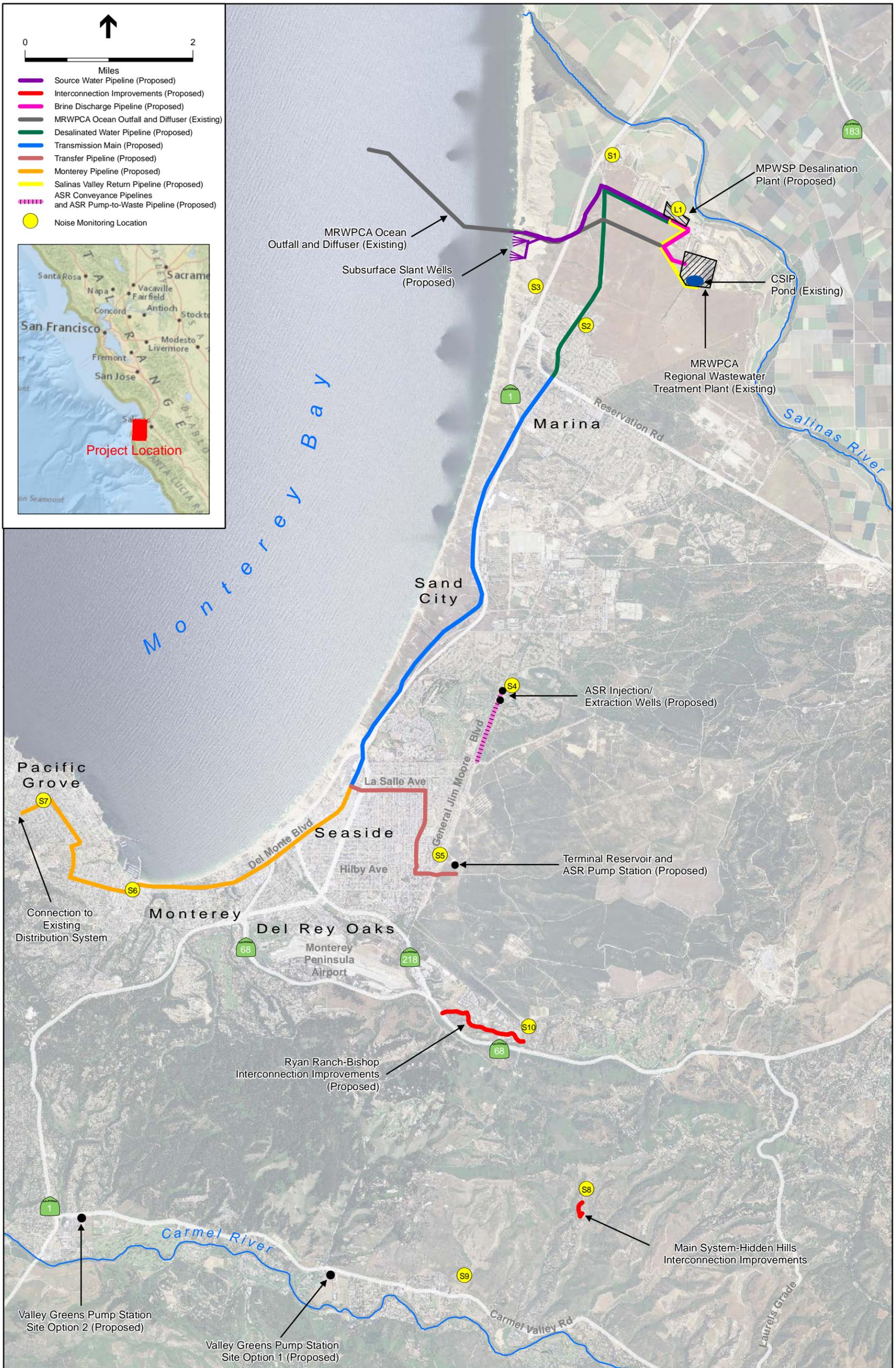
The proposed Desalinated Water Pipeline would extend east-west along Charles Benson Road, parallel to and south of the Source Water Pipeline, approximately 0.2 mile (1,100 feet) south of the two residences on Neponset Road (noise monitoring location S1). At Del Monte Boulevard, the Desalinated Water Pipeline would turn south and continue along the Monterey Peninsula Recreational Trail on the west side of Del Monte Boulevard for approximately 2.5 miles to a connection with the proposed Transmission Main at Reservation Road. The southern 0.65 mile (3,500 feet) of the Desalinated Water Pipeline alignment is within 100 feet of residences in Marina. Noise measurements taken at monitoring location S2 (see **Figure 4.12-1**) represent the noise environment at these residences.

Salinas Valley Return Pipeline and Brine Discharge Pipeline

The proposed Salinas Valley Return Pipeline would convey desalinated product water from the MPWSP Desalination Plant to the existing Castroville Seawater Intrusion Project (CSIP) pond for subsequent delivery to agricultural users in the Salinas Valley. The proposed Brine Discharge Pipeline would convey decanted effluent from the pretreatment filtration backwash cycle as well as reverse osmosis (RO) concentrate produced by the RO system to the existing MRWPCA outfall. The closest noise-sensitive receptor to the proposed alignments for the Salinas Valley Return Pipeline and Brine Discharge Pipeline is a rural residence on Neponset Road (noise monitoring location S1) approximately 3,600 feet to the west. There are no other noise-sensitive receptors within 5,000 feet of the pipeline alignments.

Transmission Main

The proposed Transmission Main would convey desalinated product water from Reservation Road along the Monterey Peninsula Recreational Trail and Transportation Agency for Monterey



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County (TAMC) right-of-way on the west side of Del Monte Boulevard to La Salle Avenue. The northernmost 0.5 mile (2,650 feet) of this pipeline alignment, east of Highway 1, is within 100 feet of residences in Marina. Noise measurements taken at monitoring location S2 (see **Figure 4.12-1**) represent the noise environment at these residences. West of Highway 1 the alignment is 500 feet or more from sensitive receptors. In Sand City, the alignment crosses to the east side of Highway 1 and parallels Del Monte Boulevard and La Salle Avenue. This segment is in a commercial area with few sensitive receptors.

Transfer Pipeline

The proposed Transfer Pipeline would convey water from the Transmission Main and Monterey Pipeline on Del Monte Boulevard to the Terminal Reservoir and ASR Pump Station, which would be located east of General Jim Moore Boulevard in the former Fort Ord military base. The Transfer Pipeline would be installed within the La Salle Avenue, Yosemite Street, and Hilby Avenue rights-of-way. The sensitive receptors along the Transfer Pipeline alignment are residences, schools, and a mobile home park. Noise measurements taken at monitoring location S5 (see **Figure 4.12-1**) represent the noise environment at these receptors.

ASR Improvements

The proposed ASR injection/extraction wells (ASR-5 and ASR-6 Wells) and ASR Settling Basin would be located east of General Jim Moore Boulevard and west of Ardennes Circle, adjacent to the Fitch Park military housing area at the former Fort Ord military base. The proposed ASR-5 and ASR-6 Wells would be within 50 feet of residences in the Fitch Park military housing area on Ardennes Circle. Noise measurements taken at monitoring location S4 (see **Figure 4.12-1**) represent the noise environment at these sensitive receptors.

The proposed Terminal Reservoir and ASR Pump Station would be located east of General Jim Moore Boulevard, approximately 1,600 feet east of residences on Mescal Drive, which are the closest noise-sensitive receptors to the site. Noise measurements taken at monitoring location S5 (see **Figure 4.12-1**) represent the noise environment at these receptors.

The ASR Conveyance Pipelines and ASR Pump-to-Waste Pipeline would be installed within the General Jim Moore Boulevard right-of-way between the ASR-5 and ASR-6 Wells and Coe Avenue. Construction activities for this project component would take place within 100 feet of residences in the Fitch Park military housing area (noise monitoring location S4).

Monterey Pipeline

The proposed Monterey Pipeline would convey water between the cities of Seaside and Pacific Grove. The pipeline alignment begins at the intersection of Del Monte Boulevard and Auto Center Parkway, where the Monterey Pipeline would connect to the Transmission Main and the Transfer Pipeline. The Monterey Pipeline would extend south within the TAMC right-of-way along the west side of Del Monte Boulevard, generally parallel to the Monterey Peninsula Recreational Trail. The sensitive noise receptors along Del Monte Boulevard are residences, hotels, and educational institutions.

The northern portion of the Monterey Pipeline alignment, between La Salle Avenue and Roberts Avenue, is bordered by Seaside to the east and Sand City to the west. This portion of the alignment is dominated by commercial uses catering to coastal visitors, other commercial land uses, and parks and open spaces.

The Monterey Pipeline alignment would continue south along the Monterey Peninsula Recreational Trail on the west side of Del Monte Boulevard through the city of Monterey. At the east end of El Estero Park the pipeline would turn south on Figueroa Street, continue west along Franklin Street, and then bear north at High Street. At High Street, the alignment would extend north and traverse the Presidio of Monterey (land owned by the U.S. Army that is not publicly accessible). At the western boundary of the Presidio of Monterey, the pipeline would continue to Spencer Street, extend southwest on Eardley Street, and terminate near the existing Eardley Pump Station in Pacific Grove. With the exception of institutional land uses in the Presidio of Monterey, the land uses that border the pipeline alignment in Monterey and Pacific Grove are primarily residential and commercial surrounded by public and open space areas. Short-term noise measurements taken at monitoring locations S6 in the city of Monterey and S7 in the city of Pacific Grove, as shown on **Figure 4.12-1**, are representative of the noise environments at the sensitive receptors along this portion of the alignment.

Valley Greens Pump Station

Site Option 1 for the Valley Greens Pump Station is approximately 400 feet southeast of the intersection of Carmel Valley Road/Valley Greens Drive in unincorporated Monterey County. The closest residence is located approximately 100 feet to the south of this site option. Site Option 2 for the Valley Greens Pump Station is on the south side of Carmel Valley Road near Carmel Rancho Boulevard, in the northeast corner of the Carmel Rancho Shopping Center, approximately 100 feet west of the Cottages of Carmel senior assisted living facility. The senior assisted living facility is the closest sensitive receptor to this site. Noise measurements taken at monitoring location S9 (see **Figure 4.12-1**) represent the noise environment at these sensitive receptors.

Interconnections with Highway 68 Satellite Systems

The proposed project would improve existing interconnections for three satellite water systems in the communities of Ryan Ranch, Bishop, and Hidden Hills along the Highway 68 corridor. The Ryan Ranch–Bishop Interconnection Improvements would be located along a business park area where there are no noise-sensitive land uses. The nearest noise sensitive land use would be York School, located approximately 900 feet northeast of the eastern end of the construction area.

The proposed Main System–Hidden Hills Interconnection Improvements would involve improvements to the existing Upper Tierra and Middle Tierra Booster Stations and installation of approximately 1,200 feet (0.2 mile) of 6-inch-diameter pipeline along the lower portion of Lower Tierra Grande, with a connection to the existing Upper Tierra Booster Station. This project component would be set in a rural, relatively quiet residential area. Noise measurements taken at monitoring location S8 (see **Figure 4.12-1**) represent the noise environment at these sensitive residential receptors.

4.12.3 Regulatory Framework

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, whereas local agencies regulate stationary sources within their jurisdictions. Local noise regulation involves the implementation of general plan policies and noise ordinance standards. Local general plans identify broad principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities.

4.12.3.1 Federal Regulations

Federal regulations establish noise limits for medium and heavy duty trucks (more than 4.8 gross tons) under the Code of Federal Regulations, Title 40, Part 205, Subpart B. The federal truck passby noise standard is 80 dBA, L_{max} at 50 feet from the vehicle pathway centerline. These standards are implemented through regulatory controls on truck manufacturers.

4.12.3.2 State Regulations

State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings (other than detached single-family dwellings) that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are collectively known as the California Noise Insulation Standards and are found in California Code of Regulations, Title 24 (known as the Building Standards Administrative Code), Part 2 (known as the California Building Code), Appendix Chapters 12 and 12A. To limit the transmission of noise between adjacent dwelling units, the noise insulation standards specify the extent to which walls, doors, floors, and ceiling assemblies must block or absorb sound. To limit noise from exterior sources, the noise insulation standards set a maximum interior level of DNL 45 dBA DNL in any habitable room and, where such units are proposed in areas subject to noise levels greater than 60 dBA DNL, require the project sponsor to perform an acoustical analysis demonstrating that dwelling units have been designed to meet this interior standard. If achieving the interior noise level depends on the windows being closed, the design of the structure must also incorporate a ventilation or air conditioning system to provide a habitable interior environment. Title 24 standards are enforced through the building permit application process.

4.12.3.3 Regional and Local Regulations

Table 4.12-3 describes the noise and vibration-related regional and local land use plans, policies, and regulations relevant to the MPWSP and that were adopted for the purpose of avoiding or mitigating an environmental effect. Also included in **Table 4.12-3** is an analysis of project consistency with such plans, policies, and regulations. Where the analysis concludes the proposed project would not conflict with the applicable plan, policy, or regulation, the finding is noted and no further discussion is provided. Where the analysis concludes the proposed project may conflict with the applicable plan, policy, or regulation, the reader is referred to Section 4.12.4, Impacts and Mitigation Measures, for additional discussion.

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**TABLE 4.12-3
APPLICABLE STATE, REGIONAL, AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO NOISE AND VIBRATION**

| Project Planning Region | Applicable Plan | Plan Element/ Section | Project Component(s) | Specific Plan, Policy, or Ordinance | | Relationship to Avoiding or Mitigating a Significant Environmental Impact | Project Consistency with Plan, Policy, or Ordinance | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----|----|------------------------------------|----|----|----------------------------------------------|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--|-------------------------------|---------------------------------|----|----|----|----|----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | Duration | Maximum Allowable Noise | | | | | | | | | | | | | | | | | | | | | | | | |
| City of Marina | City of Marina General Plan | Community Design and Development | Subsurface Slant Wells, Source Water Pipeline, Desalinated Water Pipeline, Transmission Main | <table border="1"> <thead> <tr> <th>Duration</th> <th>Day (7:00 a.m. to 10:00 p.m.)</th> <th>Night (10:00 p.m. to 7:00 a.m.)</th> </tr> </thead> <tbody> <tr> <td>Hourly L_{eq} in dB^{a,b}</td> <td>50</td> <td>45</td> </tr> <tr> <td>Maximum Level in dB^{a,b}</td> <td>70</td> <td>65</td> </tr> <tr> <td>Maximum Impulsive Noise in dB^{a,c}</td> <td>65</td> <td>60</td> </tr> </tbody> </table> <p>NOTES: a As determined at the property line of the closest receptor. Noise barriers or other noise attenuation features may be used to achieve the noise standards at the closest sensitive receptor. b Sound level measurements should be made with slow meter response. c Sound level measurements should be made with fast meter response.</p> <p>SOURCE: City of Marina, 2006.</p> | Duration | Day (7:00 a.m. to 10:00 p.m.) | Night (10:00 p.m. to 7:00 a.m.) | Hourly L _{eq} in dB ^{a,b} | 50 | 45 | Maximum Level in dB ^{a,b} | 70 | 65 | Maximum Impulsive Noise in dB ^{a,c} | 65 | 60 | <table border="1"> <thead> <tr> <th colspan="2">Maximum Allowable Noise</th> </tr> <tr> <th>Day (7:00 a.m. to 10:00 p.m.)</th> <th>Night (10:00 p.m. to 7:00 a.m.)</th> </tr> </thead> <tbody> <tr> <td>50</td> <td>45</td> </tr> <tr> <td>70</td> <td>65</td> </tr> <tr> <td>65</td> <td>60</td> </tr> </tbody> </table> | Maximum Allowable Noise | | Day (7:00 a.m. to 10:00 p.m.) | Night (10:00 p.m. to 7:00 a.m.) | 50 | 45 | 70 | 65 | 65 | 60 | These noise standards are intended to prevent new or modified stationary noise sources from disrupting adjacent or nearby residential or other noise-sensitive land uses. | <u>Potentially Inconsistent:</u> The submersible pumps for the slant wells would be considered a new stationary noise source. This issue is addressed further under Impact 4.12-6. |
| Duration | Day (7:00 a.m. to 10:00 p.m.) | Night (10:00 p.m. to 7:00 a.m.) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hourly L _{eq} in dB ^{a,b} | 50 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Level in dB ^{a,b} | 70 | 65 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Impulsive Noise in dB ^{a,c} | 65 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Allowable Noise | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Day (7:00 a.m. to 10:00 p.m.) | Night (10:00 p.m. to 7:00 a.m.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | 65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| City of Marina | Marina Municipal Code | Chapter 15.04 – General Provisions | Subsurface Slant Wells, Source Water Pipeline, Desalinated Water Pipeline, Transmission Main | Section 15.04.055 - Construction hours and noise. Applies to any construction activities that require a building, grading, demolition, use, or other city permit. This section limits outside construction, repair work, or related activities that produce noise adjacent to residential uses, including transient lodging, to the hours of 7:00 a.m. to 7:00 p.m. (standard time) Monday through Saturday, and 10:00 a.m. to 7:00 p.m. (standard time) on Sundays and holidays. During daylight savings time, construction hours may be extended to 8:00 p.m. However, no construction activities, tools, or equipment may produce a noise level of more than 60 dBA for twenty-five percent of an hour at any receiving property line. | | This ordinance is intended to reduce construction noise levels and limit noisy construction activity to the least sensitive hours of the day. | <u>Potentially Inconsistent:</u> Construction noise associated with installation of the Transmission Main and the Desalinated Water Pipeline could exceed the City's 60-dBA construction noise level limit. This issue is addressed further in Impact 4.12-2. In addition, some pipeline construction could occur during nighttime hours outside of those specified in the municipal code. This issue is addressed further in Impact 4.12-4. | | | | | | | | | | | | | | | | | | | | | | |
| City of Monterey | Monterey City Code | Chapter 38 – Zoning Ordinance | Monterey Pipeline | Section 38-112.2 – Limitation on Construction Hours. The following time restrictions are placed on construction activities: Monday through Friday, 7:00 a.m. to 7:00 p.m.; Saturday, 8:00 a.m. to 6:00 p.m.; and Sunday, 10:00 a.m. to 5:00 p.m. The City will consider requests to perform construction outside of these time limits under certain circumstances. | | This ordinance is intended to limit noisy construction activity to the least sensitive hours of the day. | <u>Potentially Inconsistent:</u> Some pipeline construction could occur during nighttime hours outside of those specified in the municipal code. This issue is addressed further in Impact 4.12-4. | | | | | | | | | | | | | | | | | | | | | | |
| City of Monterey | Monterey City Code | Chapter 38 – Zoning Ordinance | Monterey Pipeline | Section 38-111A – Performance Standards. Identifies performance standards for each zoning district, as shown below. Decibel levels must be compatible with neighboring uses, and new uses cannot cause ambient noise levels to exceed these standards. If the noise exposure resulting from a project would be greater than that identified in the table, the City of Monterey's community development director may require the project sponsor to perform an acoustical study. | | These noise standards are intended to prevent new or modified stationary noise sources from disrupting adjacent or nearby residential or other noise-sensitive land uses. | <u>Consistent:</u> No stationary noise sources are proposed within the city of Monterey. | | | | | | | | | | | | | | | | | | | | | | |
| CITY OF MONTEREY – MAXIMUM NOISE STANDARDS^a | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Zone of Property Receiving Noise | Maximum Noise Level (dBA) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | OS – Open Space District | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | R – Residential Districts | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | PS – Pubic and Semi-Public District | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | C – Commercial District | 65 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | I – Industrial Districts | 70 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | PD – Planned Development | Study Required | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | NOTE: a These noise standards shall be modified as follows to account for the effects of time and duration on the impact of noise levels: In R districts, the noise standard shall be 5 dB lower between 10:00 p.m. and 7:00 a.m.; noise that is produced for no more than a cumulative period of five minutes in any hour may exceed the standards above by 5 dB; and noise that is produced for no more than a cumulative period of one minute in any hour may exceed the standards above by 10 dB. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | SOURCE: City of Monterey, 2008. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| City of Pacific Grove | Pacific Grove Municipal Code | Chapter 11.96 – Unlawful Noises | Monterey Pipeline | Chapter 11.96 - Unlawful Noises. Prohibits individuals from making loud, unnecessary, or unusual noise that disturbs the peace or quiet of the neighborhood or that causes discomfort or annoyance to any reasonable person of normal sensitivity residing in the area. The code does not establish quantitative noise standards, except for the operation of leaf blowers. | | This qualitative noise ordinance is intended to protect the peace and quiet of neighborhoods and prevent noise-related discomfort or annoyance. | <u>Consistent:</u> The portion of the Monterey Pipeline proposed within the city of Pacific Grove could require nighttime construction. Although nighttime construction noise may be perceived as loud or unusual, but it would also be necessary. The construction noise | | | | | | | | | | | | | | | | | | | | | | |

**TABLE 4.12-3 (Continued)
 APPLICABLE STATE, REGIONAL, AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO NOISE AND VIBRATION**

| Project Planning Region | Applicable Plan | Plan Element/ Section | Project Component(s) | Specific Plan, Policy, or Ordinance | Relationship to Avoiding or Mitigating a Significant Environmental Impact | Project Consistency with Plan, Policy, or Ordinance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| City of Pacific Grove (cont.) | | | | | | would be temporary and would only affect a given receptor for two to three nights (pipeline installation would progress at a rate of approximately 150 feet per day). Therefore, Monterey Pipeline construction would be consistent with this policy. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| City of Seaside (coastal zone and inland areas) | City of Seaside General Plan | Circulation | Transmission Main, Transfer Pipeline, Monterey Pipeline, ASR Conveyance Pipelines, ASR Pump-to-Waste Pipeline, ASR Pump Station, Terminal Reservoir | Policy C-1.7: Reduce impacts on residential neighborhoods from truck traffic and related noise. | This policy is intended to protect residential areas from disruptive truck traffic and related noise. This policy is implemented through two measures: (1) establish truck routes for the trucking industry and (2) restrict truck parking within the city. | <u>Consistent:</u> Construction trucks would be required to remove excavated material and bring in clean fill for pipelines. Construction-related truck trips would be dispersed throughout the day and would not substantially increase noise, as these trips would only marginally increase traffic on the local road network. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| City of Seaside | Seaside General Plan | Noise | Transmission Main, Transfer Pipeline, Monterey Pipeline, ASR Pump Station, Terminal Reservoir | <p>Policy N-1.1: Ensure that new development and reuse/revitalization projects can be made compatible with the noise environment and existing development</p> <p><i>Implementation Plan N-1.1.1 Compatible Development:</i> Review discretionary development proposals for potential on- and offsite stationary and vehicular noise impacts per the California Environmental Quality Act (CEQA). Any proposed development located within a 60 dB or higher noise contour shall be reviewed for potential noise impacts and compliance with the noise and land use compatibility standards. The thresholds established in the Zoning Ordinance, Noise Ordinance, the Noise Contours Map and Tables of the Noise Element (seen in the table below) will be used to determine the significance of impacts.</p> <p>If potential impacts are identified, mitigation in the form of noise reduction designs/ structures will be required to reduce the impact to a level less than significant. If the impact cannot be reduced to a level less than significant or avoided with accepted noise reduction methods, the proposed project will be determined "Clearly Unacceptable" and will not be approved.</p> <p align="center">CITY OF SEASIDE – LAND USE COMPATIBILITY GUIDELINES</p> <table border="1"> <thead> <tr> <th rowspan="2">Land Use Category</th> <th colspan="7">Community Noise Equivalent Level (CNEL)</th> </tr> <tr> <th>55</th> <th>60</th> <th>65</th> <th>70</th> <th>75</th> <th>80</th> </tr> </thead> <tbody> <tr> <td>Residential – Single-Family, Multifamily, and Duplex</td> <td>A</td> <td>A</td> <td>B</td> <td>B</td> <td>C</td> <td>U</td> <td>U</td> </tr> <tr> <td>Residential – Mobile homes</td> <td>A</td> <td>A</td> <td>B</td> <td>C</td> <td>C</td> <td>U</td> <td>U</td> </tr> <tr> <td>Transient Lodging – Hotels and Motels</td> <td>A</td> <td>A</td> <td>B</td> <td>B</td> <td>C</td> <td>C</td> <td>U</td> </tr> <tr> <td>Hospitals, Libraries, Nursing Homes, Places of Worship, and Schools</td> <td>A</td> <td>A</td> <td>B</td> <td>C</td> <td>C</td> <td>U</td> <td>U</td> </tr> <tr> <td>Amphitheaters, Auditoriums, Concert Halls, and Meeting Halls</td> <td>B</td> <td>B</td> <td>C</td> <td>C</td> <td>U</td> <td>U</td> <td>U</td> </tr> <tr> <td>Amusement Parks, Outdoor Spectator Sports, and Sports Arenas</td> <td>A</td> <td>A</td> <td>A</td> <td>B</td> <td>B</td> <td>U</td> <td>U</td> </tr> <tr> <td>Neighborhood Parks and Playgrounds</td> <td>A</td> <td>A</td> <td>A</td> <td>B</td> <td>C</td> <td>U</td> <td>U</td> </tr> <tr> <td>Cemeteries, Golf Courses, and Riding Stables</td> <td>A</td> <td>A</td> <td>A</td> <td>A</td> <td>B</td> <td>C</td> <td>C</td> </tr> <tr> <td>Office and Professional Buildings</td> <td>A</td> <td>A</td> <td>A</td> <td>B</td> <td>B</td> <td>C</td> <td>U</td> </tr> <tr> <td>Banks, Commercial Retail, Restaurants, and Theaters</td> <td>A</td> <td>A</td> <td>A</td> <td>A</td> <td>B</td> <td>B</td> <td>C</td> </tr> <tr> <td>Industrial, Manufacturing, Service Stations, Utilities, and Wholesale</td> <td>A</td> <td>A</td> <td>A</td> <td>A</td> <td>B</td> <td>B</td> <td>B</td> </tr> <tr> <td>Agriculture</td> <td>A</td> <td>A</td> <td>A</td> <td>A</td> <td>A</td> <td>A</td> <td>A</td> </tr> </tbody> </table> <p>NOTES: A = Normally Acceptable. Specified land use is satisfactory based on the assumption that any new structures are conventional construction, without any special noise insulation requirements. B = Conditionally Acceptable. New construction or development may be undertaken only after completion of a detailed noise analysis and appropriate noise insulation features have been incorporated into the project design. New development is assumed to be conventional construction, but with closed windows and air circulation systems or air conditioning. C = Normally Unacceptable. New construction or development shall generally be discouraged. If it does proceed, a detailed analysis of the noise reduction requirements shall be made and needed noise insulation features included in the design. U = Clearly Unacceptable. New construction or development that includes the specified land use is discouraged.</p> | Land Use Category | Community Noise Equivalent Level (CNEL) | | | | | | | 55 | 60 | 65 | 70 | 75 | 80 | Residential – Single-Family, Multifamily, and Duplex | A | A | B | B | C | U | U | Residential – Mobile homes | A | A | B | C | C | U | U | Transient Lodging – Hotels and Motels | A | A | B | B | C | C | U | Hospitals, Libraries, Nursing Homes, Places of Worship, and Schools | A | A | B | C | C | U | U | Amphitheaters, Auditoriums, Concert Halls, and Meeting Halls | B | B | C | C | U | U | U | Amusement Parks, Outdoor Spectator Sports, and Sports Arenas | A | A | A | B | B | U | U | Neighborhood Parks and Playgrounds | A | A | A | B | C | U | U | Cemeteries, Golf Courses, and Riding Stables | A | A | A | A | B | C | C | Office and Professional Buildings | A | A | A | B | B | C | U | Banks, Commercial Retail, Restaurants, and Theaters | A | A | A | A | B | B | C | Industrial, Manufacturing, Service Stations, Utilities, and Wholesale | A | A | A | A | B | B | B | Agriculture | A | A | A | A | A | A | A | These noise standards are intended to prevent new or modified stationary and vehicular noise sources from disrupting adjacent or nearby residential or other noise-sensitive land uses. | <u>Consistent:</u> None of the project components proposed in Seaside and on lands within federal jurisdiction would exceed the allowable noise standards for non-construction-related noise sources. |
| Land Use Category | Community Noise Equivalent Level (CNEL) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 55 | 60 | 65 | 70 | 75 | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Residential – Single-Family, Multifamily, and Duplex | A | A | B | B | C | U | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Residential – Mobile homes | A | A | B | C | C | U | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Transient Lodging – Hotels and Motels | A | A | B | B | C | C | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hospitals, Libraries, Nursing Homes, Places of Worship, and Schools | A | A | B | C | C | U | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Amphitheaters, Auditoriums, Concert Halls, and Meeting Halls | B | B | C | C | U | U | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Amusement Parks, Outdoor Spectator Sports, and Sports Arenas | A | A | A | B | B | U | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Neighborhood Parks and Playgrounds | A | A | A | B | C | U | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cemeteries, Golf Courses, and Riding Stables | A | A | A | A | B | C | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Office and Professional Buildings | A | A | A | B | B | C | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Banks, Commercial Retail, Restaurants, and Theaters | A | A | A | A | B | B | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Industrial, Manufacturing, Service Stations, Utilities, and Wholesale | A | A | A | A | B | B | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Agriculture | A | A | A | A | A | A | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

TABLE 4.12-3 (Continued)
APPLICABLE STATE, REGIONAL, AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO NOISE AND VIBRATION

| Project Planning Region | Applicable Plan | Plan Element/ Section | Project Component(s) | Specific Plan, Policy, or Ordinance | Relationship to Avoiding or Mitigating a Significant Environmental Impact | Project Consistency with Plan, Policy, or Ordinance | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-----------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------------|--|----------------|----------------|-------------|----|----|-----------------------|----|----|------------|----|-----|--------|----|----|------------|----|----|-------------------|----|----|---------|
| City of Seaside | Seaside General Plan | Noise | Transmission Main, Transfer Pipeline, Monterey Pipeline, ASR Pump Station, Terminal Reservoir | Policy N-2.1: Reduce noise impacts associated with motorized vehicles, aircraft and trains. | This qualitative noise ordinance is intended to protect the public from motorized vehicle, aircraft, and train noise. | <u>Consistent.</u> Project components proposed for Seaside would generate a small number of vehicle trips for occasional maintenance. Such trips would not cause substantial increases in traffic volumes or associated transportation noise. The proposed project would not generate increases in aircraft or train operations. | | | | | | | | | | | | | | | | | | | | | | | | |
| City of Seaside | Seaside General Plan | Noise | Transmission Main, Transfer Pipeline, Monterey Pipeline, ASR Pump Station, Terminal Reservoir | Policy N-3.1: Reduce the impacts of noise-producing land uses, activities, and businesses on noise-sensitive land uses. <i>Implementation Plan N-1.3.1: Enforcement of non-transportation noise standards.</i> Enforce the noise limits and construction and operation regulations contained in this Noise Element and in the City's Municipal Code. <i>Implementation Plan N-1.3.2: Hours of operation Limits.</i> Limit delivery or service hours for stores and businesses with loading areas, docks, or trash bins that front, side, border, or gain access on driveways next to residential and other noise sensitive areas. Promptly investigate noise complaints and abate any noise impacts associated with commercial activities. Only approve exceptions to noise limits if full compliance with the nighttime limits of the noise regulations is achieved. <i>Implementation Plan N-1.3.3: Construction noise limits.</i> Require all construction activity to comply with the limits (maximum noise levels, hours and days of allowed activity) established in the City noise regulations (Title 24 California Code of Regulations, Zoning Ordinance and Chapter 21A of the Municipal Code). | This policy is intended to prevent construction and new or modified stationary noise sources from disrupting adjacent or nearby noise-sensitive land uses. | <u>Potentially Inconsistent:</u> Implementation Plan N-1.3.1 is addressed in the operational impacts of these project components with respect to local plans and ordinances in Impact 4.12-6 of this EIR and found to be less than significant. The project components proposed for Seaside would conflict with Implementation Plan N-1.3.3. Nighttime construction may be required for the Transmission Main, the Monterey Pipeline, and, ASR-5 and ASR-6 Wells, which would exceed the time limits set forth in the City's noise regulations. This issue is addressed further in Impact 4.12-3. The restriction on stores and businesses in implementation Plan N-1.3.2 would not apply to the proposed water infrastructure elements within the city of Seaside. | | | | | | | | | | | | | | | | | | | | | | | | |
| City of Seaside | Seaside Municipal Code | Chapter 17.30 - Standards for All Development and Land Uses | Transmission Main, Transfer Pipeline, Monterey Pipeline, ASR Pump Station, Terminal Reservoir | Section 17.30.060 - establishes noise standards designed to ensure that noise producers do not adversely affect sensitive receptors. The table below identifies Seaside's regulatory noise levels. CITY OF SEASIDE – MAXIMUM EXTERIOR AND INTERIOR NOISE STANDARDS | These noise standards are intended to prevent new or modified stationary noise sources from disrupting adjacent or nearby residential or other noise-sensitive land uses. | <u>Consistent:</u> None of the project components proposed in Seaside and on lands within federal jurisdiction would exceed the allowable noise standards for non-construction-related noise sources. | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | <table border="1"> <thead> <tr> <th rowspan="2">Land Use</th> <th colspan="2">Noise Standard in Community Noise Equivalent Level (CNEL)</th> </tr> <tr> <th>Exterior (dBA)</th> <th>Interior (dBA)</th> </tr> </thead> <tbody> <tr> <td>Residential</td> <td>65</td> <td>45</td> </tr> <tr> <td>Mixed-Use Residential</td> <td>70</td> <td>45</td> </tr> <tr> <td>Commercial</td> <td>70</td> <td>---</td> </tr> <tr> <td>Office</td> <td>70</td> <td>50</td> </tr> <tr> <td>Industrial</td> <td>75</td> <td>55</td> </tr> <tr> <td>Public Facilities</td> <td>70</td> <td>50</td> </tr> <tr> <td>Schools</td> <td>80</td> <td>50</td> </tr> </tbody> </table> | | | Land Use | Noise Standard in Community Noise Equivalent Level (CNEL) | | Exterior (dBA) | Interior (dBA) | Residential | 65 | 45 | Mixed-Use Residential | 70 | 45 | Commercial | 70 | --- | Office | 70 | 50 | Industrial | 75 | 55 | Public Facilities | 70 | 50 | Schools |
| Land Use | Noise Standard in Community Noise Equivalent Level (CNEL) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Exterior (dBA) | Interior (dBA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Residential | 65 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mixed-Use Residential | 70 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Commercial | 70 | --- | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Office | 70 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Industrial | 75 | 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Public Facilities | 70 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Schools | 80 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| City of Seaside | Seaside Municipal Code | Chapter 9.12 – Noise Regulations | Transmission Main, Transfer Pipeline, Monterey Pipeline, ASR Pump Station, Terminal Reservoir | Section 9.12.030 (D) - sets time limits for construction activities, including demolition, excavation, erection, alteration, or repair. These activities may not occur before 7:00 a.m. or after 7:00 p.m. (except on Saturday, Sunday, and holidays, when the allowable construction hours are 9:00 a.m. to 7:00 p.m.) unless authorized in writing by a building official. | This ordinance is intended to limit noisy construction activity to the least sensitive hours of the day. | <u>Potentially Inconsistent:</u> Some of the project components proposed for Seaside would be constructed during nighttime hours, outside of those specified in the municipal code. This issue is addressed further in Impact 4.12-4. | | | | | | | | | | | | | | | | | | | | | | | | |
| City of Sand City | City Municipal Code | Chapter 8 – Health and Safety | Transmission Main, Transfer Pipeline, Monterey Pipeline | City Municipal Code, Section 8.04, prohibits "unnecessary noises or sounds which are physically annoying to persons of ordinary sensitiveness or which are so harsh or prolonged or unnatural or unusual in their use, time or place as to occasion physical discomfort." The Code addresses noise in a qualitative approach and does not establish quantitative noise standards for construction activities or equipment. | This qualitative noise ordinance is intended to prevent noise-related discomfort or annoyance. | <u>Consistent:</u> The pipelines proposed within Sand City could require nighttime construction. Such construction noise may be perceived as loud or unusual, but it would also be necessary. The construction noise would be temporary – such work would only affect a given receptor for two to three nights, as pipeline installation would progress at a rate of 150 feet per day. There are no sensitive noise receptors within the Sand City jurisdiction that are close enough to the pipeline alignments to be adversely affected. Thus, pipeline installation would not affect any sensitive receptors in Sand City. | | | | | | | | | | | | | | | | | | | | | | | | |

**TABLE 4.12-3 (Continued)
 APPLICABLE STATE, REGIONAL, AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO NOISE AND VIBRATION**

| Project Planning Region | Applicable Plan | Plan Element/ Section | Project Component(s) | Specific Plan, Policy, or Ordinance | Relationship to Avoiding or Mitigating a Significant Environmental Impact | Project Consistency with Plan, Policy, or Ordinance |
|-------------------------|------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| County of Monterey | Monterey County Code | Chapter 10.60 – Noise Control | Source Water Pipeline, MPWSP Desalination Plant, Desalinated Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Valley Greens Pump Station, Main System-Hidden Hills and Ryan Ranch-Bishop Road Interconnection Improvements | Chapter 10.60.030 - Operation of noise-producing devices restricted. No person shall, within the unincorporated limits of the County of Monterey, operation of any machine, mechanism, device, or contrivance that produces a noise level exceeding 85 dBA at 50 feet from the source. The code does not apply to such noise sources when they are operated farther than 2,500 feet from any occupied dwelling unit. | These noise standards are intended to prevent new or modified stationary noise sources from disrupting adjacent or nearby residential or other noise-sensitive land uses. | <u>Consistent:</u> No equipment is proposed for project components within unincorporated Monterey County that would generate a noise level in excess of 85 dBA at 50 feet. |
| County of Monterey | Monterey County General Plan | Safety | Source Water Pipeline, MPWSP Desalination Plant, Desalinated Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Valley Greens Pump Station, Main System-Hidden Hills and Ryan Ranch-Bishop Road Interconnection Improvements | Policy S-7.1: New noise-sensitive land uses may only be allowed in areas where existing and projected noise levels are “acceptable” according to “Land Use Compatibility for Community Noise Table” (see Policy S-7.4). A Community Noise Ordinance shall be established consistent with said Table that addresses, but is not limited to the following: a. Capacity-related roadway improvement projects b. Construction-related noise impacts on adjacent land uses c. New residential land uses exposed to aircraft operations at any airport or air base d. Site planning and project design techniques to achieve acceptable noise levels such as: building orientation, setbacks, earthen berms, and building construction practices. The use of masonry sound walls for noise control in rural areas shall be discouraged e. Design elements necessary to mitigate significant adverse noise impacts on surrounding land uses f. Impulse noise g. Existing railroad locations and noise levels | This policy is intended to ensure new noise-sensitive land uses are compatible with existing uses on adjacent lands. | <u>Consistent:</u> None of the project components proposed for Monterey County would result in the siting of a new noise-sensitive land use. |
| County of Monterey | Monterey County General Plan | Safety | Source Water Pipeline, MPWSP Desalination Plant, Desalinated Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Valley Greens Pump Station, Main System-Hidden Hills and Ryan Ranch-Bishop Road Interconnection Improvements | Policy S-7.2: New development projects must incorporate design elements necessary to minimize noise impacts on surrounding land uses and to reduce noise in indoor spaces to acceptable levels. | This qualitative noise policy is intended to prevent new sensitive receptors from being impacted by existing noise sources as well as to prevent new or modified stationary noise sources from disrupting adjacent or nearby noise-sensitive land uses. | <u>Potentially Inconsistent:</u> The Main System-Hidden Hills Interconnection Improvements would generate noise at levels that would disrupt nearby land uses and/or generate potentially unacceptable indoor noise levels at nearby receptors. This issue is addressed further in Impact 4.12-5. |
| County of Monterey | Monterey County General Plan | Safety | Source Water Pipeline, MPWSP Desalination Plant, Desalinated Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Valley Greens Pump Station, Main System-Hidden Hills and Ryan Ranch-Bishop Road Interconnection Improvements | Policy S-7.3: Development may occur in areas identified as “normally unacceptable” provided effective measures to reduce both the indoor and outdoor noise levels to acceptable levels are taken. | This policy is intended to protect new noise-sensitive land uses from existing ambient noise levels. | <u>Consistent:</u> The proposed project would not create new noise-sensitive land uses. |

TABLE 4.12-3 (Continued)
APPLICABLE STATE, REGIONAL, AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO NOISE AND VIBRATION

| Project Planning Region | Applicable Plan | Plan Element/ Section | Project Component(s) | Specific Plan, Policy, or Ordinance | Relationship to Avoiding or Mitigating a Significant Environmental Impact | Project Consistency with Plan, Policy, or Ordinance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| County of Monterey | Monterey County General Plan | Safety | Source Water Pipeline, MPWSP Desalination Plant, Desalinated Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Valley Greens Pump Station, Main System-Hidden Hills and Ryan Ranch-Bishop Road Interconnection Improvements | <p>Policy S-7.4: New noise generators may be allowed in areas where projected noise levels are “conditionally acceptable” only after a detailed analysis of the noise reduction requirements is made and needed noise mitigation features are included in project design.</p> <table border="1"> <thead> <tr> <th rowspan="2">Land Use Category</th> <th colspan="6">Community Noise Exposure (L_{dn} or CNEL, dB)</th> </tr> <tr> <th>55</th> <th>60</th> <th>65</th> <th>70</th> <th>75</th> <th>80</th> </tr> </thead> <tbody> <tr> <td>Residential – Low Density Single Family, Duplex, Mobile Homes</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Residential – Multi-Family</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Transient lodging - Motels, Hotels</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Schools, Libraries, Churches, Hospitals, Nursing Homes</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Auditoriums, Concert Halls, Amphitheaters</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sports Arenas, Outdoor Spectator Sports</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Playgrounds, Neighborhood Parks</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Golf Courses, Riding Stables, Water Recreation, Cemeteries</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Office Buildings, Business Commercial and Professional</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Industrial, Manufacturing, Utilities, Agriculture</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | Land Use Category | Community Noise Exposure (L _{dn} or CNEL, dB) | | | | | | 55 | 60 | 65 | 70 | 75 | 80 | Residential – Low Density Single Family, Duplex, Mobile Homes | | | | | | | Residential – Multi-Family | | | | | | | Transient lodging - Motels, Hotels | | | | | | | Schools, Libraries, Churches, Hospitals, Nursing Homes | | | | | | | Auditoriums, Concert Halls, Amphitheaters | | | | | | | Sports Arenas, Outdoor Spectator Sports | | | | | | | Playgrounds, Neighborhood Parks | | | | | | | Golf Courses, Riding Stables, Water Recreation, Cemeteries | | | | | | | Office Buildings, Business Commercial and Professional | | | | | | | Industrial, Manufacturing, Utilities, Agriculture | | | | | | | This policy is intended to ensure new noise generators do not adversely affect existing or future noise-sensitive land uses. | Potentially Inconsistent: The Valley Greens Pump Station would create a new stationary noise source in an area where the projected noise levels are conditionally acceptable (see Table 4.12-1). This issue is addressed further in Impacts 4.12-6. No other Monterey County project components propose new stationary noise sources adjacent to sensitive land uses within such areas. |
| | | | | Land Use Category | | Community Noise Exposure (L _{dn} or CNEL, dB) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 55 | 60 | 65 | 70 | 75 | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Residential – Low Density Single Family, Duplex, Mobile Homes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Residential – Multi-Family | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Transient lodging - Motels, Hotels | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Schools, Libraries, Churches, Hospitals, Nursing Homes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Auditoriums, Concert Halls, Amphitheaters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Sports Arenas, Outdoor Spectator Sports | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Playgrounds, Neighborhood Parks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Golf Courses, Riding Stables, Water Recreation, Cemeteries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Office Buildings, Business Commercial and Professional | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Industrial, Manufacturing, Utilities, Agriculture | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Policy S-7.5: New noise generators are discouraged in areas identified as “normally unacceptable.” (see Table in Policy S-7.4) Where such new noise generators are permitted, mitigation to reduce both the indoor and outdoor noise levels are required.</p> | This policy is intended to ensure new noise generators do not adversely affect noise-sensitive land uses. | Consistent: The proposed project would not create new stationary noise sources in areas identified as “normally unacceptable”. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Policy S-7.6: Acoustical analysis shall be part of the environmental review process for projects when:</p> <ol style="list-style-type: none"> Noise sensitive receptors are proposed in areas exposed to existing or projected noise levels that are “normally unacceptable” or higher according to the Land Use Compatibility for Community Noise Table. (see Table in Policy S-7.4) Proposed noise generators are likely to produce noise levels exceeding the levels shown in the adopted Community Noise Ordinance when received at existing or planned noise-sensitive receptors. | | | This policy is intended to ensure new noise-sensitive land uses are compatible with existing uses on adjacent lands, and to protect existing noise-sensitive land uses from new stationary sources. | Consistent: None of the proposed project components within this jurisdiction would create new noise-sensitive land uses nor generate noise levels exceeding the levels in the Community Noise Ordinance. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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**TABLE 4.12-3 (Continued)
 APPLICABLE STATE, REGIONAL, AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO NOISE AND VIBRATION**

| Project Planning Region | Applicable Plan | Plan Element/ Section | Project Component(s) | Specific Plan, Policy, or Ordinance | Relationship to Avoiding or Mitigating a Significant Environmental Impact | Project Consistency with Plan, Policy, or Ordinance |
|--------------------------|------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| County of Monterey | Monterey County General Plan | Safety | Source Water Pipeline, MPWSP Desalination Plant, Desalinated Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Valley Greens Pump Station, Main System-Hidden Hills and Ryan Ranch-Bishop Road Interconnection Improvements | Policy S-7.7: All proposed discretionary residential projects that are within roadway or railroad noise contours of 60 CNEL or greater shall include a finding of consistency with the provisions of the Noise Hazards section of the Safety Element. If found that roadway noise exceeds the 60 CNEL within the project site, a project-specific noise impact analysis shall be required. If impacts are identified, the applicant shall conduct mitigation analysis using published Caltrans/Federal Highway Administration guidelines and implement mitigation measures as required. Mitigation measures may include, but are not limited to sound walls, adjacent roadway design, dual pane glass, building location or design, etc. Any proposed mitigation measures shall be concurrently implemented with the implementation of the project. | This policy is intended to protect new noise sensitive land uses from existing ambient noise levels. | <u>Consistent:</u> None of the proposed project components would result in the siting of a new noise-sensitive land use. |
| County of Monterey | Monterey County General Plan | Safety | Source Water Pipeline, MPWSP Desalination Plant, Desalinated Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Valley Greens Pump Station, Main System-Hidden Hills and Ryan Ranch-Bishop Road Interconnection Improvements | Policy S-7.8: All discretionary projects that propose to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet shall be required to submit a pre-construction vibration study prior to the approval of a building permit. Projects shall be required to incorporate specified measures and monitoring identified to reduce impacts. Pile driving or blasting are illustrative of the type of equipment that could be subject to this policy. | This policy is intended to protect existing structures from construction-related vibration damage. | <u>Consistent:</u> Construction of the MPWSP Desalination Plant, in-County portions of the Source Water Pipeline, Desalinated Water Pipeline, Brine Discharge Pipeline, and Salinas Valley Return Pipeline would require the use of construction equipment but (sheet) pile driving would only potentially occur for the Desalinated Water Pipeline which is greater than 100 feet from the nearest in-County receptor. Heavy equipment would not cause structural damage to adjacent structures within 100 feet of their respective project sites. No other project components proposed for Monterey County would operate such equipment. |
| County of Monterey | Monterey County General Plan | Safety | Source Water Pipeline, MPWSP Desalination Plant, Desalinated Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Valley Greens Pump Station, Main System-Hidden Hills and Ryan Ranch-Bishop Road Interconnection Improvements | Policy S-7.9: No construction activities pursuant to a County permit that exceed "acceptable" levels listed in <i>Policy S-7.1</i> shall be allowed within 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study. Noise protection measures, in the event of any identified impact, may include but not be limited to: <ul style="list-style-type: none"> • Constructing temporary barriers; or • Using quieter equipment than normal. | This policy is intended to protect noise-sensitive land uses from construction-related noise disruption. | <u>Consistent:</u> Construction of the Valley Greens Pump Station and the Main System-Hidden Hills Interconnection Improvements would generate noise in excess of acceptable levels and occur within 500 feet of a noise sensitive land use. However, these activities would not occur during evening hours. |
| County of Monterey | Monterey County General Plan | Safety | Source Water Pipeline, MPWSP Desalination Plant, Desalinated Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Valley Greens Pump Station, Main System-Hidden Hills and Ryan Ranch-Bishop Road Interconnection Improvements | Policy S-7.10: Construction projects shall include the following standard noise protection measures: <ul style="list-style-type: none"> • Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience; • All equipment shall have properly operating mufflers; and • Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical. | This policy is intended to protect noise-sensitive land uses from construction-related noise disruption. | <u>Potentially Inconsistent:</u> Project components proposed within unincorporated Monterey County that would require nighttime construction include a portion of the Source Water Pipeline, MPWSP Desalination Plant, Desalinated Water Pipeline, Brine Discharge Pipeline, and the Salinas Valley Return Pipeline. Construction of these facilities would operate equipment and require staging areas. This issue is addressed further under Impacts 4.12-1 and 4.12-4. |
| Fort Ord Reuse Authority | Fort Ord Reuse Plan | Noise | ASR pipelines, ASR Settling Basin, ASR Pump Station | Noise Policy B-2: By complying with the noise guidelines presented in Tables 4.5-3 and 4.5-4, the City shall ensure that new development does not adversely affect existing or proposed uses. | This policy is intended to protect existing and potential future noise-sensitive land uses from new noise generators. | <u>Consistent:</u> Proposed project components within FORA's jurisdiction that would involve stationary noise sources include the ASR Pump Station. There are no existing or proposed sensitive land uses in the vicinity of the proposed ASR Pump Station site. |
| Fort Ord Reuse Authority | Fort Ord Reuse Plan | Noise | ASR pipelines, ASR Settling Basin, ASR Pump Station | Noise Policy B-3: The City shall require that acoustical studies be prepared by qualified acoustical engineers for all new development that could result in noise environments above noise range I (normally acceptable environment), as defined in Table 4.5-3. The studies shall identify the mitigation measures that would be required to comply with the noise guidelines, specified in Tables 4.5-3 and 4.5-4, to ensure that existing or proposed uses will not be adversely affected. The studies should be submitted prior to accepting development applications as complete. | This policy is intended to protect existing and potential future noise-sensitive land uses from new noise generators. | <u>Consistent:</u> Proposed project components within FORA that would install stationary noise sources include the ASR Pump Station. Installation of the ASR Pump Station would not be expected to increase ambient noise levels beyond Range I. |

TABLE 4.12-3 (Continued)
APPLICABLE STATE, REGIONAL, AND LOCAL LAND USE PLANS AND POLICIES RELEVANT TO NOISE AND VIBRATION

| Project Planning Region | Applicable Plan | Plan Element/ Section | Project Component(s) | Specific Plan, Policy, or Ordinance | Relationship to Avoiding or Mitigating a Significant Environmental Impact | Project Consistency with Plan, Policy, or Ordinance |
|--------------------------------------------|---------------------|-----------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fort Ord Reuse Authority | Fort Ord Reuse Plan | Noise | ASR pipelines, ASR Settling Basin, ASR Pump Station | Noise Policy B-8: If the ambient DNL exceeds the normally acceptable noise range for public or institutional uses (passively and actively used open spaces; auditoriums, concert halls, and amphitheaters; schools, libraries, churches, hospitals and nursing homes; golf courses, riding stables, water recreation areas, and cemeteries), as identified in Table 4.5-3, new development shall not increase ambient L _{dn} by more than 3 dBA measured at the property line. | This policy is intended to limit noise level increases from new development to 3 dBA, if the existing noise levels exceed normally acceptable standards for public or institutional land uses. | <u>Consistent:</u> Proposed project components within FORA that would be located near a public or institutional land use include the ASR Conveyance Pipelines. Operation of these pipelines would not increase ambient L _{dn} by more than 3 dBA. |
| Fort Ord Reuse Authority | Fort Ord Reuse Plan | Noise | ASR pipelines, ASR Settling Basin, ASR Pump Station | Noise Policy B-9: The City shall require construction contractors to employ noise-reducing construction practices. | This policy is intended to minimize construction noise. | <u>Potentially Inconsistent:</u> Construction activities within the city of Seaside and FORA jurisdiction would need to include noise-reducing construction practices to be consistent with this policy. This issue is addressed under Impact 4.12-2. |
| Fort Ord Reuse Authority (Monterey County) | Fort Ord Reuse Plan | Noise | Ryan Ranch–Bishop Interconnection Improvements | Noise Policy B-2: By complying with the noise guidelines presented in Tables 4.5-3 and 4.5-4, the County shall ensure that new development does not adversely affect existing or proposed uses. | This policy is intended to protect existing and potential future noise-sensitive land uses from new noise generators. | <u>Consistent:</u> The proposed Ryan Ranch–Bishop Interconnection Improvements would not involve new operational noise sources such as pump stations. |
| Fort Ord Reuse Authority (Monterey County) | Fort Ord Reuse Plan | Noise | Ryan Ranch–Bishop Interconnection Improvements | Noise Policy B-3: The County shall require that acoustical studies be prepared by qualified acoustical engineers for all new development that could result in noise environments above noise range I (normally acceptable environment), as defined in Table 4.5-3. The studies shall identify the mitigation measures that would be required to comply with the noise guidelines, specified in Tables 4.5-3 and 4.5-4, to ensure that existing or proposed uses will not be adversely affected. The studies should be submitted prior to accepting development applications as complete. | This policy is intended to protect existing and potential future noise-sensitive land uses from new noise generators. | <u>Consistent:</u> The proposed Ryan Ranch–Bishop Interconnection Improvements would not involve new operational noise sources such as pump stations. |
| Fort Ord Reuse Authority (Monterey County) | Fort Ord Reuse Plan | Noise | Ryan Ranch–Bishop Interconnection Improvements | Noise Policy B-8: If the ambient DNL exceeds the normally acceptable noise range for public or institutional uses (passively and actively used open spaces; auditoriums, concert halls, and amphitheaters; schools, libraries, churches, hospitals and nursing homes; golf courses, riding stables, water recreation areas, and cemeteries), as identified in Table 4.5-3, new development shall not increase ambient L _{dn} by more than 3 dBA measured at the property line. | This policy is intended to limit noise level increases from new development to 3 dBA, if the existing noise levels exceed normally acceptable standards for public or institutional land uses. | <u>Consistent:</u> The proposed Ryan Ranch–Bishop Interconnection Improvements would not involve new operational noise sources such as pump stations. |
| Fort Ord Reuse Authority (Monterey County) | Fort Ord Reuse Plan | Noise | Ryan Ranch–Bishop Interconnection Improvements | Noise Policy B-9: The County shall require construction contractors to employ noise-reducing construction practices. | This policy is intended to minimize construction noise. | <u>Potentially Inconsistent:</u> Construction activities within the city of Seaside and FORA jurisdiction would need to include noise-reducing construction practices to be consistent with this policy. This issue is addressed under Impact 4.12-2. |

SOURCE: City of Marina, 2000; City of Seaside, 2004; Monterey County, 2010; FORA, 1997; City of Sand City, 2005.

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4.12.4 Impacts and Mitigation Measures

4.12.4.1 Significance Criteria

Appendix G of the CEQA Guidelines recommends the following significance criteria for the evaluation of noise and vibration impacts. Implementation of the proposed project would have a significant impact related to noise and vibration if it would:

- Expose people to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies;
- Expose people or structures to or generate excessive groundborne vibration or groundborne noise levels;
- Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project during project operations;
- Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity during construction;
- For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within 2 miles of a public airport or public use airport, expose people residing or working in the area to excessive noise levels; or
- For a project located in the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

Due to the nature of the proposed project, no impacts related to the following significance criteria would result for the reasons described below:

Expose people or structures to, or generate, excessive groundborne noise levels during construction. Groundborne noise occurs when vibrations transmitted through the ground result in secondary radiation of noise. Groundborne noise is generally associated with the movement of trains through tunnels and activities such as blasting, neither of which is proposed as part of the project. As a result, construction-related groundborne noise levels are not considered in the impact analysis below. However, the proposed project would result in groundborne vibration impacts during construction (see Impact 4.12-3, below).

Expose people or structures to, or generate, excessive groundborne vibration or groundborne noise levels during project operations. Routine maintenance and operations of the proposed facilities would not generate groundborne noise, nor would it generate groundborne vibration levels in excess of applicable thresholds. Thus, the second criterion related to groundborne vibration and groundborne noise levels does not apply to project operations. However, as indicated above, the proposed project would result in groundborne vibration impacts during construction (see Impact 4.12-3, below).

Be located within an airport land use plan area, within 2 miles of a public airport or public use airport, or in the vicinity of a private airstrip and expose people to excessive noise levels. The closest public airport to the project area is the Monterey Peninsula Airport, which is approximately 1 mile southeast of the proposed Monterey Pipeline alignment and 0.5 mile northwest of the proposed Ryan Ranch–Bishop Interconnection Improvements. The Marina Municipal Airport is located approximately 2 miles east of the Desalinated Water Pipeline and Transmission Main, north of the intersection of

Reservation Road and Imjin Road in Marina. None of the proposed facilities would be sited in the vicinity of a private airstrip.

In addition, the Ryan Ranch-Bishop Interconnection Improvements and a portion of the Monterey Pipeline alignment would be located within the 65 dBA CNEL noise contour on the “Noise Exposure Map for Forecast Conditions” in the *Comprehensive Land Use Plan for Monterey Peninsula Airport* (Monterey County Airport Land Use Commission, 1987). Even though some project components would be within 2 miles of an airport and certain facilities would be sited within the 65 dBA CNEL noise contour established in the applicable airport plan, none of the facilities located within 2 miles of an airport would result in operational noise increases, nor would they constitute noise-sensitive land uses (i.e., the proposed project does not include the construction of new housing or other noise-sensitive receptors that would be subject to aviation noise). As a result, there would be no impacts related to the last two criteria, and airport-related impacts are not addressed further in this EIR.

4.12.4.2 Approach to Analysis

Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity during construction

A “substantial” noise increase is defined as one that would interfere with human activities during the day and/or night (as opposed to an absolute, numerical increase over ambient noise levels).

This evaluation uses speech interference as an indicator that construction noise could cause a substantial adverse impact on daytime and evening activities, and sleep interference as an indicator that construction noise could cause a substantial adverse impact on nighttime activities. The speech and sleep interference criteria are based on objective research of speech and sleep interference (as opposed to subjective surveys of annoyance) and are used by some CEQA Lead Agencies to evaluate a project’s noise impacts. The speech and sleep interference criteria used in this EIR are defined below:

- **Speech Interference.** A speech interference threshold, in the context of impact duration and time of day, is used to identify substantial increases in noise from temporary construction activities. This analysis assumes noise peaks generated by construction equipment could result in speech interference in adjacent buildings if the noise level in the interior of the buildings exceeds 45 dBA. A typical building can reduce noise levels by approximately 25 dBA with the windows closed (U.S. EPA, 1974). This noise reduction could be maintained only on a temporary basis in some cases, since it assumes windows must remain closed at all times. Assuming a 25-dBA reduction with the windows closed, an exterior noise level of 70 dBA L_{eq} would maintain an acceptable interior noise environment of 45 dBA during the day and evening hours. It should be noted that such noise levels would vary depending on the phase of construction and the types of construction equipment being used. For daytime construction activities, a significant noise impact would occur if noise levels at sensitive noise receptors remained above the 70-dBA speech interference threshold for longer than 2 consecutive weeks.
- **Sleep Interference.** Based on available sleep data, an interior nighttime level of 35 dBA is considered acceptable for sleeping (U.S. EPA, 1974). Assuming a 25-dBA reduction with the windows closed, an exterior noise level of 60 dBA would maintain an acceptable interior noise environment of 35 dBA at night. Therefore, a significant impact would occur

if the proposed project were to generate exterior noise levels above the 60-dBA L_{eq} sleep interference threshold for one or more nights.

This analysis is based on monitored ambient noise levels at sensitive receptors throughout the project area (see **Table 4.12-1**),² the anticipated construction work hours for each facility, published equipment noise levels, and the attenuated construction equipment noise levels at the sensitive receptor, calculated using published noise propagation equations (FHWA, 2006). Standard mitigation measures to reduce construction-related noise levels have been demonstrated to reduce equipment noise by 5 to 10 dBA (Bolt et. al.1971). Moveable sound barrier curtains can provide 15 dBA of sound attenuation (INC, 2014). Static sound barrier curtains can provide sound transmission loss of 16 to 40 dBA, depending on the frequency of the noise source (ENC, 2014).

Expose people to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies

Impacts are considered significant relative to this criterion if they would conflict with the noise level standards established in the applicable local ordinances and general plan noise elements presented in Section 4.12.3.3. Consistency with local noise standards are determined by comparing the applicable noise level standard to published equipment noise levels. In some cases this requires calculating noise levels at various distances (i.e., to a property line or sensitive receptor) using widely published noise propagation equations (FHWA, 2006) in order to assess whether a potential conflict could occur.

Separate assessments are made relative to this criterion for noise generated during project construction (see Impact 4.12-2) versus noise generated during project operations (see Impact 4.12-5). While all of the jurisdictions have established land use noise compatibility standards for ambient noise levels, only a few jurisdictions have established noise level standards for construction. For jurisdictions that do not have established construction noise level standards, no analysis is provided for construction noise. The construction time limits adopted by many jurisdictions are not considered a significance threshold for the assessment of construction noise impacts related to the generation of noise levels in excess of established construction noise level standards; however, construction time limits are considered in the analysis of project consistency with regional and local plans and policies (see Impact 4.12-4).

Expose people or structures to or generate excessive groundborne vibration levels during construction

The proposed project would result in significant impacts if it were to generate vibration levels substantial enough to damage nearby structures or buildings, or result in vibration levels that are commonly accepted as an annoyance to sensitive land uses.

With the exception of the *Monterey General Plan*, which specifies submission of a vibration study prior to building permit approval for projects that would involve pile driving or blasting,

² Existing ambient noise levels were monitored at some but not all of the sensitive receptors; in some cases the ambient noise level is based on monitored ambient noise levels at representative sensitive receptor locations.

none of the other local regulations of the affected jurisdictions in the project area address vibration or provide numerical thresholds for identifying groundborne vibration impacts. In the absence of local standards for vibration from construction equipment, the evaluation presented under Impact 4.12-3, below, uses the vibration thresholds presented in **Table 4.12-4**, below. For adverse human reaction, this analysis applies the “strongly perceptible” threshold of 0.1 in/sec PPV (Caltrans, 2004). For risk of architectural damage to historic buildings and structures, this analysis applies a threshold of 0.12 in/sec PPV (Wilson, Ihrig, & Associates et al., 2012). A threshold of 0.3 in/sec PPV is used for all other buildings. The Federal Transit Administration (FTA) provides an equation that may be used to estimate vibration at different distances based on a reference PPV of 25 feet for various construction equipment. Using the FTA equation, the distance at which vibration-generating construction equipment would be lower than the annoyance or damage thresholds were calculated and compared to potential distances to receiving buildings.

**TABLE 4.12-4
 VIBRATION THRESHOLDS**

| | Maximum Peak Particle Velocity (PPV), inches per second (in/sec) |
|------------------------------------------------|-----------------------------------------------------------------------------|
| Adverse human reaction ^a | 0.1 |
| Historic buildings and structures ^b | 0.12 |
| All other structures | 0.3 |

NOTE: The vibration criteria is based on continuous or frequent intermittent sources, including impact pile drivers, pogo-stick compactors, crack and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

SOURCES:

^a Caltrans, 2004

^b Wilson, Ihrig & Associates et al., 2012.

Cause a substantial permanent increase in ambient noise levels in the project vicinity during project operations

For the analysis of long-term operational impacts on the existing ambient noise environment, impacts are considered significant if operation of the proposed project facilities would result in a substantial increase in noise levels in the project area. This evaluation uses a 5-dBA increase in noise exposure—which is subjectively heard as an approximate doubling in loudness—to assess the significance of operational noise increases on ambient noise levels in the project vicinity.

4.12.4.3 Summary of Impacts

Table 4.12-5 summarizes the proposed project’s impacts and significance determinations related to noise and vibration.

**TABLE 4.12-5
 SUMMARY OF IMPACTS – NOISE AND VIBRATION**

| Impacts | Significance Determinations |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Impact 4.12-1: Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity during construction. | SUM |
| Impact 4.12-2: Expose people to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies during construction. | LSM |
| Impact 4.12-3: Exposure of people to or generation of excessive groundborne vibration during construction. | LSM |
| Impact 4.12-4: Consistency with the construction time limits established by the local jurisdictions. | LSM |
| Impact 4.12-5: Substantial permanent increases in ambient noise levels in the project vicinity above levels existing without the project during operations. | LSM |
| Impact 4.12-6: Expose people to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies during operations. | LS |

LS = Less than Significant impact, no mitigation required
 LSM = Less than Significant impact with Mitigation
 SUM = Significant and Unavoidable, even with implementation of Mitigation

4.12.4.4 Construction Impacts and Mitigation Measures

Impact 4.12-1: Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity during construction. (*Significant and Unavoidable, even with implementation of Mitigation*)

Construction of the proposed project facilities (excluding the test slant well) would occur over a 30-month period and would temporarily increase noise levels in the project vicinity. The noise levels generated during project construction of each facility would vary, depending on the construction phase and the types of construction equipment being used.

Implementation of the subsurface slant wells, MPWSP Desalination Plant, and ASR-5 and ASR-6 Wells could require nighttime construction. The proposed pipelines and conveyance facilities would be constructed during daytime hours to the extent feasible. This analysis assumes that the Transfer Pipeline, ASR Conveyance Pipelines, and ASR Pump-to-Waste Pipeline would be constructed only during daytime hours; however, nighttime construction could be required for all other pipelines to meet the project schedule. All nighttime construction work would be conducted only with prior approval from the relevant jurisdictions. Pipeline installation would occur at a rate of approximately 150 to 250 feet per day.

The operation of trucks, backhoes, bulldozers, excavators, front-end loaders, compactors, scrapers, and other heavy-duty construction equipment would generate high noise levels. These types of equipment would typically be operated for 1 or 2 minutes at full power followed by 3 to 4 minutes

at lower power settings, compared to other equipment such as directional drill rigs, which tend to operate at a continuous power level.

Table 4.12-6 presents the maximum noise levels for the loudest pieces of equipment expected to be used during project construction. The table also shows the existing ambient noise levels at sensitive receptors as well as the attenuated construction equipment noise levels at these receptors, assuming all pieces of construction are operating simultaneously. As indicated in the table, at a distance of 50 feet from the construction work areas, individual pieces of construction equipment could generate noise levels as high as 81 dBA L_{eq} . The attenuated construction equipment noise levels presented in **Table 4.12-6** are hourly average noise levels as calculated by the FHWA Roadway Construction Noise Model for the multiple pieces of equipment identified for each facility. Other construction-related noise would be brief and intermittent (e.g., placement of heavy equipment or materials into position, or the hydraulic movement of machinery lifts). **Table 4.12-6** also provides the resultant noise levels from construction equipment noise when added to existing ambient noise levels.

In addition to noise generated at the construction work areas, vehicle traffic related to materials and equipment deliveries, hauling of excess spoils, and construction worker commute trips would cause sporadic noise increases along project access routes. However, construction-related truck trips would be dispersed throughout the day and over the local road network and would not substantially increase noise, as these trips would only marginally increase traffic on the regional roadways (which already have relatively high traffic volumes). A doubling of traffic volumes would result in a 3-dBA increase in traffic noise levels. Because construction traffic would not double local traffic volumes, the increase in noise levels from construction-related vehicle trips would be minimal.

Subsurface Slant Wells

For the 9.6-million-gallon-per-day MPWSP Desalination Plant, up to 10 subsurface slant wells³ would be constructed in the CEMEX active mining area in northern Marina. Slant well construction would occur in 6-month increments, with multiple slant wells installed simultaneously, for a total of 18 months of slant well construction. Construction of the slant wells could occur anytime during the 30-month construction period and would occur 24 hours a day, 7 days a week.

The two closest sensitive receptors to the subsurface slant wells are residences at the Marina Dunes RV Park on Dunes Drive in Marina (4,000 feet to the south) and residences on Drew Street in Marina (4,300 feet to the southeast). Slant well construction is expected to involve the use of drilling rigs, mobile cranes, pipe trailers, portable drilling-fluid tanks, baker tanks, haul trucks, flatbed trucks, pumps, and air compressors. Construction workers would use a dual-wall, reverse-circulation, “Barber”-type drilling rig to drill the slant wells. **Table 4.12-7** presents the maximum estimated construction noise levels at nearby residences during slant well drilling and development.

³ The Seawater Intake System would include up to 10 permanent slant wells. The test slant well would be the first slant well to be constructed. Upon completion of the pilot program, CalAm proposes to convert the test slant well into a permanent well and construct up to nine additional subsurface slant wells. The specific impacts associated with construction of the test slant well and operation of the pilot program are described in Chapter 5, Impact Analysis for Test Slant Well and Pilot Program.

**TABLE 4.12-6
SUMMARY OF NOISE LEVELS AT SENSITIVE RECEPTORS DURING CONSTRUCTION**

| Project Facility | Construction Equipment (Number of Pieces) | Equipment Noise Level at 50 feet (dBA L _{max}) ^a | Distance from Nearest Sensitive Receptor (feet) | Attenuated Construction Equipment Noise Level at Nearest Sensitive Receptor (dBA L _{eq}) ^b | Existing Ambient Noise Level at Nearest Sensitive Receptor (dBA L _{eq}) ^c | Resultant Noise Level at Nearest Sensitive Receptor during Construction (dBA L _{eq}) ^d | Exceeds Speech (70 dBA L _{eq}) or Sleep (60 dBA L _{eq}) Interference Thresholds? |
|-------------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Subsurface Slant Wells | Mobile Cranes (2) | 81 | 4,000 | 43.6 | Daytime – 54.5 | 54.8 | Speech – NO Sleep – NO |
| | Bore/Drill Rigs (2) | 82 | | | Nighttime – 51.5 | 52.2 | |
| MPWSP Desalination Plant | Mobile Cranes (2) | 81 | 2,200 | 47.7 | Daytime – 61.8 | 62.0 | Speech – NO Sleep – NO |
| | Dozer (1) | 82 | | | Nighttime – 50.5 | 52.3 | |
| | Dump Truck (1) | 76 | | | | | |
| Open-Trench Pipeline Installation | Backhoe (1) | 78 | 50 ^e | 79.2 | Daytime – 59.1 | 79.2 | Speech – YES Sleep – YES ^f |
| | Compactor (1) | 83 | | | Nighttime – 45.8 | 79.2 | |
| | Mobile Crane (1) | 81 | | | | | |
| Subsurface Pipeline Installation (HDD/Jack and Bore) | Bore/Drill Rigs (1) | 84 | 50 ^e | 94.3 | Daytime – 59.1 | 94.3 | Speech – YES Sleep – YES ^f |
| | Pile Driver (1) | 101 | | | Nighttime – 45.8 | | |
| Terminal Reservoir & ASR Pump Station | Backhoe (1) | 78 | 1,600 | 47.6 | Daytime – 59.1 | 59.4 | Speech – NO Sleep – n/a |
| | Dump Truck (1) | 76 | | | | | |
| | Mobile Crane (1) | 81 | | | | | |
| ASR Injection/Extraction Wells and ASR Settling Basin | Backhoe (1) | 78 | 50 | 80.8 | Daytime – 54.3 Nighttime – 52.0 | 80.8 80.8 | Speech – YES Sleep – YES |
| | Bore/Drill Rigs (1) | 84 | | | | | |
| | Compactor | 83 | | | | | |
| Main System-Hidden Hills Interconnection Improvements | Backhoe (1) | 78 | 50 | 77.7 | Daytime – 44.7 | 77.7 | Speech – YES Sleep – n/a |
| | Dump Truck (1) | 76 | | | | | |
| | Mobile Crane (1) | 81 | | | | | |
| Ryan Ranch-Bishop Interconnection Improvements | Backhoe (1) | 78 | 900 | 52.6 | Daytime – 45.8 | 53.4 | Speech – NO Sleep – n/a |
| | Dump Truck (1) | 76 | | | | | |
| | Mobile Crane (1) | 81 | | | | | |
| Valley Greens Pump Station (both site options) | Backhoe (1) | 78 | 100 | 71.7 | Daytime – 64.3 | 72.4 | Speech – YES Sleep – n/a |
| | Dump Truck (1) | 76 | | | | | |
| | Mobile Crane (1) | 81 | | | | | |

NOTES:

n/a = This facility would not involve nighttime construction; therefore, the sleep interference threshold does not apply.

^a With the exception of noise levels for the drill rig for the subsurface slant wells, which are based on empirical monitoring conducted for CalAm's test slant well, reference noise levels for construction equipment are derived from FHWA, 2006

^b Attenuated construction equipment noise levels at the nearest sensitive receptors were calculated using FHWA Roadway Construction Noise Model Version 1.1. This value represents hourly average noise levels based on the estimated percentage of time the various pieces of construction equipment would be operating.

^c Based on ambient noise levels at representative noise monitoring locations (see **Figure 4.12-1** and **Table 4.12-1**).

^d Resultant noise level is the result of logarithmic addition of the values in the two previous columns (i.e., the attenuated noise from operation of all pieces of construction equipment in combination with ambient noise level at the sensitive receptor). This represents the noise level that could be experienced by a human at the sensitive receptor location.

^e Distance between the proposed pipeline alignments and the nearest sensitive receptors varies by pipeline. This summary table only provides noise levels at a distance of 50 feet, which corresponds with the distance from the closest sensitive receptors to pipeline installation activities (only Transfer Pipeline, Monterey Pipeline would involve pipeline installation activities at 50 feet).

^f Construction work hours would vary by pipeline; not all pipelines are anticipated to involve nighttime construction.

**TABLE 4.12-7
 MAXIMUM CONSTRUCTION NOISE LEVELS – SUBSURFACE SLANT WELLS**

| Closest Sensitive Receptors | Distance to Receptor (feet) | Existing Ambient Daytime Noise Level at Receptor(s) (dBA L _{eq}) ^a | Attenuated Construction Equipment Noise Level at Receptor(s) (dBA L _{eq}) ^b | Resultant Noise Level at Receptor(s) during Construction (dBA L _{eq}) ^c |
|---------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Drew Street Residences | 4,300 | Daytime – 54.5 Nighttime – 51.5 | 42.9 | Daytime – 54.8 Nighttime – 52.1 |
| Residences at Marina Dunes RV Park on Dunes Drive | 4,000 | Daytime – 54.5 Nighttime – 51.5 | 43.6 | Daytime – 54.8 Nighttime – 52.2 |

NOTES:

- ^a Based on daytime and nighttime ambient noise level at short-term noise monitoring location S3 (see **Figure 4.12-1** and **Table 4.12-1**).
- ^b Attenuated construction equipment noise levels at the nearest sensitive receptors were calculated using FHWA Roadway Construction Noise Model Version 1.1. This value represents hourly average noise levels based on the estimated percentage of time the various pieces of construction equipment would be operating.
- ^c Resultant noise level is the result of logarithmic addition of the values in the two previous columns (i.e., the attenuated construction equipment noise in combination with the ambient noise level at the sensitive receptor). This represents the noise level that could be experienced by a human at the sensitive receptor location.

During slant well drilling and development, the attenuated construction equipment noise level at the nearest residential receptors would be 43.6 and 42.9 dBA L_{eq}, respectively, assuming two drill rigs are operated simultaneously. When this level is added to the existing ambient noise level of 54.5 dBA L_{eq} at these nearest receptors, the resultant noise level would be 54.8 dBA L_{eq}. Because of the significant distance to sensitive receptors, noise increases from well drilling and development activities would only result in a 0.3-dBA increase, which would not be perceptible at these receptors during daytime hours. Because construction-related noise increases at sensitive receptors would not exceed the speech interference threshold of 70 dBA, daytime noise impacts related to slant well construction would be less than significant.

At night, drilling noise could be perceptible during breaks in traffic along Highway 1. However, because of the significant distance to sensitive receptors, noise increases generated by nighttime well drilling and development activities would only be between 0.6 and 0.7 dBA above the ambient nighttime noise level of 51.5 dBA L_{eq}. This would not exceed the sleep interference threshold of 60 dBA. Therefore, impacts related to nighttime noise level increases from slant well construction would be less than significant.

MPWSP Desalination Plant

The proposed MPWSP Desalination Plant would involve the construction and installation of various structures and treatment facilities in an industrial and agricultural area of unincorporated Monterey County, including a pretreatment system, a reverse osmosis system, a post-treatment system, pump stations, storage tanks, pipelines, various support structures, and buildings. Construction at the MPWSP Desalination Plant site on Charles Benson Road would occur over 25 months construction period and would require 24-hour construction.

The nearest sensitive receptors to the MPWSP Desalination Plant site are two rural residences on Neponset Road that are located 2,200 feet and 3,900 feet to the west, respectively. As indicated in **Table 4.12-8**, the attenuated construction equipment noise levels at these receptors generated by construction activities at the MPWSP Desalination Plant site could be as high as 47.7 dBA L_{eq} and 42.7 dBA L_{eq} , respectively. Project-related construction noise would increase daytime noise levels at these receptors by approximately 0.7 dBA. The resultant noise levels at the sensitive receptor would be below the speech interference threshold of 70 dBA L_{eq} . Therefore, impacts related to periodic daytime noise level increases from construction of the MPWSP Desalination Plant would be less than significant.

**TABLE 4.12-8
MAXIMUM CONSTRUCTION NOISE LEVELS – MPWSP DESALINATION PLANT**

| Closest Sensitive Receptors | Distance to Receptor (feet) | Existing Ambient Noise Level at Receptor(s) (dBA L_{eq}) ^a | Attenuated Construction Equipment Noise Level at Receptor(s) (dBA L_{eq}) ^b | Resultant Noise Level at Receptor(s) during Construction (dBA L_{eq}) ^c |
|-----------------------------|-----------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Residences on Neponset Road | 2,200 | Daytime – 61.8 Nighttime – 50.5 | 47.7 | Daytime – 62.0 Nighttime – 52.3 |
| | 3,900 | Daytime – 61.6 Nighttime – 50.5 | 42.7 | Daytime – 61.9 Nighttime – 51.2 |

NOTES:

- ^a Based on daytime and nighttime ambient noise level at short-term noise monitoring location S1 (see **Figure 4.12-1** and **Table 4.12-1**).
- ^b Attenuated construction equipment noise levels at the nearest sensitive receptors were calculated using FHWA Roadway Construction Noise Model Version 1.1. This value represents hourly average noise levels based on the estimated percentage of time the various pieces of construction equipment would be operating.
- ^c Resultant noise level is the result of logarithmic addition of the values in the two previous columns (i.e., the attenuated construction equipment noise in combination with the ambient noise level at the sensitive receptor). This represents the noise level that could be experienced by a human at the sensitive receptor location.

The MPWSP Desalination Plant could require nighttime construction. The resultant nighttime construction noise levels of 51.2 and 52.3 dBA, L_{eq} would be below the sleep interference threshold of 60 dBA L_{eq} . Therefore, impacts related to periodic nighttime noise level increases during construction of the MPWSP Desalination Plant would be less than significant.

Pipelines North of Reservation Road

Under the proposed project, the following pipelines would be constructed north of Reservation Road: the Source Water Pipeline, Desalinated Water Pipeline, Salinas Valley Return Pipeline, and Brine Discharge Pipeline. To the extent feasible, pipelines would be installed during daytime hours. However, nighttime construction could be required at certain locations to meet the project schedule or avoid peak hour traffic impacts. CalAm would abide by local noise ordinances (including obtaining variances where needed) with regard to nighttime construction operations.

Source Water Pipeline, Salinas Valley Return Pipeline, and Brine Discharge Pipeline. The residences on Neponset Road are the closest sensitive receptors to the Source Water Pipeline, Salinas Valley Return Pipeline, and Brine Discharge Pipeline, at 1,100 feet, 3,600 feet, and 3,600 feet, respectively. **Table 4.12-9** presents the estimated resultant noise levels at these sensitive receptors during pipeline construction. Construction of the pipelines located north of

**TABLE 4.12-9
 MAXIMUM CONSTRUCTION NOISE LEVELS – PIPELINES NORTH OF RESERVATION ROAD**

| Pipeline | Closest Sensitive Receptor(s) | Distance to Receptor (feet) | Existing Ambient Noise Level at Receptor(s) (dBA L _{eq}) | Attenuated Construction Equipment Noise Level at Receptor(s) (dBA L _{eq}) ^a | Resultant Noise Level at Receptor(s) during Construction (dBA L _{eq}) ^b |
|-------------------------------------------------------------|-------------------------------|-----------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Source Water Pipeline | Residences on Neponset Road | 1,100 | Daytime – 61.8 ^c Nighttime – 50.5 | 53.2 | Daytime – 62.4 Nighttime – 55.1 |
| Desalinated Water Pipeline | Residences on Marina Drive | 100 | Daytime – 66.4 ^d Nighttime – 42.3 | 74.0 | Daytime – 74.7 Nighttime – 74.0 |
| Salinas Valley Return Pipeline and Brine Discharge Pipeline | Residences on Neponset Road | 3,600 | Daytime – 61.8 ^c Nighttime – 50.5 | 42.9 | Daytime – 61.9 Nighttime – 51.2 |

NOTES:

- ^a Attenuated construction equipment noise levels at the nearest sensitive receptors were calculated using FHWA Roadway Construction Noise Model Version 1.1. This value represents hourly average noise levels based on the estimated percentage of time the various pieces of construction equipment would be operating.
- ^b Resultant noise level is the result of logarithmic addition of the values in the two previous columns (i.e., the attenuated construction equipment noise in combination with the ambient noise level at the sensitive receptor). This represents the noise level that could be experienced by a human at the sensitive receptor location.
- ^c Based on daytime and nighttime ambient noise level at short-term noise monitoring location S1 (see **Figure 4.12-1** and **Table 4.12-1**).
- ^d Based on daytime and nighttime ambient noise level at short-term noise monitoring location S2.

Reservation Road would progress at a rate of approximately 250 feet per day. As a result, residential receptors would experience peak noise levels for less than a week. The attenuated construction equipment noise at these residences, when combined with the existing ambient daytime noise levels at these residences of 61.8 dBA L_{eq} (see **Table 4.12-1**), would result in noise levels of up to 62.4 dBA L_{eq} at 1,100 feet and 61.9 dBA L_{eq} at 3,600 feet, respectively. Because construction-related noise increases would remain below the speech interference threshold of 70 dBA, impacts associated with daytime increases in noise levels during construction of these pipelines would be less than significant.

The attenuated construction equipment noise at these residences, when combined with the existing ambient nighttime noise levels at these residences of 50.5 dBA L_{eq}, would result in noise levels of up to 55.1 dBA L_{eq} at 1,100 feet and 51.2 dBA L_{eq} at 3,600 feet. Because construction-related noise increases would remain below the sleep interference threshold of 60 dBA, impacts associated with nighttime increases in noise levels during construction of these pipelines would be less than significant.

Desalinated Water Pipeline. Residences on Marina Drive are as close as 100 feet from the proposed Desalinated Water Pipeline alignment. The existing daytime ambient noise level at residences on Cosky Road (noise monitoring location S2) was monitored at 66.4 dBA L_{eq}. Based on proximity and existing land uses of the two receptors, the ambient noise level at the Cosky Road residences is considered to be representative of the ambient noise level at residences at Marina Drive. The resultant noise levels associated with pipeline installation at the Marina Drive

residences could be as high as 74.7 dBA L_{eq} (see **Table 4.12-9**). Speech interference becomes pronounced at levels in excess of 70 dBA. Construction of the Desalinated Water Pipeline is estimated to progress at a rate of approximately 250 feet per day, so the maximum noise levels at any one location would be limited to a period of 1 to 3 days. Consequently, although construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA, the duration of the impact at any given sensitive noise receptor would be less than two weeks. Therefore, the construction noise impact associated with increases in daytime noise levels would be less than significant.

If nighttime work were to be conducted along the portion of the Desalinated Water Pipeline in Marina, noise from construction equipment could exceed the sleep interference threshold of 60 dBA, a significant impact. Implementation of **Mitigation Measures 4.12-1a (Neighborhood Notice)**, **4.12-1b (General Noise Controls for Construction Equipment)**, and **4.12-1c (Noise Control Plan for Nighttime Pipeline Construction)** would reduce the severity of this impact below the sleep interference threshold of 60 dBA, L_{eq} (14 dBA of reduction). **Mitigation Measure 4.12-1a (Neighborhood Notice)** would require that CalAm provide advanced notice to affected receptors. **Mitigation Measure 4.12-1b (General Noise Controls for Construction Equipment)** requires muffled exhaust systems on all combustion engines, external jackets on impact tools, and the use of temporary noise barriers. **Mitigation Measure 4.12-1c (Noise Control Plan for Nighttime Pipeline Construction)** would require the use of noise barriers or other noise-attenuating measures. Moveable sound barrier curtains can provide 15 dBA of sound attenuation (INC, 2014). The duration of this significant nighttime noise impact would be limited to 1 to 3 days at any given sensitive receptor. With implementation of feasible mitigation measures, the nighttime noise impact would be reduced to a less-than-significant level by requiring barriers or other measures that would reduce the resultant noise level below the sleep interference threshold of 60 dBA, L_{eq} .

On some portions of the Desalinated Water Pipeline where it is not feasible or desirable to perform open-cut trenching, trenchless methods such as jack-and-bore, drill-and-burst, horizontal directional drilling, and/or microtunneling could be employed. Such work typically requires excavation and shoring of the jacking and receiving pits by using impact or vibratory sheet pile drivers. Jack-and-bore methods would also be used for pipeline segments that cross beneath Highway 1 or drainages. Should this method be used for the Desalinated Water Pipeline, localized noise levels would be substantially increased (up to 88 dBA, L_{eq} at 100 feet) during installation of sheet piles. The duration of this significant noise impact would be limited to 1 to 3 days at any given sensitive receptor. Although construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA, the duration of the impact at any given sensitive noise receptor would be less than two weeks. Therefore, the construction noise impact associated with increases in daytime noise levels from sheet pile driving would be less than significant.

Transmission Main, Transfer Pipeline, and Monterey Pipeline

This analysis assumes that the Transfer Pipeline would be constructed during daytime hours. Nighttime construction could be required for the Transmission Main and Monterey Pipeline but

would only occur with prior approval from the corresponding local jurisdictions. Pipelines would be installed at a rate of approximately 150 to 250 feet per day.

Transmission Main. The Transmission Main would convey desalinated product water from Reservation Road along the TAMC right-of-way and Monterey Peninsula Recreational Trail on the west side of Del Monte Boulevard to the connections with the proposed Transfer Pipeline and Monterey Pipeline at the intersection of Auto Center Parkway and Del Monte Boulevard. This alignment passes within 100 feet of residences in the southern portion of Marina for approximately 0.5 mile. Installation of the Transmission Main would progress at a rate of approximately 250 feet per day, so maximum noise levels at any one location would be limited to a period of 1 to 3 days. It might be necessary to perform construction activities for the Transmission Main during the night.

Short-term monitoring location S2, where the ambient daytime noise level was measured at 66.4 dBA L_{eq} and the ambient nighttime noise level was measured at 42.3 dBA L_{eq} , represents the noise environment at the closest residential receptors to the Transmission Main (see **Table 4.12-1** and **Figure 4.12-1**). The resultant daytime noise level at these receptors during installation of the Transmission Main could be as high as 74.7 dBA. Although construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA L_{eq} , the duration of the impact would be less than two weeks. Therefore, the construction noise impact associated with increases in daytime noise levels would be less than significant.

If nighttime construction work is needed for the portion of the Transmission Main in Marina, the resultant nighttime noise levels at the residential receptors could be as high as 74 dBA, L_{eq} , which would exceed the sleep interference threshold of 60 dBA. Implementation of **Mitigation Measures 4.12-1a (Neighborhood Notice)**, **4.12-1b (General Noise Controls for Construction Equipment)**, and **4.12-1c (Noise Control Plan for Nighttime Pipeline Construction)** would reduce the severity of this impact, to below the sleep interference threshold of 60 dBA, L_{eq} (14 dBA of reduction). **Mitigation Measure 4.12-1a (Neighborhood Notice)** would require that CalAm provide advanced notice to affected receptors. **Mitigation Measure 4.12-1b (General Noise Controls for Construction Equipment)** requires muffled exhaust systems on all combustion engines, external jackets on impact tools, and the use of temporary noise barriers. **Mitigation Measure 4.12-1c (Noise Control Plan for Nighttime Pipeline Construction)** would require the use of noise barriers or other noise-attenuating measures. Moveable sound barrier curtains can provide 15 dBA of sound attenuation (INC, 2014). The duration of this significant nighttime noise impact would be limited to 1 to 3 days at any given sensitive receptor. With implementation of feasible mitigation measures, the nighttime noise impact would be reduced to a less-than-significant level by requiring barriers or other measures that would reduce the resultant noise level below the sleep interference threshold of 60 dBA, L_{eq} .

On some portions of the Transmission Main where it is not feasible or desirable to perform open-cut trenching, trenchless methods such as jack-and-bore, drill-and-burst, horizontal directional drilling, and/or microtunneling could be employed. Such work typically requires excavation and shoring of the jacking and receiving pits by using impact or vibratory sheet pile drivers. Jack-and-

bore methods would also be used for pipeline segments that cross beneath Highway 1 or drainages. Should this method be used for the Transmission Main, localized noise levels would be substantially increased (up to 88 dBA, L_{eq} at 100 feet) during installation of sheet piles. The duration of this significant noise impact would be limited to 1 to 3 days at any given sensitive receptor. Although construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA, the duration of the impact at any given sensitive noise receptor would be less than two weeks. Therefore, the construction noise impact associated with increases in daytime noise levels from sheet pile driving would be less than significant.

Transfer Pipeline. The proposed Transfer Pipeline would traverse a residential neighborhood in Seaside. Installation of the Transfer Pipeline would occur only during daytime hours. From the intersection of Del Monte Boulevard/Auto Center Parkway, the Transfer Pipeline would be routed east along Auto Center Parkway and La Salle Avenue to Yosemite Street, south for approximately 1 mile to Hilby Avenue, and then east along Hilby Avenue to the proposed ASR Pump Station and the Terminal Reservoir on the east side of General Jim Moore Boulevard. There are no sensitive receptors along Auto Center Parkway. Sensitive receptors include a mobile home park, schools, and residences. Residences are within 50 feet of the alignment and border the alignment for most of its length. Short-term monitoring location S5 (see **Table 4.12-1** and **Figure 4.12-1**), where the ambient daytime noise level was measured at 59.1 dBA L_{eq} , represents the noise environment for the residential receptors.

During construction, the resultant daytime noise level at residential receptors could be as high as 79.2 dBA. Based on a pipeline installation rate of 250 feet per day, the maximum amount of time that any one receptor would be exposed to these noise levels would be limited to 1 to 3 days. Although construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA L_{eq} , the duration of the impact would be less than two weeks and the construction noise impact associated with increases in daytime noise levels would be less than significant.

Monterey Pipeline. The proposed Monterey Pipeline would extend for 5.4 miles from Seaside to the Monterey Peninsula, and would require construction in the cities of Seaside, Monterey, and Pacific Grove. Pipeline construction would occur during daytime hours to the extent feasible, but nighttime construction could be required at certain locations. CalAm would obtain prior approval from the local jurisdictions for all nighttime construction activities.

Several residences are located within 50 feet of the pipeline alignment along Del Monte Boulevard, Figueroa Street, Franklin Street, High Street, Spencer Street, and Eardley Street (i.e., residential receptors are within 50 feet of the alignment in all three affected jurisdictions – Seaside, Monterey, and Pacific Grove). Other sensitive receptors along this pipeline route include hotels and motels, churches, and schools. Noise measurements taken at monitoring location S6 at Franklin Street in Monterey and monitoring location S7 at Eardley Street in Pacific Grove (60.2 and 61 dBA, L_{eq} respectively) represent the daytime noise environment for these receptors (see **Table 4.12-1** and **Figure 4.12-1**). Based on a pipeline installation rate of approximately 150 feet per day, the maximum duration of time that a receptor would be exposed to construction-related noise increases would be limited to a period of 3 to 5 days.

Table 4.12-10 presents the estimated construction-related noise levels at the closest sensitive receptors to the proposed Monterey Pipeline alignment. As shown in the table, the resultant noise levels at the nearest residential receptors during daytime construction activities would range from 74.2 to 79.3 dBA, L_{eq} . Although daytime construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA, the duration of the impact would be less than two weeks and the construction noise impact associated with increases in daytime noise levels would be less than significant.

**TABLE 4.12-10
 MAXIMUM CONSTRUCTION NOISE LEVELS –
 TRANSMISSION MAIN, TRANSFER PIPELINE, AND MONTEREY PIPELINE**

| Pipeline | Closest Sensitive Receptor(s) | Distance to Receptor (feet) ^a | Existing Ambient Daytime Noise Level at Receptor(s) (dBA L_{eq}) | Attenuated Construction Equipment Noise Level at Receptor(s) (dBA L_{eq}) ^a | Resultant Noise Level at Receptor(s) during Construction (dBA L_{eq}) ^b |
|-------------------|---------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Transmission Main | Residences (various) | 100 | Daytime – 66.4 ^c Nighttime – 42.3 | 74.0 | Daytime – 74.7 Nighttime – 74.0 |
| Transfer Pipeline | Residences along La Salle Avenue, Yosemite Street, and Hilby Avenue | 50 | Daytime – 59.1 ^d | 79.2 | Daytime – 79.2 Nighttime – n/a |
| Monterey Pipeline | Residences (various) | 50 | Daytime – 60.2 ^e Nighttime – 45.8 | 79.2 | Daytime – 79.3 Nighttime – 79.2 |
| | | 100 | Daytime – 61.0 ^f Nighttime – 45.8 | 74.0 | Daytime – 74.2 Nighttime – 74.0 |

NOTES:

- ^a Attenuated construction equipment noise levels at the nearest sensitive receptors were calculated using FHWA Roadway Construction Noise Model Version 1.1. This value represents hourly average noise levels based on the estimated percentage of time the various pieces of construction equipment would be operating.
- ^b Resultant noise level is the result of logarithmic addition of the values in the two previous columns (i.e., the attenuated construction equipment noise in combination with the ambient noise level at the sensitive receptor). This represents the noise level that could be experienced by a human at the sensitive receptor location.
- ^c Based on daytime and nighttime ambient noise level at short-term noise monitoring location S2 (see **Figure 4.12-1** and **Table 4.12-1**).
- ^d Based on daytime ambient noise level at short-term noise monitoring location S5.
- ^e Based on daytime and nighttime ambient noise level at short-term noise monitoring location S6.
- ^f Based on daytime and nighttime ambient noise level at short-term noise monitoring location S7.

Additionally, if nighttime construction is necessary for the Monterey Pipeline, the resultant nighttime noise levels at nearby receptors would be as high as 74.0 and 79.2 dBA, L_{eq} . Because the resultant nighttime noise levels would exceed the sleep interference threshold of 60 dBA, the impact related to temporary increases in ambient nighttime noise levels during construction would be significant. Implementation of **Mitigation Measures 4.12-1a (Neighborhood Notice)**, **4.12-1b (General Noise Controls for Construction Equipment)**, and **4.12-1c (Noise Control Plan for Nighttime Pipeline Construction)** would reduce the severity of this impact (16 dBA of reduction), but not to the degree necessary to reduce construction noise below the sleep interference threshold of 60 dBA, L_{eq} (19 dBA of reduction). Moveable sound barrier curtains can provide 15 dBA of sound attenuation (INC, 2014). Consequently, although the impact at any given receptor would be limited in duration, the impact would remain significant and unavoidable even with implementation of mitigation measures.

On some portions of the Monterey Pipeline where it is not feasible or desirable to perform open-cut trenching, trenchless methods such as jack-and-bore, drill-and-burst, horizontal directional drilling, and/or microtunneling could be employed. Such work typically requires excavation and shoring of the jacking and receiving pits by using impact or vibratory sheet pile drivers. Jack-and-bore methods would also be used for pipeline segments that cross beneath Highway 1 or drainages. Should this method be used for the Monterey Pipeline, localized noise levels would be substantially increased (up to 88 dBA, L_{eq} at 100 feet) during installation of sheet piles. The duration of this significant noise impact would be limited to 1 to 3 days at any given sensitive receptor. Although construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA, the duration of the impact at any given sensitive noise receptor would be less than two weeks. Therefore, the construction noise impact associated with increases in daytime noise levels from sheet pile driving would be less than significant.

ASR System Improvements and Terminal Reservoir

ASR-5 and ASR-6 Wells. The proposed ASR injection/extraction wells (ASR-5 and ASR-6 Wells) and ASR Settling Basin would be constructed at the intersection of General Jim Moore Boulevard and Ardennes Circle, in the Fitch Park military housing area. The closest residential receptors to the proposed wells and settling basin are located 50 feet away on Ardennes Circle. Noise monitoring location S4 represents the noise environment at the Fitch Park residential receptors (see **Table 4.12-1** and **Figure 4.12-1**). Based on the noise measurements, the daytime ambient noise level at these receptors is 54.3 dBA L_{eq} and the nighttime ambient noise level is 52 dBA L_{eq} .

Table 4.12-11 presents the estimated construction-related noise levels at the closest sensitive receptors to the proposed ASR improvements and Terminal Reservoir. Each proposed ASR injection/extraction well would require 24-hour construction activities for up to 4 weeks during well drilling and development, for a total of 8 weeks of 24-hour construction. Construction of the ASR Settling Basin would only occur during daytime hours. As discussed in Chapter 3, Project Description, Section 3.5.7, temporary noise attenuators (sound walls) would be installed at each well site to reduce construction noise. Accounting for the attenuation provided by the temporary sound wall, the resultant daytime and nighttime noise levels at the Fitch Park residential receptors associated with well construction activities could be as high as 80.8 dBA L_{eq} . Thus, daytime and nighttime well construction activities would exceed the speech interference and sleep interference thresholds of 70 dBA and 60 dBA, respectively. Therefore, the daytime and nighttime construction-related noise impacts from well drilling and development activities would be significant. Implementation of **Mitigation Measures 4.12-1a (Neighborhood Notice)**, **4.12-1b (General Noise Controls for Construction Equipment)**, **4.12-1d (Additional Noise Controls for ASR-5 and ASR-6 Wells)**, and **4.12-1e (Offsite Accommodations for Substantially Affected Receptors)** would reduce the daytime noise impact to a less-than-significant level. However, because the maximum level of attenuation that is reasonably achievable with implementation of the mitigation measures is 16 to 40 dBA of sound reduction, depending on the frequency of the noise source (ENC, 2014), even with implementation of mitigation, the nighttime noise impact would remain significant and unavoidable.

**TABLE 4.12-11
 MAXIMUM CONSTRUCTION NOISE LEVELS – ASR IMPROVEMENTS AND TERMINAL RESERVOIR**

| Project Component | Closest Sensitive Receptor(s) | Distance to Receptor (feet) | Existing Ambient Noise Level at Receptor(s) (dBA L _{eq}) | Attenuated Construction Equipment Noise Level at Receptor(s) (dBA L _{eq}) ^a | Resultant Noise Level at Receptor(s) during Construction (dBA L _{eq}) ^b |
|---------------------------------------------------------|------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| ASR-5 and ASR-6 Wells | Residences at Fitch Park military housing area (Ardennes Circle) | 50 | Daytime – 54.3 ^c Nighttime – 52.0 | 80.8 ^d | Daytime – 80.8 Nighttime – 80.8 |
| ASR Settling Basin | Residences at Fitch Park military housing area (Ardennes Circle) | 50 | Daytime – 54.3 | 78.1 | Daytime – 78.1 |
| Terminal Reservoir and ASR Pump Station | Residences on Mescal Street | 1,600 | Daytime – 59.1 ^e | 47.6 | Daytime – 59.4 |
| ASR Conveyance Pipelines and ASR Pump-to-Waste Pipeline | Residences at Fitch Park military housing area (Ardennes Circle) | 100 | Daytime – 54.3 ^c | 74.0 | Daytime – 74.0 |
| ASR Conveyance Pipelines and ASR Pump-to-Waste Pipeline | Seaside Middle School | 300 | Daytime – 50.7 ^c | 50.2 | Daytime – 53.5 |

NOTES:

- ^a Attenuated construction equipment noise levels at the nearest sensitive receptors were calculated using FHWA Roadway Construction Noise Model Version 1.1. This value represents hourly average noise levels based on the estimated percentage of time the various pieces of construction equipment would be operating.
- ^b Resultant noise level is the result of logarithmic addition of the values in the two previous columns (i.e., the attenuated construction equipment noise in combination with the ambient noise level at the sensitive receptor). This represents the noise level that could be experienced by a human at the sensitive receptor location.
- ^c Based on daytime and nighttime ambient noise level at short-term noise monitoring location S4 (see **Figure 4.12-1** and **Table 4.12-1**).
- ^d Estimated noise levels during well drilling and development do not reflect the noise attenuation provided by sound walls.
- ^e Based on daytime ambient noise level at short-term noise monitoring location S5.

Noise levels during construction of the ASR Settling Basin could be as high as 78.1 dBA L_{eq}. Thus, daytime ASR Settling Basin construction activities would exceed the speech interference threshold of 70 dBA and noise impacts from construction of the ASR Settling Basin would be significant. Implementation of **Mitigation Measures 4.12-1a (Neighborhood Notice)**, **4.12-1b (General Noise Controls for Construction Equipment)**, would reduce the daytime noise impact to a less-than-significant level.

Terminal Reservoir and ASR Pump Station. The Terminal Reservoir and ASR Pump Station would be constructed approximately 1,600 feet east of residences on Mescal Drive. Nighttime construction work is not proposed for these facilities; therefore, there would be no impact related to nighttime noise increases. Monitoring location S5, where the ambient daytime noise level was 59.1 dBA L_{eq}, represents the daytime noise environment at these receptors (see **Table 4.12-1** and **Figure 4.12-1**). Construction equipment noise levels associated with the Terminal Reservoir and ASR Pump Station would be attenuated to approximately 47.6 dBA due to the 1,600-foot distance from the receptor. The daytime resultant noise level at these sensitive receptors would be as high

as 59.4 dBA L_{eq} , which is below the speech interference threshold of 70 dBA. Consequently, the daytime noise impact related to construction of the Terminal Reservoir and ASR Pump Station would be less than significant.

ASR Conveyance Pipelines and ASR Pump-to-Waste Pipeline. The proposed improvements to the Seaside Groundwater Basin ASR system include three parallel 0.9-mile-long pipelines (the two ASR Conveyance Pipelines and the ASR Pump-to-Waste Pipeline) along General Jim Moore Boulevard between the ASR-5 and ASR-6 Wells and Coe Avenue. Nighttime construction work is not proposed for these pipelines; therefore, there would be no impact related to nighttime noise increases.

The pipelines would be installed approximately 300 feet east of Seaside Middle School. The attenuated construction equipment noise level at 300 feet would be 65.2 dBA L_{eq} . However, because the school is situated at a lower elevation than General Jim Moore Boulevard, the effective earthen berm created by the difference in elevation would shield the school and provide an additional 15 to 20 dBA of noise attenuation (Caltrans, 2009). Consequently, the resultant daytime noise level at Seaside Middle School during pipeline installation activities would be 50.2 dBA L_{eq} (which is well below the speech interference threshold of 70 dBA and similar to existing background levels). The impact related to temporary increases in daytime noise levels would be less than significant.

These pipeline alignments are as close as 100 feet from residential receptors, including residences on Ardennes Circle and Mescal Drive. The resultant daytime noise level at residential receptors during pipeline construction would be as high as 74.0 dBA L_{eq} . Assuming a pipeline installation rate of 250 feet per day, these residential receptors would be exposed to the 74.0-dBA noise levels for 3 to 5 days. Although construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA, the duration of the impact at any given sensitive noise receptor would be less than two weeks. Therefore, the construction noise impact associated with increases in daytime noise levels from sheet pile driving would be less than significant.

Valley Greens Pump Station

Construction activities for the Valley Greens Pump Station are expected to last for approximately 2 months and would occur during daytime hours only. Therefore, no impact related to temporary increases in nighttime noise levels would result. There are two site options for the proposed Valley Greens Pump Station, both in unincorporated Monterey County. Noise monitoring location S9, where the daytime ambient noise level at this receptor was measured at approximately 64.3 dBA L_{eq} , represents the existing noise environment at both site options.

Site Option 1 is 400 feet southeast of the Carmel Valley Road/Valley Greens Drive intersection, with the closest residence located approximately 100 feet to the south of the site. As shown in **Table 4.12-12**, below, during construction, the resultant noise level could be as high as 72.4 dBA, L_{eq} at this sensitive receptor. Because this noise level is greater than the 70-dBA speech interference threshold, the impact related to temporary increases in daytime noise levels would be significant.

**TABLE 4.12-12
 MAXIMUM CONSTRUCTION NOISE LEVELS – VALLEY GREENS PUMP STATION AND
 INTERCONNECTION IMPROVEMENTS WITH HIGHWAY 68 SATELLITE WATER SYSTEMS**

| Project Component | Closest Sensitive Receptor(s) | Distance to Receptor(s) (feet) | Existing Ambient Daytime Noise Level at Receptor(s) (dBA L_{eq}) | Attenuated Construction Equipment Noise Level at Receptor(s) (dBA L_{eq})^a | Resultant Noise Level at Receptor(s) during Construction (dBA L_{eq})^b |
|-------------------------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Valley Greens Pump Station | Residences/ Assisted Living Facility | 100 | Daytime – 64.3 ^c | 71.7 | Daytime – 72.4 |
| Ryan Ranch-Bishop Interconnection Improvements | York School | 900 | Daytime – 45.8 ^d | 52.6 | Daytime – 53.4 |
| Main System-Hidden Hills Interconnection Improvements | Residences on Tierra Grande Drive | 50 | Daytime – 44.7 ^e | 77.7 | Daytime – 77.7 |

NOTES:

- ^a Attenuated construction equipment noise levels at the nearest sensitive receptors were calculated using FHWA Roadway Construction Noise Model Version 1.1. This value represents hourly average noise levels based on the estimated percentage of time the various pieces of construction equipment would be operating.
- ^b Resultant noise level is the result of logarithmic addition of the values in the two previous columns (i.e., the attenuated construction equipment noise in combination with the ambient noise level at the sensitive receptor). This represents the noise level that could be experienced by a human at the sensitive receptor location.
- ^c Based on daytime ambient noise level at short-term noise monitoring location S9 (see **Figure 4.12-1** and **Table 4.12-1**).
- ^d Based on daytime ambient noise level at short-term noise monitoring location S8.
- ^e Based on daytime ambient noise level at short-term noise monitoring location S10.

Site Option 2 is on the south side of Carmel Valley Road near Carmel Rancho Boulevard, in the northeast corner of the Carmel Rancho Shopping Center, approximately 100 feet west of the Cottages of Carmel senior assisted living facility. The senior assisted living facility is the closest sensitive receptor to the site. During construction, the resultant noise levels could be as high as 72.4 dBA L_{eq} at this sensitive receptor. This noise level exceeds the 70-dBA speech interference criterion, a significant impact. However, for both site options, this impact would be reduced to a less-than-significant level with implementation of **Mitigation Measures 4.12-1a (Neighborhood Notice)** and **4.12-1b (General Noise Controls for Construction Equipment)**.

Interconnections with Highway 68 Satellite Water Systems

The proposed project would improve existing interconnections for three satellite water systems in the unincorporated communities of Ryan Ranch, Bishop, and Hidden Hills along the Highway 68 corridor. These improvements would be constructed during daytime hours and would not involve nighttime construction.

Ryan Ranch–Bishop Interconnection Improvements. The Ryan Ranch–Bishop Interconnection Improvements would be located in a business park area (i.e., medical offices and general office space). The closest noise-sensitive land use is the York School located 900 feet to the northeast of the proposed improvements on York Road. The resultant noise levels at this receptor during project construction would be 53.4 dBA L_{eq}, which is below the 70 dBA L_{eq} speech interference

threshold. Therefore, the impact related to temporary increases in daytime noise levels would be less than significant.

Main System–Hidden Hills Interconnection Improvements. The proposed Main System–Hidden Hills Interconnection Improvements involve the installation of a 1,200-foot-long, 6-inch-diameter pipeline along Tierra Grande Drive. This is a rural residential area where daytime noise levels are typically below 50 dBA. The pipeline and valves would be installed over approximately 5 days. Assuming a distance of 50 feet from the nearest residence, the resultant daytime noise levels at the closest residence could be as high as 77.7 dBA L_{eq} , which would exceed the 70-dBA L_{eq} speech interference threshold. Although daytime construction noise at adjacent residences could exceed the speech interference threshold of 70 dBA L_{eq} , the duration of the impact would be less than two weeks and the construction noise impact associated with increases in daytime noise levels would be less than significant.

Impact Conclusion

Construction of the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline, Salinas Valley Return Pipeline, and Brine Discharge Pipeline would result in less-than-significant daytime and nighttime noise impacts. Construction of the Transfer Pipeline, Terminal Reservoir, ASR Pump Station, ASR Conveyance Pipelines, ASR Pump-to-Waste Pipeline, Main System–Hidden Hills Interconnection Improvements, and Ryan Ranch–Bishop Interconnection Improvements would result in a less-than-significant impact related to temporary increases in daytime noise levels and no impact related to nighttime noise. Significant impacts related to temporary increases in daytime noise levels would result during construction of the ASR-5 and ASR-6 Wells, ASR Settling Basin, and the Valley Greens Pump Station (both site options), but these impacts could be reduced to less than significant levels with implementation of the prescribed mitigation measures. Significant nighttime noise impacts would result during construction of the Desalinated Water Pipeline, Transmission Main, Monterey Pipeline, and the ASR-5 and ASR-6 Wells. With the exception of nighttime noise impacts associated with the Monterey Pipeline and ASR-5 and ASR-6 Wells, implementation of **Mitigation Measures 4.12-1a** through **4.12-1c** would reduce all other construction-related nighttime noise impacts to a less-than-significant level. Nighttime noise impacts during installation of the Monterey Pipeline and drilling and development of the ASR-5 and ASR-6 Wells would remain significant and unavoidable, even with implementation of mitigation.

Mitigation Measures

Mitigation Measure 4.12-1a applies to the Desalinated Water Pipeline, Transmission Main, Monterey Pipeline, ASR-5 and ASR-6 Wells, ASR Settling Basin, and Valley Greens Pump Station (both site options).

Mitigation Measure 4.12-1a: Neighborhood Notice.

Residents and other sensitive receptors within 300 feet of a daytime construction area and within 900 feet of a nighttime construction area shall be notified of the construction location, nature of activities, and schedule, in writing, at least 14 days prior to the commencement of construction activities. The notice shall also be posted along the proposed pipeline alignments, near the proposed facility sites, and at nearby recreational

facilities. CalAm or the contractor(s) shall designate a construction disturbance coordinator who would be responsible for responding to construction complaints. The coordinator shall determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact number for the construction disturbance coordinator shall be conspicuously placed on construction site fences and included in the notice. Prior to distributing the notice to nearby residences, CalAm or the contractor(s) shall first submit the notice to the respective city planning and services manager for review and approval. This measure shall be implemented in conjunction with the noticing provisions in Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan).

Mitigation Measure 4.12-1b applies to the Desalinated Water Pipeline, Transmission Main, Monterey Pipeline, ASR-5 and ASR-6 Wells, ASR Settling Basin, and Valley Greens Pump Station (both site options).

Mitigation Measure 4.12-1b: General Noise Controls for Construction Equipment.

The construction contractor(s) shall assure that construction equipment with internal combustion engines have sound control devices at least as effective as those provided by the original equipment manufacturer. No equipment shall be permitted to have an unmuffled exhaust.

Impact tools (i.e., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler shall be placed on the compressed air exhaust to lower noise levels by up to approximately 10 dBA. External jackets shall be used on impact tools, where feasible, in order to achieve a further reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.

The construction contractor(s) shall locate stationary noise sources as far from nearby receptors as possible, and shall muffle and enclose them in temporary sheds, incorporate noise barriers, or implement other noise control measures to the extent feasible. The noise controls shall be sufficient to reduce noise levels during drilling and development of ASR-5 and ASR-6 Wells, and pump station construction activities below the threshold of 70 dBA L_{eq} .

Mitigation Measure 4.12-1c applies to the Desalinated Water Pipeline, Transmission Main and Monterey Pipeline.

Mitigation Measure 4.12-1c: Noise Control Plan for Nighttime Pipeline Construction.

CalAm or a representative of CalAm shall submit a Noise Control Plan for all nighttime pipeline work to the California Public Utilities Commission for review and approval prior to the commencement of project construction activities. The Noise Control Plan shall identify all feasible noise control procedures to be implemented during nighttime pipeline installation in order to reduce noise levels to the extent practicable at the nearest residential or noise sensitive receptor. At a minimum, the Noise Control Plan shall require use of moveable noise screens, noise blankets, or other suitable sound attenuation devices be used to reduce noise levels during nighttime pipeline installation activities below 60 dBA L_{eq} .

Mitigation Measure 4.12-1d applies only to the ASR-5 and ASR-6 Wells.

Mitigation Measure 4.12-1d: Additional Noise Controls for ASR-5 and ASR-6 Wells.

In addition to the general noise controls that will be implemented as part of Mitigation Measure 4.12-1b (General Noise Controls for Construction Equipment), CalAm or its construction contractor(s) for the ASR-5 and ASR-6 Wells shall identify feasible noise controls for implementation during well drilling development activities at the Fitch Park military housing community. The construction contractor(s) shall locate all stationary noise-generating equipment as far as possible from nearby noise-sensitive receptors. Drill rigs within 500 feet of noise-sensitive receptors shall be equipped with noise-reducing engine housings or other noise-reducing technology, and the line of sight between the drill rig and nearby sensitive receptors blocked by acoustic barriers and/or enclosures with a goal of reducing noise levels resulting from well drilling and development activities are 60 dBA, L_{eq} or less at a distance of 50 feet from the construction work area. Barrier blankets are available with a sound transmission class rating of 32, providing 16 to 40 dBA of sound transmission loss, depending on the frequency of the noise source (ENC, 2014), which may not quite attain this goal.

For nighttime well drilling and development activities within 500 feet of residences, the line of sight between the drill rig and nearby sensitive receptors shall be blocked by portable acoustic barriers and/or shields to achieve the optimal reduction in noise levels.

Mitigation Measure 4.12-1e applies only to the ASR-5 and ASR-6 Wells.

Mitigation Measure 4.12-1e: Offsite Accommodations for Substantially Affected Nighttime Receptors.

CalAm shall provide temporary hotel accommodations for all residences and any other nighttime sensitive receptors located within 100 feet of a designated construction work area that would be exposed to 24-hour construction activities and where nighttime construction noise would exceed 60 dBA even with implementation of acoustic barriers and/or shielding measures. The accommodations shall be provided for the duration of 24-hour construction activities.

Impact 4.12-2: Expose people to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies during construction. (*Less than Significant with Mitigation*)

Subsurface Slant Wells

The subsurface slant wells would be located in the CEMEX active mining area in northern Marina. The slant wells would be constructed 24-hours per day throughout the 2.5-year construction duration. The two closest sensitive receptors to the subsurface slant wells are residences at the Marina Dunes RV Park on Dunes Drive in Marina (4,000 feet to the south) and residences on Drew Street in Marina (4,300 feet to the southeast). The Noise Element of the *City of Marina General Plan* does not address construction noise. Section 15.04.055 of the Marina Municipal Code restricts construction noise to 60 dBA for 25 percent of an hour at the property line of sensitive receptors.

As shown in **Table 4.12-7**, construction noise from installation and development of subsurface slant wells would be no more than 43.6 dBA at the nearest receptor. Consequently, construction of the proposed slant wells would have a less than significant impact with regard to generation of noise levels in excess of standards.

MPWSP Desalination Plant

The residences on Neponset Road are located in unincorporated Monterey County and subject to the *Monterey County General Plan*. Policy S-7.9 of the Monterey County General Plan restricts construction activities within 500 feet of a sensitive land use. For County-permitted projects, Policy S-7.9 requires the project sponsor to complete a noise mitigation study if construction noise would exceed the “acceptable” levels listed in Policy S-7.1 within 500 feet of a noise-sensitive land use during evening hours. Because the MPWSP Desalination Plant site is greater than 500 feet from the nearest receptors, construction activities would be consistent with this policy.

Monterey County Code Section 10.60.030 limits the operation of machinery or equipment that produces a noise level exceeding 85 dBA at 50 feet from the source, but does not apply to any such noise source that is operated farther than 2,500 feet from an occupied dwelling. As shown in **Table 4.12-8**, none of the equipment proposed would operate at levels exceeding 85 dBA. Therefore, the impact of construction noise from the MPWSP Desalination Plant related to generation of noise in excess of regulatory noise standards would be less than significant.

Pipelines North of Reservation Road

Source Water Pipeline, Salinas Valley Return Pipeline, and Brine Discharge Pipeline. The closest sensitive receptors to the Source Water Pipeline, Salinas Valley Return Pipeline, and Brine Discharge Pipeline are residences on Neponset Road in unincorporated Monterey County. These pipelines could require nighttime construction. Construction of these pipelines would be subject to the *Monterey County General Plan*. Monterey County General Plan Policy S-7.9 restricts evening construction activities within 500 feet of a sensitive land use. As discussed above for Impact 4.12-1, the residences on Neponset Road are the closest sensitive receptors to the Source Water Pipeline, Salinas Valley Return Pipeline, and Brine Discharge Pipeline, at 1,100 feet, 3,600 feet, and 3,600 feet, respectively, which are all greater than 500 feet away from proposed pipeline construction areas. Therefore, such construction activities would be consistent with Policy S-7.9.

Monterey County Code Section 10.60.030 limits the operation of machinery or equipment that produces a noise level exceeding 85 dBA at 50 feet from the source. The equipment used to install the Source Water Pipeline, Salinas Valley Return Pipeline, and Brine Discharge Pipeline (see **Table 4.12-9**) would not exceed these levels.

Portions of the Source Water Pipeline would be within the jurisdiction of the City of Marina. The Noise Element of the *City of Marina General Plan* does not address construction noise. However, the City of Marina Municipal Code restricts construction noise to 60 dBA for 25 percent of an hour at any receiving property line. The resultant daytime and nighttime noise levels at Marina Drive residences associated with installation of the proposed Source Water Pipeline would be

approximately 53.2 dBA L_{eq} (see **Table 4.12-9**). This would be a less than significant impact with regard to the generation of noise in excess of regulatory noise standards in the city of Marina.

Consequently, construction activities associated with the installation of the Source Water Pipeline, Salinas Valley Return Pipeline, and Brine Discharge Pipeline would be consistent with standards established in the applicable general plans and noise ordinances. Therefore, construction noise from installation of these pipelines related to generation of noise in excess of regulatory noise standards would be less than significant.

Desalinated Water Pipeline. The Desalinated Water Pipeline would be installed along the TAMC right-of-way and the Monterey Peninsula Recreational Trail in unincorporated Monterey County and the city of Marina.

Construction of this pipeline would be subject to the *Monterey County General Plan*. Monterey County General Plan Policy S-7.9 restricts construction activities within 500 feet of a sensitive land use during evening hours. There are no residences within unincorporated Monterey County that are within 500 feet of the Desalinated Water Pipeline and construction activities would be consistent with Policy S-7.9.

Monterey County Code Section 10.60.030 limits the operation of machinery or equipment that produces a noise level exceeding 85 dBA at 50 feet from the source. The equipment used to install the Desalinated Water Pipeline (see **Table 4.12-9**) would not exceed these levels.

Consequently, construction activities associated with the installation of the Desalinated Water Pipeline would be consistent with standards established in the applicable general plan and noise ordinance and construction noise from installation of these pipelines related to generation of noise in excess of regulatory noise standards would be less than significant.

The Noise Element of the *City of Marina General Plan* does not address construction noise. The Municipal Code restricts construction noise to 60 dBA for 25 percent of an hour at any receiving property line. The daytime and nighttime resultant noise levels associated with pipeline installation at the Marina Drive residences could be as high as 74.7 and 74.0 dBA L_{eq} , respectively (see **Table 4.12-9**). This would be a significant impact with regard to generation of noise in excess of regulatory noise standards. However, with implementation of **Mitigation Measures 4.12-1b (General Noise Controls for Construction Equipment)** and **4.12-1c (Noise Control Plan for Nighttime Pipeline Construction)**, which would require that construction contractor's implement noise control measures, including temporary sound enclosures, if necessary, would reduce the resultant daytime and nighttime noise levels below 60 dBA. Moveable sound barrier curtains can provide 15 dBA of sound attenuation (INC, 2014). These mitigation measures would reduce the impact to a less-than-significant level.

On some portions of the Desalinated Water Pipeline where it is not feasible or desirable to perform open-cut trenching, trenchless methods such as jack-and-bore, drill-and-burst, horizontal directional drilling, and/or microtunneling could be employed. Such work typically requires excavation and shoring of the jacking and receiving pits by using impact or vibratory sheet pile drivers. Jack-and-bore methods would also be used for pipeline segments that cross beneath

Highway 1 or drainages. Should this method be used for the Desalinated Water Pipeline, localized noise levels would be substantially increased (up to 96 dBA, L_{eq} at 50 feet) during installation of sheet piles. Monterey County Code Section 10.60.030 limits the operation of machinery or equipment that produces a noise level exceeding 85 dBA at 50 feet from the source. If sheet piles were required the equipment used to install them would exceed these levels. However, implementation of **Mitigation Measure 4.12-1b (General Noise Controls for Construction Equipment)** would provide 15 dBA of sound attenuation (INC, 2014), which would be sufficient to reduce the impact of sheet pile driving to less than the 85 dBA threshold of the Monterey County Code.

The City of Marina Municipal Code restricts construction noise to 60 dBA for 25 percent of an hour at any receiving property line. The Roadway Construction Noise Model identifies pile driving as having a usage percentage of 20 percent. Consequently, pile driving noise would be exempt from the restrictions of the City's municipal Code.

Pipelines South of Reservation Road

Transmission Main. The proposed Transmission Main alignment between the cities of Marina and Sand City crosses to the west side of Highway 1 at the southern end of Marina and extends approximately 4.5 miles to Sand City and a portion of Seaside.

The northernmost 0.7 mile of the Transmission Main alignment is within the city of Marina where the noise ordinance restricts construction noise to 60 dBA for 25 percent of an hour at the property line of sensitive receptors. Without mitigation, installation of the Transmission Main would have the same significant impact with regard to generation of noise in excess of regulatory noise standards as the Desalinated Water Pipeline (i.e., noise levels associated with pipeline installation at nearby residences could be as high as 74.7 and 74.0 dBA L_{eq} for daytime and nighttime construction activities, respectively). Consequently daytime and nighttime construction activities associated with the northernmost 0.7 miles of the Transmission Main within the jurisdiction of the city of Marina would be significant. However, implementation of **Mitigation Measures 4.12-1c (Noise Control Plan for Nighttime Pipeline Construction)** would reduce the daytime and nighttime construction noise impact to a less-than-significant level.

On some portions of the Transmission Main where it is not feasible or desirable to perform open-cut trenching, trenchless methods such as jack-and-bore, drill-and-burst, horizontal directional drilling, and/or microtunneling could be employed. Such work typically requires excavation and shoring of the jacking and receiving pits by using impact or vibratory sheet pile drivers. Jack-and-bore methods would also be used for pipeline segments that cross beneath Highway 1 or drainages. Should this method be used for the Transmission Main, localized noise levels would be substantially increased (up to 96 dBA L_{eq} , at 50 feet) during installation of sheet piles. The City of Marina Municipal Code restricts construction noise to 60 dBA for 25 percent of an hour at any receiving property line. The Roadway Construction Noise Model identifies pile driving as having a usage percentage of 20 percent. Consequently, pile driving noise, while elevated, would be exempt from the restrictions of the City's municipal Code.

The Sand City Municipal Code does not contain quantitative noise standards and the City General Plan noise element does not address construction noise. This portion of the Transmission Main constitutes approximately 75 percent of the alignment. No impact would result from construction noise generated from installation of the Transmission Main within Sand City.

The portion of the Transmission Main south of Marina is also within the jurisdiction of the Fort Ord Reuse Plan. Noise Policy B-9 of the Reuse Plan that requires construction contractors to employ noise-reducing construction practices. Consequently, **Mitigation Measure 4.12-1b (General Noise Controls for Construction Equipment)** is identified to reduce construction noise levels and avoid a significant impact with regard to Noise Policy B-9 of the Reuse Plan.

A small portion of the Transmission Main is within the jurisdiction of the city of Seaside. Implementation Plan N-1.3 of the *City of Seaside General Plan* requires all construction activity to comply with the limits established in the City's noise regulations. However, the City of Seaside does not have established noise level limits for construction activities. Therefore, no impact would result with respect to the generation of noise in excess of regulatory noise standards established by the City of Seaside.

Transfer Pipeline. The entirety of the Transfer Pipeline would be located within the city of Seaside and Sand City. Implementation Plan N-1.3 of the *City of Seaside General Plan* requires all construction activity to comply with the limits established in the City's noise regulations. However, the City of Seaside's noise regulations contain no established noise level limits for construction activities. Therefore, no impact would result.

Implementation Plan N-1.3 of the *City of Seaside General Plan* requires all construction activity to comply with the limits established in the City's noise regulations. However, the City of Seaside does not have established noise level limits for construction activities. Therefore, no impact would result with respect to the generation of noise in excess of regulatory noise standards established by the City of Seaside.

Monterey Pipeline. The proposed Monterey Pipeline would extend for 5.4 miles from Seaside to the Monterey Peninsula, requiring construction in the cities of Seaside, Sand City, Monterey, and Pacific Grove. Portions of this pipeline would be installed on streets with adjacent residential and other sensitive land uses. Pipeline construction would occur during daytime hours to the extent feasible, but nighttime construction could be required at certain locations to meet the project schedule and only where allowed by city ordinance. Neither the Pacific Grove Municipal Code nor the *City of Pacific Grove General Plan* contain quantitative noise standards that address construction noise.

As discussed above for the Transfer Pipeline, the *City of Seaside General Plan* requires all construction activities to comply with the noise level limits established in the City's noise regulations. Neither the Seaside Municipal Code nor the *City of Seaside General Plan* contain quantitative noise standards that address construction noise.

The Sand City Municipal Code does not contain quantitative noise standards and the City General Plan noise element does not address construction noise. No impact would result from construction noise generated from installation of the Monterey Pipeline within Sand City.

Neither the City of Monterey Municipal Code nor the *City of Monterey General Plan* contain quantitative noise standards that address construction noise. Therefore no impact related to generation of noise in excess of regulatory noise standards would result from installation of the Monterey Pipeline in the cities of Seaside, Monterey, and Pacific Grove.

ASR-5 and ASR-6 Wells and ASR Settling Basin

The ASR injection/extraction wells (ASR-5 and ASR-6 Wells) and ASR Settling Basin would be constructed on federal land and would not be subject to the land use restrictions of local jurisdictions. Therefore, no impact related to generation of noise in excess of regulatory noise standards would result from installation of the ASR injection/extraction wells and ASR Settling Basin.

Terminal Reservoir, ASR Pump Station, ASR Conveyance Pipelines, and ASR Pump-to-Waste Pipeline

The proposed Terminal Reservoir, ASR Pump Station, ASR Conveyance Pipelines, and ASR Pump-to-Waste Pipeline would be constructed within the jurisdictions of the city of Seaside and Fort Ord Reuse Plan. As discussed above for the Transfer Pipeline, the *City of Seaside General Plan* requires all construction activities to comply with the limits established in the City's noise regulations. However, the City's noise regulations contain no established noise level limits for construction activities. Therefore, no impact related to the generation of noise in excess of City of Seaside's regulatory noise standards would result from construction of the proposed Terminal Reservoir, ASR Pump Station, ASR Conveyance Pipelines, and ASR Pump-to-Waste Pipeline.

With respect to consistency with established construction noise level limits of the Fort Ord Reuse Plan, Noise Policy B-9 of the Reuse Plan requires construction contractors to employ noise-reducing construction practices. Specific information regarding noise-reduction measures that would be implemented during project construction is not available. Although CalAm's construction contractors would likely implement Best Management Practices with regard to minimizing construction-related noise, this analysis conservatively assumes no noise-reduction measures would be implemented. As a result, the impact is considered significant. However, implementation of **Mitigation Measure 4.12-1b (General Noise Controls for Construction Equipment)** would ensure that construction contractors to employ noise-reducing construction practices. With implementation of this mitigation, the project would be consistent with the intent of Noise Policy B-9 of the Fort Ord Reuse Plan, and the impact would be reduced to a less-than-significant level.

Valley Greens Pump Station

There are two site options for the proposed Valley Greens Pump Station, both in unincorporated Monterey County and subject to the *Monterey County General Plan*. Both of these site options are within 100 feet of a sensitive land use. For County-permitted projects, Policy S-7.9 requires the project sponsor to complete a noise mitigation study if construction noise would exceed the

“acceptable” levels listed in Policy S-7.1 within 500 feet of a noise-sensitive land use during evening hours. Because construction of the Valley Greens Pump Station would not occur during evening hours, such work would not conflict with Policy S-7.9 and the impact would be less-than-significant.

Monterey County Code Section 10.60.030 limits the operation of machinery or equipment that produces a noise level exceeding 85 dBA at 50 feet from the source, but does not apply to any such noise source that is operated farther than 2,500 feet from an occupied dwelling. As shown in **Table 4.12-12**, none of the equipment proposed would operate at levels exceeding 85 dBA. Therefore, the impact of construction noise from the Valley Greens Pump Station related to generation of noise in excess of regulatory noise standards would be less than significant.

Interconnections with Highway 68 Satellite Systems

The proposed project would improve existing interconnections for three satellite water systems in the unincorporated communities of Ryan Ranch, Bishop, and Hidden Hills along the Highway 68 corridor. These improvements would occur in unincorporated Monterey County and would not involve nighttime construction. One of these water systems (the proposed Main System–Hidden Hills Interconnection Improvements) is within approximately 50 feet of a sensitive land use. For County-permitted projects, Policy S-7.9 requires the project sponsor to complete a noise mitigation study if construction noise would exceed the “acceptable” levels listed in Policy S-7.1 within 500 feet of a noise-sensitive land use during evening hours. Because the Main System–Hidden Hills Interconnection Improvements would not be constructed during evening hours, they would not conflict with Policy S-7.9.

Monterey County Code Section 10.60.030 limits the operation of machinery or equipment that produces a noise level exceeding 85 dBA at 50 feet from the source, but does not apply to any such noise source that is operated farther than 2,500 feet from an occupied dwelling. As shown in **Table 4.12-12**, none of the equipment proposed would operate at levels exceeding 85 dBA. Therefore, the impact of construction noise from the Interconnections with Highway 68 Satellite Systems related to generation of noise in excess of regulatory noise standards would be less than significant.

Land Use Plans & Policies Consistency

In addition to the physical impacts described above, as noted in **Table 4.12-3**, MPWSP construction could conflict with applicable land use plans, policies, or ordinances related to noise. Specifically, Section 15.04.055 of the City of Marina Municipal Code restricts construction noise to 60 dBA for 25 percent of an hour at any receiving property line. The Desalinated Water Pipeline and Transmission Main construction would generate construction noise in excess of 60 dBA, L_{eq} at sensitive receptors within the City of Marina. As discussed in the preceding paragraphs, **Mitigation Measures 4.12-1b (General Noise Controls for Construction Equipment)** and **4.12-1c (Noise Control Plan for Nighttime Pipeline Construction)** would require that construction contractor’s implement noise control measures, including temporary sound enclosures, if necessary. Implementation of these measures would reduce the resultant daytime and nighttime noise to levels below 60 dBA.

Policy S-7.9 of the Monterey County General Plan requires preparation of a noise mitigation study for any construction activity conducted pursuant to a County permit that exceeds the “acceptable” levels listed in Policy S-7.1 within 500 feet of a noise-sensitive land use during evening hours Monday through Saturday, or anytime Sundays or holidays. Construction of the Valley Greens Pump Station (both site options) and the Main System-Hidden Hills Interconnection Improvements would not occur during evening hours and would therefore be consistent with this policy of the Monterey County General Plan. Construction of the Desalinated Water Pipeline would occur during evening hours but would not occur within 500 feet of a sensitive receptor; therefore, construction of the Desalinated Water Pipeline would be consistent with Policy S-7.9 of the Monterey County General Plan.

Additionally, Policy B-9 of the Fort Ord Reuse Plan (both City and County specific) requires that construction activities include noise-reducing construction practices. Construction of the ASR Conveyance Pipelines, ASR Pump-to-Waste Pipeline, ASR Settling Basin, and Terminal Reservoir/ASR Pump Station would occur in FORA jurisdiction within the City of Seaside. The Ryan Ranch-Bishop Interconnection Improvements would occur in FORA jurisdiction within unincorporated Monterey County. In absence of detailed project-specific information regarding construction noise controls, this EIR conservatively assumes that the construction of these facilities would be potentially inconsistent with Policy B-9. The potential inconsistency is considered to be a significant impact. However, **Mitigation Measure 4.12-1b (General Noise Controls for Construction Equipment)** would ensure project construction activities are consistent with Policy B-9. This mitigation measure requires that CalAm and its contractors to muffle and enclose activities in temporary sheds, incorporate noise barriers, or implement other noise control measures and that these control measures shall be sufficient to reduce noise levels during pipeline installation, drilling and development of pump station construction activities below the threshold of 70 dBA L_{eq} .

Therefore, with these measures implemented, the MPWSP would be brought into conformance with the above-noted policies and construction would not conflict with the Marina Municipal Code or Fort Ord Reuse Plan.

Impact Conclusion

No impact related to the generation of construction noise levels in excess of local construction noise level standards would result during construction of the Transfer Pipeline, Monterey Pipeline, ASR-5 and ASR-6 Wells, and ASR Settling Basin because there no established construction noise level standards that would apply to these facilities. Construction of the subsurface slant wells, Source Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, Valley Greens Pump Station, and MPWSP Desalination Plant would result in less-than-significant impacts with regard to the generation of construction noise levels in excess of local noise level standards.

Construction of the remaining project components (Desalinated Water Pipeline, Transmission Main, Terminal Reservoir/ASR Pump Station, ASR Conveyance Pipelines, and ASR Pump-to-

Waste Pipeline) would generate noise levels in excess of local noise level standards. The Desalinated Water Pipeline and Transmission Main would exceed the City of Marina's 60-dBA noise level standard for construction noise, a significant impact. In the absence of project-specific information regarding noise-reduction measures that would be implemented during project construction, it is conservatively assumed that noise resulting from construction of the Terminal Reservoir, ASR Pump Station, ASR Conveyance Pipelines, and ASR Pump-to-Waste Pipeline would violate Noise Policy B-9 of the Fort Ord Reuse Plan, a significant impact. Implementation of **Mitigation Measures 4.12-1b** and **4.12-1c** would reduce these impacts to a less-than-significant level.

Mitigation Measures

Mitigation Measure 4.12-1b applies to the Desalinated Water Pipeline, Transmission Main, Terminal Reservoir, ASR Pump Station, ASR Conveyance Pipelines, and ASR Pump-to-Waste Pipeline.

Mitigation Measure 4.12-1b: General Noise Controls for Construction Equipment.
(See Impact 4.12-1, above, for description.)

Mitigation Measure 4.12-1c applies only to the Desalinated Water Pipeline and northern portion of the Transmission Main.

Mitigation Measure 4.12-1c: Noise Control Plan for Nighttime Pipeline Construction.
(See Impact 4.12-1, above, for description.)

Impact 4.12-3: Exposure of people to or generation of excessive groundborne vibration during construction. (*Less than Significant with Mitigation*)

Construction activities, such as pile driving, that involve impact tools can produce significant groundborne vibration. None of the proposed project components would require pile driving during construction. The only substantive sources of vibration during project construction would be: (1) the drill rigs used for drilling and development of the subsurface slant wells in the CEMEX active mining area; (2) the drill rigs used for drilling and development of the ASR-5 and ASR-6 Wells at the Fitch Park military housing area; (3) bulldozers for construction of the MPWSP Desalination Plant; (4) jackhammers used to break up concrete during open-trench construction of pipelines; (5) Pile drivers to install sheet piles for jack and bore pits where trenchless construction techniques are required; and (6) vibratory rollers used for repaving open trench construction of pipelines, construction of the MPWSP Desalination Plant, Highway 68 Interconnection Improvements and construction of the Valley Greens Pump Station.

As described above in Sections 4.12.1.2 and 4.12.4.2, substantial groundborne vibration can damage nearby structures or buildings. This analysis uses a 0.12-in/sec PPV vibration threshold for damage to historic buildings (Wilson, Ihrig, & Associates et al., 2012) and a 0.3-in/sec PPV threshold for all other structures. Substantial vibration levels can also result in sleep interference

or annoyance impacts at residences or other land uses where people sleep, such as hotels and hospitals. For adverse human reaction, this analysis uses the Caltrans (2004) vibration annoyance threshold of 0.1 in/sec PPV, which corresponds with vibration levels that are “strongly perceptible”.

Subsurface Slant Wells

Structural Damage. Drill rigs can result in vibration measuring 0.089 in/sec PPV at a distance of 25 feet (FTA, 2006). The nearest structure to the proposed slant well area is the CEMEX building, a historic structure located approximately 1,000 feet east of the subsurface slant well drilling area. At 1,000 feet, vibration levels from slant well drilling and development activities would be attenuated to less than 0.0004 in/sec PPV, which is below the threshold for fragile historic buildings of 0.12 in/sec PPV, resulting in a less-than-significant impact related to damage to this building.

Human Annoyance. The nearest sensitive receptors to the proposed slant well area are residences at the Dunes RV Park approximately located approximately 4,000 feet from the slant well drilling area. At 4,000 feet, vibration levels from slant well drilling and development activities would be attenuated to background levels and would be below the “strongly perceptible” threshold of 0.1 in/sec PPV, resulting in a less-than-significant impact related to human annoyance.

Open Trench Construction – Source Water Pipeline

Structural Damage. The proposed Source Water Pipeline would be constructed as close as 15 feet away from historic features of the Lapis Sand Mining Plant Historic District (see Section 4.15, Cultural and Paleontological Resources, for additional information on the Lapis Siding). Thus, the use of vibratory rollers during construction of the Source Water Pipeline could cause cosmetic or structural damage to historic resources. The estimated vibration level that would be generated by a vibratory roller (expected construction equipment with the greatest PPV) is 0.12 in/sec PPV at a distance of 45 feet. Cosmetic or structural damage to historic resources could result in a substantial adverse change in the significance of historical resources, which would be considered a significant impact. However, with implementation of **Mitigation Measure 4.15-1a (Avoidance and Vibration Monitoring for Pipeline Installation in the Presidio of Monterey Historic District, Downtown Monterey, and the Lapis Sand Mining Plant Historic District)**, this impact would be reduced to less than significant by ensuring that construction-related vibration does not exceed the 0.12 in/sec PPV threshold.

Human Annoyance. The nearest sensitive receptors to the proposed Source Water Pipeline are residences on Neponset Road located approximately 1,100 feet away. Vibration levels from rollers at this distance would be attenuated to than 0.03 in/sec PPV. This level is below the “strongly perceptible” threshold of 0.1 in/sec PPV, resulting in a less-than-significant impact related to human annoyance.

MPWSP Desalination Plant

Structural Damage. The nearest structure to the proposed MPWSP Desalination Plant is the Last Chance Mercantile building located approximately 300 feet to the east, which is not considered a

historic structure. Vibration levels from large bulldozers for the MPWSP Desalination Plant would reach 0.089 in/sec PPV at a distance of 25 feet. This vibration level is below the threshold of 0.3 in/sec PPV. Vibration levels from vibratory rollers for construction of the MPWSP Desalination Plant would reach 0.21 in/sec PPV at a distance of 25 feet. At 300 feet, vibration levels from vibratory rollers would be attenuated to less than 0.005 in/sec PPV, which is below the threshold of 0.3 in/sec PPV, resulting in a less-than-significant impact related to damage to this building.

Human Annoyance. The nearest sensitive land use to the proposed MPWSP Desalination Plant is a rural residence on Neponset Road that are located 2,200 feet to the west. Vibration levels from rollers at this distance would be attenuated to than 0.0003 in/sec PPV. This level is below the “strongly perceptible” threshold of 0.1 in/sec PPV, resulting in a less-than-significant impact related to human annoyance.

Open Trench Construction - Desalinated Water Pipeline and Transmission Main

Structural Damage. The nearest structure to the proposed Desalinated Water Pipeline and Transmission Main would be located approximately 100 feet away and are not historic structures. Vibration levels from vibratory rollers for construction of these pipelines would reach 0.21 in/sec PPV at a distance of 25 feet. At 100 feet, vibration levels from roller operations would be attenuated to less than 0.03 in/sec PPV, which is below the threshold for non-fragile buildings of 0.3 in/sec PPV, resulting in a less-than-significant impact related to damage to buildings.

Human Annoyance. The nearest sensitive land use to the proposed Desalinated Water Pipeline and Transmission Main would be located approximately 100 feet away. Vibration levels from rollers at this distance would be attenuated to than 0.03 in/sec PPV. This level is below the “strongly perceptible” threshold of 0.1 in/sec PPV, resulting in a less-than-significant impact related to human annoyance.

Trenchless Pipeline Installation – Desalinated Water Pipeline and Transmission Main

Structural Damage. Construction equipment for sheet pile installation would generate vibration levels above the 0.3-in/sec PPV structural damage threshold at modern buildings if it were to occur within 45 feet of such a structure. Implementation of **Mitigation Measure 4.12-3 (Vibration Reduction Measures)**, which would require vibration monitoring and restrict location of sheet piles, if necessary, would reduce this impact to a less-than-significant level.

Human Annoyance. There is the potential that construction could occur within 100 feet from residential and other sensitive land uses along the Desalinated Water Pipeline and Transmission Main. Vibration levels from rollers would exceed the “strongly perceptible” threshold of 0.1 in/sec PPV, at 85 feet or closer to sensitive land uses, resulting in a significant impact related to human annoyance, particularly if these operations were to occur during nighttime hours when residents are likely to be sleeping. Implementation of **Mitigation Measure 4.12-3 (Vibration Reduction Measures)**, which would restrict pile driving to daytime hours, require vibration monitoring and restrict locations of access pits where piles would be inserted, if necessary, would reduce this impact to a less-than-significant level.

Open Trench Construction – Transfer Pipeline

Structural Damage. There are no recorded historic structures along the Transfer Pipeline alignment. The nearest structure to the proposed Transfer Pipeline could be located 50 feet away or closer. Vibration levels from vibratory rollers for construction of this pipeline would reach 0.21 in/sec PPV at a distance of 25 feet. Roller operations closer than 20 feet or jackhammer operations closer than 6 feet could generate vibrations in excess of 0.3 in/sec at a structure, resulting in a significant impact related to building damage. Implementation of **Mitigation Measure 4.12-3 (Vibration Reduction Measures)**, which would require vibration monitoring and use of smaller vibratory rollers if necessary would reduce this impact to a less-than-significant level.

Human Annoyance. The nearest sensitive land use to the proposed Transfer Pipeline could be located 50 feet away or closer. Roller operations closer than 40 feet or jackhammer operations closer than 12 feet could generate vibrations in excess of the “strongly perceptible” threshold of 0.1 in/sec PPV, resulting in a significant impact related to human annoyance. Implementation of **Mitigation Measure 4.12-3 (Vibration Reduction Measures)**, which would require vibration monitoring and use of smaller vibratory rollers if necessary would reduce this impact to a less-than-significant level.

ASR-5 and ASR-6 Wells

Structural Damage. There are no fragile buildings located within 25 feet of the proposed ASR injection/extraction wells. The nearest structure to the proposed ASR injection/extraction well sites is a residence located approximately 50 feet away that is not considered a historic structure. At this distance, vibration levels from well drilling would be 0.03 in/sec. This level is below the 0.3-in/sec PPV threshold, resulting in a less-than-significant vibration impact related to damage to this building.

Human Annoyance. The nearest sensitive land use to the proposed ASR injection/extraction well sites is a residence located approximately 50 feet away. At this distance, drilling vibration would be attenuated to 0.03 in/sec. This level is below the “strongly perceptible” threshold of 0.1 in/sec PPV, resulting in a less-than-significant impact related to human annoyance.

Open Trench Construction – Monterey Pipeline

Excavation equipment such as excavators and backhoes are not substantial vibration sources. Equipment types that may occasionally be used in open trench construction that can produce significant vibration levels include a jackhammers (0.035 in/sec PPV at 25 feet) and vibratory rollers (0.21 in/sec PPV at 25 feet).

Structural Damage. Construction equipment for pipeline installation would generate vibration levels that would be below the 0.3-in/sec PPV structural damage threshold at modern buildings located at distances of 25 feet or greater. However, due to the concentration of historic properties in the Presidio of Monterey Historic District and downtown Monterey, the relatively minimal building setbacks from the street curbs in these areas (which range anywhere from 0 to 45 feet), and the fact that the Monterey Pipeline could be constructed anywhere within the road right-of-

ways of Stillwell Avenue and W. Franklin Street, it is possible that the use of vibratory rollers during construction of the Monterey Pipeline could cause cosmetic or structural damage to historic resources. The established threshold for damage to older masonry structures from a vibratory roller (the expected construction equipment with the greatest PPV) is 0.12 in/sec PPV at a distance of 45 feet. Cosmetic or structural damage to these historic resources could result in a substantial adverse change in the significance of historical resources, a significant impact. However, with implementation of **Mitigation Measure 4.15-1a (Avoidance and Vibration Monitoring for Pipeline Installation in the Presidio of Monterey Historic District, Downtown Monterey, and at the Lapis Sand Mining Plant Historic District)**, this impact would be reduced to less than significant by ensuring that construction-related vibration does not exceed the 0.12 in/sec PPV threshold.

Human Annoyance. There is the potential that construction could occur within 25 feet from residential and other sensitive land uses along the Monterey Pipeline. Vibration levels from rollers would exceed the “strongly perceptible” threshold of 0.1 in/sec PPV, at 40 feet or closer to sensitive land uses, resulting in a significant impact related to human annoyance, particularly if these operations were to occur during nighttime hours when residents are likely to be sleeping. Implementation of **Mitigation Measure 4.12-3 (Vibration Reduction Measures)**, which would require vibration monitoring and use of smaller vibratory rollers if necessary would reduce this impact to a less-than-significant level.

Trenchless Pipeline Installation – Monterey Pipeline

On some portions of the Monterey Pipeline where it is not feasible or desirable to perform open-cut trenching, trenchless methods such as jack-and-bore, drill-and-burst, horizontal directional drilling, and/or microtunneling could be employed. Such work typically requires excavation and shoring of the jacking and receiving pits by using impact or vibratory sheet pile drivers. Jack-and-bore methods would also be used for pipeline segments that cross beneath Highway 1 or drainages. Pile drivers can produce significant vibration levels of (0.644 in/sec PPV at 25 feet).

Structural Damage. Construction equipment for sheet pile installation would generate vibration levels above the 0.3-in/sec PPV structural damage threshold at modern buildings if it were to occur within 45 feet of such a structure. Additionally, due to the concentration of historic properties in the Presidio of Monterey Historic District and downtown Monterey, the relatively minimal building setbacks from the street curbs in these areas (which range anywhere from 0 to 45 feet), and the fact that the Monterey Pipeline could be constructed anywhere within the road right-of-ways of Stillwell Avenue and W. Franklin Street, it is possible that the use of vibratory rollers during construction of the Monterey Pipeline could cause cosmetic or structural damage to historic resources. The established threshold for damage to older masonry (0.12 in/sec PPV) could occur at distance of 80 feet. Depending on the location of the jack and bore pit, cosmetic or structural damage to structures or historic resources could result in a substantial adverse change in the significance of historical resources, a significant impact. However, with implementation of **Mitigation Measure 4.15-1a (Avoidance and Vibration Monitoring for Pipeline Installation in the Presidio of Monterey Historic District, Downtown Monterey, and at the Lapis Sand Mining Plant Historic District)**, this impact would be reduced to less than significant by

ensuring that construction-related vibration does not exceed the 0.12 in/sec PPV threshold. Implementation of **Mitigation Measure 4.12-3 (Vibration Reduction Measures)**, which would require vibration monitoring and restrict location of sheet piles, if necessary, would reduce this impact to a less-than-significant level.

Human Annoyance. There is the potential that construction could occur within 25 feet from residential and other sensitive land uses along the Monterey Pipeline. Vibration levels from rollers would exceed the “strongly perceptible” threshold of 0.1 in/sec PPV, at 40 feet or closer to sensitive land uses, resulting in a significant impact related to human annoyance, particularly if these operations were to occur during nighttime hours when residents are likely to be sleeping. Implementation of **Mitigation Measure 4.12-3 (Vibration Reduction Measures)**, which would restrict pile driving to daytime hours, require vibration monitoring and restrict locations of access pits where piles would be inserted, if necessary, would reduce this impact to a less-than-significant level.

Highway 68 Interconnection Improvements and Valley Greens Pump Station

Structural Damage. The nearest structures to the proposed Highway 68 Interconnection Improvements and Valley Greens Pump Station would be approximately 100 feet away and are not historic structures. Vibration levels from vibratory rollers for construction of these facilities would reach 0.21 in/sec PPV at a distance of 25 feet. At 100 feet, vibration levels from roller operations would be attenuated to 0.03 in/sec PPV, which is below the threshold for non-fragile buildings of 0.3 in/sec PPV, resulting in a less-than-significant impact related to damage to this building.

Human Annoyance. The nearest sensitive land use to the proposed Highway 68 Interconnection Improvements and Valley Green Pump Station would be approximately 100 feet away. Vibration levels from rollers at this distance would be attenuated to than 0.03 in/sec PPV. This level is below the “strongly perceptible” threshold of 0.1 in/sec PPV, resulting in a less-than-significant impact related to human annoyance.

All Other Proposed Facilities

Equipment used for common construction, such as backhoes and loaders, is not associated with significant vibration levels. Therefore, no impact would result from the Salinas Valley Return Pipeline, Brine Discharge Pipeline, Terminal Reservoir, ASR Pump Station, ASR Conveyance Pipelines, ASR Pump-to-Waste Pipeline, and ASR Settling Basin.

Land Use Plans & Policies Consistency

In addition to the physical impacts described above, as noted in **Table 4.12-3**, MPWSP construction could conflict with applicable land use plans, policies, or ordinances related to vibration. Specifically, Policy S-7.8 of the Monterey County General Plan requires that all discretionary projects that propose to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet shall be required to submit a pre-construction vibration study prior to the approval of a building permit. Pile driving or blasting are identified as illustrative of the type of equipment that could be subject to this policy. The proposed Source Water Pipeline, MPWSP Desalination Plant, Desalinated

Water Pipeline, Brine Discharge Pipeline, Salinas Valley Return Pipeline, Valley Greens Pump Station, Main System-Hidden Hills Interconnection Improvements, and Ryan Ranch-Bishop Interconnection Improvements are located in unincorporated Monterey County. Of these project components in unincorporated Monterey County, none would involve blasting and only the Desalinated Water Pipeline would involve (sheet) pile driving. However, there are no structures within unincorporated Monterey County that are within 100 feet of the Desalinated Water Pipeline. Therefore, these construction activities would be consistent with Policy S-7.8.

Impact Conclusion

Construction of the subsurface slant wells, MPWSP Desalination Plant, ASR-5 and ASR-6 Wells, Ryan Ranch-Bishop Interconnection Improvements, Valley Greens Pump Station (both site options), and Main System-Hidden Hills Interconnection Improvements would result in less-than-significant vibration impacts with regard to both structural damage and human annoyance. There could be significant vibration impacts related to structural damage and human annoyance from construction of the Transfer Pipeline, Monterey Pipeline, and Source Water Pipeline, as well as the Desalinated Water Pipeline and Transmission Main if trenchless construction methods are required for these pipelines. However, with implementation of the mitigation measures identified above, all significant construction vibration impacts would be reduced to a less-than-significant level. Because equipment used for common construction, such as backhoes and loaders, does not generate significant vibration levels, no impact would result from the Salinas Valley Return Pipeline, Brine Discharge Pipeline, Terminal Reservoir, ASR Pump Station, ASR Conveyance Pipelines, ASR Pump-to-Waste Pipeline, and ASR Settling Basin.

Mitigation Measures

Mitigation Measure 4.15-1a applies only to the segment of the Monterey Pipeline located in downtown Monterey along W. Franklin Street between High Street and Figueroa Street, and the segment of the Source Water Pipeline located within the CEMEX sand mining facility.

Mitigation Measure 4.15-1a: Avoidance and Vibration Monitoring for Pipeline Installation in the Presidio of Monterey Historic District, Downtown Monterey, and the Lapis Sand Mining Plant Historic District.

(See Impact 4.15-1 in Section 4.15, Cultural and Paleontological Resources, for description.)

Mitigation Measure 4.12-3 applies to the Transfer Pipeline and Monterey Pipeline, as well the Desalinated Water Pipeline, Transmission Main if trenchless construction is required.

Mitigation Measure 4.12-3: Vibration Reduction Measures.

Construction practices shall be utilized that do not generate vibration levels at the closest sensitive land uses above 0.1 in/sec PPV. The following measures, at a minimum, shall be employed to ensure this threshold is met:

- a. Vibration monitoring shall be conducted for the first 500 feet of pipeline construction for each segment to confirm vibration levels do not exceed the above vibration threshold. If vibration levels exceed the limits of this mitigation measure, then construction practices shall be modified to use smaller types of construction

equipment, operate the equipment in a manner to reduce vibration, or use alternate construction methods, and monitoring shall continue for an additional 200 feet or until construction practices meet the required vibration levels. The monitoring in this mitigation measure shall be repeated if the construction methods change in a manner that would increase vibration levels, or when structures are closer to the limits of construction than previous vibration monitoring have confirmed is below the vibration thresholds.

- b. Smaller vibratory rollers shall be used to minimize vibration levels during repaving activities where needed to meet vibration limits.
- c. Sheet pile driving for trenchless pipeline installation shall be conducted during daytime hours and access pits shall be located greater than 45 feet from standard structures and 80 feet from historic resources.

Impact 4.12-4: Consistency with the construction time limits established by the local jurisdictions. (*Less than Significant with Mitigation*)

State, regional, and local plans, policies, and ordinances related to noise and vibration are presented in **Table 4.12-3**. The table presents the analysis of project consistency with each of these plans, policies, and ordinances. Consistency of all project components with respect to generation of noise levels in excess of quantitative noise standards of General Plans or noise ordinances are addressed in Impact 4.12-2, above, and 4.12-6, below. This impact addresses project consistency with construction time limits.

The following local noise ordinances establish specific construction time limits:

- Seaside Municipal Code Section 9.12.030 (D) sets time limits for construction activities, including demolition, excavation, erection, alteration, or repair. These activities may not occur before 7:00 a.m. or after 7:00 p.m. (except on Saturday, Sunday, and holidays, when the allowable construction hours are 9:00 a.m. to 7:00 p.m.) unless authorized in writing by a building official (City of Seaside, 2008).
- The Marina Municipal Code, Chapter 15.04, Section 15.04.055, Construction Hours and Noise applies to any construction activities that require a building, grading, demolition, use, or other city permit. This section limits outdoor construction, repair work, or related activities that produce noise adjacent to residential uses, including transient lodging, to the hours of 7:00 a.m. to 7:00 p.m. (standard time) Monday through Saturday, and 10:00 a.m. to 7:00 p.m. (standard time) on Sundays and holidays. During daylight savings time, construction hours may be extended to 8:00 p.m.
- The City of Monterey Municipal Code, Section 38-112.2, places the following time restrictions on construction activities: Monday through Friday, 7:00 a.m. to 7:00 p.m.; Saturday, 8:00 a.m. to 6:00 p.m.; and Sunday, 10:00 a.m. to 5:00 p.m. However, the City will authorize construction outside of these time limits under certain circumstances.

Project components within these communities include:

- subsurface slant wells in the city of Marina
- portions of the Source Water Pipeline in the city of Marina
- portions of the Desalinated Water Pipeline in the city of Marina
- portions of the Transmission Main in the city of Marina
- portions of the Monterey Pipeline in the city of Monterey
- ASR-5 and ASR-6 Wells in the city of Seaside

In addition to those project components listed above, there are other project components (i.e. MPWSP Desalination Plant) that would require nighttime construction but that are not located within a jurisdiction with established construction time limits. For this reason, these other components would not conflict with construction time limits and are not discussed further.

Subsurface Slant Wells and Source Water Pipeline

Due to the substantial distance from sensitive receptors (4,000 feet and 1,100 feet), installation of the subsurface slant wells and Source Water Pipeline, respectively, would not be subject to the city of Marina's construction time limits, which only apply to outdoor construction activities adjacent to residential land uses. No inconsistency with the City's Noise Ordinance time restriction would result.

Desalinated Water Pipeline

Pipeline installation would be conducted during daytime hours since the City of Marina noise ordinance does not contain language allowing for an exception that would allow project construction to occur during nighttime hours. Because the proposed project would comply with the current noise ordinance, and would not result in nighttime construction, no inconsistency with the City's Noise Ordinance time restriction would result.

Transmission Main

Pipeline installation would be conducted within these City of Marina's noise ordinance time limits since the City of Marina noise ordinance does not contain language allowing for an exception that would allow project construction to occur during nighttime hours. Because the proposed project would comply with the current noise ordinance, and would not result in nighttime construction, no inconsistency with the City's Noise Ordinance time restriction would result.

Monterey Pipeline

Although pipeline installation in the City of Monterey would generally be conducted within these noise ordinance time limits, it might be necessary to perform nighttime construction in some areas in order to meet the project schedule. All nighttime construction work would be conducted only with prior approval from the relevant jurisdictions. **Mitigation Measure 4.12-1c (Noise Control Plan for Nighttime Pipeline Construction)** would reduce the nighttime construction noise impact but would not change the inconsistency with the restriction of the noise ordinance. Because the City of Monterey Municipal Code allows the Zoning Administrator to permit

construction activity outside listed hours, the construction activities would not violate local regulations and the impact would be less than significant with mitigation.

ASR-5 and ASR-6 Wells

The ASR injection/extraction wells would require 24-hour construction activities for up to 4 weeks during well drilling and development, for a total of 8 weeks of 24-hour construction. This would occur beyond the time restrictions of the City's Municipal Code and require approval by the City of Seaside. All nighttime construction work would be conducted only with prior approval from the relevant jurisdictions. **Mitigation Measure 4.12-1c (Noise Control Plan for Nighttime Pipeline Construction)** would reduce the nighttime construction noise impact but would not change the inconsistency with the restriction of the noise ordinance. Because the City of Seaside Municipal Code will allow construction activity outside listed hours under certain circumstances, the construction activities would not violate local regulations and the impact would be less than significant.

All Other Project Facilities

No impact associated with conflicts with local construction time limits would occur from implementation of all other project components because these components would not require nighttime construction and/or are not located within a jurisdiction with established construction time limits.

Mitigation Measures

Mitigation Measure 4.12-1c applies only to the Monterey Pipeline, and ASR-5 and ASR-6 Wells.

Mitigation Measure 4.12-1c: Noise Control Plan for Nighttime Pipeline Construction.

(See Impact 4.12-1, above, for description.)

4.12.4.5 Operational Impacts and Mitigation Measures

Impact 4.12-5: Substantial permanent increases in ambient noise levels in the project vicinity above levels existing without the project during operations. (*Less than Significant with Mitigation*)

As described in Section 4.12.4.2, above, this evaluation uses a 5-dBA increase in noise exposure—which is subjectively considered a readily perceptible increase in noise levels—to assess the significance of operational noise increases in ambient noise levels in the project vicinity.

Mobile Noise Sources

MPWSP Desalination Plant

For the purposes of this noise analysis, vehicle trips are mobile sources of noise. The MPWSP Desalination Plant would be operated 24 hours per day, 365 days per year. The MPWSP

Desalination Plant is estimated to require approximately 25 to 30 full-time workers (facility operators and support personnel) to operate, monitor, and maintain the desalination facilities. Approximately 66 one-way trips (33 round trips) would occur throughout each day (30 commute trips and three deliveries) during long-term operations and maintenance of the MPWSP Desalination Plant. Given the minimal increase in daily vehicle trips associated with worker commutes and deliveries, vehicle trips associated with long-term operations and maintenance of the MPWSP Desalination Plant would not substantially increase noise levels along project area roadways. This impact is less than significant.

All Other Proposed Facilities

Operation of the proposed pipelines would not result in new stationary noise sources or require routine site visits. All other proposed facilities (i.e., the subsurface slant wells, improvements to the ASR system, Terminal Reservoir, Ryan Ranch-Bishop Interconnection Improvements, Main System-Hidden Hills Interconnection Improvements, and Valley Greens Pump Station) would be operated remotely using Supervisory Control and Data Acquisition systems, with periodic visits by CalAm personnel for operations review and maintenance. Maintenance activities include such tasks as landscape maintenance, visual inspections of facilities, performance monitoring, servicing of pumps, testing and servicing of valves, backflushing the ASR-5 and ASR-6 Wells, and pipeline repairs. The vehicle trips generated by these routine and periodic site visits would be similar in number to those required for existing CalAm operations in the Monterey District service area system (see Impact 4.9-8 in Section 4.9, Traffic and Transportation) and would not increase noise levels on area roadways. This impact is less than significant.

For all project components, impacts associated with traffic-related noise during project operations would be less than significant.

Stationary Noise Sources

Subsurface Slant Wells

All 10 slant wells would be designed as pumping wells, and a 2,200 gallons per minute (gpm) submersible pump would be lowered into each wellhead. The wellheads would be located above the maximum high tide elevation and the wellheads in each cluster would be encased in a single concrete vault. The concrete vaults would be buried 5 feet below grade.

Noise from pump operations would be attenuated by both soil and the subsurface concrete casing. A given pump motor would typically generate a noise level on the order of 76 dBA, L_{eq} at a distance of 50 feet (FTA, 2006) without an enclosure. However the presence of the concrete enclosure and the subsurface locations would be expected to provide a minimum of 20 dBA attenuation. Simultaneous operation of 10 well pumps would conservatively generate approximately a noise level 66 dBA at 50 feet.

The two closest sensitive receptors to the subsurface slant wells are residences at the Marina Dunes RV Park on Dunes Drive in Marina (4,000 feet to the south) and residences on Drew Street in Marina (4,300 feet to the southeast). At these distances slant well pump noise would be

reduced to 21 dBA which is substantially below nighttime ambient levels monitored at these locations (51 dBA, L_{eq}) and would not contribute meaningfully to ambient levels. Therefore, the impact related to increases in ambient noise levels during operation of the subsurface slant wells would be less than significant.

MPWSP Desalination Plant

The RO system at the MPWSP Desalination Plant would include a series of pumps but these would be located inside the treatment building and are not expected to generate substantial noise. The 750-kilowatt (kW) (1,000 hp) emergency diesel-powered generator proposed adjacent to and outside of the administration building at the MPWSP Desalination Plant site would be used for emergency back-up power only but would be operated weekly for 20 to 30 minutes during the daytime to test and maintain the engine. Generators of this size typically generate a noise level of 81 dBA L_{max} at 50 feet (FHWA, 2006). The attenuated generator noise level at the nearest residences on Neponset Road located 2,200 feet away would be approximately 47.8 dBA L_{max} . When the attenuated generator noise level is added to the existing ambient noise level at these same receptors of 61.8 dBA, L_{eq} , the resultant exterior noise level at these receptors would be 62.0 dBA, which would be an increase of 0.2 dBA over ambient noise levels. This would be a less than the 5-dBA threshold. Therefore, the impact related to increases in ambient noise levels during operation of the MPWSP Desalination plant would be less than significant.

ASR Pump Station/Terminal Reservoir

The proposed ASR Pump Station and Terminal Reservoir site is located east of General Jim Moore Boulevard in Seaside, approximately 1,600 feet east of the nearest residences along Mescal Street. The ASR Pump Station would be equipped with a 300-hp pump capable of pumping 5,850 gallons per minute (8.4 million gallons per day). The ASR Pump Station would be enclosed in an approximately 2,000-square-foot concrete pump house. Municipal water pump motors produce noise levels of approximately 76 dBA L_{max} at 50 feet. The pump station's concrete enclosure would further help to attenuate noise levels. Standard building construction reduces noise levels by approximately 15 dBA (HUD, 2009), but given the concrete construction of the proposed enclosure, a 20 dBA reduction to 56 dBA is estimated at the exterior of the pump station. The attenuated pump noise at the nearest residences on Mescal Street would be approximately 26 dBA L_{max} , which would not result in a quantitative increase in existing ambient noise levels.

Additionally, CalAm proposes to install a 250-kW (335 hp) emergency diesel-powered generator on the concrete pad at the ASR Pump station and Terminal Reservoir site, but outside of the concrete pump house. This generator would be operated weekly for 20 to 30 minutes during the daytime to maintain the engine. Generators of this size generally operate at a noise level of 81 dBA L_{max} at 50 feet (FHWA, 2006). Attenuating generator noise at distance results in a predicted noise levels from generator operation of approximately 50.5 dBA L_{max} at the nearest residences on Mescal Street, which when added to the existing ambient noise level at the nearest receptor of 59.1 dBA, L_{eq} , would result in a noise level of 59.7 dBA, or an increase of 0.6 dBA. This would be a less than 5-dBA threshold. Therefore, the impact related to increases in ambient noise levels during operation of the ASR Pump Station and Terminal Reservoir would be less than significant.

ASR-5 and ASR-6 Wells

The proposed ASR injection/extraction wells (ASR-5 and ASR-6 Wells) would be 50 feet west of residences on Ardennes Circle. Each well would be equipped with a permanent 500-hp multistage vertical turbine pump. Each well pump and electrical control system would be housed in a 900-square-foot concrete pump house.

Well pump motors would generate noise levels of up to 76 dBA L_{max} at 50 feet; however, placing the motors in a standard concrete pump house would attenuate noise levels by at least 20 dBA (to 56 dBA L_{max} at 50 feet), as shown in **Table 4.12-13**.

**TABLE 4.12-13
 MAXIMUM OPERATIONAL NOISE LEVELS – ASR-5 AND ASR-6 WELLS**

| Stationary Source | Distance to Receptors (feet) | Existing Ambient Noise Level at Receptors (dBA Leq) ^a | Attenuated Operational Noise Level at Receptor (dBA Lmax) | Resultant Noise Level at Receptor (dBA Leq) | Increase over Existing Ambient Noise Level (dBA Leq) | Noise Level at Receptor (dBA CNEL) ^b |
|-------------------------------------|------------------------------|------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------|------------------------------------------------------|-------------------------------------------------|
| ASR Pump Station – Pump Motor | 1,600 | 59.1 (S5) | 26 | 59.1 | 0 | 33 |
| ASR-5 and ASR-6 Wells – Pump Motors | 50 | 52.0 (S4) | 56 | 57.5 | 5.5 | 63 |

NOTES:

- ^a Based on daytime ambient noise level at short-term noise monitoring location S4 and S5 (see **Figure 4.12-1** and **Table 4.12-1**).
- ^b CNEL Values are used in assessment of Impact 4.12-5.

As shown in **Table 4.12-13**, the increase in ambient noise levels at the residences on Ardennes Circle would be 5.5 dBA L_{eq} , which is above the 5-dBA threshold used in this analysis for permanent increases in noise levels and thus would be a significant permanent noise increase over existing conditions. However, with implementation of **Mitigation Measure 4.12-5 (Stationary Source Noise Controls)**, would reduce this impact to less than significant by ensuring that sufficient noise insulation or sound-absorbing material is provided to the pump enclosure to provide additional noise attenuation.

Valley Greens Pump Station

The Valley Greens Pump Station would be located at one of two site options: Option 1 is approximately 400 feet southeast of the Carmel Valley Road/Valley Greens Drive intersection in unincorporated Monterey County, and Option 2 is south of Carmel Valley Road near Carmel Rancho Boulevard, in the northeast corner of the Carmel Rancho Shopping Center, approximately 100 feet west of the Cottages of Carmel senior assisted living facility. The closest residences are located approximately 100 feet south of Option 1 and 100 feet west of Option 2.

The pump station would be enclosed in a 500-square-foot, single-story building. It was assumed, based on ESA’s monitoring of municipal water pumps, that the pump at Valley Greens Pump Station would generate noise levels of up to 76 dBA L_{max} at 50 feet and that the building enclosure would attenuate noise levels by approximately 20 dBA (to 56 dBA L_{eq} at 50 feet), as

shown in **Table 4.12-14**. At 100 feet, the pump station noise levels would attenuate to approximately 50 dBA Leq, as shown in **Table 4.12-14**.

**TABLE 4.12-14
 MAXIMUM OPERATIONAL NOISE LEVELS – VALLEY GREENS PUMP STATION (BOTH SITE OPTIONS)**

| Stationary Source | Distance to Closest Receptor (feet) | Existing Ambient Noise Level at Receptor (dBA Leq) ^a | Attenuated Operational Noise Level at Receptor (dBA Leq) | Resultant Noise Level at Receptor (dBA Leq) | Increase Over Existing Ambient Noise Level (dBA) |
|-------------------|-------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------|--------------------------------------------------|
| Pump Motor | 100 | 59.7 (S9) | 50 | 60.1 | 0.4 |

NOTE:

^a Based on daytime ambient noise level at short-term noise monitoring location S9 (see **Figure 4.12-1** and **Table 4.12-1**).

As shown in **Table 4.12-14**, the increase in ambient noise levels at the closest residences to the Valley Greens Pump Station would be 0.4 dBA Leq, which is below the 5-dBA threshold and thus, the impact would be less than significant. Additionally, a portable 50 kW (68 hp) diesel powered generator would be stored onsite at the Valley Greens Pump Station site for use in the event of a power outage. This is a relatively modest sized unit and its occasional operation during daytime hours for testing purposes would generate less noise than that of a diesel automobile and would not be expected to result in substantial increase over daytime noise levels. The impact would be less than significant.

Main System-Hidden Hills Interconnection Improvements

The existing interconnection between the main CalAm distribution system and the Hidden Hills satellite water system would be improved by installing approximately 1,200 feet of 6-inch-diameter pipeline along Tierra Grande Drive, with a connection to the existing Upper Tierra Grande Booster Station. The Upper Tierra Grande Booster Station has an existing capacity of 129 gpm. A new 350 gpm pump would be added to the booster station. In addition, the existing pump capacity of the Middle Tierra Grande Booster Station, located on lower Casiano Drive, would be upgraded from 161 gpm to 400 gpm by adding a new 350 gpm pump (CalAm, 2013).

These new pumps would be located in the existing buildings at each booster station. It was assumed, based on ESA’s monitoring of municipal water pumps, that the pump at each booster station would generate noise levels of up to 76 dBA L_{max} at 50 feet and that the building enclosure would attenuate noise levels by at least 15 dBA, to 61 dBA L_{max} at 50 feet and 55 dBA, L_{eq} at 100 feet. As shown in **Table 4.12-15**, the increase in ambient noise levels in the project vicinity above existing levels would exceed the 5-dBA criterion and thus represents a significant permanent noise increase over existing conditions. This is a significant impact. However, with implementation of **Mitigation Measure 4.12-5 (Stationary Source Noise Controls)**, would reduce this impact to a less-than-significant level by ensuring that sufficient noise insulation or sound absorbing material is provided to the existing enclosure to provide additional noise attenuation.

**TABLE 4.12-15
 MAXIMUM OPERATIONAL NOISE LEVELS –
 BOOSTER STATIONS (MAIN SYSTEM–HIDDEN HILLS INTERCONNECTION IMPROVEMENTS)**

| Stationary Source | Distance to Closest Receptor (feet) | Existing Ambient Noise Level at Receptor (dBA Leq) | Attenuated Operational Noise Level at Receptor (dBA Leq) | Resultant Noise Level at Receptor (dBA Leq) | Increase Over Existing Ambient Noise Level (dBA) |
|-----------------------------------|-------------------------------------|----------------------------------------------------|----------------------------------------------------------|---------------------------------------------|--------------------------------------------------|
| Pump Motor – Upper Tierra Grande | 50 | 44.7 | 61 | 61.1 | 16.3 |
| Pump Motor – Middle Tierra Grande | 100 | 44.7 | 55 | 55.4 | 10.3 |

NOTE:

^a Based on daytime ambient noise level at short-term noise monitoring location S8 (see **Figure 4.12-1** and **Table 4.12-1**).

All Proposed Pipelines

Implementation of the proposed pipelines would not involve the installation of stationary noise sources such as pumps and emergency generators. Therefore, operation of the proposed pipelines would result in no impact related to permanent increases in ambient noise levels.

Land Use Plans & Policies Consistency

In addition to the physical impacts described above, as noted in **Table 4.12-3**, MPWSP construction could conflict with applicable land use plans, policies, or ordinances related to noise. Specifically, Policy S-7.2 of the Monterey County General Plan requires that new development projects incorporate design elements necessary to minimize noise impacts on surrounding land uses. Main System-Hidden Hills and Ryan Ranch-Bishop Road Interconnection Improvements would generate operational noise that could disrupt nearby land uses within unincorporated Monterey County. As discussed in the preceding paragraphs, with implementation of **Mitigation Measure 4.12-5 (Stationary Source Noise Controls)**, this impact would be reduced to a less-than-significant level by ensuring that sufficient noise insulation or sound absorbing material is provided to the existing enclosure to provide additional noise attenuation.

Additionally, Policy S-7.2 of the Monterey County General Plan requires new noise generators within areas identified as “normally unacceptable” to incorporate mitigation. Operations of the Valley Greens Pumps Station would occur in an area identified as “normally unacceptable” for residential noise and is within unincorporated Monterey County. As discussed in the preceding paragraphs, with implementation of **Mitigation Measure 4.12-5 (Stationary Source Noise Controls)**, this impact would be reduced to a less-than-significant level by ensuring that sufficient noise insulation or sound absorbing material is provided to the existing enclosure to provide additional noise attenuation.

Therefore, with these measures implemented, the MPWSP would be brought into conformance with the above-noted policy and construction would not be inconsistent with the Monterey County General Plan.

Impact Conclusion

Operation of the subsurface slant wells, MPWSP Desalination Plant, Terminal Reservoir, ASR Pump Station, Ryan Ranch-Bishop Interconnection Improvements, and Valley Greens Pump Station would result in less-than-significant noise impacts with regard to permanent operational noise increases. Significant noise impacts would result from operation of the ASR-5 and ASR-6 Wells and the booster stations that would be upgraded by the Main System-Hidden Hills Interconnection Improvements; however, implementation of **Mitigation Measure 4.12-5** would reduce all significant operational noise impacts to a less-than-significant level. No impact would result from operation of the proposed pipelines.

Mitigation Measure

Mitigation Measure 4.12-5 applies to the ASR-5 and ASR-6 Wells and the Main System-Hidden Hills Interconnection Improvements.

Mitigation Measure 4.12-5: Stationary-Source Noise Controls.

CalAm shall retain an acoustical engineer to design stationary-source noise controls and ensure the applicable noise standards are met. At a minimum, all stationary noise sources (e.g., pump stations, emergency generators, variable-frequency-drive motors, well heads with motors) shall be located within enclosed structures and with adequate noise screening, as needed, to maintain noise levels to no greater than 5 dBA above the existing monitored ambient values and 60 CNEL, at the property lines of nearby residences and other noise-sensitive receptors. Once the stationary noise sources have been installed, the contractor(s) shall monitor noise levels to ensure compliance with local noise standards. If stationary noise sources exceed the applicable noise standards,

Impact 4.12-6: Expose people to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies during operations. (*Less than Significant*)

Stationary Noise Sources

Subsurface Slant Wells

All 10 slant wells would be designed as pumping wells, and a 2,200-gpm submersible pump would be lowered into each wellhead. The wellheads would be located above the maximum high tide elevation and the wellheads in each cluster would be encased in a single concrete vault. The concrete vaults would be buried 5 feet below grade.

Noise from pump operations would be attenuated by both soil and the subsurface concrete casing. A given pump motor would typically generate a noise level on the order of 76 dBA, L_{eq} at a distance of 50 feet (FTA, 2006) without an enclosure. However the presence of the concrete enclosure and the subsurface locations would be expected to provide a minimum of 20 dBA attenuation. Simultaneous operation of 10 well pumps would conservatively generate approximately a noise level 66 dBA at 50 feet.

The two closest sensitive receptors to the subsurface slant wells are residences at the Marina Dunes RV Park on Dunes Drive in Marina (4,000 feet to the south) and residences on Drew Street in Marina (4,300 feet to the southeast). At these distances slant well pump noise would be reduced to 21 dBA.

The subsurface slant wells would be located in northern Marina. The Noise Element of the *City of Marina General Plan* establishes a daytime noise level of 50 dBA L_{eq} and a nighttime noise level of 45 dBA, L_{eq} as the maximum allowable noise at the property line of the nearest receptor. Therefore, operational noise from the subsurface slant well pumps would have a less than significant impact with regard to generation of noise levels in excess of standards established in the local plan or noise ordinance.

MPWSP Desalination Plant

CalAm would install a 750-kW (1,000 hp) emergency diesel-powered generator adjacent to the administration building at the MPWSP Desalination Plant site. The generator would be operated weekly for 20 to 30 minutes during the daytime to test and maintain the engine. Generators of this size generally operate at a noise level of 81 dBA L_{max} at 50 feet (FHWA, 2006). Attenuating generator noise at distance results in a predicted noise level from generator operation of approximately 47.8 dBA L_{max} at the nearest residences (2,200 feet away) on Neponset Street. The RO system would also require a series of specialty pumps but these would be located within the treatment building and are not expected to generate substantial noise.

Policy S-7.1 through Policy S-7.5 of the County Plan Noise Element apply to operational noise exposure but are directed toward new sensitive land uses and are not applicable to new noise sources. Policy S-7.6 of the County Plan Noise Element requires an acoustical analysis for proposed noise generators are likely to produce noise levels exceeding the levels shown in the adopted Community Noise Ordinance when received at existing or planned noise-sensitive receptors. The Monterey County Code, Chapter 10.60, Noise Control, Section 10.60.030 limits the operation of any machine, mechanism, device, or contrivance that produces a noise level exceeding 85 dBA at 50 feet from the source. The proposed generator would be in compliance with the restriction of the County noise ordinance. Therefore, operational noise the MPWSP Desalination Plant would have a less than significant impact with regard to generation of noise levels in excess of standards established in the local plan or noise ordinance.

ASR Pump Station/Terminal Reservoir

The proposed ASR Pump Station and Terminal Reservoir site is east of General Jim Moore Boulevard in Seaside, approximately 1,600 feet east of the nearest residences along Mescal Street (single family residences). The ASR Pump Station would be equipped with a 300-hp pump. As part of the proposed project, the ASR Pump Station would be enclosed in an approximately 2,000-square-foot concrete pump house. Based on data collected by ESA, municipal water pump motors produce a noise level of approximately 76 dBA L_{max} at 50 feet; however, the pump station's concrete enclosure would reduce noise levels. Standard building construction reduces noise levels by approximately 15 dBA (HUD, 2009), but given the concrete construction of the proposed enclosure, a 20 dBA reduction to 56 dBA is estimated outside the structure. Attenuating

enclosed pump noise at distance results in a predicted noise levels from pump operation of approximately 26 dBA L_{\max} at the nearest residences on Mescal Street.

Implementation Plan N-1.3.1 of the City of Seaside General Plan defers enforcement of noise limits for non-transportation noise sources to regulations contained in the City's Municipal Code.

The Seaside Municipal Code, Chapter 17.30, Standards for All Development and Land Uses, Section 17.30.060 establishes noise standards designed to ensure that noise producers do not adversely affect sensitive receptors. For single family residential land uses, a standard of 60 dBA, CNEL is established. The CNEL adds a 4.77-dB "penalty" for noise events occurring between 7:00 p.m. and 10:00 p.m. Nighttime events are multiplied by ten, which adds a 10-dB penalty to noise events occurring between 10:00 p.m. and 7:00 a.m. A 24-hour noise source of 26 dBA results in a calculated CNEL of 33 dBA, which is less than the 60 CNEL standard of the City of Seaside Municipal Code for residential land uses and operational noise associated with the ASR Pump Station would have a less than significant impact with regard to generation of noise levels in excess of standards established in the local plan or noise ordinance.

Additionally, CalAm would install a 250-kW (335 hp) emergency diesel-powered generator within the same concrete pad as the ASR Pump Station and Terminal Reservoir. This generator would be operated weekly for 20 to 30 minutes during the daytime to test and maintain the engine. Because of its short duration of operation, which would occur during daytime hours, this short event would not have a meaningful impact on the resultant CNEL and maintenance operation of the generator would have a less than significant impact with regard to generation of noise levels in excess of standards established in the local plan or noise ordinance.

ASR-5 and ASR-6 Wells and ASR Settling Basin

The ASR injection/extraction wells (ASR-5 and ASR-6 Wells) and Settling Basin are proposed on federal land and would not be subject to the noise standards of local jurisdictions. Therefore, no impact related to generation of noise in excess of local regulatory noise standards would result from operation of the new ASR injection/extraction wells.

Valley Greens Pump Station

The Valley Greens Pump Station would be located at one of two site options, both of which are located approximately 100 feet from the nearest sensitive (residential) receptor and are located within Monterey County.

The Valley Greens Pump Station would be enclosed in a 500-square-foot, single-story building. It was assumed, based on ESA's monitoring of municipal water pumps, that the pump at Valley Greens Pump Station would generate noise levels of up to 76 dBA L_{\max} at 50 feet and that the building enclosure would attenuate noise levels by at least 15 dBA (to 61 dBA L_{eq} at 50 feet), as shown in **Table 4.12-14**. At 100 feet the pump station noise levels would attenuate to approximately 55 dBA L_{eq} .

Policy S-7.4 of the Monterey County General Plan Noise Element requires an acoustical analysis for proposed noise generators that are likely to produce noise levels exceeding the levels shown in the adopted Community Noise Ordinance when received at existing or planned noise-sensitive receptors. Consequently, the following analysis addresses this requirement to assess the potential for inconsistency with this Policy. The Monterey County Code, Chapter 10.60, Noise Control, Section 10.60.030 limits the operation of any machine, mechanism, device, or contrivance that produces a noise level exceeding 85 dBA at 50 feet from the source. The proposed pumps would be in compliance with the restriction of the County noise ordinance and operational noise associated with the Valley Greens Pump Station would have a less than significant impact with regard to generation of noise levels in excess of standards established in the local plan or noise ordinance.

Additionally, a portable 50 kW (68 hp) diesel powered generator would be stored onsite at the Valley Greens Pump Station site for use in the event of a power outage. This is a relatively modest sized unit and its occasional operation during daytime hours for testing purposes would generate less noise than that of a diesel automobile and would not be expected to result in noise levels in excess of noise ordinance standards (85 dBA at 50 feet).

Main System-Hidden Hills Interconnection Improvements

The existing interconnection between the main CalAm distribution system and the Hidden Hills system would be improved by installing approximately 1,200 feet of 6-inch-diameter pipeline along Tierra Grande Drive, with a connection to the existing Upper Tierra Grande Booster Station. The Upper Tierra Grande Booster Station has an existing capacity of 129 gpm. A new 350 gpm pump would be added to the booster station. In addition, the existing pump capacity of the Middle Tierra Grande Booster Station, located on lower Casiano Drive, would be upgraded from 161 gpm to 400 gpm by adding a new 350 gpm pump (CalAm, 2013).

These new pumps would be located in the existing buildings at each booster station. It was assumed, based on ESA's monitoring of municipal water pumps, that the pump at each booster station would generate noise levels of up to 76 dBA L_{max} at 50 feet and that the building enclosure would attenuate noise levels by at least 15 dBA, to 61 dBA L_{max} at 50 feet and 55 dBA, L_{eq} at 100 feet.

Policy S-7.6 of the Monterey County General Plan Noise Element requires an acoustical analysis for proposed noise generators that are likely to produce noise levels exceeding the levels shown in the adopted Community Noise Ordinance when received at existing or planned noise-sensitive receptors. The Monterey County Code, Chapter 10.60, Noise Control, Section 10.60.030 (Monterey County, 2008) limits the operation of any machine, mechanism, device, or contrivance that produces a noise level exceeding 85 dBA at 50 feet from the source. The proposed pumps that would be installed at the Upper Tierra Grande Booster Station and Middle Tierra Grande Booster Station as part of the Main System-Hidden Hills Interconnection Improvements would be in compliance with the restriction of the County noise ordinance and operational noise the improvements to the Hidden Hills Booster Stations would have a less than significant impact with regard to generation of noise levels in excess of standards established in the local plan or noise ordinance.

All Proposed Pipelines

Implementation of the proposed pipelines would not involve the installation of stationary noise sources such as pumps and emergency generators. Therefore, operation of the proposed pipelines would result in no impact related to permanent noise increases.

All Other Proposed Facilities

Stationary noise sources such as pumps and emergency generators are not proposed at any other of the proposed project facilities. Therefore, there would be no increases in ambient noise levels from stationary noise sources at all other facilities and the impact is less than significant.

Impact Conclusion

Operation of the subsurface slant wells, MPWSP Desalination Plant, Source Water Pipeline, Salinas Valley Return Pipeline, Brine Discharge Pipeline, Desalinated Water Pipeline, Transmission Main, Transfer Pipeline, Monterey Pipeline, Terminal Reservoir, ASR Pump Station, Ryan Ranch-Bishop Interconnection Improvements, Valley Greens Pump Station, the booster stations that would be upgraded by the Main System-Hidden Hills Interconnection Improvements would result in less than significant noise impacts with regard to generation of noise levels in excess of local noise level standards. No impact would result from operation of the ASR-5 and ASR-6 Wells and ASR Settling Basin with regard to generation of noise in excess of local noise level standards because none would apply. No impact would result from operation of the proposed pipelines because the pipelines would not involve the installation of stationary noise sources.

Mitigation Measure

None Required.

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