

3.12 NOISE

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3.12.1 Definitions

Noise

Noise is generally defined as unwanted sound. Sound becomes unwanted when it interferes with normal activities (e.g., sleep, speech, recreation, and tasks demanding concentration or coordination), or when it has adverse effects on human or environmental health. Various noise descriptors are used to quantify the sound experience, dependent upon different time scales and perception. Noise descriptors are described in greater detail below.

Sound

Sound Pressure

Sound is an air pressure fluctuation from a source that travels through a medium, such as air, to a receiver, such as the human ear (Caltrans 2009). Sound is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A sound level of 0 dB corresponds to the threshold of human hearing for those without hearing damage (Ray 2013). On average, the threshold of hearing is close to 10 dB (Caltrans 2009).

Individual dB ratings for different noise sources cannot be added directly to give the combined noise level from all sources; instead, the combined noise level produced by multiple noise sources is calculated using logarithmic summation. For example, if one noise source produces a noise level of 80 dB, then two of the identical sources side by side would generate a combined noise level of 83 dB, or an increase of approximately 3 dB. Sound pressure levels are not a reliable indicator of loudness (Caltrans 2009).

A-Weighted Sound Level

The A-weighted sound level (dBA) is a sound pressure measurement that de-emphasizes the very low- and very high-frequency components of the sound. The de-emphasis of the very low and high frequencies mimics the frequency response of the human ear and correlates well with subjective reactions to noise (Caltrans 2009). The A-weighting therefore assists in the analysis of how humans perceive and respond to sound and noise. Typical A-weighted noise levels measured in the environment and in industry are provided in Table 3.12-1. A 3 dBA change in environmental noise is barely perceptible, and a 5 dBA change is readily perceptible by the human ear (Caltrans 2009).

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Equivalent Sound Level

Equivalent sound level (L_{eq}) is the average A-weighted sound level during the entirety of a stated time period (Caltrans 2009). L_{eq} time periods in this analysis are 1-hour, unless otherwise noted.

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Table 3.12-1 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
		Bedroom at night, concert hall (background)
Quiet rural nighttime		
	20	
		Broadcast/recording studio
	10	
	0	

Source: (Caltrans 2009)

Maximum Sound Level

Maximum sound level (L_{max}) is the highest instantaneous noise level during a specified time period. This descriptor is sometimes referred to as “peak [noise] level” (Caltrans 2009).

Community Noise Equivalent Level/Day Evening Night Sound Level

The Community Noise Equivalent Level (CNEL), also called the Day Evening Night Sound Level (L_{den}), is the average A-weighted noise level during a 24-hour day obtained after addition of 5 dB in the evening from 7:00 pm to 10:00 pm and addition of 10 dB to sound levels in the night between 10:00 pm and 7:00 am. CNEL takes into account people’s heightened sensitivity

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during the evening hours and even more heightened sensitivity during the late night and early morning hours (Caltrans 2009).

Day/Night Average Sound Level

The day/night average sound level (L_{dn}) is the average A-weighted noise level during a 24-hour day, obtained after the addition of 10 dB from 10:00 pm to 7:00 am. The L_{dn} takes into account people's heightened sensitivity to noise at night. Exterior background noises and noise levels inside buildings are generally lower at night. This reduced noise level causes other noises to become far more noticeable because there is less background noise to drown them out (Caltrans 2009).

Noise Attenuation

Most noise sources can be classified as either point sources, such as stationary equipment, or line sources, such as a roadway. Sound generated by a point source nominally diminishes (attenuates) at an approximate rate of 6 dBA for each doubling of distance away from the source. For example, a 60 dBA noise level measured at 50 feet from a point source would be approximately 54 dBA at 100 feet from the source and 48 dBA at 200 feet from the source. Noise from a line source (i.e., roadways, corona noise from a transmission line) nominally attenuates at approximately 3 dBA per doubling of distance (US Department of Transportation 1995).

Meteorological Effects on Noise

Noise levels can be affected by changes in atmospheric conditions, including wind, humidity, and air temperature. Wind bends sound waves, resulting in greater noise downwind of the source and less noise upwind of the source. High winds can result in localized noise level changes. Temperature gradients can affect noise levels. As humidity decreases, so does noise. Changes in temperature and humidity can result in significant noise variations over long distances (Caltrans 2009).

Groundborne Vibration

Vibration is the physical manifestation of energy carried through the earth and structures. Groundborne vibration consists of rapidly fluctuating motions or waves. It has the potential to annoy people and damage buildings. Low-level vibrations can also cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints due to concerns of structural damage, even though there is little risk of actual structural damage (Caltrans 2013).

Construction activities can produce varying degrees of ground vibration depending on the equipment and methods employed. Ground vibrations from construction activities very rarely reach levels high enough to cause damage to structures, although special consideration must be made in cases where fragile historical buildings are near the construction site. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration.

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The most common descriptor used to quantify construction vibration amplitude in relation to impacts on structures is the peak particle velocity (PPV). PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage (Caltrans 2013).

Corona

The localized electric field near an energized conductor can be sufficiently concentrated to produce a small electric discharge, which can ionize air close to the conductors. This effect is called corona, and it is associated with all energized electric power lines but is especially common with high-voltage transmission lines. If the intensity of the electric field at the surface exceeds the insulating strength of the surrounding air, a corona discharge occurs in the form of heat and energy dissipation. Corona can result in the production of small amounts of sound, radio noise, heat, and chemical reactions of air components.

Modern power lines are designed, constructed, and maintained so that, during dry conditions, they operate below the corona-inception voltage and generate minimal corona-related noise. Corona increases with humid and inclement weather, high pollution, and smoke from wildfires. Under these conditions, an audible hum and crackling noise may be heard (Parmar 2011).

3.12.2 Environmental Setting

Overview

The main noise sources that contribute to the existing noise environment in the proposed project area are artillery fire, military aircraft overflights and touch downs, and vehicle traffic from I-5 and South El Camino Real. Other contributing noise includes commercial aircraft overflights, military personnel and equipment, and residential noise. Military aircrafts conduct landing and takeoffs in the vicinity of the proposed project.

Noise-Sensitive Receptors

Noise-sensitive receptors are land uses where an excessive amount of noise would interfere with normal activities. Noise-sensitive receptors are primarily residences, educational facilities, libraries, hospitals, places of worship, and passive recreation areas (Caltrans 2011). Residences are located at varying distances from the proposed project alignment. The closest noise-sensitive receptors within 1,000 feet of proposed project features are identified in Table 3.12-2. Noise-sensitive receptors in the proposed project are shown on Figure 3.12-1 and Figure 3.12-2.

Airports

The nearest public airport is the Oceanside Municipal Airport, which is approximately 16 miles away from the proposed project area. Private airports in the vicinity of the proposed project include the MCOLF Camp Pendleton (Red Beach) airport, located over 8 miles away, and the Marine Corps Air Station Camp Pendleton airport, located approximately 13 miles away.

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Table 3.12-2 Noise-Sensitive Receptors within 1,000 Feet of the Proposed Project

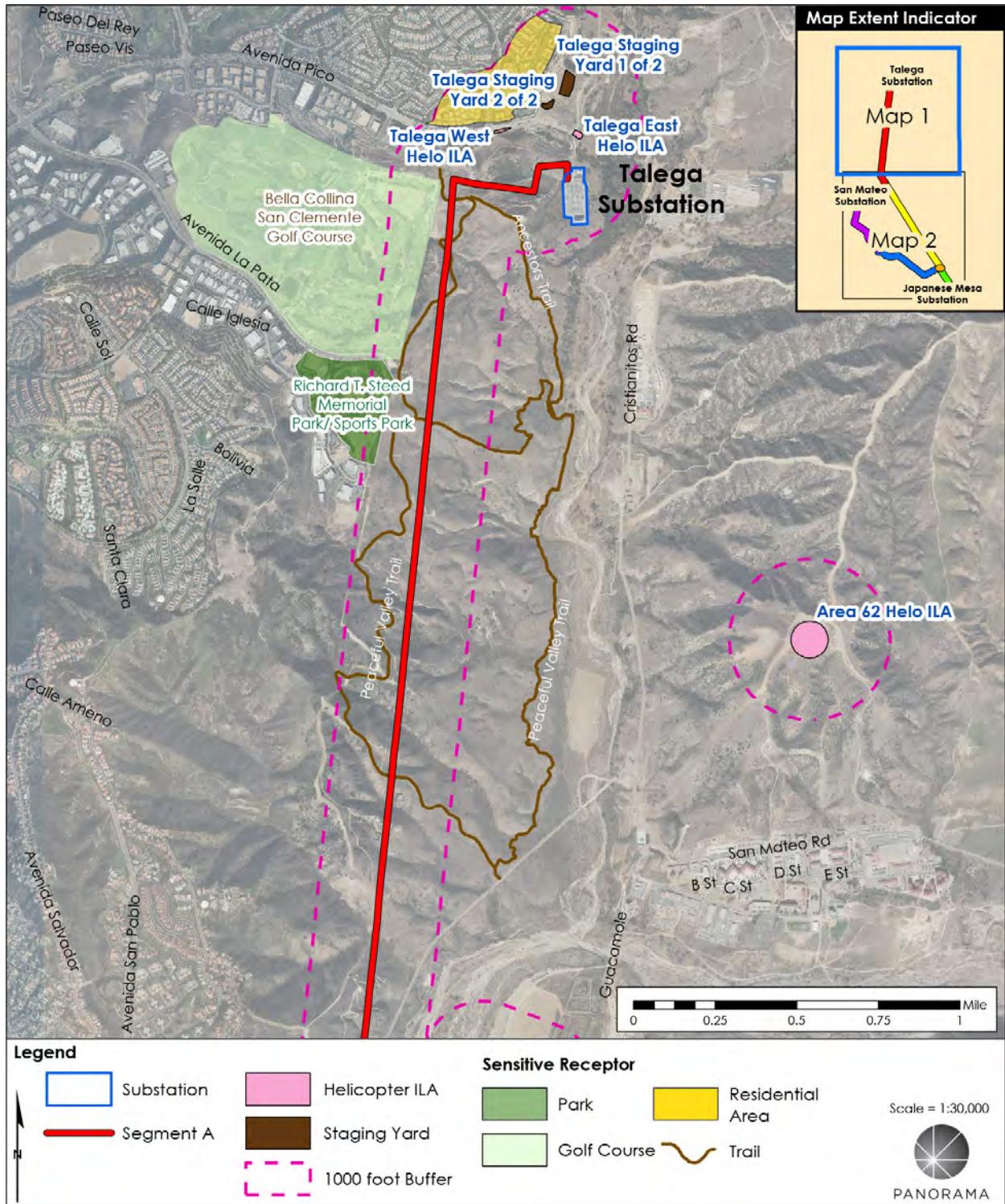
Project Feature/ Proposed Activity	Distance to Nearest Sensitive Receptor (feet) ^{a, b, c}	Receptor Type
Segment A		
Direct Bury	60	San Onofre State Beach, Ancestors' Trail
Direct Bury	170	San Onofre State Beach, Peaceful Valley Trail
Pier Foundation	275	Bella Collina San Clemente Golf Course
Stringing Site	690	Residence
Pier Foundation	900	Residence
Direct Bury	940	Richard T. Steed Memorial Park
Segment B		
Overhead Work Area	340	Residence
Segment E		
Stringing Site	115	Residence
Direct Bury	140	Residence
Pier Foundation	360	San Onofre Library
Pier Foundation Work Area	950	San Onofre Elementary School
Segment F		
Overhead Work	0 ^d	Residence
Pole Topping Area	0 ^d	Residence
Stringing Site	30	Residence
Staging Yards		
Basilone Road	70	Residence
Talega 2	120	Residence
San Mateo	120	Vista Bahia Park
San Mateo	330	Residence
Helicopter ILAs		
Talega West	130	Residence

Notes:

- ^a All distances are to nearest parcel boundaries.
- ^b Sensitive receptors are located beyond 1,000 feet within Segments C and D.
- ^c Numerous residences are located within 1,000 feet of the proposed project. Residence locations provided in this table refer to the nearest residence in relation to the specific project feature.
- ^d These activities would occur within the backyards of these residences.

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Figure 3.12-1 Noise Sensitive Receptors in the Proposed Project Area (Map 1 of 2)

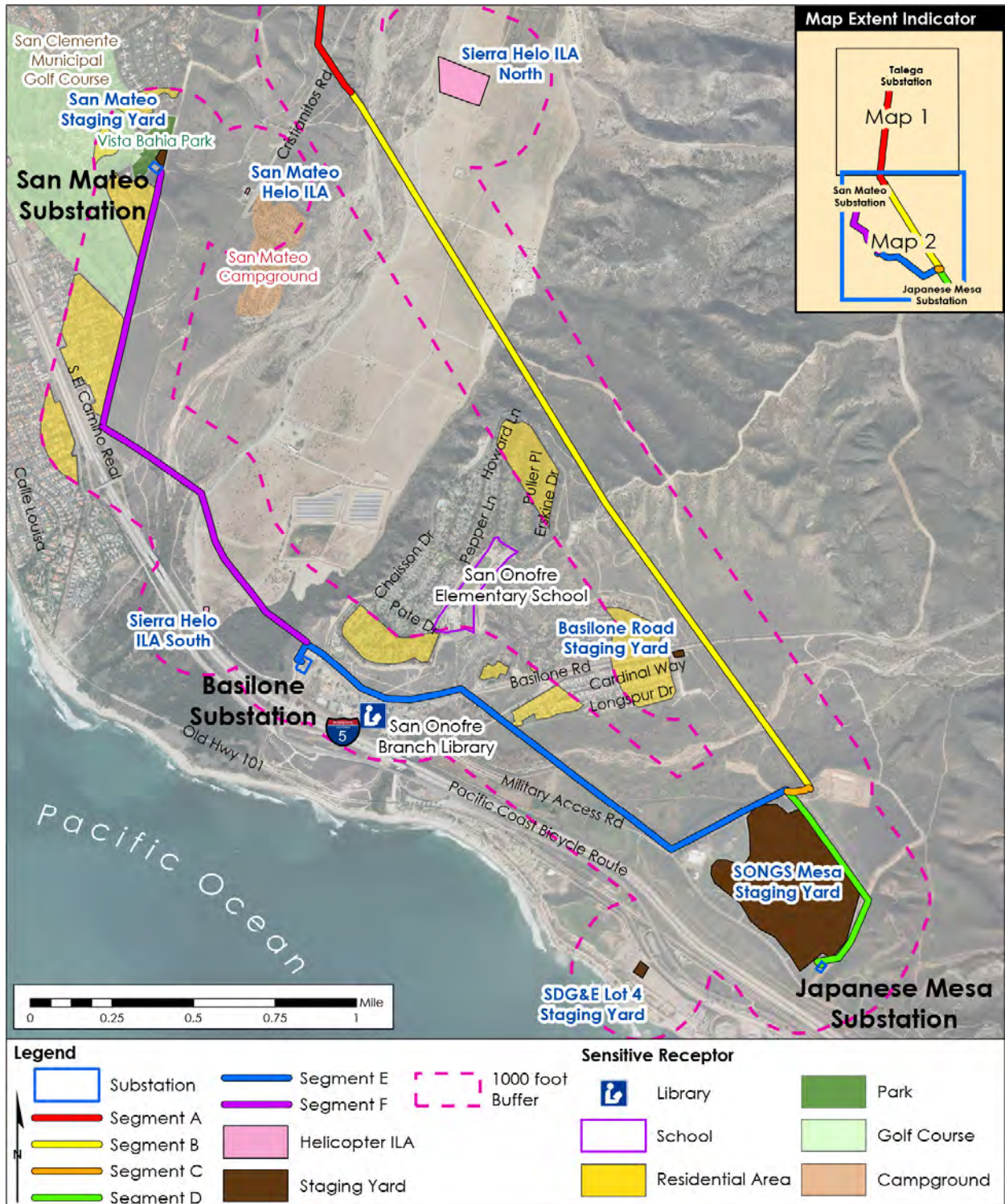


Sources: (ESRI 2016, SANDAG and SanGIS 2016, SDG&E 2016b)

Note: Individual residences are not shown on this figure due to the scale.

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Figure 3.12-2 Noise Sensitive Receptors in the Proposed Project Area (Map 2 of 2)



Sources: (ESRI 2016, SANDAG and SanGIS 2016, SDG&E 2016b)

Note: Individual residences are not shown on this figure due to the scale.

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3.12.3 Applicant Proposed Measures

SDG&E has proposed measures to reduce environmental impacts. Several APMs proposed by SDG&E have been revised or superseded with mitigation measures to address environmental impacts. Table 3.12-3 provides the APMs proposed to reduce impacts from noise and the mitigation measures that supersede these APMs.

Table 3.12-3 Application Proposed Measures for Noise

APM	Superseded by MM
<p>APM NOI-01: Construction Notification. Residents within 50 feet of Proposed Project activities will receive notification of the start of construction at least one week prior to the start of construction activities in that area.</p>	Superseded by MM Noise-2: Notification and Complaints
<p>APM NOI-02: Meet and Confer with City of San Clemente. SDG&E will meet and confer with the City of San Clemente, as needed, to discuss any anticipated deviations from the requirements of the City's noise ordinance.</p>	Superseded by MM Noise-1: Adherence to City of San Clemente Noise Ordinance
<p>APM NOI-03: Helicopter Use. Helicopter takeoffs and landings conducted at the two ILAs along Avenida Pico and at the Talega Staging Yard will be restricted to the furthest distance from residences as practicable. Helicopter usage will conform to acceptable hours for construction activities, as outlined within the City of San Clemente Noise Ordinance.</p>	Superseded by MM Noise-3: Helicopter Use

3.12.4 Impact Analysis

Summary of Impacts

Table 3.12-4 presents a summary of the CEQA significance criteria and impacts from noise that would occur during construction, operation, and maintenance of the proposed project.

Table 3.12-4 Summary of Proposed Project Impacts from Noise

Would the Proposed Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Would the Proposed Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be located within the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Discussion

a) Would the proposed project expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Significance Determination
	Less than significant with mitigation

Noise Level Standards

Noise levels attributed to proposed project construction and operation, or their acoustical contribution to the future outdoor ambient noise environment, must comply with relevant applicable federal, state, or local standards and regulations. Pursuant to CPUC GO 131-D, the CPUC has sole and exclusive jurisdiction over the siting and design of the proposed project, and therefore, local land use regulations do not apply to the proposed project. However, general plan policies and noise ordinance standards for local jurisdictions are frequently used as a basis for evaluation of noise levels because the CPUC does not have numeric thresholds for noise.

Construction

Overview of Noise Generation from Construction

Proposed project construction would be completed within approximately 8 months. Construction of the proposed project would require temporary use of noise-generating equipment, including graders, backhoes, rigging and mechanical trucks, air compressors, generators, cranes, and concrete trucks. Construction activities could occur 6 days a week for up to 12 hours a day throughout proposed project construction. Construction activities may also occur at night to finish unplanned, delayed work or for public safety.

Construction equipment is unlikely to be operated continuously and simultaneously, but continuous and simultaneous equipment use could occur. At times during the construction period, no equipment would be operated, and noise would be at ambient levels. The noise

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levels for a typical workday during construction of the overhead and underground power line are identified for each construction activity, as shown in Table 3.12-5. Generators may be used at staging yards for temporary power in construction trailers. Activities proposed during overhead work (i.e., power line removal) would generate noise from use of wire trucks and pulling rigs. Topping poles would require chainsaws and bucket trucks. The noise from power line removal and pole topping activities would be very brief (approximately a few hours at any one location on a single day) at any one receptor; therefore, the noise level from these activities would be less than significant and is not discussed in further detail.

Blasting could occur if rock is encountered in locations where new poles are proposed. The maximum noise generated from blasting would only occur for a fraction of a second. The maximum noise level from blasting at various distances is shown in Table 3.12-6.

Helicopters would be used primarily for stringing and pole construction. Heavy and medium-duty helicopters may also be used intermittently during the pier foundation and direct bury construction phases. Helicopter activities would be staged out of existing airports, staging

Table 3.12-5 Cumulative L_{eq} Noise Levels by Construction Activity

Construction Activity	Noise Level (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Staging Yard Preparation	87.4	81.4	75.4	67.4	61.4
Access Road Improvements					
Vegetation Removal and Trimming					
Concrete Pier Foundation Construction	89.4	83.4	81.8	69.4	63.4
Direct Bury Foundation Construction	85.5	79.5	73.5	65.5	59.5
Pole Structure Installation					
Conductor Stringing	86.2	80.1	74.1	66.2	60.1
Underground Power Line Construction	71.8	65.8	59.8	51.8	45.8
Demobilization and Cleanup	81.9	75.9	69.8	61.9	55.9

Source: (SDG&E 2016a)

Table 3.12-6 L_{max} Noise Levels for Blasting (dBA)

As Needed	Noise Level (dBA)				
	50 feet	100 feet	200 feet	500 feet	1,000 feet
Blasting ^a	94	88	82	76	70

Note:

^a Only required if rock is found and infeasible to avoid.

Source: (FHWA 2006)

yards, and helicopter ILAs. The six helicopter ILAs and the six staging yards could be used for short-term helicopter operations, such as picking up conductor or other equipment. Helicopter use could occur for up to 14 days throughout the 8-month construction period. Helicopters

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would be used during daylight hours, up to 5 hours a day, 6 days a week. Flight paths would generally follow the existing power line alignment, except for ingress and egress from airports, helicopter ILAs, and/or staging yards. The noise levels for light-, medium-, and heavy-duty helicopters at various distances are provided in Table 3.12-7.

Table 3.12-7 Helicopter L_{eq} Noise Levels (dBA)

Helicopter Type	Noise Level (dBA)					
	50 feet	100 feet	200 feet	250 feet	500 feet	1,000 feet
Light-Duty	95	89	83	81	75	69
Medium-Duty	100	94	88	86	80	73
Heavy-Duty	110	104	98	96	90	84

Source: (SDG&E 2016a)

City of San Clemente

Portions of Segments A and F of the proposed project would extend into the City of San Clemente. The City of San Clemente noise ordinance permits exterior noise levels in residential use areas up to 55 dBA from 7:00 am to 10:00 pm and up to 50 dBA from 10:00 pm to 7:00 am (City of San Clemente Municipal Code §8.48.050). Construction noise is exempt from the City of San Clemente noise ordinance between the hours of 7:00 am and 6:00 pm, Monday through Friday, and between the hours of 8:00 am and 6:00 pm on Saturday (City of San Clemente Municipal Code §8.48.090[F]). Construction noise is not exempt from exterior noise standards on Sunday or a City-recognized holiday (City of San Clemente 2007).

Construction activities within the City of San Clemente would include pole and foundation installation, power line stringing, power line removal, and pole topping activities. Several stringing sites would be located within the City of San Clemente along Segments A and F. Three staging yards and two helicopter ILAs would also be located in the City of San Clemente.

Construction activities would occur 6 days a week and would generally be limited to 12 hours per 24-hour period. Construction could occur in the City of San Clemente during periods when construction noise is not exempt from the City of San Clemente noise ordinance. Construction noise levels generated during non-exempt time periods could result in a significant impact as construction activities could generate noise in excess of 55 dBA between 7:00 am and 10:00 pm. SDG&E has proposed APM NOI-02 and APM NOI-03 to reduce conflicts with the City of San Clemente noise ordinance. APM NOI-02 requires SDG&E to meet with the City of San Clemente to discuss any anticipated deviations from the requirements of the City's noise ordinance. APM NOI-03 requires helicopter use to conform to acceptable hours for construction activities, as outlined in the City of San Clemente noise ordinance. APM NOI-02 does not specify the process SDG&E would undertake to comply with the local noise standards; therefore, the proposed project construction activities could still generate noise levels in excess of local noise standards. APM NOI-02 is superseded by MM Noise-1, which requires SDG&E to conduct construction activities within the City of San Clemente during hours that are exempt from the City of San Clemente noise ordinance or meet and confer with the City of San Clemente if it is

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not feasible to conduct all construction activities in the City of San Clemente during the approved time periods. APM NOI-03 is superseded by and incorporated into MM Noise-3, which requires helicopter use to comply with the City of San Clemente noise standards. The proposed project would not conflict with the City of San Clemente noise ordinance, and the impact would be less than significant with implementation of MM Noise-1 and MM Noise-3.

Marine Corps Base Camp Pendleton

The majority of the proposed project alignment would traverse MCB CPEN. The proposed project would generate noise during various project activities, including helicopter use and blasting. MCB CPEN has not adopted construction noise limits. As such, construction activities and helicopter use in MCB CPEN would not exceed local standards or ordinances. No impact would occur.

San Onofre State Beach

Most of Segment A and a portion of Segment F would cross through San Onofre State Beach, which is leased to the California Department of Parks and Recreation from the DoN. In accordance with Title 14 CCR § 4320, noise must not disturb individuals at sleeping quarters or in campgrounds between the hours of 10:00 pm and 6:00 am at facilities operated by the California Department of Parks and Recreation (California Department of Parks and Recreation 1991). Several access roads are in the vicinity of the San Mateo Campground located within San Onofre State Beach. The nearest work areas to the campground would be overhead work located approximately 1,850 feet to the north and pier foundation activities located 2,150 feet to the north. Proposed project activities at these locations would be limited to 12 hours a day. Noise levels from construction of these project components would not be substantial at the campground due to the considerable distance between the construction activity and the campground. The proposed project would not conflict with the noise disturbance regulation that applies to San Onofre State Beach. The impact would be less than significant. No mitigation is required.

Operation and Maintenance

Operation and maintenance activities for the alignment and substations would be similar in scope to existing operation and maintenance activities. Inspection and maintenance of the alignment and facilities would be conducted with the same frequency as current activities and would use the same equipment. Operation and maintenance of the proposed project would not affect existing noise levels. No impact would occur.

Mitigation Measures: MM Noise-1 and MM Noise-3

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b) Would the proposed project expose persons to or generate excessive groundborne vibration or groundborne noise levels?	Significance Determination
	Less than significant with mitigation

Vibration Thresholds

The groundborne vibration damage criteria developed by the Federal Transit Agency (FTA) are in the range of 0.12 to 0.5 PPV for structural damage depending on the fragility of the structure of concern. Table 3.12-8 provides FTA's construction vibration damage criteria for various structural categories. For the purposes of this analysis, 0.5 PPV is designated as the significance threshold for construction-related groundborne vibration damage to existing structures because structures in the vicinity of vibratory equipment include recent engineered buildings with reinforced concrete, steel, or timber construction.

Constant vibration at different levels can range from slightly perceptible to very disturbing as shown in Table 3.12-9. Vibration levels in excess of 0.1 PPV at nearby receptors may cause a nuisance; therefore, 0.1 PPV is designated as the significance threshold for impacts on individuals.

Table 3.12-8 Construction Groundborne Vibration Damage Criteria

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

Note:

Bold indicates the designated significance criteria.

Source: (FTA 2006)

Table 3.12-9 Steady State Groundborne Vibration Perception

Human Response	PPV (in/sec)
Very disturbing	3.6 (at 2 Hz) to 0.4 (at 20 Hz)
Disturbing	0.7 (at 2 Hz) to 0.17 (at 20 Hz)
Strongly perceptible	0.10
Distinctly perceptible	0.035
Slightly perceptible	0.012

Note:

Bold indicates the designated significance criteria.

Source: (Caltrans 2013)

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Construction

Construction Equipment

Impacts from construction-related groundborne vibration are dependent on the equipment used and the soil conditions surrounding the construction site. In general, vibration through clay soil attenuates faster than in sandy soils (Caltrans 2004). Proposed project construction activities would generate minor groundborne vibration in the vicinity of construction work areas, particularly where new poles are proposed. These construction activities would require the use of vibration-generating equipment such as jackhammers, loaded trucks, rock drills, and bulldozers. Table 3.12-10 presents the ground vibration levels associated with vibration-producing equipment used during construction.

Table 3.12-10 Proposed Project Construction Groundborne Vibration Levels

Construction Activity	PPV at 25 feet (in/sec)	Exceeds Vibration Thresholds?	
		Structural Damage (>0.5 PPV)	Nuisance (>0.1 PPV)
Drilling	0.089	No	No
Loaded trucks	0.079	No	No
Jackhammer	0.035	No	No

Source: (FTA 2006)

Use of vibration-generating equipment would be intermittent and temporary, occurring throughout the 8-month construction period. Vibration generating equipment would be used approximately 25 feet or more from the nearest structure. The vibration level generated by construction equipment would not result in structural damage or exceed the significance threshold for nuisance as shown in Table 3.12-10. The vibration impact from construction equipment would be less than significant. No mitigation is required.

Blasting

Construction of the proposed project may require blasting if hard rock is encountered during ground excavation at direct-bury and pier foundation sites. Vibration levels associated with rock blasting, if conducted, would be site-specific and depend on soil/rock conditions at the site, the amount of explosive used, and the depth that the blasting occurs. Blasting can result in an airblast, which is a sudden increase in air pressure and low-frequency noise pulse that is created around a blast area when the ground expands over the area of the blast. Damage to weak structures resulting from vibration levels or airblasts associated with blasting could result in a potentially significant impact. MM Hazards-2 would reduce the impact from blasting by requiring SDG&E to prepare a site-specific blasting plan for each blast location, notice property owners in areas that would experience groundborne vibration, restrict blasting in any area where structures may be damaged or bystanders would be harmed due to ground vibration or airblast, and compensate property owners for any damage to structures as necessary. Impacts from groundborne vibration as a result of blasting would be less than significant with mitigation.

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Operation and Maintenance

Operation and maintenance activities for the alignment and substations would be similar in scope to existing operation and maintenance activities. Inspection and maintenance activities would be conducted with the same frequency as current activities and would use the same equipment. No impact would occur.

Mitigation Measures: MM Hazards-2 (refer to Section 3.8: Hazards and Hazardous Materials)

c) Would the proposed project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	Significance Determination
	No impact

Construction

Noise from construction activities would be temporary (approximately 8 months) and would cease after construction is completed. Construction noise would not result in a permanent increase in ambient noise levels. No impact would occur.

Operation and Maintenance

Corona noise is a faint hum or crackle that can be heard in the vicinity of electric lines and is caused when energy escapes the conductor and interacts with moisture and dust in the atmosphere. Lower voltage lines (i.e., below 230-kV) emit lower levels of corona noise than higher voltage lines. Electric lines emit greater corona noise during inclement weather and periods of dense fog. The proposed project would re-conductor existing 69-kV power lines along Segments A, B, D, and E and remove 69-kV power lines from service along Segment F. New conductor is free of particulate matter buildup and more efficient at conducting electricity with minimal energy loss, minimizing corona discharge. Corona noise during operation of the proposed project would be the same or less than existing conditions. No impact would occur.

Maintenance activities for the re-conducted power lines would be similar in scope and frequency to maintenance activities for the existing power lines. No impact would occur.

Mitigation Measures: None required.

d) Would the proposed project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Significance Determination
	Less than significant with mitigation

Construction

Construction Equipment and Helicopters

Construction of the proposed project would require the use of heavy equipment and helicopters, which would produce noise in the vicinity of proposed project work areas and helicopter ILAs. Ambient noise levels within MCB CPEN are highly variable. Large military trucks and vehicles frequent the paved and unpaved roadways throughout the military base. Helicopters fly overhead for amphibious and land-based training exercises. Weapons fire and

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ordnance detonations are periodically audible throughout the military base. Construction activities on MCB CPEN would generate noise that would be similar to the ambient noise environment. The noise generated during proposed project construction by helicopters, augers, large trucks, and other construction equipment would not cause a significant temporary or periodic increase in ambient levels within MCB CPEN. The impact on ambient noise levels within MCB CPEN would be less than significant.

The northern portion of Segment A, a portion of Segment F, staging yards, and helicopter ILAs would be located adjacent to the City of San Clemente where the ambient noise environment is characterized by residential land use and open space. Helicopters have the potential to generate disruptive noise at sensitive receptor locations in the City of San Clemente. The impact from the temporary increase in ambient noise within the City of San Clemente could be significant.

APM NOI-1 requires notification of residents within 50 feet of construction activities at least one week prior to initiation, allowing sensitive receptors to limit or avoid exposure to disturbing construction noises. Helicopter noise could affect sensitive receptors up to 500 feet from helicopter use areas, and notification of residents within 50 feet would not provide a wide enough buffer for notification. APM NOI-1 is superseded with MM Noise-2, which requires SDG&E to notify all sensitive receptors within 500 feet of helicopter use and work areas and respond to public noise complaints in a timely and effective manner. APM NOI-3 restricts helicopter takeoffs and landings at the Talega East and West Helo ILAs and the Talega Staging Yards to the furthest distance away from residences as practicable; however, APM NOI-3 does not specify noise limits or distances between helicopter use areas and sensitive receptors. APM NOI-3 is superseded with MM Noise-3, which requires a minimum of 300 feet between sensitive receptors and helicopter takeoff and landing areas to avoid a substantial increase in ambient noise levels at sensitive receptors. The impact from construction noise in the City of San Clemente would be less than significant with implementation of MM Noise-2 and MM Noise-3.

Blasting

While blasting would be unlikely, it may be required at any direct bury or pier foundation site if hard rock is encountered. The primary noise from blasting would last for a fraction of a second and would be similar to existing blasting noise at MCB CPEN (e.g., ordnance detonation and artillery fire). The proposed project includes five direct bury and four pier foundation poles in the northern portion of Segment A within the City of San Clemente. Blasting could occur closer to residents in the City of San Clemente than on-going blasting activities within MCB CPEN. Blasting activity could cause a substantial increase in ambient noise levels at sensitive receptors in the City of San Clemente, which could be a significant impact. MM Hazards-2 requires SDG&E to notify residents within the area of effect for any blasting activities, prepare a blasting plan, and survey buildings within 500 feet of the blast site. The temporary impact from blasting noise would be less than significant with mitigation.

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Operation and Maintenance

As discussed under impact c) above, corona noise can increase during inclement weather and periods of dense fog. The proposed project would reconductor existing 69-kV power lines along Segments A, B, D, and E and remove the TL 695 69-kV power line from service along Segment F. Corona noise during operation of the proposed project would be the same or less than existing conditions. Maintenance activities for the alignment and substations would be similar in scope and frequency to existing maintenance activities. No impact would occur.

Mitigation Measures: MM Noise-2, MM Noise-3, and MM Hazards-2 (refer to Section 3.8: Hazards and Hazardous Materials)

e) Would the proposed project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and expose people residing or working in the project area to excessive noise levels?	Significance Determination
	No impact

The proposed project would not be located within two miles of a public airport or public use airport. No impact from excessive noise exposure would occur.

Mitigation Measures: None required.

f) Would the proposed project be located within the vicinity of a private airstrip, and expose people residing or working in the project area to excessive noise levels?	Significance Determination
	No impact

No private airstrips are located within the vicinity of the proposed project. The proposed project would not use private airstrips for staging of helicopters. No impact from excessive noise exposure would occur.

Mitigation Measures: None required.

3.12.5 Mitigation Measures

MM Noise-1: Adherence to City of San Clemente Noise Ordinance

Construction activities within the City of San Clemente shall not occur during the following times:

- Before 7:00 am and after 6:00 pm on weekdays
- Before 8:00 am and after 6:00 pm on Saturdays
- Sundays
- City observed holidays

In the event construction must occur within the City of San Clemente during the times listed above, SDG&E shall meet and confer with the City of San Clemente, as needed, to discuss any anticipated deviations from the requirements of the City's noise ordinance.

Applicable Locations: Project work areas within the City of San Clemente

Performance Standards and Timing:

- **Before Construction:** N/A
- **During Construction:** Construction in the City of San Clemente only occurs during approved hours

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- **After Construction:** N/A

MM Noise-2: Notification and Complaints

SDG&E shall provide notice by mail at least one week prior to construction activities to all sensitive receptors and residences within 500 feet of construction sites, staging yards, and access roads, and within 1,000 feet of helicopter incidental landing areas and flight paths. SDG&E shall also post notices in public areas, including recreational use areas, within 500 feet of the project alignment and construction work areas. The announcement shall state where and when construction will occur in the area. For areas that would be exposed to helicopter noise, the announcement shall provide details on the schedule of the dates, times, and duration of helicopter activities. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. SDG&E shall identify and provide a public liaison before and during construction to respond to concerns of neighboring receptors, including residents, about construction noise disturbance. SDG&E shall also establish a toll-free telephone number for receiving questions or complaints during construction and develop procedures for responding to callers. Procedures for reaching the public liaison officer via telephone or in person shall be included in the above notices and also posted conspicuously at the construction site(s). SDG&E shall address all complaints within one week of when the complaint is filed. SDG&E shall provide monthly reports with records of complaints and responses to the CPUC. These reports shall be provided to the CPUC within 15 days of the end of the month.

Applicable Locations: Entire project area

Performance Standards and Timing:

- **Before Construction:** (1) Notification letters of construction activities and helicopter use are sent to applicable sensitive receptors, (2) Notices of construction activities and helicopter use are posted in public use areas and construction work areas, and (3) A public liaison is provided to address public questions and complaints, (4) A toll-free telephone number is established to receive public questions and complaints
- **During Construction:** (1) All public questions and complaints are addressed, and (2) Monthly reports of public complaints and responses are submitted to the CPUC
- **After Construction:** N/A

MM Noise-3: Helicopter Use

Helicopter takeoff and landing areas shall be located a minimum of 300 feet from the nearest sensitive receptor (e.g., residences, parks, schools, senior living facilities) in the City of San Clemente. Helicopter usage shall conform to acceptable hours for construction activities, as outlined within the City of San Clemente noise ordinance.

Applicable Locations: Helicopter ILAs and staging yards near sensitive receptors

Performance Standards and Timing:

- **Before Construction:** N/A
- **During Construction:**

(1) Helicopter takeoff and landing within 300 feet of sensitive receptors is avoided

(2) Helicopter takeoff and landing is restricted to times dictated by the City of San Clemente noise ordinance

After Construction: N/A

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3.12.6 References

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