3.10

NOISE

3.10.1 Introduction

This section includes a detailed discussion of the existing noise environment and an evaluation of the potential Project-related noise impacts associated with the construction and operation of the proposed Project and its alternatives. Potential impacts are evaluated based on the level of significance of the noise exposure (described below) and potential mitigation measures are identified were feasible.

Background noise levels described within this section are derived from a study prepared by Air & Noise Logic, Inc. in May 2006 (Air & Noise Logic, Inc. 2006) and from additional field noise measurements conducted by Illingworth & Rodkin in March 2008. The March 2008 measurements are included in Appendix P. The noise studies determined baseline noise levels in the residential areas potentially affected by Project activity. The baseline study locations and measured sound levels are identified in Section 3.10.2.

In addition, an analysis of potential impacts of vibration during construction is included in Section 3.10.4.3.

3.10.1.1 Relationship to the 1992 Deep Draft Final EIS/EIR

The 1992 Deep Draft Final Environmental Impact Statement/Environmental Impact Report (FEIS/FEIR) evaluated at a project-specific level, and recommended mitigation to the extent feasible for, significant noise impacts related to the navigation and landfill improvements required to construct Pier 400. The Deep Draft FEIS/FEIR also assessed at a general, or programmatic, level the projected impacts of development and operation of terminal facilities planned for location on Pier 400, including a marine oil terminal and its associated infrastructure. The Deep Draft FEIS/FEIR identified the primary noise impacts of development and operation of Pier 400 resulting from 1) short-term noise from dredging operations in the vicinity of the Federal penitentiary near Reservation Point and 2) noise from the proposed increase in rail operations. The Deep Draft FEIS/FEIR concluded that construction noise related to the dredging operation would result in significant, but short-term impacts. Impacts from the increase in rail operations were determined to be significant.

The approved Deep Draft FEIS/FEIR incorporated the mitigation measures (MM) listed below to address the significant impacts on noise (**MM 4H-1** through **MM 4H-9**). The mitigation measures from the Deep Draft FEIS/FEIR remain applicable to the proposed Project, with the exception of those concerning rail operations, as no rail operations are now associated with the proposed Project. The measures are listed below and are in addition to any new mitigation measures developed specific to the proposed Project in this Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (SEIS/SEIR). All Project-specific mitigation measures developed as part of this SEIS/SEIR, as well as those that are applicable to the proposed Project from the Deep Draft FEIS/FEIR, would be enforced by inclusion in a Mitigation Monitoring and Reporting Plan (MMRP).

3.10.1.1.1 Mitigation Measures from the 1992 Deep Draft Final EIS/EIR that are Applicable to the Proposed Project

The following MMs were developed in the Deep Draft FEIS/FEIR to reduce the significant impacts to noise receptors during construction. These measures would reduce the noise impacts during the construction phase and remain applicable to the currently proposed Project:

MM 4H-1 stated that contractors shall utilize the quietest equipment available, and that all internal combustion powered equipment shall be equipped with properly operating mufflers and kept in tune to avoid backfires. In addition, if exposed, engines are to be fitted with protective shrouds to reduce motor noise.

MM 4H-2 stated that, where feasible, electricity would be obtained from the local power grid to avoid the use of portable generators.

MM 4H-3 provided for designation of a disturbance coordinator for responding to noise complaints, with his/her name and telephone number to be clearly posted at the construction site.

3.10.1.1.2 Mitigation Measures from the 1992 Deep Draft Final EIS/EIR that are No Longer Applicable or are Not Applicable to the Proposed Project

The following Mitigation Measures were developed in the Deep Draft FEIS/FEIR to reduce the significant impacts to noise related to rail operations during construction and operation, but are not applicable to the proposed Project for the reasons as stated:

MM 4H-4 stated that all new rail tracks on Port property would utilize welded rails rather than typical bolted rails.

Reason Not Applicable: *There would be no rail operations associated with the proposed Project. This mitigation measure would therefore not apply to the proposed Project.*

MM 4H-5 stated that, to the maximum extent feasible, rail loads shall be arranged so as to provide the maximum amount of service possible.

Reason Not Applicable: *There would be no rail operations associated with the proposed Project. This mitigation measure would therefore not apply to the proposed Project.*

MM 4H-6 stated that, to the maximum extent feasible, trains which bring materials and deliverable goods to the project area shall be used to take materials and goods from the project area.

Reason Not Applicable: *There would be no rail operations associated with the proposed Project. This mitigation measure would therefore not apply to the proposed Project.*

MM 4H-7 stated that, to the maximum extent feasible, rail tracks shall be situated so as to avoid grade crossings which would require that a whistle or horn be sounded.

Reason Not Applicable: *There would be no rail operations associated with the proposed Project. This mitigation measure would therefore not apply to the proposed Project.*

MM 4H-8 required that a noise monitoring program shall be established to ascertain the noise contribution from project-generated rail movement on any nearby sensitive receptors.

Reason Not Applicable: *There would be no rail operations associated with the proposed Project. This mitigation measure would therefore not apply to the proposed Project.*

MM 4H-9 stated that the Port would pursue implementation of the Alameda Corridor Project.

Reason No Longer Applicable: *The Alameda Corridor Project has been completed.*

3.10.2 Environmental Setting

Existing ambient (background) noise levels in the proposed Project area are the result of vehicular traffic on the local street network and the freeways, railroad train movements along the various railroad lines in the area, industrial noise sources, and other activities at the Port. In general, average noise levels in an area are directly determined by local noise generating activity. Unless such activity in that area changes rather dramatically, average noise levels do not change appreciably over time. For example, a doubling of noise generating activity (e.g. traffic) results in a barely audible increase in average noise level. Therefore, background noise measurements will tend to be reasonably consistent over time provided there has been no substantial change in noise generating activity.

3.10.2.1 Regional Setting

The proposed Project is located within the Port, south and east of the communities of Wilmington and San Pedro, respectively, with the exception of the proposed 24-inch pipeline (Pipeline Segment 4) that terminates at the Ultramar/Valero Refinery and other

Plains pipeline systems nearby; portions of this pipeline segment are located in the City of Los Angeles. The proposed Marine Terminal site would be located on the west (Face C) side of Pier 400 and Tank Farm Site 1 would be located on the south (Face D) side. Tank Farm Site 2 would be located on Terminal Island. The pipelines would be routed north along an alignment from Pier 400 to Terminal Island, connect to an existing pipeline and then continue along the northernmost boundary of the Port towards the Ultramar/Valero Refinery.

3.10.2.2 Noise Fundamentals

Noise may be described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. The nature of sound can be characterized by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* describes the amplitude or intensity of sound waves combined with the reception characteristics of the ear. Amplitude may be compared with the height of an ocean wave: the higher the amplitude, the louder the sound. Technical acoustical terms commonly used in this section are defined in Table 3.10-1.

Table 3.10-1. Definitions of Acoustical Terms

Term	*Definition*
Sound	A vibratory disturbance created by a vibrating object which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism such as the human ear or a microphone.
Noise	Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dB(A))	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Sound Level (L_{eq})	The average A-weighted sound level during the measurement period. The hourly L_{eq} used for this report is denoted as dB(A) $L_{eq[h]}$.
Community Noise Equivalent Level (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels to sound levels in the evening from 7:00 P.M. to 10:00 P.M. and after addition of 10 decibels to sound levels in the night between 10:00 P.M. and 7:00 A.M.
L_{dn} (Day/Night Noise Level)	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 P.M. and 7:00 A.M.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
LAF	Sound level with 'A' Frequency weighting and Fast Time (short duration) weighting
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive noise	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, time of occurrence, and tonal or informational content, as well as the prevailing ambient noise level.

3.10.2.3 Decibels and Frequency

In addition to the concepts of pitch and loudness, there are several noise measurement scales, which are used to describe noise. The decibel (dB) is a unit of measurement, used herein, that indicates the relative amplitude (loudness) of a sound. Zero on the decibel scale is based on the lowest sound pressure that a healthy, unimpaired human ear can detect. It is important to understand that sound levels in decibels are calculated on a logarithmic rather than a linear basis

There is also a relationship between the subjective loudness of a sound and its level. Each 10-decibel (tenfold) increase in sound pressure level is perceived as approximately a doubling of loudness over a wide range of amplitudes. Since decibels are logarithmic units, sound pressure levels do not add arithmetically. If two sounds of equal sound pressure level are added together at the same location, the result is a sound pressure level that is 3 dB higher (that is, a doubling of sound pressure level results in a 3 dB increase in measured sound, which is barely audible to the human ear). For example, combining two sources of 70 dB and 70 dB would result in a sound pressure level measuring 73 dB. In the same way, for construction equipment, when two pieces of equipment are operating simultaneously, the incremental sound pressure level created by the second piece of equipment depends upon the difference between the two noise levels. If there is a difference of 0-1 dB between the two pieces of equipment (that is, they are nearly the same), the resultant sound pressure level would be 3 dB above the higher noise level. A difference of 2-3 dB would cause the total sound pressure level to be 2 dB above the higher noise level, and a difference of 4-9 dB would cause the total sound pressure level to be 1 dB above the higher noise level. A 10 dB difference or more would cause the total sound pressure level to be 0 dB above the higher noise level, and the difference added by the second piece of equipment would not be audible in most cases.

Frequency relates to the number of pressure oscillations per second, or Hertz (Hz). The range of sound frequencies that can be heard by healthy human ears varies from about 20 Hz at the low frequency end to 20,000 Hz (20 kHz) at the high frequency end. Sensitivity of the human ear to very high or very low frequencies on this scale is less than for intermediate frequencies.

There are several methods of characterizing sound. The most common is the A-weighted sound level or dB(A). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Studies have shown that the A-weighted level is closely correlated with annoyance to traffic noise. Other frequency weighting networks, such as C weighting or dBC, have been devised to describe noise levels for specific types of noise (e.g., explosives), but are not applicable to this analysis. Table 3.10-2 shows typical A-weighted noise levels that occur in human environments.

Table 3.10-2. Typical Noise Levels in the Environment

Common Outdoor Noise Source	*Noise Level (dB(A))*	*Common Indoor Noise Source*
	120 dB(A)	
Jet fly-over at 300 m (1,000 ft)		Rock concert
	110 dB(A)	
Pile driver at 30 m (100 ft) - L_{max}	100 dB(A)	
		Night club with live music
	90 dB(A)	
Large truck passes by at 15 m (50 ft)		
	80 dB(A)	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 m (100 ft)	70 dB(A)	Vacuum cleaner at 3 meters
Commercial/Urban area daytime		Normal speech at 1 meter
Suburban expressway at 90 m (300 ft)	60 dB(A)	
Suburban daytime		Active office environment
	50 dB(A)	
Urban area nighttime		Quiet office environment
	40 dB(A)	
Suburban nighttime		
Quiet rural areas	30 dB(A)	Library
		Quiet bedroom at night
Wilderness area	20 dB(A)	
	10 dB(A)	Quiet recording studio
Threshold of human hearing	0 dB(A)	Threshold of human hearing

3.10.2.4 Human Response to Noise

Studies have shown that under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of 1 dB(A). In a quiet environment with average background noise, the healthy human ear can detect changes of about 2 dB(A). However, it is widely accepted that changes of 3 dB(A) in the normal environment are just noticeable to most people, and that an increase of 3 dB(A) is perceived as approximately a 25 percent increase in noise level. A change of 5 dB(A) is readily perceptible and an increase of 10 dB(A) is perceived as being twice as loud even though it results from a tenfold increase in sound pressure level.

3.10.2.5 Noise and Health

A number of studies have linked increases in noise with health effects, including hearing impairment, sleep disturbance, cardiovascular effects, psychophysiological effects, and potential impacts to fetal development (Babisch 2005). Potential health effects appear to be caused by both short and long term exposure to very loud noises and long term exposure to lower levels of sound (chronic exposure). Acute exposure to sounds of LAF > 120dB can cause mechanical damage to hair cells of the cochlea (the auditory portion of the inner ear) and hearing impairment (Babisch 2005). As noted in Table 3.10-2, LAF > 120dB is equivalent to a rock concert or a jet plane flying overhead at 300 meters.

The World Health Organization (WHO) and the U.S. Environmental Protection Agency (USEPA) consider L_{eq} = 70dB(A) to be a safe daily average noise level for the ear. Some research has suggested that even this "ear-safe" level may cause disturbance to sleep and concentration and may be linked to chronic health impacts such as hypertension and heart disease (Babisch 2006). A number of studies have looked at the potential health effects from the sound of chronic lower noise levels, such as traffic, especially as these noise levels affect children. In a study of school children in Germany, blood pressure was found to be 10mmHg higher in a group of students exposed to road traffic noise from high traffic transit routes (Babisch 2006). A study by Kawanda (2004) showed that in pregnant women, exposure to airplane noise was found to be associated with decreased fetal body weight.

However, a meta-analysis of 43 epidemiological studies of the association between noise exposure and blood pressure and ischemic heart disease (van Kempen et al. 2002) found no statistically significant correlation between community exposure and heart disease, although small but statistically significant correlations were found for occupational exposures. This paper found a positive correlation between high blood pressure and elevated noise exposure in the workplace. It was not, however, able to identify a threshold above which significant health effects could be expected to occur in the general population. The meta-analysis concludes that "epidemiological evidence on noise exposure, blood pressure, and IHDs [ischemic heart diseases] is still limited" (van Kempen et al. 2002).

In conclusion, there appears to be a relationship between exposure to higher than normal noise levels and some health effects, though the evidence is inconsistent at this time. Recent research has not unequivocally identified community noise levels above which specific health effects may occur. In the absence of more definitive research, a level of 120 dB(A) may be a suitable threshold above which acute exposure would be health threatening. Similarly, chronic exposures above the 70 dB(A) threshold used by the WHO and USEPA may potentially be health threatening.

3.10.2.6 Sound Propagation

When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise is reduced with distance depends on the following important factors:

- *Geometric spreading.* Sound from a single source (i.e., a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dB(A) for each doubling of distance (intensity drops to one-quarter of the previous level with each doubling of distance). Highway noise is not a single stationary point source of sound. The movement of vehicles on a highway makes the source of the sound appear to emanate from a line (i.e., a "line" source) rather than from a point. This results in cylindrical spreading rather than the spherical spreading resulting from a point source. The change in sound level from a line source is 3 dB(A) per doubling of distance (intensity drops to one-half of the previous level with each doubling of distance).
- *Ground absorption.* Usually the noise path between the source and the observer is very close to the ground. Noise attenuation from ground absorption and

reflective wave canceling adds to the attenuation because of geometric spreading. Traditionally, the *excess* attenuation over geometric spreading has also been expressed in terms of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 60 m (200 ft), prediction results based on this scheme are sufficiently accurate. For acoustically "hard" sites (i.e., sites with a reflective surface, such as a parking lot or a smooth body of water, between the source and the receiver), no excess ground attenuation is assumed. For acoustically absorptive or "soft" sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB(A) per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation for a soft site results in an overall drop-off rate of 4.5 dB(A) (3 + 1.5) per doubling of distance for a line source and 7.5 dB(A) (6 + 1.5) per doubling of distance for a point source. Although some ground attenuation is to be expected, it is often ignored, as here, in noise analysis to ensure conservatism.

- *Atmospheric effects.* Research by Caltrans and others has shown that atmospheric conditions can have a major effect on noise levels within 60 m (200 ft) of a highway. Wind has been shown to be the single most important meteorological factor within approximately 150 m (500 ft), whereas vertical air temperature gradients are more important over longer distances. Other factors, such as air temperature, humidity, and turbulence, also have major effects. Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur because of temperature inversion conditions (i.e., increasing temperature with elevation) which cause reflection of sound from the inversion layer back to the ground. As with ground absorption, atmospheric effects are often ignored, as here, in the interest of a conservative analysis.

- *Shielding by natural or human-made features.* A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction. Lightly built barriers or vegetation provide less attenuation.

3.10.2.7 Existing Noise Environment

Existing noise level data were compiled from background noise level measurements conducted for a recent Portwide Noise Study (Air & Noise Logic, Inc. 2006) and from data collected by Illingworth & Rodkin in March 2008. The purpose of the Portwide Noise Study was to establish baseline noise levels for estimating potential impacts of future projects. The purpose of the March 2008 study was to assess ambient noise levels at Reservation Point where no previous measurements had been taken and to validate

prior noise measurements. The noise levels measured over several months in summer 2005 through spring 2006 and again in 2008 are considered representative of the ambient noise levels for the 2004 California Environmental Quality Act (CEQA) Baseline year for this Draft SEIS/SEIR. This assumption that noise levels have been reasonably constant over time is supported by the fact that noise measurements were made at two in-Port sensitive receptors (Berth 204 and Lighthouse Yacht Landing) in both 2005 and 2008 and the 15 minute measurements were the same both years at Lighthouse Yacht Landing (53 dB on both occasions) and within 1 dB both years at Berth 204 (53 dB in 2005 at 9:45 to 9:57 PM and 54 dB in 2008 at 4:45 to 5:00 PM, a time earlier in the day when noise levels would be expected to be higher than late evening).

Noise measurements were taken in locations that were both accessible and representative of noise-sensitive land uses near the Port in both the San Pedro and Wilmington Waterfront area. Over 30 tentative sites were identified and useable measurements (at least 15 valid minutes of data) were obtained at 19 monitoring sites. Figure 3.10-1 identifies the noise monitoring locations from the Portwide Noise Study for which valid data were recorded. Monitoring sites used for this analysis are indicated on the figure with bold outlines. Monitoring sites not used for this analysis are lightly shaded.

Raw data from the Portwide Noise Study were used to calculate logarithmic average sound levels for the receptors of interest (Areas 1, 2, 3, 4, 12, 13, 15, 16, 18, 19, and 21). Note that the numbering of receptor sites was based on preliminary selection of sites and not all sites were ultimately measured. In addition, some measured sites failed to collect adequate data. Therefore, the site numbers are not sequential.

3.10.2.8 Proposed Project Sites Setting

Pier 400 Sites. The main source of existing noise at the proposed Pier 400 sites, including the Face C Marine Terminal and Tank Farm Site 1, is Maersk Container Terminal operations on the north and east faces of Pier 400, and vehicular traffic on Navy Way, the only roadway providing access to Pier 400 from Ocean Boulevard on Terminal Island to the north. Train movements associated with the Maersk Terminal railroad also present significant noise levels within the vicinity of these sites as, during periods of train movement, the railroad becomes the dominant source of noise. Other environmental noise sources contributing to the ambient noise environment include occasional distant aircraft overflights, movement of ships in the Outer Harbor, and general industrial noise from other terminal operations in the vicinity, including those on Pier 300 to the north of the site.

Tank Farm Sites 1 and 2. The main sources of existing noise at proposed Tank Farm Sites 1 and 2 consist of existing container operations, vehicular traffic along Navy Way, Terminal Way, and Seaside Avenue/Ocean Boulevard, as well as from railroad noise attributed to the several railways located adjacent to Tank Farm Site 2. In addition, an active rail line is currently located in the center of the proposed Tank Farm Site 2. General industrial noise from other Port activities in the area also contributes to the ambient environment.

Pipelines. The main sources of existing noise along the pipeline routes from Pier 400 to Terminal Island, and ultimately to the Valero/Ultramar Refinery and other Plains pipelines nearby, consist of vehicular traffic on the local street network and the

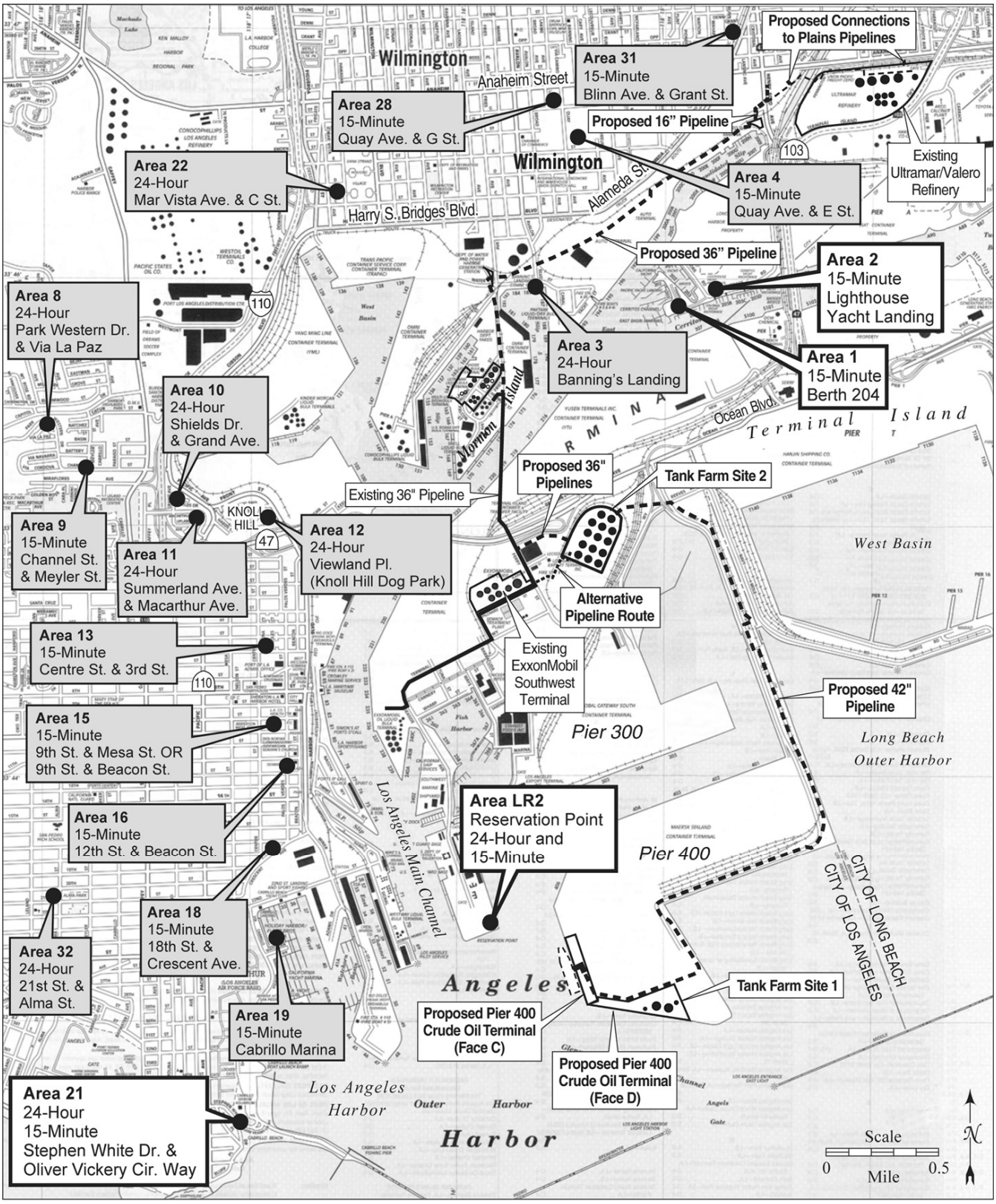


Figure 3.10-1. Noise Measurement Locations

freeways, railroad train movements along the various railroad lines in the area, industrial noise sources, and other activities at the Port.

3.10.2.9 Noise-Sensitive Land Uses

Noise-sensitive land uses are defined as residences, schools, libraries, churches, hospitals and nursing homes. Other uses, such as parks, also have compatibility guideline levels. Generally, noise-sensitive receptor locations that are closest to the source of noise generation and likely to receive the greatest impact are selected for analysis. Table 3.10-3 identifies the ambient noise measurement sites used in the analysis.

Table 3.10-3. Ambient Noise Measurement Results in San Pedro and Wilmington

Area	*Location*	*Date*	*Time*	*Duration*	*Logarithmic Average L_{eq}*	*CNEL (24 hour)*
1	Berth 204	9/26/05	9:42 pm 9:57 pm	15-Minute	53	
1	Berth 204	3/28/08	4:45 pm 5:00 pm	15-minute	54*	
2	Lighthouse Yacht Landing	9/26/05	10:07 pm 10:22 pm	15-Minute	53	
2	Lighthouse Yacht Landing	3/28/08	7:30 pm 7:45 pm	15-minute	53*	
3	Banning's Landing	9/22/05 9/23/05	6:06 pm 5:30 pm	24-Hour	68	
4	Quay Avenue & E Street	9/15/05	10:50 pm 11:05 pm	15-Minute	60	
12	Viewland Place (Knoll Hill Dog Park)	9/27/05 9/28/05	7:34 am 6:58 am	24-Hour	61	
13	Centre Street & 3rd Street	10/5/05	8:04 pm 8:19 pm	15-Minute	59	
15	9th Street & Mesa Street / Beacon Street	10/5/05	8:27 pm 8:42 pm	15-Minute	61	
16	12th Street & Beacon Street	5/16/06	6:18 pm 6:32 pm	15-Minute	61	
18	18th Street & Crescent Avenue	5/16/06	6:43 am 6:57 am	15-Minute	60	
19	Cabrillo Marina	10/5/05	9:03 pm 9:18 pm	15-Minute	57	
21	Stephen White Street & Oliver Vickery Circle Way	10/5/05	9:29 pm 9:44 pm	15-Minute	49	
21	Stephen White Street & Oliver Vickery Circle Way	3/28/08	3:30 pm 3:45 pm	15-Minute	54*	
21	Stephen White Street & Oliver Vickery Circle Way	3/28/08 3/31/08	3:30 pm 2:15 pm	57-hour		61*
ST-2	Reservation Point	3/28/08	4:45 pm 5:00 pm	15-minute	54*	
LR-2	Reservation Point	3/28/08 3/31/08	4:15 pm 2:30 pm	56-hour		59*

Sources: Adapted from Air & Noise Logic, Inc. 2006.
* Illingworth & Rodkin 2008.

The proposed Project sites and surrounding areas are industrial in nature. The nearest residential zones are located in the communities of San Pedro west of the proposed Project and Wilmington area to the north of the proposed Project site. However, several marinas somewhat closer to project facilities than these residential areas host liveaboard boat owners and these are also considered residential locations (locations 1, 2, and 19).

The community of San Pedro is over 1.5 miles (2.4 km) west of Pier 400 sites, and over 2 miles (3.2 km) west of Tank Farm Site 2. The nearest noise-sensitive receptors potentially affected by noise from the proposed Project construction and operations activities are at Reservation Point located approximately 0.5 mile (0.8 km) northwest of Pier 400 (residences for government personnel near the U.S. Coast Guard base; housing for prison wardens at the southern tip of Reservation Point; and inmates at the Federal prison); at the Cabrillo Marina approximately 1.0 mile (1.6 km) away from Pier 400 (liveaboards); and at residences in San Pedro, including homes in Fort MacArthur (approximately 1.5 miles).

In addition, north of the Port, there are live-aboards within 500 feet of the 24" pipeline (Leeward Bay Marina) and other live-aboard marinas about 0.5 miles from the 24" pipeline. For Tank Farm Site 2, there are live-aboards about 0.5 miles (0.8 km) to the north.

The community of Wilmington is located over 3.5 miles (5.6 km) north of the proposed Pier 400 sites, and over 1 mile (1.6 km) north of Tank Farm Site 2 on Terminal Island. The proposed 24-inch pipeline to the Ultramar/Valero Refinery and other Plains pipeline systems nearby would be located on Port property directly across Alameda Street from residences in the Wilmington area.

3.10.3 Applicable Regulations

City of Los Angeles Municipal Code. Noise regulations applicable to activities in the Port are contained in the City of Los Angeles Municipal Code. Section 41.40 of the code establishes times when construction work cannot be performed. The Municipal Code section states the following:

> *(a) No person shall between the hours of 9:00 P.M. and 7:00 A.M. of the following day perform any construction or repair work of any kind upon or any excavating for, any building or structure, where any of the foregoing entails the use of any power-driven drill, driven machine, excavator, or any other machine, tool, device, or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling, hotel, or apartment or other place of residence. In addition, the operation, repair or servicing of construction equipment and the jobsite delivering of construction materials in such areas shall be prohibited during the hours herein specified. Any person who knowingly and willfully violates the foregoing provision shall be deemed guilty of a misdemeanor punishable as elsewhere provided in this code.*

Chapter 11 of the City of Los Angeles Municipal Code sets forth noise regulations. The applicable section regarding construction noise is Section 112.05, which establishes maximum noise levels for powered equipment or powered hand tools. This section states:

> *Between the hours of 7:00 A.M. and 10:00 P.M. in any residential zone of the City or within 500 ft thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 ft there from (a) 75 dB(A) for construction, industrial and agricultural machinery including crawler tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, depressors, and pneumatic or other powered equipment; (b) 75 dB(A) for powered equipment of 20 horsepower or less intended for infrequent use in residential areas including chain saws, log chippers, and powered hand tools; and (c) 65 dB(A) for powered equipment intended for repetitive use in residential areas including lawn mowers, backpack mowers, small lawn and garden tools, and riding tractors.*
>
> *The noise limits for a particular equipment listed above in (a), (b), and (c) shall be deemed to be superseded and replaced by noise limits for such equipment from and after their establishment by final regulations adopted by the Federal Environmental Protection Agency and published in the Federal Register.*
>
> *Said noise limitations shall not apply where compliance therewith is technically infeasible. The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers, and/or other noise reduction device and techniques during the operation of the equipment.*

Federal Highway Administration (FHWA) Noise Standards. The FHWA has adopted noise standards, regulations, and policies related to traffic noise. The California Department of Transportation discusses these standards in detail and provides guidance in the Traffic Noise Analysis Protocol (TNAP). The federal regulations addressing highway noise are defined in 23 CFR Part 772. These standards are not directly applicable to the proposed Project because this is not a Type 1 federally funded highway improvement project.

Federal Transit Authority (FTA) Transit Noise and Vibration Impact Assessment. The FTA includes in its guidance a methodology to evaluate construction noise impacts. This methodology is included in Chapter 12 of the FTA assessment guidance and has been incorporated in this section to evaluate construction noise impacts (Transit Noise and Vibration Impact Assessment, FTA, May 2006).

3.10.4 Impacts and Mitigations

3.10.4.1 Methodology

The methodology to determine the significance of noise impacts resulting from the proposed Project construction activities and operations includes using raw data from the 2006 Portwide Noise Study as well as short- and long-term noise measurements made from March 28 to March 31, 2008. Measurements were made to determine existing ambient noise conditions in the project area. A primary purpose for the March 2008 measurements was to capture ambient noise levels at Reservation Point, which was not included in the Portwide Noise Study. In addition, it enabled 24 hour measurements to be made at Stephen White Street & Oliver Vickery Circle Way, a sensitive receptor near the project site for which only 15 minute data was available from the Portwide Noise Study. All results reported herein are based on logarithmic averages of noise measured at receptors closest to the project sites.

Two long term measurements were made at the end of March 2008 over a weekend beginning on Friday near mid-day and extending through Monday, mid-day. This extended period allowed a week day community noise equivalent level (CNEL) to be calculated from the Friday data to midnight and the Monday data from Midnight, giving approximately 24 hours of coverage during weekday hours. This was done to facilitate calculating CNEL which, as described above in Table 3.10-1, is a weighted average based on 24 hours, and comparing the results to CNEL-based thresholds. Source noise levels for construction and operational project-related activities are based on known noise generation levels for the types of equipment and operations that would occur. Baseline noise levels are then compared to project-generated noise for both construction and operation to determine whether project generated increases in noise levels are significant according to criteria identified below.

Because noise attenuates quite rapidly with distance, noise is generally a highly localized phenomenon, dependent upon local noise generating activities. While traffic growth may contribute over long periods to increases in noise levels, it would take a doubling of traffic to result in a readily audible change in noise level of 3 dB. Hence, over long periods, average noise levels in an area tend to remain fairly constant absent a significant increase in local noise generating activities. Therefore, no upward trend in noise levels over time is assumed from baseline conditions (for either the CEQA or the NEPA analysis).

Noise levels resulting from construction activities were estimated at the nearest representative noise-sensitive locations based on their proximity to planned construction activity and anticipated operational activities related to the project. Calculations of construction noise levels are based on typical numbers and types of equipment expected during construction in conjunction with applicable distance attenuation effects. In the vicinity of Pier 400, the topography is flat (either water or paved land), both of which are considered for the purpose of estimating noise propagation to be hard surfaces; so no ground absorption is assumed which results in higher estimated noise levels at greater distances than if ground absorption or other attenuation mechanisms are assumed.

In order to calculate the potential construction impacts at residential locations in the project area, the FHWA Roadway Construction Noise Model (January 2006) was used to

calculate noise levels generated from construction activity. The methodology accounts for the noise level of various construction equipment, the fraction of time the equipment would be in use, the distance to the noise sensitive land use, and the type of ground surface and topography in the area. This model is appropriate for the proposed Project because the FHWA methodology addresses activities and equipment similar to those entailed for the proposed Project's construction and operation and includes the ability to account for multiple pieces of equipment operating in close proximity, and to incorporate into calculations the topography and distance to the nearest receiver, although this latter capability is not employed in the analysis. The methodology provides a quantifiable assessment of the noise impacts of noise generating activity.

Noise levels for various sources used in the analysis were based on levels reported in Table I.1-1 of the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006), previous data collected at the Port, previous environmental documents, material provided by the applicant based on the manufacturer's published data, and/or from the available literature. Future transportation noise exposure and increases in transportation noise levels relative to existing noise conditions were estimated based on a comparison of existing and future project-generated traffic volumes on the main roadways affected by the proposed Project.

In addition to the 2006 study to determine existing noise levels at sensitive receptors in San Pedro and Wilmington (Air & Noise Logic 2006) and the limited additional measurements in late March, 2008, a Noise Monitoring Survey was conducted by Navcon Engineering, specifically to identify potential proposed Project impacts to the Least Tern Nesting Area on Pier 400. The study resulted in the reconfiguration of equipment at Tank Farm Site 1 to reduce noise levels on the adjacent Least Tern Nesting Area (the reconfiguration is included in the proposed Project; see Figure 2-4). The results of this study are discussed in Section 3.3 Biological Resources and are detailed in Appendix L (NAVCON 2005).

Finally, mitigation measures included as part of the 1992 Deep Draft FEIS/FEIR have been incorporated into this section as applicable and relevant.

Noise level measurements and calculations were made for: the existing environmental noise condition, the noise condition based on the proposed Project and a Reduced Project Alternative. In addition, the No Federal Action/No Project Alternative involves minor construction to pave and enclose a portion of the Pier 400 area for use as additional container storage, which is also considered.

3.10.4.1.1 CEQA Baseline

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a project that exist at the time of the NOP. These environmental conditions would normally constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact is significant. For purposes of this Draft SEIS/SEIR, the CEQA Baseline for determining the significance of potential impacts under CEQA is June 2004. CEQA Baseline conditions are described in Section 2.6.2.

The CEQA Baseline represents the setting at a fixed point in time, with no project growth over time, and differs from the "No Federal Action/No Project" Alternative (discussed in Section 2.5.2.1) in that the No Federal Action/No Project Alternative addresses what is likely to happen at the site over time, starting from the baseline conditions. The No Federal Action/No Project Alternative allows for growth at the proposed Project site that would occur without any required additional approvals.

3.10.4.1.2 NEPA Baseline

For purposes of this Draft SEIS/SEIR, the evaluation of significance under NEPA is defined by comparing the proposed Project or other alternative to the No Federal Action scenario (i.e., the NEPA Baseline and No Federal Action Alternative are equivalent for this project). Unlike the CEQA Baseline, which is defined by conditions at a point in time, the NEPA Baseline/No Federal Action is not bound by statute to a "flat" or "no growth" scenario; therefore, the USACE may project increases in operations over the life of a project to properly analyze the NEPA Baseline/No Federal Action condition. However, as noted above, in the case of noise, no overall increase in background level noise is assumed over time because noise levels do not generally exhibit growth characteristics that are predictable. The background noise levels for both NEPA and CEQA are the same.

The NEPA Baseline condition for determining significance of impacts is defined by examining the full range of construction and operational activities that are likely to occur without a permit from the USACE. As documented in Section 2.6.1, the USACE, the LAHD, and the applicant have concluded that no part of the proposed Project would be built absent a USACE permit. Thus, for the case of this project, the NEPA Baseline is identical to the No Federal Action/No Project Alternative (see Section 2.6.1). Elements of the NEPA Baseline include:

- Paving, lighting, fencing, and construction of an access road at Tank Farm Site 1 to allow temporary storage of chassis-mounted containers on the site by APM;
- Paving, fencing, and lighting at Tank Farm Site 2 to accommodate temporary wheeled container storage by APL or Evergreen; and
- Additional crude oil deliveries at existing crude oil terminals in the San Pedro Bay Ports.

Significance of the proposed Project or alternative is defined by comparing the proposed Project or alternative to the NEPA Baseline (i.e., the increment). The NEPA Baseline conditions are described in Section 2.6.1 and 2.5.2.1.

3.10.4.2 Thresholds of Significance

The discussion of noise impacts addresses both construction and operational noise levels. The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) provides specific thresholds of significance to address potential noise impacts resulting from the construction and operation of a proposed Project. Based on the analysis in the Notice of Intent/Notice of Preparation/Initial Study completed for the proposed Project (see Appendix A), there would be no impact related to railroad or airport noise. As a result, these issues are not addressed in this Draft SEIS/SEIR.

A project would normally have a significant noise impact if it would result in one or more of the following:

NOI-1: Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.

NOI-2: Construction activities would exceed the ambient noise level by 5 dB(A) at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.

NOI-3: The project would cause the operational ambient noise level measured at the property line of affected uses to increase by 3 dB(A) in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dB(A) or greater noise increase, as defined by City thresholds, described in Table 3.10-4.

Table 3.10-4. Land Use Noise Compatibility Guidelines

Land Use	*Community Noise Exposure CNEL, dB*			
	NORMALLY ACCEPTABLE	CONDITIONALLY ACCEPTABLE	NORMALLY UNACCEPTABLE	CLEARLY UNACCEPTABLE
Single Family, Duplex, Mobile Homes	50-60	55-70	70-75	above 70
Multi-Family Homes	60-65	60-70	70-75	above 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	above 80
Playgrounds, Neighborhood Parks	50-70	---	67-75	above 72

Normally Acceptable: Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: City of Los Angeles 2006.

Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. A common averaging period is hourly, but L_{eq} can describe any series of noise events of any duration. The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within approximately plus or minus 1 dB(A). Two metrics describe the 24-hour average, L_{dn} and CNEL. Both include penalties (i.e., disproportionate weighting) for noise during the nighttime, and CNEL also penalizes noise during the evening. CNEL and L_{dn} are normally within 1 dB(A) of each other.

3.10.4.3 Project Impacts and Mitigation

3.10.4.3.1 Proposed Project

3.10.4.3.1.1 Construction Impacts

The noise levels generated by construction equipment will vary greatly depending on factors such as the type of equipment, the specific model, the operation being performed, and the condition of the equipment. The L_{eq} of the construction activity also depends on the fraction of time that the equipment is operated over the time period of construction. The dominant source of noise from most construction equipment is the engine. In a few cases, such as impact pile-driving or pavement-breaking, noise generated by the impact process dominates.

Table 3.10-5 shows the noise levels for a variety of equipment at a reference distance of 50 feet. These reference sound levels are representative of the noise levels that would occur during the noisiest construction activities. The noise levels used in the analysis below are identified in Table 3.10-6 and include wharf pile driving occurring at Pier 400, grading and paving associated with site preparation, trenching associated with pipeline construction, and horizontal drilling on Terminal Island and Mormon Island. Appendix P provides details regarding the estimate of construction noise levels at the most noise sensitive land uses in the project area.

Table 3.10-5. Construction Equipment Noise Emission Levels

Equipment Type	*Typical Noise Level (dB(A)) 50 ft from Source*
Front Loader	73-86
Trucks	82-95
Cranes (moveable)	75-88
Cranes (derrick)	86-89
Vibrator	68-82
Saws	72-82
Pneumatic Impact Equipment	83-88
Jackhammers	81-98
Pumps	68-72
Generators	71-83
Compressors	75-87
Concrete Mixers	75-88
Concrete Pumps	81-85
Back Hoe	73-95
Pile Driving (peaks)	95-107
Tractor	77-98
Scraper/Grader	80-93
Paver	85-88
Source: L.A. CEQA Thresholds Guide (City of Los Angeles 2006), Appendix I, Table I.1-1.	

During construction, the overall average noise levels vary with the level of construction activity, the types of equipment that are onsite and operating at a particular time and the proximity of the construction equipment to noise sensitive land uses. Hourly average noise levels presented in Table 3.10-6 are estimates based on a typical complement of construction equipment that would be expected to be onsite to complete the various proposed Project components.

Table 3.10-6. Noise Emission Levels used in Construction Impact Assessment

Equipment Type	*Typical Noise Level (dB(A)) @ ft from Source*
Aggregate of typical construction equipment	91 @ 50 ft
Pile driver	107 @ 50 ft
Pipeline boring machine	92 @ 50 ft

The following standard controls, in accordance with the 1992 Deep Draft FEIS/FEIR Mitigation Measures (Section 3.10.1.1), are assumed in the noise assessment and would be included in all construction contractor specifications to ensure adherence throughout the construction period:

1. *Construction Hours.* Construction would be limited to the hours of 7:00 A.M. to 6:00 P.M. on weekdays, between 8:00 A.M. and 6:00 P.M. on Saturdays, and construction equipment noise would be prohibited anytime on Sundays and holidays.
2. *Construction Days.* Noise-generating construction activities would not be conducted on weekends or holidays.
3. *Construction Equipment.* All construction equipment powered by internal combustion engines would be properly muffled and maintained.
4. *Idling Prohibitions.* Unnecessary idling of internal combustion engines near noise-sensitive areas would be prohibited.
5. *Equipment Location.* All stationary noise-generating construction equipment, such as air compressors and portable power generators, would be located as far as practical from existing noise-sensitive land uses.
6. *Quiet Equipment Selection.* Quiet construction equipment would be selected, whenever possible. Noise limits for construction equipment established in the City of Los Angeles Noise Ordinance would be met, where feasible.
7. *Notification*. Residents adjacent to the proposed Project sites would be notified, in writing, of the construction schedule.

Note that the above mitigation measures are incorporated into the project to comply with mitigation already addressed in the Deep Draft FEIS/FEIR and are therefore part of the project description. However, they are considered for the purpose of mitigation monitoring as applicant agreed mitigation measures in the Mitigation Monitoring Program.

Impact NOI-1: Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.

Construction activities would typically last more than 10 days in any 3-month period for all proposed Project components. Following the thresholds of significance, an impact would be considered significant if noise from these activities would cause the existing ambient exterior noise levels to increase by 5 dB(A) or more at a sensitive receptor.

Traffic Noise

During peak construction there would be 523 construction workers distributed to various sites, as well as trucks delivering building supplies to each site. Trucks would bring supplies and equipment during non-peak hours. Chapter 2 (especially Figure 2-12 and Table 2-8) and Section 3.6 (especially Table 3.6-4) provide additional detail about the distribution of these trips. In all locations, these construction worker based vehicle trips represent a small fraction (1 to 10 percent) of the AM and PM peak hour traffic volumes in the Project area. This small fraction of vehicles compared to the overall traffic in the Project area would not result in a noticeable increase in noise levels. (A doubling of traffic would be required for a minimally audible 3 dB(A) increase in noise to occur.) Therefore, traffic generated from construction worker trips would be considered a less than significant impact.

Pipeline Construction Noise

To assess pipeline construction noise exposure at the nearest sensitive locations, a composite of the noise level data for construction equipment was used to model resulting noise levels at identified noise-sensitive receptors, taking into consideration the effects of distance attenuation. For general construction equipment, a combined level of 91 dB(A) at 50 feet was used as the source noise level consistent with the FHWA model recommendations. For pipeline boring, a noise level of 92 dB(A) at 50 feet was used based on information provided by the applicant (see Table 3.10-6). Using the FHWA equation which calculates L_{eq} based on reference source noise levels, the four most sensitive receptor locations (defined as residential locations closest to project noise sources) were assessed for potential impacts. Table 3.10-7 provides a summary of the ambient versus construction noise impacts estimated for the four sensitive receptors from pipeline construction. The table is based on the logarithmic averages of ambient noise levels without any adjustment for time of day. The time of day is indicated in column 3. Consistent with measures committed to for the project, construction would occur only between 7:00 AM and 6:00 PM, so the actual measurement times for two receptors do not coincide with periods when construction would occur. As a review of Table 3.10-7 indicates, the potential for noise impacts is above the 5 dB criterion at Areas 1 and 2, but well below that at Areas 21 and LR-2. Nevertheless, the impact of pipeline construction noise would be considered significant at Areas 1 and 2.

Table 3.10-7. Estimated Pipeline Construction-Related Noise Impacts on Most Sensitive Receptors

Area # in Figure 3.10-1	*Location*	*Time of Day*	*Calculated (L_{eq})*	*Total Construction Noise*	*Total Ambient + Construction*	*Increase over Existing*
1	Berth 204	9:42 pm 9:57 pm	53	59	60	7
2	Lighthouse Yacht Landing	10:07 pm 10:22 pm	52	58	59	7
21	Stephen White Street & Oliver Vickery Circle Way	3:30 pm 3:45 pm	54	42	54	<1
LR-2	Reservation Point	4:45 pm 5:00 pm	54	42	54	<1

Marine Terminal Construction Noise

To assess marine terminal construction noise exposure at the nearest sensitive locations, the same methods were used as for the above analysis of pipeline construction noise impacts, except with a different complement of equipment and recognizing the different locus of activity on Pier 400 rather than along the pipeline route. For general construction equipment, a combined level of 91 dB(A) at 50 feet was again used as the source noise level consistent with the FHWA model recommendations. For pile driving, a noise level of 107 dB(A) at 50 feet was used based on the highest level in Table 3.10-5 and the large size of piles proposed for wharf construction. Table 3.10-8 shows the estimated construction-related impacts at the selected sensitive receptors combining general construction and pile driving equipment. The noise level is projected to exceed ambient levels by more than 5 dB at Area LR-2 (Reservation Point). The noise impact from terminal construction is therefore considered significant.

Table 3.10-8. Estimated Terminal Construction-Related Noise Impacts on Most Sensitive Receptors

Area # in Figure 3.10-1	*Location*	*Time of Day*	*Calculated (L_{eq})*	*Total Construction Noise*	*Total Ambient + Construction*	*Increase over Existing*
1	Berth 204	9:42 pm 9:57 pm	53	51	55	2
2	Lighthouse Yacht Landing	10:07 pm 10:22 pm	52	50	54	2
21	Stephen White Street & Oliver Vickery Circle Way	3:30 pm 3:45 pm	54	56	58	4
LR-2	Reservation Point	4:45 pm 5:00 pm	54	65	65	11

In the above tables, projected increases in noise at the closest locations to construction are considered significant (equal to or greater than 5 dB) as compared to ambient average noise levels. Areas 1 (Berth 204) and 2 (Lighthouse Yacht Landing) are marinas with liveaboard slips in the Port. These areas are relatively near pipeline

construction and could also experience audible noise from pile driving in addition to pipeline construction.

Area LR-2 (Reservation Point) is immediately adjacent and across water from the Pier 400 construction site. It is also the closest residential receptor to the terminal construction. Reservation Point is very near port operations including the other terminals on Pier 400 and Pier 300 as well as adjacent to the Main Channel in the Port. Harbor noise is therefore a part of the noise environment at Reservation Point. Nevertheless, the 11 dB increase in ambient noise would be significant and unavoidable.

The above analyses are based on a comparison of short term averaged noise equivalent levels. Instantaneous peaks in construction noise would unquestionably be audible at all sensitive receptors, especially during pile driving, from time to time. The noise would be intermittent, since pile driving typically involves short periods of driving interspersed with longer periods of adjustment, alignment, or relocating equipment from one driving location to another. Therefore, the average noise level, though indicative of the overall effect of the noise on the auditory environment, may not reflect the typical individual's perception of the noise as intrusive or annoying. On the basis of the likely perception of some individuals that pile driving noise is intrusive or annoying, the impact of construction noise is considered potentially significant.

Potential Health Impacts

Acute exposures to noise levels above 120 dB(A) are not expected to occur from construction of the proposed Project and the health effects of acute exposure would therefore be less than significant. The highest calculated noise exposure level at sensitive receptors from construction activities would be below the 70 dB(A) exposure level that may result in chronic health effects. Furthermore, this exposure would be short term during pile driving only and would therefore not qualify as a chronic exposure. Therefore, the potential adverse chronic health effects of noise exposure from proposed Project construction would be less than significant.

CEQA Impact Determination

Construction of the proposed Project is projected to result in ambient average noise increases of 5dB(A) or greater at sensitive receptors as identified in Tables 3.10-7 and 3.10-8. In addition, noise from pile driving would be audible and may be perceived as intrusive or annoying by some individuals, even with mitigation required in the 1992 Deep Draft FEIS/FEIR. Therefore, under CEQA **Impact NOI-1** would be significant.

Mitigation Measures

MM 4H-1, MM 4H-2, and **MM 4H-3** from the Deep Draft FEIS/FEIR would apply to reduce the significant impacts to noise receptors during construction:

MM 4H-1: contractors shall utilize the quietest equipment available, and all internal combustion powered equipment shall be equipped with properly operating mufflers and kept in tune to avoid backfires. In addition, if exposed, engines are to be fitted with protective shrouds to reduce motor noise.

MM 4H-2: if ample local grid power is available, electricity would be obtained from the local power grid to avoid the use of portable generators.

MM 4H-3: a disturbance coordinator will be designated for responding to noise complaints, with his/her name and telephone number to be clearly posted at the construction site.

In addition, three mitigation measures were developed specifically for this Draft SEIS/SEIR:

MM NOISE-1: Selection of Contractor For Pile Driving With Consideration of Noise Reduction. The selection of the contractor for pile driving would include consideration of the pile drivers to be employed, sound abatement techniques to be used, and the predicted resulting sound pressure levels produced for the different types and sizes of piles to be placed.

MM NOISE-2: Restricted Hours for Pile Driving. In order to reduce the potential impact during construction, pile driving activities at Pier 400 would be limited to between the hours of 9:00 A.M and 5:00 P.M. on Monday-Friday and 10:00 A.M. to 4:00 P.M. Saturday.

MM NOISE-3: Erect Temporary Noise Attenuation Barriers Adjacent to Stationary Construction Equipment Directly Between the Equipment and Sensitive Receptors, Where Necessary and Feasible. Construction equipment that will be stationary for extended periods (pipeline boring machinery, compressors, generators, etc.) can be shielded by erection of temporary noise attenuation barriers. The barriers should be installed directly between the equipment and the nearest noise sensitive use to the construction site. The need for and feasibility of noise attenuation barriers should be evaluated on a case-by-case basis considering the distance to noise sensitive receptors, the available space at the construction location, and taking account of safety and operational considerations. Noise attenuation barriers suitable for pile driving equipment should be considered using the same criteria.

Residual Impacts

Mitigation measures are not expected to reduce residual construction impacts of **Impact NOI-1** under CEQA to less than significant and are therefore considered to be significant and unavoidable. While noise attenuation measures may be applicable and are likely to reduce sound levels from construction, functional constraints and uncertainties as to the effectiveness of available measures or the availability of equipment with lower noise emissions may limit the effectiveness of mitigation such that impacts cannot be reduced to less than significant levels. In addition, even with noise attenuation devices, the noise of pile driving would be audible and may be perceived as intrusive or annoying by some individuals. Therefore, residual impacts of pile driving during construction are considered significant and unavoidable. However, given the limited duration of construction activities, the impact would be short term and there would be no long term residual impact.

NEPA Impact Determination

Construction of the proposed Project is projected to result in ambient average noise increases of 5dB(A) or greater at one sensitive receptor as identified in Tables 3.10-7 and 3.10-8. In addition, noise from pile driving would be audible and may be perceived as intrusive or annoying by some individuals, even with mitigation required in the 1992 Deep

Draft FEIS/FEIR. Therefore, under NEPA **Impact NOI-1** would be considered significant

Mitigation Measures

MM 4H-1, **MM 4H-2**, and **MM 4H-3** from the Deep Draft FEIS/FEIR would apply to reduce the significant impacts to noise receptors during construction. In addition, **MM NOISE-1**, **MM NOISE-2**, and **MM NOISE-3** would apply, as detailed above.

Residual Impacts

Mitigation measures are not expected to reduce residual construction impacts of **Impact NOI-1** under NEPA to less than significant and are therefore considered to be significant and unavoidable. While noise attenuation measures may be applicable and are likely to reduce sound levels, operational constraints and uncertainties as to the effectiveness of available measures or the availability of equipment with lower noise emissions may limit the effectiveness of mitigation such that impacts cannot be reduced to less than significant levels. In addition, even with noise attenuation devices, the noise of pile driving may be perceived as intrusive or annoying by some individuals. Therefore, residual impacts of pile driving during construction are considered significant and unavoidable. However, given the limited duration of construction activities, the impact would be short term and there would be no long term residual impact.

Vibration

In addition to the above analysis of the effects of noise on sensitive receptors, a screening level analysis to assess the potential impacts of vibration from pile driving was completed. Pile driving during construction creates two potential environmental issues. One is the airborne noise created by the operation of the pile driver and its impact on the pile being driven (analyzed above). The other is due to vibration transmitted through the earth which results from the impact from the pile driver, and is transmitted through the pile to the sub-surface strata. The vibration is then transmitted through the earth. This vibration can, under some circumstances, damage structures and create annoyance to surrounding population. The potential effects of vibration are discussed below in relation to the proposed project.

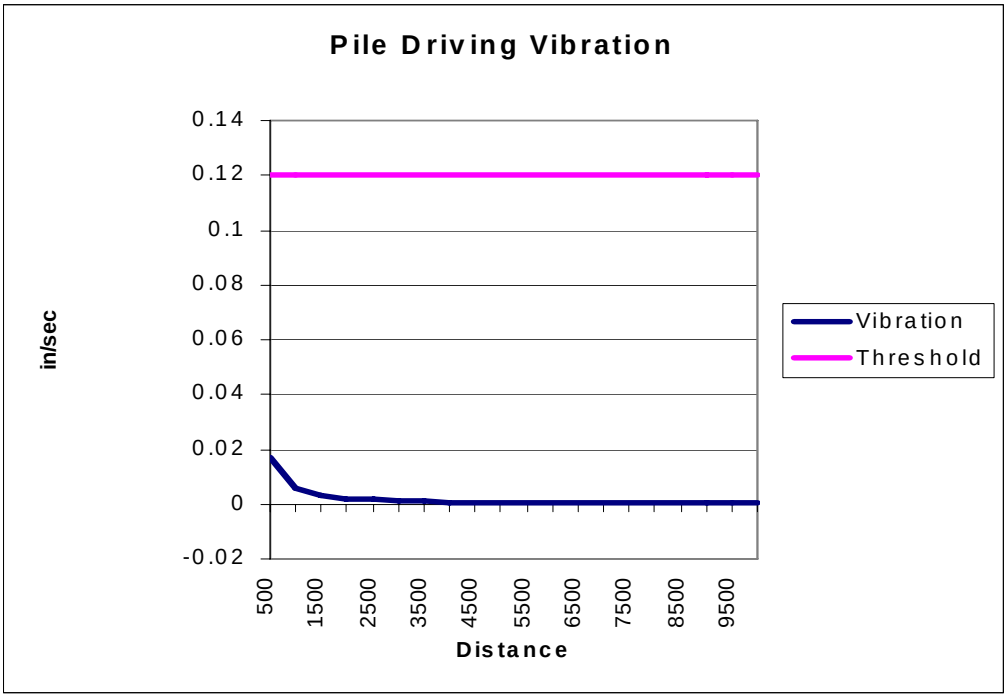
Structural Damage

The potential for vibration-induced structural damage is assessed by Building Categories. These are:

- I. Reinforced-concrete, steel or timber (no plaster).
- II. Engineered concrete and masonry (no plaster).
- III. Non-engineered timber and masonry buildings.
- IV. Buildings extremely susceptible to vibration damage.

Figure 3.10-2 plots the vibration levels associated with pile driving, and compares them with the threshold level associated with Building Category IV, the type of structure most susceptible to structural damage.

Figure 3.10-2: Potential For Structural Damage



Source: DOT 2006

As shown in Figure 3.10-2, the vibration resulting from pile driving is well below the threshold for even the most sensitive structure (0.12 in/sec). All other thresholds range from 0.2 in/sec to 0.5 in/sec. Therefore, the potential structural effects of vibration from pile driving would be less than significant.

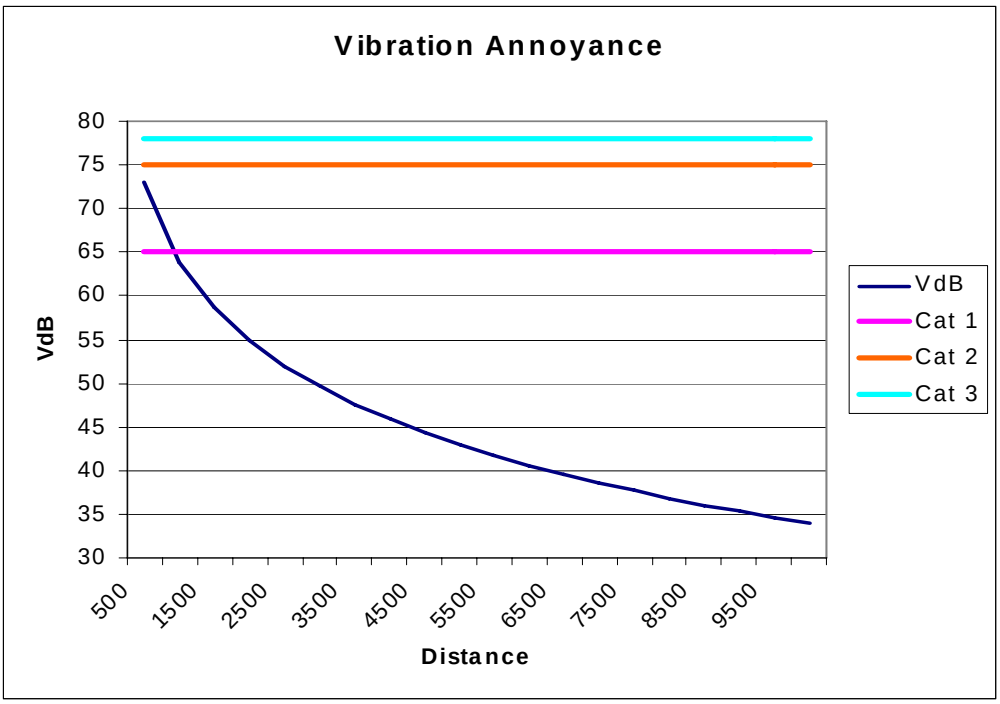
Annoyance

A second consideration of vibration effects concerns public annoyance. Thresholds for annoyance are based on categories of land use. These are

- Category 1. Buildings where vibration would interfere with interior operations.
- Category 2. Residences and buildings where people normally sleep
- Category 3. Institutional land uses with primarily daytime use.

Figure 3.10-3 shows vibration levels at a range of separation distances, and compares these levels with thresholds for each of the land use categories.

Figure 3.10-3. Annoyance From Vibration



Source: DOT 2006

As indicated in Figure 3.10-3, there is some potential for annoyance in Category 1 land use areas, should the pile driver be within 1,000 to 1,500 feet of the area. However, for this project, Category 1 land uses are located well beyond that range. Therefore, impacts from vibration during pile driving would be less than significant.

Impact NOI-2: Proposed Project construction activities would not exceed the ambient noise level by 5 dB(A), as defined by City thresholds, at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.

The proposed Project includes standard controls that would be incorporated into all construction contractor specifications including limiting construction hours in accordance with the City of Los Angeles Noise Ordinance. Accordingly, no construction activities would occur between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday, i.e., there would be no construction-related noise impacts during nighttime or weekend hours. As a result, there would be no impact related to **Impact NOI-2.**

Potential Health Impacts

Acute exposures to noise levels above 120 dB(A) or chronic exposures above 70 dB(A) are not expected to occur from construction of the proposed Project during restricted hours and the health effects associated with acute or chronic exposure would therefore be less than significant.

CEQA Impact Determination

There would be no construction related noise between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday. Therefore, there would be no impacts under CEQA relative to **Impact NOI-2**.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no residual CEQA impacts.

NEPA Impact Determination

There would be no construction related noise between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday. Therefore, there would be no impacts under NEPA relative to **Impact NOI-2**.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no residual NEPA impacts.

3.10.4.3.1.2 Operational Impacts

Impact NOI-3: Proposed Project operations would not cause the ambient noise level measured at the property line of Pier 400 Faces C and D Tank Farm Site 1, the Tank Farm Site 2 on Terminal Island, or the pipeline route to increase by 3 dB(A) in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dB(A) or greater noise increase, as defined in Table 3.10-4.

Operational noise sources associated with the proposed Project would include the intermittent sounds of offloading crude oil at the Pier 400 Face C Marine Terminal, the shipping vessels themselves, and movement of approximately 45 vehicles per day (i.e., employee and delivery, including pipeline inspection and maintenance) entering and exiting the Pier 400 and Terminal Island sites in support of proposed Project operations. The dominant sources of noise at the terminal would include transformers for the Alternative Maritime Power (AMP) system, hydraulic pumps for the loading arm (both operating continuously during unloading); capstan motors during mooring, engine noise from up to four tugs during mooring and from the vessel responsible for boom deployment and recovery prior to and following each crude oil transfer operation, and the motor to raise the gangway (all on an intermittent basis).

Noise sources at the tank farms would include the intermittent sounds associated with the storage equipment, pumps, and piping system. Potential noise from the operation of Tank Farm Site 1 was analyzed (see Appendix L) and, after reconfiguration of tank farm equipment which is part of the proposed Project and is reflected in Figure 2-4, the impacts on the Least Tern Nesting Area adjacent to Tank Farm site 1 were found to be insignificant (see Section 3.3). No yard equipment is proposed for use at the Marine Terminal or Tank Farm Site 1. Pipelines would be located underground, and the only motorized equipment connected with these, outside the Terminal facilities and Tank Farm Site 2, would be valve actuators. Therefore, no audible operational noise would be associated with pipeline use. Furthermore, there is no tanker truck or rail activity proposed as part of this proposed Project.

Plains commissioned Navcon Engineering in August 2005 and again in September 2006 to complete a noise study for Tank Farm Site 1 (the study is discussed in Section 3.3 and included in its entirety in Appendix L). The major concern of the study was the impact of site noise on the nearby Least Tern Nesting Area which is considered in Section 3.3. The report concluded that "the change in CNEL (Community Noise Exposure Level) would be less than 2 dB(A)." Since the change in CNEL would be less than 2 dB(A), the impact on human receptors at the property line would be less than significant.

At Berth 408, the major equipment and their respective sound pressure levels when operating are detailed in Table 3.10-9 below:

Table 3.10-9. Peak Hour Operational Equipment Noise

Equipment Type	*Operational Period*	*Noise Level (dB(A)) @ ft from Source*
Capstan motor	70 minutes per mooring	70 @ 5 ft
Loading arm hydraulic pump	Continuous per mooring	85 @ 5 ft
AMP system transformers	Continuous per mooring	88 @ 5 ft
Gangway motor	30 minutes per mooring	80 @ 5 ft
Crude stripping pumps	50 minutes per mooring	85 @ 5 ft
Contact water pumps	25 minutes per mooring	85 @ 5 ft
Outboard motor on boom launch	30 minutes per mooring	100 @ 5 ft
Tugboats	90 minutes per mooring	87 @ 50 ft

Once in operation, the terminal would regularly receive crude oil tankers (approximately five per week, on average). Depending on the size of tanker, transfer operations are expected to involve up to 36 hours to offload a full Very Large Crude Carrier (VLCC). Therefore, the terminal would be operational routinely over continuous 24 hour periods. In order to assess the noise impacts of round the clock operations, and to be consistent with significance criteria based on Community Noise Equivalent Level (CNEL), calculations of the potential CNEL associated with 24 hour operations were made and compared to CNEL calculations based on 24 hour measurements at the two closest and most sensitive receptors: Reservation Point and Area 21. The criterion of significance is an increase in CNEL of 3 dB or more. Table 3.10-10 provides the noise levels used to estimate operational CNEL for the terminal. To assess CNEL-based impacts, two scenarios were created that included the mooring of a VLCC using four tugs plus the associated equipment operating according to the periods identified in Table 3.10-10.

A daytime scenario included the tanker mooring operation during normal daytime hours with no CNEL penalty, the continuous operation of the loading arm hydraulic pump and AMP transformers, and the operation of other equipment according to the above operational period, averaged on an hourly basis over 24 hours, with appropriate 5 dB penalties for the hours of 7:00 PM to 10:00 PM and 10 dB from 10:00 PM to 7:00 AM. Table 3.10-10 shows the CNEL-weighted noise impact for daytime operations at the two most sensitive receptors.

Table 3.10-10. Daytime Terminal Operation-Related Noise Impacts on Sensitive Receptors

Area # in Figure 3.10-1	*Receptor Location*	*Source Location*	*CNEL*	*Total Ambient + Construction*	*Increase over Existing*
21	Stephen White Street & Oliver Vickery Circle Way	Pier 400	61	61	<1
LR-2	Reservation Point	Pier 400	59	59	<1

Since daytime operations are expected to result in less than significant noise impacts, a nighttime scenario was evaluated. This scenario included the tanker mooring operation during night hours accounting for a 10 dB CNEL penalty when that activity would occur, the continuous operation of the loading arm hydraulic pump and AMP transformers, and the operation of other equipment according to the above operational period, averaged on an hourly basis over 24 hours, with appropriate 5 dB penalties for the hours of 7:00 PM to 10:00 PM and 10 dB from 10:00 PM to 7:00 AM. Table 3.10-11 shows the CNEL-weighted noise impact for nighttime operations at the two most sensitive receptors.

Table 3.10-11. Nighttime Terminal Operation-Related Noise Impacts on Sensitive Receptors

Area # in Figure 3.10-1	*Receptor Location*	*Source Location*	*CNEL*	*Total Ambient + Construction*	*Increase over Existing*
21	Stephen White Street & Oliver Vickery Circle Way	Pier 400	61	61	<1
LR-2	Reservation Point	Pier 400	59	60	1

Tables 3.10-10 and 3.10-11 demonstrate that, under normal operating conditions, including night time mooring, project-generated increases in background noise levels at noise-sensitive receptors would be below the significance criterion of a 3-dB(A) increase in ambient noise levels. Therefore, operational impacts related to **Impact NOI-3** would be less than significant.

Potential Health Impacts

Acute exposures to noise levels above 120 dB(A) are not expected to occur from the operation of the proposed Project and the health effects of acute exposure would therefore be less than significant. Chronic exposure from operations of the proposed Project would be less than 60 dB(A) at the nearest residential locations, less than the 70 dB(A) noise level considered potentially significant. Therefore, the potential adverse

chronic health effects of noise exposure from proposed Project construction would be less than significant.

CEQA Impact Determination

Operation activities at the terminal, along the pipelines, and at the tank farms would not generate noise increases greater than 3 dB(A) or increase noise levels to "normally unacceptable" or "clearly unacceptable" levels. Therefore, impacts under CEQA relative to **Impact NOI-3** would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual CEQA impacts would be less than significant.

NEPA Impact Determination

Operation activities at the terminal, along the pipelines, and at the tank farms would not generate noise increases greater than 3 dB(A) or increase noise levels to "normally unacceptable" or "clearly unacceptable" levels. Therefore, impacts under NEPA relative to **Impact NOI-3** would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual NEPA impacts would be less than significant.

3.10.4.3.2 No Federal Action/No Project Alternative

Under the No Federal Action/No Project Alternative, proposed Project facilities would not be constructed or operated. As described in Section 2.5.2.1, the No Federal Action/No Project Alternative considers the only remaining allowable and reasonably foreseeable use of the proposed Project site: Use of the site for temporary storage of wheeled containers on the site of Tank Farm 1 and on Tank Farm Site 2. This use would require paving, construction of access roads, and installation of lighting and perimeter fencing.

In addition, for analysis purposes, under the No Federal Action/No Project Alternative a portion of the increasing demand for crude oil imports is assumed to be accommodated at existing liquid bulk terminals in the San Pedro Bay Ports, to the extent of their remaining capacities. Although additional demand, in excess of the capacity of existing marine terminals to receive it, may come in by rail, barge, or other means, rather than speculate about the specific method by which more crude oil or refined products would enter southern California, for analysis purposes, the impact assessment for the No Federal Action/No Project Alternative in this SEIS/SEIR is based on marine deliveries

only up to the available capacity of existing crude oil berths. As described in Section 2.5.2.1, the impact assessment for the No Federal Action/No Project Alternative also assumes existing terminals would eventually comply with the California State Lands Commission (CSLC) Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS), that LAHD and the Port of Long Beach would renew the operating leases for existing marine terminals, and that existing terminals would comply with Clean Air Action Plan (CAAP) measures as of the time of lease renewal (i.e., 2008 for Port of Long Beach Berths 84-87, 2015 for LAHD Berths 238-240, and 2023 for Port of Long Beach Berths 76-78).

The NEPA Baseline condition coincides with the No Federal Action/No Project Alternative for this project because the USACE, the LAHD, and the applicant have concluded that, absent a USACE permit, no part of the proposed Project would be built (Section 2.6.1). All elements of the No Federal Action/No Project Alternative are identical to the elements of the NEPA Baseline. Therefore, under a NEPA determination there would be no impact associated with the No Federal Action/No Project Alternative.

3.10.4.3.2.1 Construction Impacts

Impact NOI-1: Construction activities lasting more than 10 days in a 3-month period would not exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.

Construction activities would last more than 10 days for all components of the No Federal Action/No Project Alternative, so the 5 dB(A) criterion would apply. There would be no pipeline or tank farm construction. The only construction location would be in the Tank Farm Sites 1 and 2 locations on the southern face of Pier 400 and Pier 300 respectively.

Following the thresholds of significance, an impact would be considered significant if noise from these activities would cause the existing ambient exterior noise levels to increase by 5 dB(A) or more at a sensitive receptor. Under this alternative, construction of the Marine Terminal, tank farms, pipelines, and ancillary components of the proposed Project would not occur. However, there would be limited construction activity to construct lighting and for paving on Tank Farm Sites 1 and 2 to provide temporary container storage. Consequently, this alternative would result in short-term construction noises (approximately two months) associated with site preparation and construction. Construction equipment would include trucks, grading equipment, paving machinery and rollers, but would not include pile driving, the primary noise generating source for proposed Project construction. In addition, no additional long-term traffic resulting in noise generation on adjacent roadways would occur.

During construction there would be workers at the construction site. Trucks would be bringing supplies and equipment during non-peak hours. Personnel would be encouraged to carpool in order to reduce the traffic (see Section 3.6, Ground Transportation) and to lessen the potential noise impact. The construction worker based vehicle trips for the minimal construction required for the No Federal Action/No Project Alternative represent a small fraction (1 percent or less) of the AM and PM peak hour traffic volumes in the Project area. This small fraction of vehicles compared to the overall traffic in the Project area would not result in a noticeable increase in noise levels.

Therefore, traffic generated from construction worker trips would be considered a less than significant impact.

Using the FHWA equation which calculates an L_{eq} based on reference noise levels, the two potentially most sensitive locations in the project area were assessed for exposure to construction noise from the No Federal Action/No Project Alternative. These areas and the resultant L_{eq} are summarized in Table 3.10-12 below. No sensitive receptor is projected to experience a measureable increase in CNEL and the impacts are less than significant.

Table 3.10-12. Fencing, Lighting, and Paving Construction-Related Noise Impacts on Most Sensitive Receptors

Area # in Figure 3.10-1	*Receptor Location*	*Source Location*	*L_{eq}*	*Total Construction Noise*	*Total Ambient + Construction*	*Increase over Existing*
21	Stephen White Street & Oliver Vickery Circle Way	Tank Farm Site 1	54	40	54	<1
21	Stephen White Street & Oliver Vickery Circle Way	Tank Farm Site 2	54	40	54	<1
LR-2	Reservation Point	Tank Farm Site 1	54	41	54	<1
LR-2	Reservation Point	Tank Farm Site 2	54	39	54	<1

Potential Health Impacts

Acute exposures to noise levels above 120 dB(A) are not expected to occur from the operation of the No Federal Action/No Project Alternative and the health effects of acute exposure would therefore be less than significant. Chronic exposure from operations of the No Federal Action/No Project Alternative would be less than the 70 dB(A) noise level considered potentially significant. Therefore, the potential adverse chronic health effects of noise exposure from proposed No Federal Action/No Project Alternative construction would be less than significant.

CEQA Impact Determination

Construction of the No Federal Action/No Project Alternative is not projected to result in noise increases of greater than 5dB(A). Therefore, the CEQA impacts of **Impact NOI-1** are considered to be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual CEQA impacts would be less than significant.

NEPA Impact Determination

Because the No Federal Action/No Project Alternative is identical to the NEPA Baseline in this project, there would be no NEPA impact related to **Impact NOI-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact.

Impact NOI-2: No Federal Action/No Project Alternative construction activities would not exceed the ambient noise level by 5 dB(A), as defined by City thresholds, at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.

The No Federal Action/No Project Alternative includes standard controls that would be incorporated into all construction contractor specifications (see noise measures "a" through "g" above), including limiting construction hours in accordance with the City of Los Angeles Noise Ordinance. Accordingly, no construction activities would occur between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday, i.e., there would be no construction-related noise impacts during nighttime or weekend hours. As a result, there would be no impact related to **Impact NOI-2.**

Potential Health Impacts

Acute exposures to noise levels above 120 dB(A) or chronic exposures above 70 dB(A) would not occur from construction of the proposed No Federal Action/No Project Alternative and the health effects of acute or chronic exposure would therefore be less than significant.

CEQA Impact Determination

There would be no construction related noise between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday. Therefore, there would be no impacts under CEQA relative to **Impact NOI-2**.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no residual CEQA impacts.

NEPA Impact Determination

Because the No Federal Action/No Project Alternative is identical to the NEPA Baseline in this project, there would be no NEPA impact related to **Impact NOI-2**.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact.

3.10.4.3.2.2 Operational Impacts

Impact NOI-3: No Federal Action/No Project Alternative operations would not cause the ambient noise level measured at the property line of Pier 400 to increase by 3 dB(A) in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dB(A) or greater noise increase, as defined in Table 3.10-4.

Operational noise sources associated with the No Federal Action/No Project Alternative would include the intermittent sounds of the storage and on-site relocation of containers. There would be no additional noises from the vessels other than those that are common for all ships coming into the harbor and berthing at berths in the Port. Noise sources at the container storage site would be limited to the intermittent sounds associated with the storage containers which would be essentially identical to the sound generated on the adjacent facilities which would conduct operations on these sites. Furthermore, there is no tanker truck or rail activity proposed as part of this No Federal Action/No Project Alternative.

Under normal operating conditions, no substantial increases in background noise levels at noise-sensitive receptors would be caused by operations under the No Federal Action/No Project Alternative, and the significance criterion of a 3-dB(A) increase in ambient noise levels would not be exceeded. Therefore, impacts related to **Impact NOI-3** would be less than significant.

Potential Health Impacts

Acute exposures to noise levels above 120 dB(A) or chronic exposures above 70 dB(A) would not occur from construction of the No Federal Action/No Project Alternative and the health effects of acute or chronic exposure would therefore be less than significant.

CEQA Impact Determination

Container storage operation activities at Pier 400 would not generate noise increases greater than 3 dB(A) or increase noise levels to "normally unacceptable" or "clearly unacceptable" levels. Therefore, impacts under CEQA relative to **Impact NOI-3** would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual CEQA impacts would be less than significant.

NEPA Impact Determination

Because the No Federal Action/No Project Alternative is identical to the NEPA Baseline in this project, there would be no NEPA impact related to **Impact NOI-3**.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact.

3.10.4.3.3 Reduced Project Alternative

Under the Reduced Project Alternative, as described in Section 2.5.2.2, construction and operation at Berth 408 would be identical to the proposed Project with the exception of the lease cap limiting throughput in certain years. However, as explained in Section 2.5.2.2, the lease cap would not change the amount of crude oil demanded in southern California, and therefore the analysis of the Reduced Project Alternative also includes the impacts of marine delivery of incremental crude oil deliveries to existing liquid bulk terminals in the San Pedro Bay Ports in years where demand exceeds the capacity of the lease-limited Berth 408.

As described in Section 2.5.2.2, the impact assessment for the Reduced Project Alternative also assumes existing terminals would eventually comply with the MOTEMS, that the LAHD and the Port of Long Beach would renew the operating leases for existing marine terminals, and that existing terminals would comply with CAAP measures as of the time of lease renewal (i.e., 2008 for Port of Long Beach Berths 84-87, 2015 for LAHD Berths 238-240, and 2023 for Port of Long Beach Berths 76-78).

3.10.4.3.3.1 Construction Impacts

Impact NOI-1: Reduced Project construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.

Construction activities for the Reduced Project Alternative would be identical to those for the proposed Project as all construction would be the same. Berth, tank farm, and pipeline construction would be identical and would last more than 10 days in any 3-month period for all reduced Project components. Following the thresholds of significance, an impact would be considered significant if noise from these activities

would cause the existing ambient exterior noise levels to increase by 5 dB(A) or more at a sensitive receptor.

Traffic Noise

As for the proposed Project, Reduced Project Alternative construction at all locations, construction worker based vehicle trips would represent a small fraction (1 to 10 percent) of the AM and PM peak hour traffic volumes in the Project area. This small fraction of vehicles compared to the overall traffic in the Project area would not result in a noticeable increase in noise levels. (A doubling of traffic would be required for a minimally audible 3dB(A) increase in noise to occur.) Therefore, traffic noise generated from construction worker trips associated with the Reduced Project Alternative would be considered less than significant.

Pipeline Construction Noise

The impacts of pipeline construction for the Reduced Project Alternative would be identical to those of the proposed Project since the same size pipe would be laid in the same corridor. The impact of pipeline construction noise would be considered significant at Areas 1 and 2 as presented on Table 3.10-7.

Marine Terminal Construction Noise

To assess marine terminal construction noise exposure at the nearest sensitive locations, the same methods were used as for the proposed Project analysis above. For general construction equipment, a combined level of 91 dB(A) at 50 feet was again used as the source noise level consistent with the FHWA model recommendations. Table 3.10-12 shows the estimated construction-related impacts of the Reduced Project Alternative at the selected sensitive receptors combining general construction and pile driving equipment. The noise level is projected to exceed ambient levels by more than 5 dB at Area LR-2. The noise impact from terminal construction associated with the Reduced Project Alternative is therefore considered significant.

Table 3.10-12. Estimated Terminal Construction-Related Noise Impacts on Most Sensitive Receptors

Area # in Figure 3.10-1	*Location*	*Time of Day*	*Calculated (Leq)*	*Total Construction Noise*	*Total Ambient + Construction*	*Increase over Existing*
1	Berth 204	9:42 pm 9:57 pm	53	51	55	2
2	Lighthouse Yacht Landing	10:07 pm 10:22 pm	52	50	54	2
21	Stephen White Street & Oliver Vickery Circle Way	3:30 pm 3:45 pm	54	56	58	4
LR-2	Reservation Point	4:45 pm 5:00 pm	54	65	65	11

The above analyses are based on a comparison of short term averaged noise equivalent levels. Instantaneous peaks in construction noise would unquestionably be audible at all sensitive receptors, especially during pile driving, from time to time. Therefore, the average noise level, though indicative of the overall effect of the noise on the auditory environment, may not reflect the typical individual's perception of the noise as intrusive

or annoying. On the basis of the likely perception of some individuals that pile driving noise is intrusive or annoying, the impact of construction noise is considered potentially significant.

Potential Health Impacts

Acute exposures to noise levels above 120 dB(A) are not expected to occur from construction of the Reduced Project Alternative and the health effects of acute exposure would therefore be less than significant. The highest calculated noise exposure level at sensitive receptors from construction activities would be below the 70 dB(A) exposure level that may result in chronic health effects. Furthermore, this exposure would be short term during pile driving only and would therefore not qualify as a chronic exposure. Therefore, the potential adverse chronic health effects of noise exposure from Reduced Project Alternative construction would be less than significant.

CEQA Impact Determination

Construction of the Reduced Project is projected to result in noise increases of greater than 5dB(A) at sensitive receptors as identified in Table 3.10-12. Shielding of noise sources may reduce noise levels at these receptors, but cannot be expected to reduce the impacts to less than significant levels. Therefore, under CEQA **Impact NOI-1** with respect to the Reduced Project Alternative is considered significant.

Mitigation Measures

MM 4H-1,**MM 4H-2**, and **MM 4H-3** from the Deep Draft FEIS/FEIR would apply to reduce the significant impacts to noise receptors during construction. In addition, **MM NOISE-1**, **MM NOISE-2**, and **MM NOISE-3** would apply.

Residual Impacts

Mitigation measures are not expected to reduce residual construction impacts of **Impact NOI-1** under CEQA to less than significant and construction noise impacts are therefore considered to be significant and unavoidable. However, given the limited duration of construction activities, the impact would be short term and there would be no long term residual impact.

NEPA Impact Determination

Construction of the Reduced Project is projected to result in noise increases of greater than 5dB(A) at sensitive receptors as identified in Tables 3.10-7 and 3.10-8. Shielding of noise sources may reduce noise levels at these receptors, but cannot be expected to reduce the impacts to less than significant levels. Therefore, under NEPA **Impact NOI-1** is considered significant.

Mitigation Measures

MM 4H-1,**MM 4H-2**, and **MM 4H-3** from the Deep Draft FEIS/FEIR would apply to reduce the significant impacts to noise receptors during construction. In addition, **MM NOISE-1**, **MM NOISE-2**, and **MM NOISE-3** would apply.

Residual Impacts

Mitigation measures are not expected to reduce residual construction impacts of **Impact NOI-1** under NEPA to less than significant and construction noise impacts are therefore considered to be significant and unavoidable. However, given the limited duration of construction activities, the impact would be short term and there would be no long term residual impact.

Impact NOI-2: Reduced Project construction activities would not exceed the ambient noise level by 5 dB(A), as defined by City thresholds, at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.

The Reduced Project Alternative includes standard controls that would be incorporated into all construction contractor specifications (see noise measures "a" through "g" above), including limiting construction hours in accordance with the City of Los Angeles Noise Ordinance. Accordingly, no construction activities would occur between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday, i.e., there would be no construction-related noise impacts during nighttime or weekend hours. As a result, there would be no impact related to **Impact NOI-2.**

Potential Health Impacts

Acute exposures to noise levels above 120 dB(A) or chronic exposures above 70 dB(A) are not expected to occur from construction of the Reduced Project Alternative and the health effects of acute or chronic exposure would therefore be less than significant.

CEQA Impact Determination

There would be no construction related noise between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday. Therefore, there would be no impacts under CEQA relative to **Impact NOI-2**.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no residual CEQA impacts.

NEPA Impact Determination

There would be no construction related noise between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday. Therefore, there would be no impacts under NEPA relative to **Impact NOI-2**.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no residual NEPA impacts.

3.10.4.3.3.2 Operational Impacts

Impact NOI-3: Reduced Project operations would not cause the ambient noise level measured at the property line of Pier 400 Faces C and D Tank Farm Site 1, the Tank Farm Site 2 on Terminal Island, or the pipeline route to increase by 3 dB(A) in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dB(A) or greater noise increase, as defined in Table 3.10-4.

Operational noise sources associated with the proposed Project would be the same for the Reduced Project Alternative. The dominant sources of noise at the terminal would include transformers for the Alternative Maritime Power (AMP) system, hydraulic pumps for the loading arm (both operating continuously during unloading); capstan motors during mooring, engine noise from up to four tugs during mooring and from the vessel responsible for boom deployment and recovery prior to and following each crude oil transfer operation, and the motor to raise the gangway (all on an intermittent basis).

Noise sources at the tank farms would include the intermittent sounds associated with the storage equipment, pumps, and piping system. Potential noise from the operation of Tank Farm Site 1 was analyzed in Appendix L and, after reconfiguration of tank farm equipment which is reflected in Figure 2-4 and is part of the proposed Project (and the Reduced Project Alternative), the impacts on the Least Tern Nesting Area adjacent to Tank Farm site 1 were found to be insignificant (see Section 3.3). No yard equipment is proposed for use at the Marine Terminal or Tank Farm Site 1. Pipelines would be located underground, and the only motorized equipment connected with these, outside the Terminal facilities and Tank Farm Site 2, would be valve actuators. Therefore, no audible operational noise would be associated with pipeline use. Like the proposed Project, there is no tanker truck or rail activity proposed as part of the Reduced Project.

Plains commissioned Navcon Engineering in August 2005 and again in September 2006 to complete a noise study for Tank Farm Site 1 (the study is discussed in Section 3.3 and included in its entirety in Appendix L). The major concern of the study was the impact of site noise on the nearby Least Tern Nesting Area which is considered in Section 3.3. The report concluded that "the change in CNEL (Community Noise Exposure Level) would be less than 2 dB(A)." Since the change in CNEL would be less than 2 dB(A), the impact on human receptors at the property line would be less than significant.

As noted above and in the analysis of impacts for the proposed Project, daytime operations would be expected to result in less than significant noise impacts. A nighttime scenario for the Reduced Project Alternative is presented in Table 3.10-13, below. This scenario is the same as for the proposed Project. The only difference for the reduced project would be that fewer tanker calls would occur. Nevertheless, when

tankers were being unloaded, operations would occur over a longer than 24 hour period. The estimated noise includes the tanker mooring operation during night hours accounting for a 10 dB CNEL penalty when that activity would occur, the continuous operation of the loading arm hydraulic pump and AMP transformers, and the operation of other equipment according to the above operational period, averaged on an hourly basis over 24 hours, with appropriate 5 dB penalties for the hours of 7:00 PM to 10:00 PM and 10 dB from 10:00 PM to 7:00 AM. Table 3.10-13 shows the CNEL-weighted noise impact for nighttime operations at the two most sensitive receptors.

Table 3.10-13. Nighttime Reduced Project Terminal Operation-Related Noise Impacts on Sensitive Receptors

Area # in Figure 3.10-1	*Receptor Location*	*Source Location*	*CNEL*	*Total Ambient + Construction*	*Increase over Existing*
21	Stephen White Street & Oliver Vickery Circle Way	Pier 400	61	61	<1
LR-2	Reservation Point	Pier 400	59	60	1

Table 3.10-13 demonstrates that, under normal operating conditions, including night time mooring, Reduced Project Alternative Operation-related increases in background noise levels at noise-sensitive receptors would be below the significance criterion of a 3-dB(A) increase in ambient noise levels. Therefore, operational impacts related to **Impact NOI-3** would be less than significant.

CEQA Impact Determination

Operation activities at the terminal, along the pipelines, and at the tank farms under the Reduced Project Alternative would not generate noise increases greater than 3 dB(A) or increase noise levels to "normally unacceptable" or "clearly unacceptable" levels. Therefore, impacts under CEQA relative to **Impact NOI-3** would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual CEQA impacts would be less than significant.

NEPA Impact Determination

Operation activities at the terminal, along the pipelines, and at the tank farms would not generate noise increases greater than 3 dB(A) or increase noise levels to "normally unacceptable" or "clearly unacceptable" levels. Therefore, impacts under NEPA relative to **Impact NOI-3** would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual NEPA impacts would be less than significant.

3.10.4.3.4 Summary of Impact Determinations

Table 3.10-14 at the end of this section summarizes the CEQA and NEPA impact determinations of the proposed Project and its alternatives related to Noise, as described in the detailed discussion in Sections 3.10.4.3.1 through 3.10.4.3.3. This table is meant to allow easy comparison between the potential impacts of the proposed Project and its alternatives with respect to this resource. Identified potential impacts may be based on Federal, State, or City of Los Angeles significance criteria, Port criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the CEQA and NEPA impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e. the impact remaining after mitigation). All impacts, whether significant or not, are included in this table. Note that impact descriptions for each of the alternatives are the same as for the proposed Project, unless otherwise noted.

3.10.4.4 Mitigation Monitoring

Significant impacts have the potential to occur during proposed Project construction (**Impact NOI-1**). The following measures would be incorporated into contract specifications to ensure noise-related impacts are minimized to the greatest extent feasible.

Mitigation Measures from the 1992 Deep Draft Final EIS/EIR that are Applicable to the Proposed Project:

Impact NOI-1: Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.	
MM 4H-1: Use of Proper Construction Equipment to Reduce Noise.	
Measure	The construction contractors shall utilize the quietest equipment available, and all internal combustion powered equipment shall be equipped with properly operating mufflers and kept in tune to avoid backfires. In addition, engines, if exposed, are to be fitted with protective shrouds to reduce motor noise.
Timing	During proposed Project construction.
Methodology	The construction contractor shall ensure that the quietest construction equipment available shall be used and that exposed engines shall be fitted with protective shrouds to reduce motor noise. The LAHD shall perform periodic inspections to ensure that this mitigation measure is being followed.
Responsible Parties	Construction contractor; LAHD.

MM 4H-2: Reduce Use of Portable Generators.	
Measure	Where feasible, electricity shall be obtained from the local power grid to avoid the use of portable generators.
Timing	During proposed Project construction.
Methodology	The construction contractor shall use electricity, where feasible, rather than portable generators. LAHD shall perform periodic inspections to ensure that the contractor has complied, where feasible.
Responsible Parties	Construction contractor; LAHD.
MM 4H-3: Coordinate Reponses to Noise Complaints.	
Measure	Provide for designation of a disturbance coordinator for responding to noise complaints, with his/her name and telephone number to be clearly posted at the construction site.
Timing	During proposed Project construction.
Methodology	The construction contractor shall designate a disturbance coordinator to respond to noise complaints. Noise complaints shall be responded to within 24 hours of complaint.
Responsible Parties	Construction contractor.

Mitigation Measures Developed in this Draft SEIS/SEIR Specific to the Proposed Project:

Impact NOI-1: Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.	
MM NOISE-1: Selection of Contractor For Pile Driving With Consideration of Reduced Noise.	
Measure	Selection of contractor for pile driving would take into consideration methods for reducing the associated noise. Contractor would provide noise data on equipment to be used and proposed methods to reduce the noise generated. These may include pile driver type, special modifications such as sound insulation as well as sound barriers.
Timing	During the bid process and during construction.
Methodology	The construction contractor shall ensure that the proposed pile driving equipment and measures are used during construction. The LAHD shall evaluate the contractor proposals with regard to reducing pile driving noise. The LAHD would subsequently perform periodic inspections to ensure that the approved equipment and methods are being followed and to monitor the noise levels for compliance with the proposed noise levels.
Responsible Parties	Construction contractor; LAHD.
MM NOISE-2: Restricted Hours for Pile Driving.	
Measure	Pile driving to be limited to between 9 AM and 5 PM, Monday through Friday and from 10 AM to 4 PM on Saturdays.
Timing	During proposed Project construction.
Methodology	The contractor will limit pile driving activity to the hours indicated above; LAHD shall monitor for compliance.
Responsible Parties	Construction contractor; LAHD.

MM NOISE-3: Temporary Noise Attenuation Barriers.	
Measure	Construction equipment that will be stationary for extended periods (pipeline boring machinery, compressors, generators, etc.) can be shielded by erection of temporary noise attenuation barriers. The barriers should be installed directly between the equipment and the nearest noise sensitive use to the construction site. The need for and feasibility of noise attenuation barriers should be evaluated on a case-by-case basis considering the distance to noise sensitive receptors, the available space at the construction location, and taking account of safety and operational considerations. Noise attenuation barriers suitable for pile driving equipment should be considered using the same criteria.
Timing	During proposed Project construction.
Methodology	The contractor should install noise attenuation barriers, where feasible according to the above criteria in consultation with the LAHD and shall be monitored for compliance by the LAHD.
Responsible Parties	Construction contractor; LAHD.

Standard Controls, in Accordance with the 1992 Deep Draft Final EIS/EIR Mitigation Measures:

A. Construction Hours.	
Measure	Construction would be limited to the hours of 7:00 A.M. to 6:00 P.M. on weekdays, between 8:00 A.M. and 6:00 P.M. on Saturdays, and construction equipment noise would be prohibited anytime on Sundays and holidays
Timing	During construction
Methodology	Contractor will limit construction to the specified hours on the specified days.
Responsible Parties	Construction contractor; LAHD
B. Construction Days.	
Measure	Noise-generating construction activities would not be conducted on weekends or holidays.
Timing	During construction
Methodology	Contractor will limit construction to the specified days.
Responsible Parties	Construction contractor; LAHD
C. Construction Equipment.	
Measure	All construction equipment powered by internal combustion engines would be properly muffled and maintained.
Timing	During construction
Methodology	Contractor will only use internal combustion engines with proper mufflers and will maintain them according to manufacturer's specifications
Responsible Parties	Construction contractor; LAHD
D. Idling Prohibitions.	
Measure	Unnecessary idling of internal combustion engines near noise-sensitive areas would be prohibited.
Timing	During construction
Methodology	Contractor will ensure that equipment with internal combustion engines is shut off and not allowed to idle near sensitive areas.
Responsible Parties	Construction contractor; LAHD

E. Equipment Location.	
Measure	All stationary noise-generating construction equipment, such as air compressors and portable power generators, would be located as far as practical from existing noise-sensitive land uses.
Timing	During construction
Methodology	Contractor will ensure that noise-generating stationary construction equipment will be located as far as practical from sensitive areas.
Responsible Parties	Construction contractor; LAHD
F. Quiet Equipment Selection.	
Measure	Quiet construction equipment would be selected, whenever possible. Noise limits for construction equipment established in the City of Los Angeles Noise Ordinance would be met, where feasible.
Timing	During construction
Methodology	Contractor will only use the quietest feasible construction equipment and ensure that the City of Los Angeles Noise Ordinance would be met, where feasible.
Responsible Parties	Construction contractor; LAHD
G. Notification.	
Measure	Residents adjacent to the proposed Project sites would be notified, in writing, of the construction schedule.
Timing	During construction
Methodology	Contractor will notify adjacent residents, in writing, of the construction schedule prior to the commencement of construction.
Responsible Parties	Construction contractor; LAHD

Table 3.10-14. Summary Matrix of Potential Impacts and Mitigation Measures for Noise Associated with the Proposed Project and Alternatives

Alternative	*Environmental Impacts*	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.10 Noise				
Proposed Project	**NOI-1:** Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.	CEQA: **Significant** impact NEPA: **Significant** impact	**MM 4H-1:** Use of Proper Construction Equipment to Reduce Noise **MM 4H-2:** Reduce Use of Portable Generators **MM 4H-3:** Coordinate Reponses to Noise Complaints **MM NOISE-1:** Selection of Contractor For Pile Driving With Consideration of Noise Reduction **MM NOISE-2:** Restricted Hours for Pile Driving **MM NOISE-3:** Temporary Noise Attenuation Barriers **MM 4H-1** **MM 4H-2** **MM 4H-3** **MM NOISE-1** **MM NOISE-2** **MM NOISE-3**	CEQA: **Significant** and unavoidable impact NEPA: **Significant** and unavoidable impact
	NOI-2: Proposed Project construction activities would not exceed the ambient noise level by 5 dB(A), as defined by City thresholds, at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	NOI-3: Proposed Project operations would not cause the ambient noise level measured at the property line of Pier 400 Faces C and D Tank Farm Site 1, the Tank Farm Site 2 on Terminal Island, or the pipeline route to increase by 3 dB(A) in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dB(A) or greater noise increase, as defined in Table 3.10-4.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.10-14. Summary Matrix of Potential Impacts and Mitigation Measures for Noise Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts*	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.10 Noise (continued)				
No Federal Action/No Project Alternative	**NOI-1:** Construction activities lasting more than 10 days in a 3-month period would not exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.	CEQA: Less than significant impact NEPA: No Impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: No Impact
	NOI-2: No Federal Action/No Project Alternative construction activities would not exceed the ambient noise level by 5 dB(A), as defined by City thresholds, at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	NOI-3: No Federal Action/No Project Alternative operations would not cause the ambient noise level measured at the property line of Pier 400 to increase by 3 dB(A) in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dB(A) or greater noise increase, as defined in Table 3.10-4.	CEQA: Less than significant impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: No impact
Reduced Project Alternative	**NOI-1:** Reduced Project construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.	CEQA: **Significant** impact NEPA: **Significant** impact	**MM 4H-1** **MM 4H-2** **MM 4H-3** **MM NOISE-1** **MM NOISE-2** **MM NOISE-3** **MM 4H-1** **MM 4H-2** **MM 4H-3** **MM NOISE-1** **MM NOISE-2** **MM NOISE-3**	CEQA: **Significant** and unavoidable impact NEPA: **Significant** and unavoidable impact

Table 3.10-14. Summary Matrix of Potential Impacts and Mitigation Measures for Noise Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts*	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.10 Noise (continued)				
Reduced Project Alternative (continued)	**NOI-2:** Reduced Project construction activities would not exceed the ambient noise level by 5 dB(A), as defined by City thresholds, at a noise-sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	NOI-3: Reduced Project operations would not cause the ambient noise level measured at the property line of Pier 400 Faces C and D Tank Farm Site 1, the Tank Farm Site 2 on Terminal Island, or the pipeline route to increase by 3 dB(A) in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dB(A) or greater noise increase, as defined in Table 3.10-4.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

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