
IV. ENVIRONMENTAL IMPACT ANALYSIS

G. NOISE

This section provides a discussion of the existing noise environment and an analysis of potential impacts resulting from the implementation of the proposed project. The analysis in this section is based on an acoustical analysis prepared by Environmental Impact Sciences, December 2001. The acoustical analysis report is provided in Appendix F to this Draft EIR.

1. APPLICABLE PLANS AND POLICIES

a. Noise Characteristics and Sound Measurement

Sound is mechanical energy transmitted by pressure waves in a compressible medium, such as air. Noise is generally defined as unwanted or excessive sound. Increasingly recognized as an environmental pollutant with the potential to cause physiological or psychological damage, noise can interfere with communication, work, rest, recreation and sleep.

Sound can vary in intensity by over one million times within the human range of hearing. Therefore, the logarithmic decibel (dB) scale has been established to quantify sound intensity. To better approximate the range of sensitivity of the human ear to various frequencies, the A-weighted decibel scale (dBA) was developed. This scale de-emphasizes low frequencies to which human hearing is less sensitive and focuses on mid- to high-range frequencies. Due to the physical characteristics of noise transmission and reception, an increase of 10 dBA is normally required to achieve a doubling of the “loudness,” as perceived by the human ear. In addition, a 3-dBA increase is recognizable to most people. A change in noise levels will usually not be detectable unless the new noise source is at least as loud as the ambient conditions.

Sound levels decrease (or attenuate) exponentially as the distance from the noise source increases. For a single “point” source, such as a piece of mechanical equipment, the sound level normally attenuates by about 6 dBA for each doubling of the distance. In comparison, sound generated by “linear” sources, such as vehicles traveling along a busy street, attenuates by about 3 dBA for each doubling of the distance. This attenuation rate is based upon “hard” reflective surfaces (e.g., pavement and concrete) and increases to 4.5 dBA for each doubling of the distance for “soft” surfaces (e.g., vegetative cover).

Various noise indices have been developed to express the way in which noise levels are experienced by sensitive receptors. The most commonly used index is the equivalent sound level (L_{eq}), which is the average sound exposure over a specified period of time. Examples of other noise metrics based on given periods of time include L_{max} (the maximum noise level), L_{min} (the minimum noise level), and L_{xx} (the noise level exceeded XX percent of the time).

Noise metrics can be categorized as single event metrics and cumulative metrics. Single event metrics describe the noise from individual events, such as an individual aircraft flyover. Cumulative metrics describe the noise in terms of total noise exposure throughout an extended period of time, such as a full day.

Several methods have been devised to relate noise exposure over time to community response. The Day-Night Sound Level (L_{dn}), a cumulative metric, was developed by the U.S. Environmental Protection Agency as a descriptor of 24-hour sound levels. Under this index, noise generated between the hours of 10:00 P.M. and 7:00 A.M. are increased by 10 dBA (penalty) due to the heightened noise sensitivity during this time. The Community Noise Equivalent Level (CNEL) is similar to the L_{dn} in that it represents a 24-hour noise metric with a 10-dBA nighttime penalty. However, CNEL noise levels include an additional 5-dBA penalty for noise generated in the evening between 7:00 P.M. and 10:00 P.M. L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

b. Federal Standards and Regulations

There are no Federal noise standards that directly regulate environmental noise related to the construction or operation of a project of this type. However, it should be noted that the EPA has developed guidelines on recommended maximum noise levels to protect public health and welfare. Table IV.G-1 on page 158 provides examples of protective noise levels recommended by the EPA. With regard to noise exposure and workers, the Office of Safety and Health Administration (OSHA) regulations safeguard the hearing of workers exposed to occupational noise. Refer to 29 CFR Section 1910.95 for a listing of permissible noise exposures.

c. State of California Standards and Regulations

The California Department of Health Services' (SDHS) Office of Noise Control has studied the correlation of noise levels and their effects on various land uses. As a result, the SDHS has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. The State land use compatibility guidelines are illustrated in Figure IV.G-1 on page 159. Noise in the "normally acceptable" category is generally acceptable with no mitigation necessary. Noise in the "conditionally acceptable"

Table IV.G-1

SUMMARY OF NOISE LEVELS IDENTIFIED AS REQUISITE TO PROTECT PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY

Effect	Level	Area
Hearing Loss	$L_{eq}(24) < 70$ dB	All areas.
Outdoor Activity Interference and Annoyance	$L_{dn} < 55$ dB	Outdoors in residential areas and farms and other areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
	$L_{eq}(24) < 55$ dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor Activity Interference and Annoyance	$L_{dn} < 45$ dB	Indoor residential areas.
	$L_{eq}(24) < 45$ dB	Other indoor areas with human activities such as schools, etc.

Note: $L_{eq}(24)$ represents the sound energy averaged over a 24-hour period.

Source: EPA, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, March 1974.

category may require some mitigation as established through a noise study. The “normally unacceptable” category would require substantial mitigation, while noise within the “clearly unacceptable” category likely can not be mitigated.

Title 24 of the California Administrative Code governs applicable interior standards for new residential dwellings. These standards require that acoustical studies be performed prior to construction in areas that exceed 60 dBA L_{dn} . Such studies are required to establish measures that will limit interior noise to no more than 45 dBA L_{dn} . This level has been applied to many communities in California, including the City of Huntington Beach.

California requires each local government entity to perform noise studies and implement a Noise Element as part of their General Plan. California Administrative Code, Title 4, has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure.

d. City of Huntington Beach Standards and Regulations

(1) General Plan Noise Element

As required by state law, the City’s General Plan includes a Noise Element that establishes a set of local noise standards. The Noise Element identifies goals, policies, and

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE					
	Ldn or CNEL, dB					
	55	60	65	70	75	80
RESIDENTIAL LOW DENSITY SINGLE FAMILY, DUPLEX,						
RESIDENTIAL MULTIPLE FAMILY						
TRANSIENT LODGING- MOTELS, HOTELS						
SCHOOL, LIBRARIES, PLACES OF WORSHIP, HOSPITALS, NURSING HOMES						
AUDITORIUMS, CONCERT HALLS, AMPHITHEATERS						
OUTDOOR SPECTATOR SPORTS						
PLAYGROUNDS, PARKS, NEIGHBORHOOD PARKS						
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES						
OFFICE BUILDINGS, BUSINESS, COMMERCIAL AND PROFESSIONAL						
INDUSTRIAL, MANUFACTURING UTILITIES						

INTERPRETATION

 **NORMALLY ACCEPTABLE**
Specified land use is satisfactory. Based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

 **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: Guidelines for the Preparation and Content of the Noise Element of the General Plan - Office of Noise Control, California Department of Health, in coordination with the office of Planning and Research.



Figure IV.G-1
Lowe's Home Improvement Warehouse/
Northeast Corner of Beach and Warner Project
State Land Use Compatibility Guidelines

implementation programs related to noise conditions in the City.²¹ The General Plan states that residential development shall conform to the current State standards, and sets a residential exterior goal of 60 dBA L_{dn} for outdoor living areas and 45 dBA L_{dn} for indoor living areas. Exterior living areas are typically defined as rear yards and do not include the front of a dwelling unit. In addition to residential units, the General Plan identifies healthcare facilities, schools, libraries, and places of worship as noise sensitive uses. The General Plan also notes that new industrial and commercial land uses, or the major expansion of existing land uses, shall not cause ambient noise levels to exceed an exterior level of 65 dBA L_{dn} at a noise sensitive land use.

(2) City of Huntington Beach Noise Ordinance

The City's policy regarding acceptable noise levels is codified in Chapter 8.40 (Noise Control) in the Municipal Code. The City's exterior noise standards are shown in Table IV.G-2 on page 161, and represent the noise levels that should not be exceeded during each of the time periods specified therein. These standards are intended for the enforcement of short-term noise violations.

The noise levels identified in Table IV.G-2 do not apply to "pre-empted" noise sources, such as traffic, where noise standards are dictated by Federal, State, and Regional entities. In addition, the noise levels presented in Table IV.G-2 represent an average, and provide allowances for short-term noise generation. Noise that exceeds these levels is subject to the following requirements: (1) no exceedance of the standard for a cumulative period of more than 30 minutes in any 1-hour period; (2) the noise standard plus five dBA for a cumulative period of more than 15 minutes in any 1-hour period; (3) the noise standard plus ten dBA for a five-minute period; (4) the noise standard plus 15 dBA for a one-minute period; and (5) the noise standard plus 20 dBA or the maximum measured ambient level for any time period. These levels then represent the I_{50} , L_{25} , L_{08} , L_{02} , and L_{max} descriptors as discussed below under Environmental Setting. These levels are as measured at the nearest receptor property, not the property site boundary. If ambient noise level exceed that permissible within the noise limit categories, the allowable noise exposure standard is increased to ambient conditions (Section 8.40.060 of the Municipal Code).

The noise ordinance recognizes that a 24-hours community noise standard can not be strictly applied to construction noise sources. Section 8.40.090 (Special Provisions) of the Municipal Code states that noise sources associated with construction, repair, remodeling, or grading of any real property are exempt from the City mandated noise criteria provided a permit has been obtained from the City and said activities do not take place between the hours of 8:00

²¹ *The City of Huntington Beach General Plan, Chapter V (Hazards), Section V-N-1, Noise Element, Adopted May 13, 1996.*

Table IV.G-2

CITY OF HUNTINGTON BEACH EXTERIOR NOISE STANDARDS

Land Use	Time Interval	Noise Level (dBA L _{eq})
Residential Properties	7:00 A.M. to 10:00 P.M.	55
	10:00 P.M. to 7:00 A.M.	50
Professional Office and Public Institutional Properties	Anytime	55
Commercial Properties with the Exception of Professional Office and Public Institutional	Anytime	60
Industrial	Anytime	70

Source: City of Huntington Beach Municipal Code.

P.M. and 7:00 A.M. on weekdays, including Saturday, or at any time on Sunday of a Federal holiday. The Municipal Code also exempts activities or equipment to the extent that design regulation thereof has been preempted by State or Federal laws. The latter provision would include the operation of licensed vehicles operating on public thoroughfares.

2. ENVIRONMENTAL SETTING

a. Existing Conditions

(1) Receptor Locations

Some land uses are considered more sensitive to intrusive noise than others, due to the types of activities typically involved at the receptor location. Specifically, residences, schools, libraries, religious institutions, hospitals and nursing homes are generally more sensitive to noise than are commercial and industrial land uses. The nearest residential receptors to the project site include those located west of B Street, those located north of the Ocean View Channel, and those located along Minoru Lane. All of these residents are located approximately 50 feet or more from the nearest site boundary. Additional residences are located across Warner Avenue, approximately 100 feet from the project site.

(2) Existing Noise Environment

The noise environment in the project area is dominated by traffic noise from nearby roadways. The heaviest traveled roadways in the vicinity of the project area include Warner Avenue and Beach Boulevard, which border the project site to the south and west, respectively. Secondary noise in the area results from commercial activities (e.g., delivery and garbage trucks), and residential noise sources (e.g., passenger vehicles, pets, and landscape maintenance

operations). Ambient noise levels in the project vicinity are typical of noise levels experienced within urbanized areas throughout the City of Huntington Beach.

(a) Ambient Noise Levels

To ascertain the existing ambient sound level, a field survey was conducted on July 26, 2000. During the field survey, measurement locations were selected based on their proximity to the project site and proximity to noise sensitive uses. These measurement locations are shown in Figure IV.G-2 on page 163. Short-term, 15-minute noise measurements were conducted at the three monitoring locations as described below:

- **NR-1: On-site across from 16871 B Street.** Four single-family dwelling units are located across from the project site on B Street. An initial attempt was made to obtain this reading curbside in front of the single-family residential unit located at 16871 B Street. Due to the proximity of passing vehicles, it was reasoned that such a reading would not be representative of the sound level at the dwellings which are set back approximately 50 feet from the B Street centerline. Thus, the meter was moved on-site across from the unit at a distance approximately 50 feet from the centerline of B Street, as noise on either side of the street would be comparable. This 15-minute measurement was obtained commencing at 1:47 P.M.
- **NR-2: On-site at central northern fence line.** The Ocean View Channel is located to the immediate north of the project site. Single-family residential units are located beyond the channel and separated from the 100-foot channel by block wall fences. While no readings were actually taken in the rear yards of these homes, this noise measurement was taken at the northern site boundary. The 15-minute measurement was obtained commencing at 2:25 P.M.
- **NR-3: On-site along Warner Avenue.** This measurement was obtained on the project site along Warner Avenue, just east of Rotterdam Lane. The meter was placed along the north side of the roadway at a distance of 50 feet from the centerline of the near lane. Single-family residential units are located across Warner Avenue. A 15-minute reading was obtained commencing at 2:53 P.M.

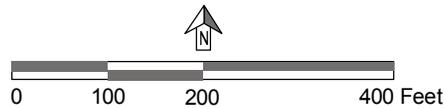
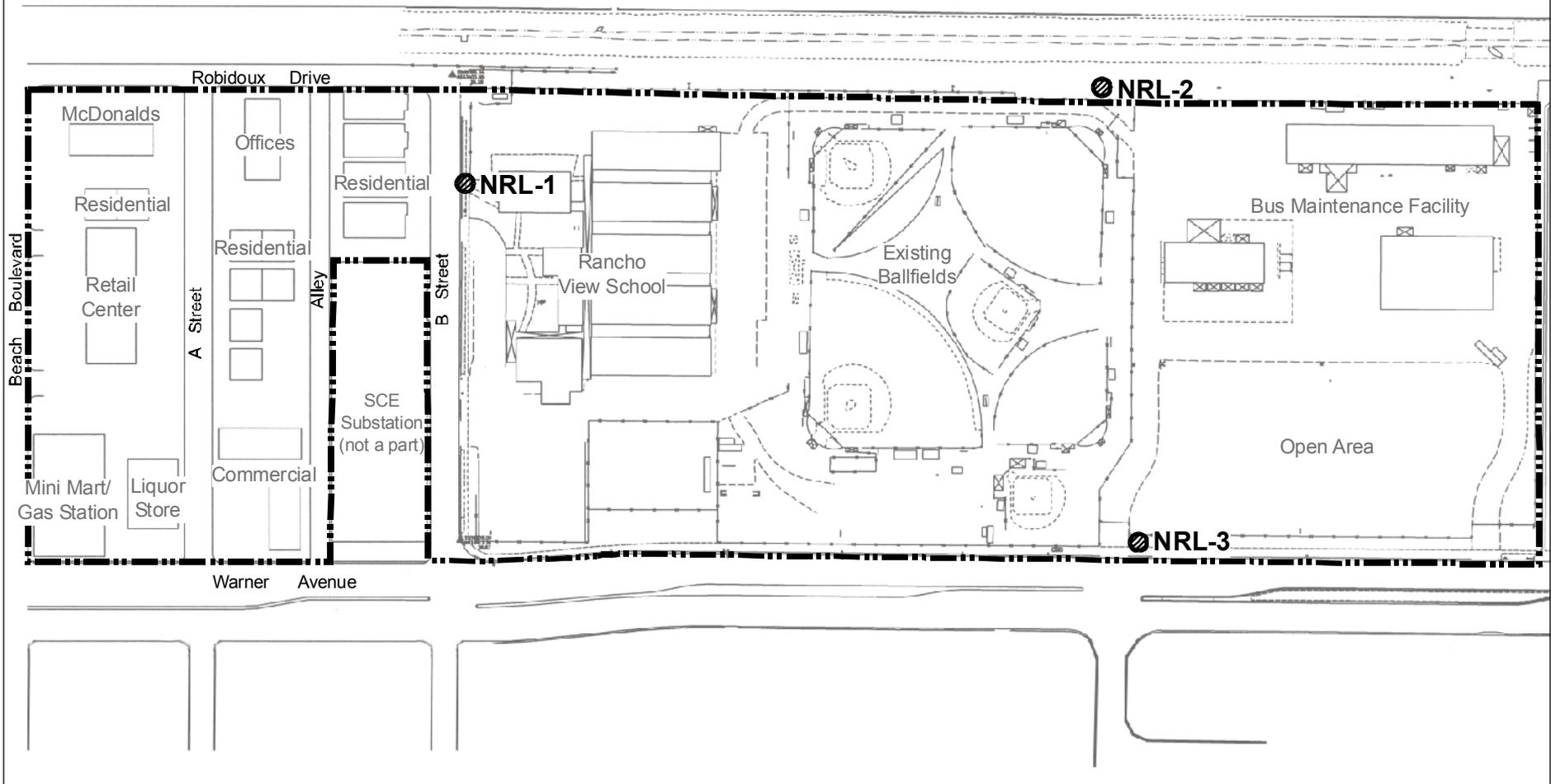
The noise measurement data in Table IV.G-3 on page 164 indicate L_{eq} levels at the monitoring locations that range from 52.7 to 66.7 dBA during the afternoon period.

(b) Traffic Noise

The L_{dn} values resulting from traffic on Warner Avenue and Beach Boulevard were predicted using the FHWA noise prediction model. Average daily traffic (ADT) volumes were

LEGEND

- Project Boundary
- NRL-# Noise Receptor Location



Source: Environmental Impact Sciences, December 2001

Figure IV.G-2
**Lowe's Home Improvement Warehouse and
Northeast Corner of Beach Boulevard/Warner Avenue
Noise Monitoring Locations**

Table IV.G-3

AMBIENT NOISE MEASUREMENT DATA

Position^a	Start Time	Duration^b	Sound Level dBA (L_{eq})	Noise Sources
NR-1	13:47	15 minutes	66.0	Vehicular Traffic along B Street
NR-2	14:25	15 minutes	52.7	Neighborhood Noise and to a lesser extent vehicular traffic along Warner Avenue
NR-3	14:53	15 minutes	66.7	Vehicular traffic along Warner Avenue

^a Receptor locations are shown on Figure IV.G-2 on page 163.

^b 15-minute measurements were conducted July 26, 2000.

Source: Environmental Impact Sciences, December 2001.

assumed to be 10 times the volume observed during the P.M. peak-hour period. The results of this analysis are included in Table IV.G-4 on page 165.

3. ENVIRONMENTAL IMPACTS

a. Significance Criteria

As indicated under Section 21001(b) of CEQA, it is the policy of the State to “take all actions necessary to provide the people of this State with clean air and water, enjoyment of aesthetics, natural, scenic, and historic environmental qualities, and freedom from excessive noise.” In accordance with the standards included in Appendix F of the State CEQA Guidelines, a project will normally have a significant effect on the environment with regard to noise if the project will: (1) expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; (2) produce a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; and/or (3) produce a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The applicable noise standards in Table IV.G-2, discussed earlier, are used to analyze potential noise impacts from project site activities. Noise that exceeds these levels is subject to the following requirements: (1) no exceedance of the standard for a cumulative period of more than 30 minutes in any 1-hour period; (2) the noise standard plus five dBA for a cumulative period of more than 15 minutes in any 1-hour period; (3) the noise standard plus ten dBA for a five-minute period; (4) the noise standard plus 15 dBA for a one-minute period; and (5) the noise standard plus 20 dBA or the maximum measured ambient level for any time period. For the

Table IV.G-4

PREDICTED EXISTING VEHICULAR TRAFFIC NOISE LEVELS

Roadway Segment	ADT	L _{dn} at 50 feet	Distance to (feet):	
			65 dBA L _{dn}	60 dBA L _{dn}
Warner Avenue				
West of Golden West Street	30,290	73	171	368
Golden West St. – Gothard Street	29,510	73	171	368
Gothard St. – Beach Boulevard	29,105	73	171	368
Beach Boulevard – Rotterdam Lane	34,285	73	171	368
Rotterdam Lane – Newland Avenue	33,360	73	171	368
Newland Avenue – Magnolia Street	29,015	73	171	368
East of Magnolia Street	29,980	73	171	368
Beach Boulevard				
South of Warner Avenue	65,330	76	271	583
Warner Avenue – Heil Avenue	67,705	76	271	583
North of Heil Avenue	68,590	76	271	583

Source: *Environmental Impact Sciences, December 2001.*

purposes of this analysis, trucks operating on the project site are considered to be a stationary noise source subject to the City's noise ordinance standards.

Mobile sources of noise, such as project-generated traffic traveling on public roadways, are exempt from the local ordinance but still subject to CEQA. Mobile source noise would, therefore, be deemed to produce a significant noise impact if the project were to generate a volume of traffic that resulted in a substantial increase in mobile source-generated noise. Neither CEQA nor the State CEQA Guidelines define what would constitute a "substantial increase" in noise levels. CEQA's threshold of significance standard is based on the introduction of a "substantial change." As noted earlier, the human can detect changes of three dBA. Changes of less than three dBA, while audible under controlled circumstances, are not readily discernable in an outdoor environment. Since most people can readily hear a change of five dBA or more in an exterior environment, this value has been selected to represent a "substantial change" for the purposes of acoustical assessment, and is broadly used by many agencies as the appropriate CEQA criterion for defining a substantial change. For comparison, Caltrans defines a noise increase as "substantial" when the predicted noise levels, with the proposed project, would exceed the existing ambient sound level by 12 dBA L_{eq}. As a result, selection of the five-dBA criterion represents a reasonable "worst-case" analysis of the project's potential impacts, requiring mitigation when post-project conditions exceed this threshold value. However, when ambient noise levels already exceed the L_{dn} standards set forth in the General Plan, impacts associated with project-related traffic noise are considered significant when the project increases noise levels by 3 dB.

b. Potential Project Impacts

(1) Project Level Impacts

(a) Impacts from Project Construction

Noise disturbances in those areas located adjacent to project site can be expected during construction. These disturbances would be due to site preparation and subsequent construction of on-site structures. As with most construction projects, construction would require the use of a number of pieces of heavy equipment, such as bulldozers, backhoes, loaders, and concrete mixers. In addition, both heavy and light trucks would be required to deliver construction materials to and export construction debris from the site. Noise levels generated by typical construction equipment are depicted in Table IV.G-5 on page 167.

Composite construction noise is best characterized by Bolt, Beranek, and Newman (USEPA December 31, 1971). In this study, construction noise during the heavier initial periods of construction of commercial development is presented as 89 dBA L_{eq} when measured at a distance of 50 feet from the construction effort. This value takes into account both the number of pieces and spacing of the heavy equipment used in the construction effort. In later phases during building construction, noise levels are typically reduced from this value and the physical structures that are constructed further break up line-of-sight noise transmission. In order to present a “worst-case” scenario, the 89 dBA was used to evaluate construction impacts.

The operation of construction equipment would result in the generation of both steady and episodic noise levels well above those ambient levels currently experienced near the sensitive noise receptors located closest to the project site. The noise produced from construction atmospherically attenuates (decreases) at a rate of approximately six dBA per doubling of distance. At a distance of 100 feet, for example, the noise levels would be about six dBA less or 83 dBA.

As indicated above, the nearest residential receptors to the project site include those located west of B Street, those located north of the Ocean View Channel (approximately 140 feet from the project site), and those located along Minoru Lane. All of these residents are located approximately 50 feet or more from the nearest site boundary. At that distance, intermittent construction noise could be on the order of 89 dBA L_{eq} during the heavier periods of construction. Residents situated across Warner Avenue are located approximately 100 feet from the project site and noise, at that location, would be on the order of 83 dBA L_{eq} during the heavier periods of construction. These noise levels would be considered significant but would be mitigated with implementation of the mitigation measures identified below. Actual noise levels at those receptors which are protected by intervening structures, such as rear garages for the

Table IV.G-5

NOISE LEVELS GENERATED BY TYPICAL CONSTRUCTION EQUIPMENT

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)	Suggested Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers (12,000 to 18,000 foot-pounds/blow)	81 to 96	93
Rock Drills	83 to 99	96
Jack Hammers	75 to 85	82
Pneumatic Tools	78 to 88	85
Pumps	68 to 80	77
Dozers	85 to 90	88
Tractors	77 to 82	80
Front-End Loaders	86 to 90	88
Hydraulic Backhoes	81 to 90	86
Hydraulic Excavators	81 to 90	86
Graders	79 to 89	86
Air Compressors	76 to 86	86
Trucks	81 to 87	86

Source: USEPA, Bolt, Beranek, and Newman, *Noise Control for Buildings and Manufacturing Plants*, 1987.

multi-family units along Minoru Lane or located behind perimeter masonry walls as with the residences located south of Warner Avenue and north of the Ocean View Channel along Lancaster Drive, would be predicted to be lower than these values presented herein as a result of the additional acoustical attenuation provided by the intervening barriers.

(b) Impacts from Project Operations

(i) Introduction of Additional Project-Related Traffic

As noted above, the City has set a goal of 60 dBA L_{dn} as desirable for the exterior living environment. Exterior levels in excess of 60 dBA L_{dn} are allowed provided that the area of development is limited to infill within established neighborhoods and mitigation provides for attainment of both the exterior and interior standards, as demonstrated through a noise study. Because existing noise at proximate receptor locations already exceeds the 60 dBA L_{dn} standard, the project is considered to make a notable increase to the ambient noise if project related traffic raises the L_{dn} by three dBA, which is acknowledged as a barely discernable increase.

Because ambient growth in the project area would raise existing traffic levels even without project's implementation, for the purposes of determining if the project would significantly raise traffic-generated noise, a "worst-case" scenario would impose the totality of project-generated traffic onto the existing traffic volume. Under this approach, the project would represent a greater portion of the "whole" than would otherwise be expected.

As with the existing traffic volumes, project-generated traffic was based on evening peak-hour movement activities. The number of trips arriving to and departing from the site during the evening peak hour was summed and the total daily traffic volume divided by this sum to create a multiplier. This multiplier was then used to augment the project-generated traffic volumes at the intersections and these augmented values were added to the existing daily traffic.

Table IV.G-6 on page 169 presents the existing daily-plus-project traffic. As noted, noise levels along Warner Avenue (between Beach Boulevard and Newland Avenue) and Beach Boulevard (from Warner Avenue to north of Heil Avenue) could increase by as much as one dBA L_{dn} . This increase is neither audible nor significant based upon the referenced threshold standards. Increases along all other routes would be less than one dBA L_{dn} and would also be less than significant.

(ii) Impacts from On-Site Activities

Loading Dock Area

The home improvement and garden center would receive goods delivered to the project site by heavy- and medium-duty trucks for subsequent on-site sale. As discussed in Section II.C., Project Characteristics, loading dock activities would not occur during nighttime hours (10:00 P.M. to 7:00 A.M.). These trucks, idling and unloading in the loading dock area located in the southeastern corner of the primary building, would produce noise associated with those activities. While the loading bay area is enclosed, in order to evaluate a worst-case analysis, it is assumed that the doors would remain open during unloading activities.

Noise measurements taken for a variety of similar projects (e.g., Home Depot loading bays) have demonstrated that the noise produced by idling semi-trucks is on the order of 70 to 73 dBA L_{eq} , as measured at a distance of 50 feet from the noisiest portion of the truck (i.e., to the side behind the cab and in line with the engine and exhaust stacks).

The property boundaries for the nearest existing residence to this loading area (i.e., located south of Warner Avenue and directly west of Rotterdam Lane) is approximately 250 feet from the entrance to the loading docks. Based on a value of 73 dBA and distance of about 250 feet to the nearest sensitive receptors, loading dock noise would be atmospherically attenuated down to a level of about 59 dBA L_{eq} at that residential property boundary. Actual noise values at those units, however, would be further reduced since those residents are protected from noise intrusion generated along Warner Avenue by an existing block wall. Furthermore, the truck loading area is depressed below grade and this depression also serves as a partial sound barrier.

Table IV.G-6

**EXISTING-PLUS-PROJECT TRAFFIC AND RESULTANT NOISE LEVELS
ALONG MAJOR THOROUGHFARES IN THE PROJECT AREA**

Location	ADT	L _{dn} at 50 Feet	Distance to. (feet)	
			65 dBA L _{dn}	60 dBA L _{dn}
Warner Avenue				
West of Golden West Street	30,989	73	171	368
Golden West Street – Gothard Street	30,566	73	171	368
Gothard Street - Beach Boulevard	30,660	73	171	368
Beach Boulevard – Rotterdam Lane	38,677	74	199	429
Rotterdam Lane - Newland Avenue	36,257	74	199	429
Newland Avenue – Magnolia Street	30,585	73	171	368
East of Magnolia Street	30,265	73	171	368
Beach Boulevard				
South of Warner Avenue	66,571	76	271	583
Warner Avenue – Heil Avenue	69,189	77	315	680
North of Heil Avenue	69,831	77	315	680

Source: *Environmental Impact Sciences, December 2001.*

While this value would not exceed the City's General Plan exterior goal of a 65 dBA L_{dn} at noise sensitive land uses, as imposed for new commercial development, this level is above both the daytime Municipal Code standard for residential properties of 55 dBA between the hours of 7:00 A.M. and 10:00 P.M. applicable to residential land uses. However, the measured ambient noise level along Warner Avenue, as shown in Table IV.G-3, is approximately 66.7 dBA and, therefore, noise from trucks, idling and unloading in the loading dock area would be less than significant.

Residential receptors to the east (along Minoru Lane) and to the north (along Lancaster Drive) of the project site are located approximately 600 feet from the loading dock and noise at these dwellings is predicted to be approximately 51 dBA. Actual noise at these receptors would be further reduced by virtue of the intervening Lowe's Home Improvement Warehouse and proposed 8-foot high screening wall (with regards to units to the north), and the restaurant and Ocean View School District Bus Maintenance Facility (with regards to units to the east). These features would reduce loading dock noise by an additional five dBA or more. The resultant loading dock noise as perceived by those sensitive receptors located to the east and north of the project would, therefore, be less than significant.

Similarly, residential receptors located along B Street are in excess of 800 feet from the loading dock area and are effectively screened by the warehouse structure itself. Any noise from loading dock operations would be well under either the City's 55 dBA daytime standard at these residential locations.

Another potential source of noise is from the use of back-up alarms associated with the use of trucks and forklifts that load and unload goods to and from waiting trucks. Noise associated with the use of back-up alarms was ascertained in a study prepared for a Home Depot project located in the City of Orange where actual forklift noise was monitored. This study noted a wide variation on the volume level produced by the use of back-up alarms, with values ranging from 64 to 73 dBA as measured at a distance of 40 feet from the source. Extrapolating these values to those residential receptor locations at a distance of 250 feet from the loading docks, the projected noise at these locations is estimated at 48 to 57 dBA. The use of these back-up alarms would not measurably raise the noise produced from the operations of the trucks within the loading dock area. This is not to say that these alarms would not be audible to local residents, only that they would not add substantially to the noise produced by the delivery trucks.

Customer Loading Area

Site plans call for a customer bading area to be placed at the northwest corner of the primary structure, at a distance of about 140 feet from residents located to the north of the existing Ocean View Flood Control Channel and over 500 feet from residents located on the west side of B Street. Customers would pick up materials in automobiles, pick-up trucks, vans, and medium-duty trucks. Customers would not be expected to use large semi-trucks, as discussed in the loading dock operations. Any such trucks operated by customers would be directed to the rear loading bays.

Estimates of the maximum noise levels associated with customer loading activities are presented below in Table IV.G-7 on page 171. A range is given to reflect the variability of noise generated by various automobile types and driving styles. The noise levels presented in Table IV.G-7 are for a distance of 50 feet from the source and reflect the maximum levels generated before the imposition of any mitigation measures.

At a distance of 140 feet, which roughly corresponds to the minimum distance from any of these activities to the nearest residential units to the north, customer pick-up activity noise levels would be approximately 9 dBA less than the levels presented in the table. At that distance, the maximum projected noise levels from these activities would be less than 61 dBA. The proposed 8-foot high screening wall to be located along the northern perimeter extending both east and west from the main structure would further attenuate this noise. Modeling indicates that this wall would produce an additional 11 dBA of reduction and the resultant noise at those dwellings located north of the flood channel could be on the order of 50 dBA. The actual noise at the dwellings would be further reduced as these homes also include existing rear-yard masonry block walls. The resultant operational noise value is within both the daytime and nighttime standards and would not result in a significant impact on the homes located to the north of the channel.

Table IV.G-7

**MAXIMUM L_{eq} NOISE LEVELS GENERATED
BY CUSTOMER LOADING ACTIVITIES
(at 50 feet)**

Door Slam	60 to 70 dBA
Engine Start-up	60 to 70 dBA
Car Pass-by	55 to 70 dBA

Source: Environmental Impact Sciences, December 2001.

With respect to the residents located across B Street, customer pick-up activities could be reduced by 20 dBA from the values included in Table IV.G-7 (Maximum L_{eq} Noise Levels Generated by Customer Loading Activities). The maximum noise levels at that location could, therefore, be as high as 50 dBA. The actual noise level would, however, be further reduced since other vehicles parked in the lot would break the line-of-sight between the vehicle being loaded and those receptors and would serve as an effective noise barrier. The resultant noise would not exceed either the daytime or nighttime standard and the impact is less than significant.

Staging Area Activities

The project would include a staging area located in the northeast portion of the project site. This area would receive lumber and other materials via heavy trucks. The area is located approximately 140 feet from the dwellings located to the north of the Ocean View Channel. Assuming that a truck produces a noise level of 73 dBA, measured at a distance of 50 feet, in the absence of any walls or obstructions (such as any residential walls), noise at those receptor locations could be on the order of 64 dBA based solely on atmospheric attenuation. The area would also use forklifts for the movement of material. Forklift operations are estimated at a level of 64 to 73 dBA, as measured at a distance of 40 feet from the source. Extrapolating these values to those residential receptor locations at a distance of 140 feet from the staging area, the projected forklift noise at the receptors to the north is estimated at 53 to 62 dBA.

Trucks delivering lumber would proceed along the east side of the facility to the staging area. These trucks would then back into the staging area to be unloaded. The proposed site plan includes an 8-foot high screening wall to be located along the northern perimeter of the property, extending both east and west of the main structure. The wall is to extend for a distance of approximately 60 feet to the east of the staging area and would attenuate both truck unloading and staging area noise. Modeling indicates that this wall provides in excess of 11 dBA of attenuation for forklifts and 5 dBA for heavy trucks.

The resultant noise for a ground-floor receptor is estimated at approximately 59 dBA for trucks and 42 to 51 dBA for forklift activity. The actual noise at the dwellings would be further reduced as these homes also include existing rear-yard masonry block walls. Based on the relatively short-time period during which forklifts would be operated, this noise source would not be predicted to elevate the L_{dn} to the General Plan's criterion of 65 dBA nor exceed the Municipal Code's daytime standard of 55 dBA.

If a truck were to idle at the facility for more than 30 minutes in any hour period, the resultant noise level would be approximately 59 dBA, which would violate the Municipal Code. The Municipal Code sets a daytime limitation of 55 dBA which is not to be violated by 5 dBA or more for a period of 30 minutes in any hour. Since under normal conditions, a truck would idle between 5 and 15 minutes, the impact would be less than significant.

Another potential source of noise may occur as these trucks maneuver into the staging area. A portion of the area in which the trucks maneuver (i.e., hammer-head turnaround) is also used to access the Ocean View School District (OVSD) bus facility and is located on OVSD property. This area is not currently proposed to receive the screen wall and the residences immediately north of this area could be subject to noise levels up to the noted 64 dBA. The actual noise would, however, be less as the existing residential wall located on the north side of the channel serves as a sound barrier.

The daytime standard could be violated if trucks remained in this "unshielded area" for a period of 15 minutes in any hour. Because this area is only used for the turning and backing of trucks, their duration in this "unshielded area" would be extremely short. Therefore, these activities would result in a less than significant impact.

Trash Compactor

The proposed trash compactor, to be located adjacent to the truck well, constitutes another potential noise source. Noise from the compaction of trash would not be expected to exceed that produced by truck operations and is of such limited duration that it would not exceed authorized Municipal Code levels allowing the exterior noise standards to be exceeded by as much as 10 dBA for a period of five minutes and by as much as 15 dBA for a period of one minute in any hour.

(2) Program Level Impacts

(a) Construction Impacts

Construction of the 6.3-acre site earlier referred to as Area B1 of the project site would commence at some unknown future date, and is not anticipated to be implemented by the project applicant. Similar to project level construction activity identified earlier, Area B1 construction activity would also require the use of a number of pieces of heavy equipment such as bulldozers, backhoes, loaders, and concrete mixers. Noise levels generated by typical construction equipment are depicted in Table IV.G-5 on page 167.

The nearest residential receptors to the project site include those located north of the Ocean View Channel, which are located approximately 50 feet from the nearest site boundary. At that distance, intermittent construction noise could be on the order of 89 dBA L_{eq} during the heavier periods of construction. Residents situated across Warner Avenue are located approximately 100 feet from this area of the project site and noise at that location, would be on the order of 83 dBA L_{eq} during the heavier periods of construction. These noise levels would be considered significant but would be mitigated with implementation of the mitigation measures identified below. Actual noise levels at those receptors, which are protected by intervening structures such as perimeter masonry walls, would be predicted to be lower than these values presented herein as a result of the additional acoustical attenuation provided by the intervening barriers.

(b) Operational Impacts

The build-out of Area B1 would involve the removal of residential uses and intensification of existing retail and commercial uses. The intensification of uses under the proposed project would be of a commercial nature and not typically associated with exterior noise. Given the lack of detail regarding potential noise within Area B1, qualification of potential noise levels associated with specific operations cannot be provided. However, traffic-related noise levels associated with build-out are discussed below.

Table IV.G-8 on page 174 examines local traffic volumes and noise levels and compares these values to existing levels. As with the assessment of project-related impacts, an increase of three dBA L_{dn} is used as the basis for finding of significant program level impacts. The analysis indicates noise increases of as much as one dBA L_{dn} both with and without build-out of the proposed project. As cumulative-plus-project noise levels would not exceed the 3-dBA criterion, no program level impacts are projected to occur as a result of the project's implementation.

Table IV.G-8

**BUILD-OUT-PLUS-PROJECT TRAFFIC AND RESULTANT NOISE LEVELS
ALONG MAJOR THOROUGHFARES IN THE PROJECT AREA**

Location	Existing L_{dn} Noise Level	Build-out Traffic Volume w/out Project	Build-out L_{dn} Noise Level w/out Project (dBA)	Build-out Traffic Volume w/ Project	Build-out L_{dn} Noise Level w/ Project (dBA)
Warner Avenue					
West of Golden West Street	73	33,300	73	33,999	73
Golden West – Gothard Street	73	32,090	73	33,146	73
Gothard Street – Beach Blvd.	73	33,150	73	34,705	73
Beach Blvd. – Rotterdam Lane	73	34,895	73	39,287	74
Rotterdam Ln. – Newland Street	73	34,895	73	37,792	74
Newland Ave. – Magnolia Street	73	36,855	74	38,425	74
East of Magnolia Street	73	38,540	74	38,825	74
Beach Boulevard					
South of Warner Avenue	76	66,650	76	67,891	76
Warner Avenue – Heil Avenue	76	69,570	77	71,054	77
North of Heil Avenue	76	69,690	77	70,931	77

Source: Environmental Impact Sciences, December 2001.

4. CUMULATIVE IMPACTS

a. Cumulative Construction Noise Levels

Related projects that have a potential to produce construction noise impacts located within the general project area include Bella Terra (consisting of retail, restaurants, and theaters) and a proposed commercial center to be located along the north side of Warner, between Beach Boulevard and B Street. The timing of construction activities for the proposed project, as well as related projects, is uncertain. Therefore, any quantitative analysis that assumes multiple, concurrent construction projects would be entirely speculative. Noise from the construction and on-site operations of each project is expected to be localized. Compliance with the limitation of allowable construction hours contained in the local noise ordinance would reduce potentially significant cumulative construction noise impacts to less than significant levels.

b. Cumulative Noise Levels from Facility Operations

Other related projects that have a potential to produce long-term operational noise impacts located within the general project area include Bella Terra (consisting of retail, restaurants, and theaters), a Wal-Mart at the former Crest View School, and a proposed commercial center to be located along the north side of Warner, between Beach Boulevard and B Street. In addition to these land uses, the cumulative analysis assumes an area-wide growth rate

to reflect future development and redevelopment activities likely to occur in the general project area as well as to address the potential impacts of future projects not specifically identified by the City. All build-out traffic volumes are as presented in the project traffic analysis and ADT volumes were determined from intersection movements using the methodology discussed for existing conditions and project-related impacts.

The related projects are either of a commercial nature and not typically associated with exterior noise or are located sufficient distance from the subject property that on-site noise produced by those related projects would not be assumed to be additive to project-related noise. The traffic from these projects and ambient growth, however, would utilize the same roadways and would be additive to the project's off-site mobile sources.

Table IV.G-8 examines local traffic volumes and noise levels and compares these values to existing levels. As with the assessment of project-related impacts, an increase of three dBA L_{dn} is used as the basis for finding of significant cumulative impacts. The analysis indicates noise increases of as much as one dBA L_{dn} both with and without the proposed project. As cumulative-plus-project noise levels would not exceed the 3-dBA criterion, no cumulative impacts are projected to occur as a result of the project's implementation.

5. STANDARD CITY POLICIES AND REQUIREMENTS

The project will be required to comply with standard conditions of approval which reduce impacts to noise as follows:

1. Locate construction staging areas as far away as possible from residential areas.
2. No construction shall take place between the hours of 8:00 P.M. and 7:00 A.M. on weekdays, including Saturday, or at any time on Sunday or a Federal holiday.
3. During all project site preparation, grading, and construction, the project contractor(s) shall equip all construction equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with manufacturers' standards.

6. LEVEL OF SIGNIFICANCE BEFORE MITIGATION

a. Construction

The proposed project will result in construction noise levels at adjacent residences which may substantially exceed the 55 dBA standard for exterior, daytime noise levels. These noise

levels would be considered significant without incorporation of mitigation measures. However, construction noise is exempt from municipal code requirements.

b . Operation

Implementation of the project would not result in significant and unavoidable traffic noise impacts and no mitigation measures would be required.

Noise generated by the loading dock area, staging area, customer loading area, and trash compactor are not expected to exceed allowable noise levels under the City's Noise Ordinance. These activities would not result in significant and unavoidable noise impacts and no mitigation measures would be required.

The project will not combine with related projects to result in cumulatively significant noise impacts.

7. MITIGATION MEASURES

The following mitigation measures are proposed to reduce potential noise impact associated with implementation of the proposed project:

a. Construction

Based on the presence of potentially significant construction impacts, the following mitigation measures are recommended:

- N-1 The project contractor(s) shall place all stationary construction equipment as far as feasible from near-site residential receptors and situated so that emitted noise is directed away from those sensitive receptors located to the north, south, and east of the project site.
- N-2 The construction contractor shall locate equipment staging areas in the central portion of the site to create the greatest distance between construction-related noise sources and sensitive receptors during all project site preparation, grading, and construction activities.

b. Project-Related Traffic

Based on the absence of potentially significant traffic noise-related impacts, no mitigation measures are required or recommended.

c. Loading Dock Activities

Based on the absence of potentially significant loading dock area noise impacts, no mitigation measures are required or recommended.

d. Customer Loading Activities

Based on the absence of potentially significant customer loading area noise impacts, no mitigation measures are required or recommended.

e. Staging Area Activities

Based on the absence of potentially significant operational impacts at the staging area, no mitigation measures are required or recommended.

f. Trash Compactor Noise

Based on the absence of potentially significant trash compactor-related noise impacts, no mitigation measures are required or recommended.

g. Cumulative Construction Noise

Based on the absence of potentially significant cumulative construction noise impacts, no mitigation measures are required or recommended.

8. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Construction - Even with incorporation of the above mitigation measures construction noise levels during the heaviest periods of activity would be above existing ambient noise levels. However, such noise levels would be experienced intermittently as only portions of the project site would be under construction at any one time. The majority of the time construction noise levels at adjacent sensitive locations would be much lower due to reduced construction activity and the phasing of construction (i.e., construction noise levels at a given location would be

reduced as construction activities conclude or move to another more distant location of the site). These noise levels would be considered adverse, but less than significant with incorporation of the above mitigation measures and provided that the developer obtains a permit from the City and limits the hours of construction as stipulated in the City's Noise Ordinance.

Additional Project-Related Traffic – As indicated above, implementation of the project would not result in significant and unavoidable traffic noise impacts and no mitigation measures would be required.

Loading Dock Area – As indicated above, implementation of the project would not result in significant and unavoidable traffic noise impacts and no mitigation measures would be required.

Customer Loading Area – As indicated above, implementation of the project would not result in significant and unavoidable noise impacts associated with proposed customer loading activities and no mitigation measures would be required.

Staging Area Activities - As indicated above, implementation of the project would not result in significant and unavoidable traffic noise impacts and no mitigation measures would be required.

Trash Compactor - As indicated above, implementation of the project would not result in significant and unavoidable noise impacts associated with the proposed use of a trash compactor and no mitigation measures would be required.