4.9 NOISE

This section of the EIR analyzes the potential environmental effects on noise from implementation of the proposed project. Issues scoped out from further analysis with respect to noise include proximity to or association with an airport land use plan or airstrip, as the project site is not located within an airport land use plan or affected area near an airstrip. Data used to prepare this section were taken from the Traffic Analysis prepared by Austin-Foust Associates (Appendix E [Traffic Analysis]) for the proposed project, and information obtained by measuring and modeling existing and future noise levels at the project site and in the surrounding area (Appendix D [Noise Data]). Full bibliographic entries for all reference materials are provided in Section 4.9.5 (References) at the end of this section.

4.9.1 Environmental Setting

Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound because of its potential to disrupt sleep, to interfere with speech communication, and to damage hearing. A typical noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway. Table 4.9-1 (Representative Environmental Noise Levels) lists representative noise levels for the environment.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

Table 4.9-1 Representative Environmental Noise Levels

Common Outdoor Activities	*Noise Level (dBA)*	*Common Indoor Activities*
	—110—	Rock Band
Jet Fly-over at 100 feet		
	—100—	
Gas Lawnmower at 3 feet		
	—90—	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
		Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	—30—	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	—20—	
		Broadcast/Recording Studio
	—10—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

SOURCE: California Department of Transportation 1998

- L_{dn}, the Day-Night Average Level, is a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 PM to 7:00 AM to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24 hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- *CNEL*, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 5 dBA "weighting" during the hours of 7:00 to 10:00 PM and a 10 dBA "weighting" added to noise during the hours of 10:00 PM to 7:00 AM to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24 hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
- L_{min}, the minimum instantaneous noise level experienced during a given period of time.
- L_{max}, the maximum instantaneous noise level experienced during a given period of time.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings that can provide noise levels as low as 20 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with more noisy urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA).

When evaluating changes in 24-hour community noise levels, a difference of 3 dBA is a barely perceptible increase to most people. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness.

Noise levels from a particular source decline as distance to the receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., where the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., where the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

Existing Environmental Noise Levels

According to the Noise Element of the City of Huntington Beach General Plan, the primary source of noise within the City is noise from motor vehicles on roadways (traffic noise). These motor vehicles include automobiles, buses, trucks, and vehicles associated with construction equipment transport. Secondary noise sources in the City include aircraft operations, railroad operations, construction activities, and petroleum extraction activities.

Existing noise measurements in the vicinity of the proposed project area were recorded for the BECSP EIR. The noise levels were measured using a Larson-Davis Model 814 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. The measurements are representative of the existing ambient noise levels in the proposed project vicinity, and as shown in Table 4.9-2 (Existing Ambient Noise Levels in Proposed Project Vicinity), the noise levels in the vicinity of the proposed project are dominated by roadway traffic noise and are typical of an urban environment. Figure 4.9-1 (Noise Monitoring

Locations) illustrates the location of the BECSP EIR noise monitoring locations that are closest to the proposed project site.

Table 4.9-2 Existing Ambient Noise Levels in Proposed Project Vicinity

	Location	Primary Noise Sources	Noise Level Statistics		
			L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)
1	15492 Vermont St	Traffic Noise	66.1	51.7	76.5
2	6832 Edinger Ave	Traffic on Edinger	59.3	45.2	74.0
3	16105 Golden West	Traffic on Golden West	68.0	50.0	81.3
4	7362 Edinger Ave	Traffic	72.8	58.4	87.1
5	7664 Edinger Ave	Light traffic on Sher Lane	58.0	45.2	80.6
6	16001 Beach Blvd	Traffic	68.9	59.5	79.6

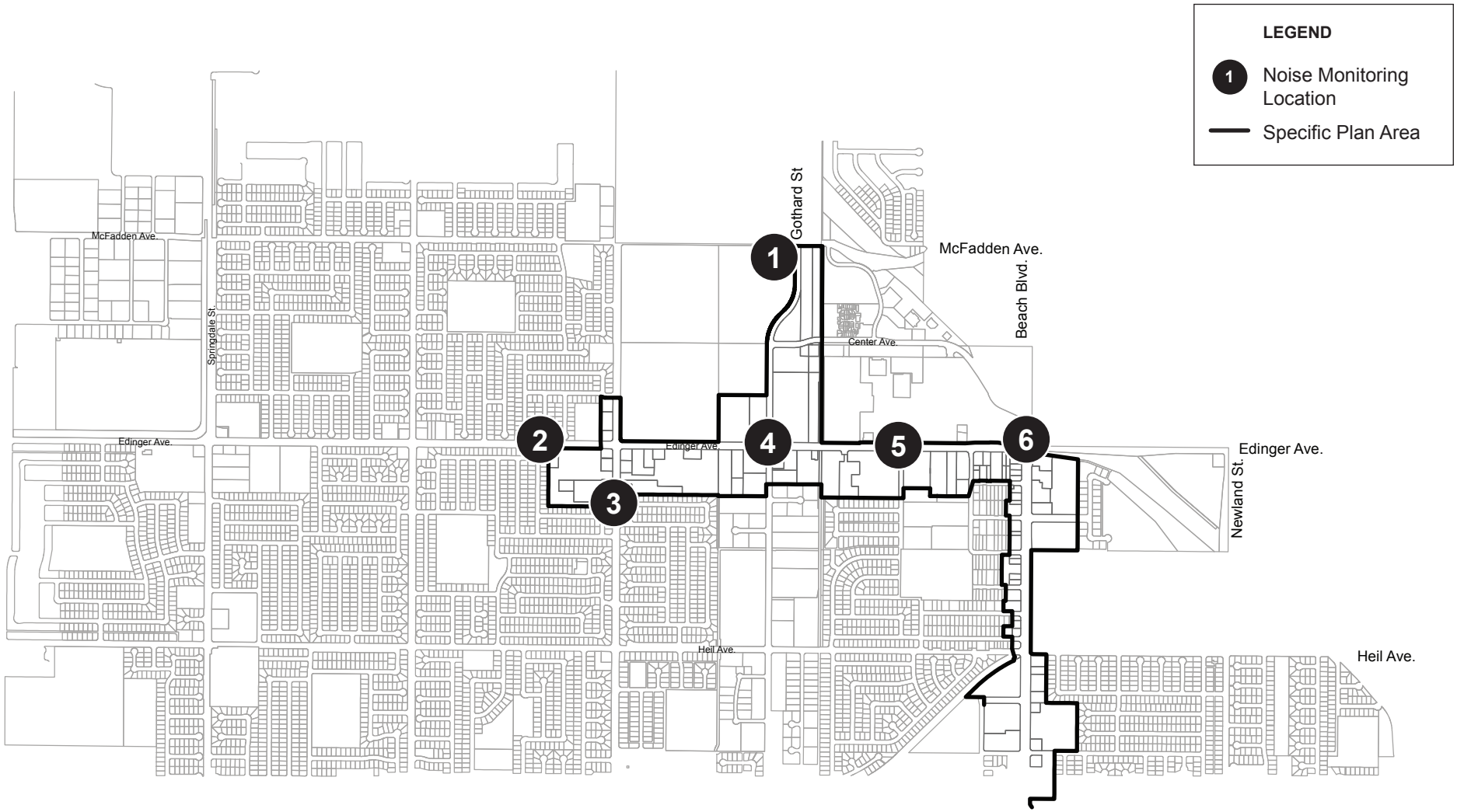
SOURCE: PBS&J 2008

Similarly, existing roadway noise levels were calculated for roadway segments in the BECSP EIR that are proximate to existing or future noise-sensitive uses and would receive a moderate to large share of the project trips. This task was accomplished using the Federal Highway Administration (FHWA) Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the project traffic analysis. The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. As average daily traffic (ADT) along these roadways has not substantially changed since the BECSP EIR, the noise levels for roadways in the vicinity of the proposed project are presented in Table 4.9-3 (Existing Roadway Noise Levels Off Site).

Table 4.9-3 Existing Roadway Noise Levels Off Site

Roadway	Roadway Segment	dBA L_{dn}
Beach Boulevard	McFadden Ave and I-405	72.5
	I-405 and Edinger Ave	71.8
	Edinger Ave and Heil Ave	71.4
	Heil Ave and Warner Ave	71.3
	Warner Ave and Slater Ave	71.1
McFadden Avenue	Gothard St and Beach Blvd	65.5
Edinger Avenue	Goldenwest St and Gothard St	69.0
	Gothard St and Beach Blvd	69.1

SOURCE: PBS&J 2009 (calculation data and results are provided in Appendix D)



***Source*:** City of Huntington Beach, 2008; PBS&J, 2010.

FIGURE **4.9-1**

Noise Monitoring Locations

Fundamentals of Environmental Groundborne Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and, in the U.S., is referenced as vibration decibels (VdB).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. As such, the range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described in Table 4.9-4 (Human Response to Different Levels of Groundborne Vibration).

Table 4.9-4 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	*Human Reaction*
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

SOURCE: HMMH 2006

Existing Groundborne Vibration Levels

Aside from seismic events, the greatest source of groundborne vibration in the project area is roadway truck and bus traffic. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB. These levels could reach 72 VdB where trucks and buses pass over bumps in the road.

4.9.2 Regulatory Framework

Refer to Section 4.9.2 (Regulatory Framework) of the BECSP Program EIR, for applicable federal, state, and local regulations that would apply to the proposed project. No new regulations have been implemented since the certification of the Program EIR.

The BECSP Development Code, which includes development standards, development regulations, and guidelines, governs all development actions with the BECSP area, including the proposed project site. The proposed project would be subject to development standards specific to the proposed project site's

BECSP designations of Town Center Core and Town Center Neighborhood, included as BECSP Section 2.1.3 (Town Center Core) and Section 2.1.4 (Town Center Neighborhood).

General Plan and BECSP Consistency Analysis

The proposed project would be consistent with the identified goals and policies of the City of Huntington Beach's General Plan regarding noise and vibration. The proposed project will be constructed during the hours allowed by the City's Municipal Code. Design of the proposed project is such that noise generated by the retail uses would be located at ground level and separate from the majority of the residential uses, which would reduce commercial and retail generated noise levels from spilling into the residential portion of the site, as is common for mixed-use developments. Additionally, the residential uses would be constructed such that interior noise levels would not exceed the standards set forth by the City. Noise from mechanical equipment associated with operation of the project would be required to comply with the state Building Code requirements pertaining to noise attenuation, and with City regulations requiring adequate buffering of such equipment. Compliance with the City of Huntington Beach Noise Ordinance and design features would ensure that the construction and operation of the proposed project would be consistent with the indentified goals and policies of the City's General Plan Noise Element.

The proposed project would generate fewer trips than evaluated under the BECSP EIR due to the reduction of 284 dwelling units compared to what was assumed for the project site in the approved BECSP EIR. As shown under Impact 4.9-5, future roadway noise would not increase over that evaluated in the BECSP EIR. Therefore, the proposed project would not conflict with these applicable policies.

4.9.3 Project Impacts and Mitigation

Analytic Method

This analysis of the existing and future noise environments is based on noise-level monitoring, noise-prediction modeling, and empirical observations. As defined in the City's General Plan Noise Element, noise-sensitive land uses include public schools, hospitals, and institutional uses, including churches, museums, and private schools. Typically, residential uses are also considered noise-sensitive receptors. The proposed project site is surrounded to the north by commercial and office uses within the 60,000 sf College Country Center (to be replaced by the approved Amstar/Red Oak Project); and to the east by the Union Pacific Railroad (UPRR) right-of-way, a vacant Montgomery Ward department store and auto repair facility (to be replaced by The Revised Village at Bella Terra project). Therefore, for the purposes of this analysis, the nearest existing sensitive receptors to the project site would be the future residential uses located in the Amstar/Red Oak Project and The Revised Village at Bella Terra project as both of these future residential uses are within 50 feet of the proposed project site. Additionally, the future residential occupants of the proposed project would be considered noise sensitive receptors during operation of the proposed project.

Existing noise levels were monitored at selected locations within the BECSP area surrounding the project site using a Larson-Davis Model 814 precision sound-level meter, which is consistent with the standards of the ANSI for general environmental noise measurement instrumentation. As the noise environment

within the project site vicinity has not substantially changed since the analysis prepared for the BECSP EIR, the measurements taken for the BECSP area are appropriate for this analysis. Noise modeling procedures involved the calculation of existing and future vehicular noise levels along individual roadway segments in the project area. This task was accomplished using the FHWA Highway Noise Prediction Model (FHWA RD 77 108). Traffic volumes utilized as data inputs in the noise prediction model were provided by the Traffic Impact Analysis prepared by Austin-Foust Associates for the proposed project. The analysis considers future cumulative traffic noise levels, in recognition of expected higher traffic volumes and resultant noise levels in the future, which provide an appropriate benchmark against which future noise resulting from implementation of the Specific Plan can be assessed.

Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2010 CEQA Guidelines, the Huntington Beach General Plan, and the Huntington Beach Municipal Code. For purposes of this EIR, implementation of the proposed project may have a significant adverse impact on noise if it would:

- 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
- Expose nearby sensitive uses to excessive groundborne vibration levels or noise levels
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
- Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
- Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels
- Be located within the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels

Human Exposure to Noise

The CEQA Guidelines do not define the levels at which temporary and permanent increases in ambient noise are considered "substantial." As discussed previously in this section, a noise level increase of 3 dBA is barely perceptible to most people, a 5 dBA increase is readily noticeable, and a difference of 10 dBA would be perceived as a doubling of loudness. Based on the noise measurements shown in Table 4.9-2, the ambient noise in the vicinity of the project area currently ranges from 58.0 dBA to 72.8 dBA L_{eq}. Therefore, for the purposes of this EIR, an increase of 3 dBA in ambient noise levels would be considered a significant impact.

Additionally, noise generated by construction activities is regulated by the City of Huntington Beach Municipal Code. Construction activities that would occur outside the designated hours established by Section 8.40.090(d) would be potentially significant. Similarly, operational noise resulting from heating ventilation and cooling systems (HVAC), deliveries, and refuse collection are also regulated by the City's Municipal Code, and noise generated by these activities that exceeds the City's established standards would be potentially significant.

The CEQA Guidelines also do not define the levels at which groundborne vibration or groundborne noise is considered "excessive." For the purpose of this analysis, groundborne vibration impacts associated with human annoyance would be significant if vibration caused by implementation of the proposed project exceeds 85 VdB, which is the vibration level that is considered by the Federal Transit Administration (FTA) to be acceptable only if there are an infrequent number of events per day (as described in Table 4.9-4). In terms of groundborne vibration impacts on structures, this analysis will use the FTA's vibration damage threshold of approximately 100 VdB for fragile buildings and approximately 95 VdB for extremely fragile historic buildings.[26]

Effects Not Found to Be Significant

Threshold	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The project site is not located within 2 miles of a public airport, public use airport, or private airstrip. Therefore, the project would not expose people to excessive noise from airports. ***No impact*** would occur.

Impacts and Mitigation Measures

Threshold	Would the proposed project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact 4.9-1 **Implementation of the proposed project could result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This would be a potentially significant impact. Implementation of mitigation would reduce this impact to a *less than significant* level.**

Construction

The proposed project would result in approximately 896,154 sf of building area, distributed amongst six building pads or blocks. As shown in Figure 3-5 (Project Sections), development on each block would consist of up to six-story buildings, with four to five levels of one- and two-bedroom residential units over street level live-work units or retail uses, and structured subterranean parking. Commercial uses proposed would include approximately 60,000 sf of ground floor retail, located exclusively on Blocks 1 and 2, along the project site's Edinger Avenue frontage and along a portion of Gothard Street at the intersection of the Gothard Street and Edinger Avenue. The commercial uses would provide

[26] Harris Miller Miller & Hanson Inc., *Transit Noise and Vibration Impact Assessment, Final Report* (May 2006).

neighborhood retail and services, with a focus on specialty goods stores, banking, restaurants, and café spaces. Vehicular access to the project site would be provided from Gothard Street (three ingress and four egress) and Edinger Avenue (two ingress and two egress) via an access road. Construction of the proposed project is anticipated to occur over approximately 6 years beginning in July 2011, and finishing in August 2017. Demolition is anticipated to take approximately two months and would involve the removal of the existing 235,000 sf Levitz Furniture building and the 4,990 sf EZ Lube building. Grading and other earthwork are anticipated to take approximately six months to complete. After grading activities are completed, sub-grade construction and building construction would follow. Overall, it is anticipated that the site preparation and grading would take approximately eight months to complete, while sub-grade and building construction are anticipated to take approximately 5 years to complete, as the project would be built in phases.

Demolition, grading and building construction involve the use of heavy equipment. Construction activities would also involve the use of smaller power tools, generators, and other equipment that are sources of noise. Haul trucks using the local roadways would generate noise as they move along the road. Each stage of construction would involve a different mix of operating equipment, and noise levels would vary based on the amount and types of equipment in operation and the location of the activity.

The USEPA has compiled data regarding the noise generating characteristics of typical construction activities. These data are presented in Table 4.9-5 (Noise Ranges of Typical Construction Equipment) and Table 4.9-6 (Typical Outdoor Construction Noise Levels). These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 86 dBA measured at 50 feet from the noise source to the receptor would reduce to 80 dBA at 100 feet from the source to the receptor, and reduce by another 6 dBA (to 74 dBA) at 200 feet from the source to the receptor.

As previously stated the closest noise sensitive receptors would be the future residential uses at the Amstar/Red Oak Project located approximately 50 feet to the north of the project site and future residential uses at The Revised Village at Bella Terra, located approximately 50 feet to the east of the project site. Students at Goldenwest College, located approximately 160 feet west of the project site, separated by Gothard Street, would also be considered noise sensitive receptors. Based on the information presented in Table 3.3-8, construction activity noise levels at both the Amstar/Red Oak project and The Revised Village at Bella Terra project would be approximately 86 dBA during the excavation/grading and external finishing phases of the proposed project. Noise levels at the Goldenwest College property line would be approximately 76 dBA during the loudest construction activities.

Most of the types of exterior construction activities associated with the proposed project would not generate continuously high noise levels, although occasional single-event disturbances from grading and external building construction are possible.

Table 4.9-5 Noise Ranges of Typical Construction Equipment	
Construction Equipment	***Noise Levels in dBA L_{eq} at 50 feet[1]***
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
Tractor	77–98
Scraper/Grader	80–93
Paver	85–88

SOURCE: USEPA 1971

Machinery equipped with noise control devices or other noise-reducing design features does not generate the same level of noise emissions as that shown in this table.

Table 4.9-6 Typical Outdoor Construction Noise Levels			
Construction Phase	***Noise Level at 50 Feet with Mufflers (dBA L_{eq})***	***Noise Level at 100 Feet with Mufflers (dBA L_{eq})***	***Noise Level at 160 Feet with Mufflers (dBA L_{eq})***
Ground Clearing	82	76	72
Excavation/Grading	86	80	76
Foundations	77	71	67
Structural	83	77	73
External Finishing	86	80	76

SOURCE: USEPA 1971

The noise levels at the off-site sensitive uses were determined with the following equation from the HMMH *Transit Noise and Vibration Impact Assessment, Final Report*: **$L_{eq} = L_{eq}$ at 50 ft. – 20 Log(D/50)**, where L_{eq} = noise level of noise source, D = distance from the noise source to the receiver, $L_{eq\ at\ 50\ ft.}$= noise level of source at 50 feet.

Under Section 8.40.090(d) (Special Provisions) of Chapter 8.40 of the City's Municipal Code, noise sources associated with construction are exempt from the requirements of the Municipal Code, provided that the Applicant has acquired the proper permit(s) from the City and construction activities do not occur between the hours of 8:00 PM and 7:00 AM on weekdays, including Saturday, or at any time on

Sunday or a federal holiday. As construction would not occur except during the times permitted in the Noise Ordinance, and as Section 8.40.090(d) of the Municipal Code allows construction noise in excess of standards to occur between these hours, the proposed project would not violate established standards.

To reduce the noise levels resulting from construction of the proposed project to the extent feasible, mitigation measures BECSP MM4.9-1 through BECSP MM4.9-3 identified in the BECSP EIR shall be implemented:

BECSP MM4.9-1 Project applicants shall require by contract specifications that the following construction best management practices (BMPs) be implemented by contractors to reduce construction noise levels:

- *Two weeks prior to the commencement of construction, notification must be provided to surrounding land uses within 300 feet of a project site disclosing the construction schedule, including the various types of activities that would be occurring throughout the duration of the construction period*
- *Ensure that construction equipment is properly muffled according to industry standards and be in good working condition*
- *Place noise-generating construction equipment and locate construction staging areas away from sensitive uses, where feasible*
- *Schedule high-noise-producing activities between the hours of 8:00 AM and 5:00 PM to minimize disruption on sensitive uses, Monday through Saturday; schedule pile-driving activities between the hours of 8:00 AM and 4:00 PM on Mondays through Fridays only*
- *Implement noise attenuation measures, which may include, but are not limited to, temporary noise barriers or noise blankets around stationary construction noise sources*
- *Use electric air compressors and similar power tools rather than diesel equipment, where feasible*
- *Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 10 minutes*
- *Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow for surrounding owners and residents to contact the job superintendent; if the City or the job superintendent receives a complaint, the superintendent shall investigate, take appropriate corrective action, and report the action taken to the reporting party*

Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the City prior to issuance of a grading permit.

BECSP MM4.9-2 Project applicants shall require by contract specifications that construction staging areas along with the operation of earthmoving equipment within the project area would be located as far away from vibration and noise sensitive sites as possible. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the City prior to issuance of a grading permit.

BECSP MM4.9-3 Project applicants shall require by contract specifications that heavily loaded trucks used during construction would be routed away from residential streets. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the City prior to issuance of a grading permit.

Implementation of mitigation measures BECSP MM4.9-1 through BECSP MM4.9-3 and adherence to Municipal Code Section 8.40.090(d) would ensure that impacts associated with construction-related noise would be minimized. Therefore, this impact would be ***less than significant***.

Operation

Sources of noise generated by implementation of the proposed project would include new stationary sources (such as rooftop HVAC systems for the residential and commercial uses). Large-scale HVAC systems would be installed for the new residential and commercial buildings within the proposed project. Large HVAC systems associated with the residential commercial buildings could result in noise levels that average between 50 and 65 dBA L_{eq} at 50 feet from the equipment. It is assumed that HVAC units would be mounted on the rooftops of the proposed buildings. In addition, the installation of shielding around these HVAC systems would be required as part of the proposed project, as stated in mitigation measure BECSP MM4.9-4 below.

BECSP MM4.9-4 Project applicants shall provide proper shielding for all new HVAC systems used by the proposed residential and mixed-use buildings to achieve a noise attenuation of 15 dBA at 50 feet from the equipment.

The shielding installed around these systems would typically reduce noise levels by approximately 15 dBA, which could reduce HVAC system noise to approximately 50 dBA L_{eq} at 50 feet from the equipment. Implementation of mitigation measure BECSP MM4.9-4 would ensure that impacts to on- and off-site noise sensitive receptors related to the HVAC systems would remain below the exterior noise standard established in the City's Noise Element and Municipal Code and would be considered ***less than significant***.

The UPRR right-of-way is located adjacent and to the east of the project site. Previous environmental documentation for the Amstar/Red Oak Project identified that the UPRR was used approximately twice a day and train pass-by resulted in maximum noise levels of 89.8 dBA L_{eq} (City of Huntington Beach 2009). According to the City's Municipal Code, noise levels of up to 15 dBA above the standard are allowable if such noise levels do not occur for over one minute in any hour. Therefore, because the occasional noise generated from a train passing by would not typically last for longer than one minute, exterior noise thresholds would not be exceeded at the residential and commercial uses associated with the proposed project.

Operation of the proposed project would involve the delivery of goods and food stuffs to the commercial and retail operations associated with the proposed project, as well as refuse pick up for both the commercial and residential components. Two noise sources would be identified with delivery operations: the noise of the diesel engines of the semi-trailer trucks and the backup beeper alarm that sounds when a truck is put in reverse, as is required and regulated by California Occupational Health and Safety Administration (Cal-OSHA). The noise generated by idling diesel engines typically ranges between 64 and 66 dBA L_{eq} at 75 feet. This noise would be temporary in nature, typically lasting no more than 5 minutes. Backup beepers are required by Cal-OSHA to be at least 5 dBA above ambient noise levels. These devices are highly directional in nature, and when in reverse the trucks and the beeper alarm would be directed towards a loading area and adjacent commercial structures. Backup beepers are, of course, intended to warn persons who are behind the vehicle when it is backing up.

As shown in Table 4.9-2 (Existing Ambient Noise Levels in Proposed Project Vicinity), noise monitoring in the vicinity of the project site indicates that existing noise levels in the area currently exceed the City noise standards for residential uses, especially along Edinger Avenue. The City of Huntington Beach General Plan states that sensitive uses (such as residences) should incorporate sound-reducing measures, including fences, walls, etc., when constructed in areas exposed to greater than existing standards. As such, mitigation measure BECSP MM4.9-5 shall be implemented for the residential development associated with the proposed project, as the existing noise levels exceed the City standards as set forth in Section 8.40.070 and Section 8.40.080 of the Municipal Code.

BECSP MM4.9-5 Prior to issuance of building permits, project applicants shall submit an acoustical study for each development, prepared by a certified acoustical engineer. Should the results of the acoustical study indicate that that exterior (e.g., patios and balconies) and interior noise levels would exceed the standards set forth in the City of Huntington Beach Municipal Code Sections 8.40.050 through 8.40.070, the project applicant shall include design measures that may include acoustical paneling or walls to ensure that noise levels do not exceed City standards. Final project design shall incorporate special design measures in the construction of the residential units, if necessary.

With implementation of mitigation measure BECSP MM4.9-4, development within the project area would be required to shield HVAC systems such that noise attributed to such systems would not increase noise levels above City standards. In addition, implementation of mitigation measure MM4.9-5 would ensure that exterior living spaces, such as porches and patios are constructed in a manner that noise levels, including noise from the occasional UPRR train pass by and retail delivery activities do not exceed the City noise standards. Therefore, this impact would be reduced to a level of ***less than significant***.

Threshold	Would the proposed project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Impact 4.9-2 **Implementation of the proposed project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. This would be a *less than significant* impact.**

Construction

This analysis uses the FTA vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are 85 VdB, which is the vibration level that is considered by the FTA to be acceptable only if there are an infrequent number of events per day (as described in Table 4.9-4 [Human Response to Different Levels of Groundborne Vibration]). In terms of groundborne vibration impacts on nearby structures, this analysis will use the FTA's vibration damage threshold of approximately 100 VdB for fragile buildings.[27]

Certain construction activities that would occur under the proposed project would have the potential to generate groundborne vibration. Table 4.9-7 (Vibration Source Levels for Construction Equipment) identifies various vibration velocity levels for the types of construction equipment that would operate at the project site during construction. It should be noted that the subterranean parking structure may require the use of soldier piles; however, the vibration levels generated from this construction activity

[27] Harris Miller Miller & Hanson Inc., *Transit Noise and Vibration Impact Assessment, Final Report* (May 2006).

would be similar to those identified below for caisson drilling, and are anticipated to be less than 81 VdB at a distance of 50 feet from the activity

Table 4.9-7 Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB				
	50 Feet	100 Feet[a]	160 Feet[a]	480 Feet[a]	700 Feet[a]
Large Bulldozer	81	75	71	55	52
Caisson Drilling	81	75	71	55	52
Loaded Trucks	80	74	64	54	51
Jackhammer	73	67	57	47	44
Small Bulldozer	52	46	36	26	23

SOURCE: Federal Railroad Administration, 1998; and PBS&J, 2008.

a The vibration levels at the off-site sensitive uses are determined with the following equation from the HMMH Transit Noise and Vibration Impact Assessment, Final Report: Lv(D)=Lv(25 ft) – 20log(D/25), where Lv = vibration level of equipment, D = distance from the equipment to the receiver, Lv(25 ft) = vibration level of equipment at 25 feet.

Construction activities would have the potential to impact the surrounding sensitive receptors to the project site, which includes both Amstar/Red Oak Project and The Revised Village at Bella Terra, located approximately 50 feet north and east of the project site, respectively. Based on the information presented in Table 4.9-7, vibration levels could reach approximately 81 VdB within 50 feet of the project site. As such, this and other sensitive receptors would not experience vibration levels during construction of the proposed project that would exceed the FTA's vibration impact threshold of 85 VdB for human annoyance. Implementation of mitigation measures BECSP MM4.9-1 through BECSP MM4.9-3 would help to reduce this impact, and therefore, this impact would be considered ***less than significant***.

Operation

During operation of the proposed project, background operational vibration levels would be expected to average around 50 VdB, as discussed previously in this section. This is substantially less than the 85 VdB threshold for people in the vicinity of the project site. Groundborne vibration resulting from operation of the proposed project would primarily be generated by trucks making periodic deliveries to the commercial and retail uses associated with the proposed project. The UPRR right-of-way is located adjacent and to the east of the proposed project building area; however, the tracks are in good condition and of continuous weld throughout the project vicinity. Therefore, the occasional freight train pass by is not anticipated to generate vibration levels that would exceed the 85 VdB threshold for the occupants of the proposed project. No substantial sources of groundborne vibration would be built as part of the proposed project; therefore, operation of the proposed project would not expose sensitive receptors on-site or off-site to excessive groundborne vibration or groundborne noise levels, and this impact would be ***less than significant***.

Threshold	Would the proposed project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Impact 4.9-3 **Implementation of the proposed project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. This would be a *less than significant* impact.**

As shown in Section 4.13 (Transportation/Traffic), the actual development for the project represents a net reduction of 284 dwelling units when compared to the land uses analyzed in the BESCP EIR. This reduction in residential units results in a 17 percent decrease in daily trips and a 19 percent decrease in the AM and PM peak hours. The conclusion of the trip generation analysis is that the project will generate considerably fewer trips. For the purposes of this noise analysis, the year 2030 traffic volumes without the proposed project assumes full build-out of the land uses allowed under the BESCP. These resulting noise levels were then compared to the noise levels that would occur from implementation of the proposed project. As shown in Table 4.9-8 (Current and Future [2030] Roadway Noise Levels in Project Vicinity), the vehicle trips associated with the proposed project would result in an increase of noise levels by 0.9 dBA Ldn along Edinger Avenue between Gothard Street and Beach Boulevard, and a decrease in noise levels by -0.1 along Edinger Avenue between Goldenwest Street and Gothard Street. All other roadways in the project vicinity are anticipated to experience no change in traffic related noise levels. For the purpose of this analysis, a permanent increase of 3 dBA L_{dn} over ambient noise levels without the project is considered to be substantial. The greatest increase in future roadway noise levels is anticipated to be 0.9 dBA L_{dn} along Edinger Avenue between Gothard Street and Beach Boulevard. This increase would be inaudible/imperceptible to most people and would not exceed the identified threshold of significance. Therefore, this impact would be considered ***less than significant***.

Table 4.9-8 Current and Future (2030) Roadway Noise Levels

		Noise Levels in dBA L_{dn}						
Roadway Segment		*Existing*	*Year 2030 Without Project Traffic*	*Year 2030 Increase Without Project*	*Year 2030 With Project Traffic*	*Project Related Increase*	*Significance Threshold*[1]	*Exceeds Significance Threshold?*
Beach Boulevard	McFadden Ave and I-405	72.5	73.0	0.5	73.0	0.0	3.0	No
	I-405 and Edinger Ave	71.8	72.7	0.9	72.7	0.0	3.0	No
	Edinger Ave and Heil Ave	71.4	72.2	1.2	72.2	0.0	3.0	No
	Heil Ave and Warner Ave	71.3	71.6	0.3	71.6	0.0	3.0	No
	Warner Ave and Slater Ave	71.1	71.5	0.4	71.5	0.0	3.0	No
McFadden Avenue	Gothard St and Beach Blvd	65.5	65.7	0.2	65.7	0.0	3.0	No
Edinger Avenue	Goldenwest St and Gothard St	69.0	69.3	0.3	69.2	-0.1	3.0	No
	Gothard St and Beach Blvd	69.1	71.0	0.9	70.9	0.9	3.0	No

SOURCE: PBS&J 2009 (calculation data and results are provided in Appendix D).

Impact 4.9-4 **Increased human activity associated with the operation of the proposed project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. This would be a *less than significant* impact.**

As described in Chapter 3 (Project Description), the proposed project would serve as a mixed-use residential and retail center. The proposed project would involve the use of HVAC systems; however, noise levels from HVAC systems are regulated by the City of Huntington Beach, and implementation of mitigation measure BECSP MM4.9-4 would ensure that the use of HVAC systems would not result in a substantial increase in ambient noise levels. According to data referenced by the EPA, normal human conversation produces noise levels of 65 dBA at a distance of approximately 3 feet. The closest off-site sensitive receptors are located approximately 50 feet to the north and east of the proposed project site. As such, the noise associated with typical retail activities would attenuate at a rate of 6 dBA per doubling of distance to levels below 50 dBA at 50 feet away, which would be below the City of Huntington Beach Noise Ordinance Exterior Noise Standards. Additionally, the residential units of the proposed project would be required to comply with Policy N 1.5.1 of the City's General Plan Noise Element, which requires that commercial and residential mixed-use structures minimize noise transmission through the use of materials that would mitigate sound transmission, or through the configuration of interior spaces to minimize sound amplification. Therefore, noise levels resulting from increases in human activity at the proposed project site would not substantially increase the ambient noise levels to noise sensitive receptors on- or off-site and this impact would be considered ***less than significant***.

Parking structures can be a source of annoyance due to automobile engine start-ups and acceleration, and the activation of car alarms. Parking structures can generate L_{eq} noise levels between 49 dBA L_{eq} (tire squeals) and 74 dBA L_{eq} (car alarms) at 50 feet. Due to the high level of traffic noise along streets surrounding the project site, normal daytime parking structure L_{eq} noise would not likely be audible due to the masking of noise by traffic on nearby roadways. Additionally, noise from the below grade parking structures would not be audible to the residential uses associated with the proposed project. Therefore, noise impacts relating to on-site parking would be considered ***less than significant,*** and no substantial increase in ambient noise levels would occur.

Threshold	Would the proposed project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Impact 4.9-5 **Implementation of the proposed project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. This would be a *less than significant* impact.**

Construction

As discussed in Impact 4.9-1, construction activities associated with the proposed project could reach above 86 dBA L_{eq} within 50 feet of the proposed project site. These construction activities would represent a substantial temporary or periodic increase in ambient noise levels. As discussed previously under "Thresholds of Significance," this analysis assumes that an increase of 3.0 dBA or greater over

ambient noise levels is substantial and significant. As shown in Table 4.9-2, the highest existing daytime ambient noise level monitored in the project vicinity was 72.8 dBA L_{eq} at 7362 Edinger Avenue. As such, the noise generated by construction activities for the proposed project could result in a temporary increase in ambient noise levels of over 3 dBA at uses adjacent to the project site. However, the construction activities would only occur during the permitted hours designated in the City of Huntington Beach Municipal Code, and thus would not occur during recognized sleep hours for residences or on days that residents are most sensitive to exterior noise (Sundays and federal holidays). As such, while an increase in ambient noise levels could occur from the construction activities associated with the proposed project, an adverse effect on the nearby residents would not occur because construction noise is not restricted pursuant to the Municipal Code as long as it occurs during permitted hours. Implementation of mitigation measures BECSP MM4.9-1 through BECSP MM4.9-3 would further reduce this impact. Therefore, this impact would be ***less than significant.***

Operation

Operation of the proposed project would not include special events or temporary activities that would cause an increase in ambient noise levels. In addition, operation of the proposed project would not require periodic use of special stationary equipment that would expose off-site sensitive receptors to an increase in ambient noise levels above those existing without the proposed project. Impact 4.9-1 and Impact 4.9-4 evaluate the potential for mechanical equipment, which would be assumed to be a constant/permanent source of ambient noise levels, attributable to the proposed project to increase ambient noise levels. Therefore, there would be no temporary or periodic noise increases to on- or off-site receptors due to operation of the proposed project. This impact would be ***less than significant***.

4.9.4 Cumulative Impacts

A cumulative impact analysis is only provided for those thresholds that result in a less than significant impact or significant and unavoidable impact, and is not provided for those thresholds that result in no project-related impacts.

The geographic context for the analysis of cumulative noise impacts depends on the impact being analyzed. For construction impacts, only the immediate area around the proposed project site would be included in the cumulative context. For operational/roadway related impacts, the context is build-out of the City of Huntington Beach General Plan, including existing and future development of cumulative projects within the City of Huntington Beach, as well as adjacent communities that would be potentially impacted. This cumulative impact analysis considers development of the proposed project, in conjunction with ambient growth as discussed in Section 4.13 (Transportation/Traffic), and other development within the vicinity of the proposed project in the City of Huntington Beach and surrounding jurisdictions. Noise is by definition a localized phenomenon, and significantly reduces in magnitude as distance from the source increases. Consequently, only projects and growth due to occur in the Huntington Beach area would be likely to contribute to cumulative noise impacts.

Threshold	Would the proposed project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Increases in noise at sensitive uses would occur as a result of construction of the proposed project, along with other construction in the vicinity, including the Amstar/Red Oak Project and The Revised Village at Bella Terra project proposed adjacent to the project site. As discussed under Impact 4.9-1, construction of the proposed project would expose nearby sensitive receptors to exterior noise levels above the 55 dBA noise standard identified in the Huntington Beach Municipal Code. This construction noise would be temporary, and mitigation measures are being implemented to reduce the impact of the noise; however, exterior noise levels would still be above 55 dBA.

Other construction, including the Amstar/Red Oak Project and The Revised Village at Bella Terra, that may occur in the vicinity of the proposed project site would contribute noise levels similar to those generated for the proposed project. Where this development adjoins the proposed project construction, the combined construction noise levels would have a cumulative effect on nearby sensitive uses. Noise is not strictly additive, and a doubling of noise sources would not cause a doubling of noise levels; however, cumulative construction noise levels would be in excess of the City's Municipal Code exterior standard at nearby sensitive receptors.

Under Section 8.40.090(d) (Special Provisions) of Chapter 8.40 of the City's Municipal Code, noise sources associated with construction are exempt from the requirements of the Municipal Code, provided that construction activities do not occur between the hours of 8:00 PM and 7:00 AM on weekdays, including Saturday, or at any time on Sunday or a federal holiday. Because compliance with this construction time limit is required by the Huntington Beach Municipal Code, the proposed project and all other cumulative development would be exempt, and the cumulative impact associated with construction noise in the Huntington Beach area would be considered less than significant. Similarly, because construction-related noise generated under the proposed project would be exempt from established noise standards, the cumulative impact of the project would also be ***less than significant***.

With regards to stationary sources, noise would be generated by sources at the proposed project and other projects in the vicinity, including the operation of the Amstar/Red Oak Project and The Revised Village at Bella Terra. The major stationary source of noise that will be introduced into the Huntington Beach area would likely be HVAC equipment located on the rooftops of new developments and residential uses. As discussed, this HVAC equipment generally produces noise levels of around 50 and 65 dBA L_{eq} at 50 feet from the equipment. Shielding, which is required by mitigation for the proposed project, could reduce these noise levels by up to 15 dBA, to about 35 to 50 dBA L_{eq} at 50 feet, depending on whether the equipment serves residential or commercial uses. Because shielding would be required for all development associated with the proposed project, noise levels from individual stationary sources would not exceed the applicable City noise standard, and because this shielding would be expected to be installed on all new development in the Huntington Beach area, it is expected that all rooftop stationary sources in the proposed project area would similarly generate ***less than significant*** noise levels.

Threshold	Would the proposed project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction of the proposed project would produce temporary vibration impacts that would be less than significant. Cumulative development in the Huntington Beach area, including the Amstar/Red Oak Project and The Revised Village at Bella Terra are not considered likely to result in the exposure of on-site or off-site receptors to excessive groundborne vibration, due to the localized nature of vibration impacts, the fact that all construction would not occur at the same time and at the same location, and the largely built-out nature of the City, which would usually preclude the use of heavy equipment such as bulldozers. Aside from the Amstar/Red Oak Project and The Revised Village at Bella Terra, no other projects are proposed in close enough proximity to affect the same receptors as the proposed project. Only receptors located in close proximity to each construction site would be potentially affected by both activities. Construction activities associated with the Amstar/Red Oak Project and The Revised Village at Bella Terra, which are adjacent to the proposed project, are anticipated to overlap with construction activities for the proposed project for some amount of time, and sensitive uses on or in the immediate vicinity of the proposed project site may be exposed to two sources of ground-borne vibration simultaneously. However, for the combined vibration impact from the two projects to reach cumulatively significant levels, heavy construction activity from both projects would have to occur simultaneously within 50 feet of any receptor. While the property line for the Amstar/Red Oak Project and The Revised Village at Bella Terra are adjacent to the proposed project site, the buildings for both adjacent projects would be located at a distance greater than 50 feet. Therefore, because occupied buildings associated with the proposed project would not be within 50 feet of buildings associated with either the Amstar/Red Oak Project or The Revised Village at Bella Terra, it is not likely that heavy construction activity from all three projects would simultaneously occur at distances of 50 feet or less from the same receptor. Therefore, vibration from future development would not combine with construction vibration of the proposed project to result in a significant cumulative impact. The contribution of the proposed project to such an impact would not be cumulatively considerable because the proposed project would include mitigation to reduce the project's impact, and the cumulative impact of the project would be ***less than significant***.

Threshold	Would the proposed project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed project and other projects within the project site. Therefore, cumulative traffic-generated noise impacts have been assessed based on the contribution of the proposed project to the future cumulative base traffic volumes in the project vicinity. The noise levels associated with cumulative base traffic volumes without the project, and cumulative base traffic volumes with the project are identified in Table 4.9-8. Noise level increases in the project area would reach a maximum of 0.9 dBA L_{dn} on Edinger Avenue between Gothard Street and Beach Boulevard, which is inaudible/imperceptible to most people. The contribution of the proposed project would range from 0 dBA to 0.9 dBA across all project area intersections studied. No study roadway segments would increase by 3.0 dBA L_{dn} or more. The 0 dBA to 0.9 dBA contribution of the proposed project to future roadway noise levels would not exceed the identified thresholds of significance and, therefore, would not be cumulatively considerable.

Increased human activity due to the mix of residential and commercial components of the proposed project would result in an increase in noise levels. The main contribution to noise levels that would potentially result in cumulative effects would be stationary equipment and parking structures associated with the proposed project, and the related mixed-use projects within the vicinity. Parking structures can generate L_{eq} noise levels of between 49 dBA L_{eq} (tire squeals) to 74 dBA L_{eq} (car alarms) at 50 feet. Due to the high level of traffic noise along streets surrounding the project site, normal daytime parking structure L_{eq} noise would not likely be audible due to the masking of noise by traffic on nearby roadways. Due to distance from sensitive receptors, it is unlikely that noise from multiple related projects would interact to create a significant combined noise impact from parking structures.

As discussed above, noise is not strictly additive; a doubling of noise sources does not create a doubling of noise levels. Because all rooftop equipment would be shielded, no source would generate maximum noise levels of greater than 57 dBA L_{eq} at 50 feet. Consequently, multiple units would have to be located within 50 feet of a receptor to achieve noise levels that would exceed the City standards. The development associated with the proposed project and other nearby projects are not so dense that multiple stationary units would be so closely spaced, either on site or off site. Consequently, the cumulative effect of multiple HVAC units, mechanical equipment, and parking structures would be ***less than significant***.

Threshold	Would the proposed project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Periodic and temporary noise levels would be generated by construction of the proposed project along with other construction in the vicinity, including Amstar/Red Oak Project and The Revised Village at Bella Terra, which are adjacent to the proposed project. Construction of the two adjacent projects are anticipated to overlap with construction activities for the proposed project for a moderate period of time, and sensitive uses on or in the immediate vicinity of the proposed project site may be exposed to two or more sources of construction related noise simultaneously. As discussed in Impact 4.9-1, the proposed project by itself would expose some receptors to noise levels in excess of acceptable City standards. Thus, the possibility exists that a substantial cumulative increase in construction noise levels could result from construction associated with the proposed project combined with other nearby projects. The cumulative impact of the proposed project and the related projects, concurrently emitting high levels of construction noise, would likely be significant and unavoidable. As discussed previously, the City exempts construction noise from the provisions of the Municipal Code as long as construction occurs within certain hours of the day. All of the projects analyzed in the cumulative context that would be constructed concurrently with the proposed project would be required to comply with the same provisions of the Municipal Code described above. Additionally, construction noise impacts are localized in nature and decrease substantially with distance. Consequently, all projects analyzed in the cumulative context would fall under the Municipal Code exemption, and the proposed project would comply with the noise-reducing requirements of mitigation measures BECSP MM4.9-1 through BECSP MM4.9-3. Therefore, the cumulative impact of the proposed project would be ***less than significant***.

4.9.5 References

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