

10

NOISE

The Noise chapter of the Environmental Impact Report (EIR) describes the existing noise environment in the project vicinity, and identifies potential impacts and mitigation measures related to the construction and operation of the Bohemia Retail Project (proposed project). The method by which the potential impacts are analyzed is discussed, followed by the identification of potential impacts and the recommended mitigation measures designed to reduce significant impacts to less-than-significant levels. The Noise chapter is primarily based on the *Environmental Noise Assessment for the Bohemia Retail Project EIR* prepared by Bollard Acoustical Consultants, Inc. (See Appendix M),¹ the *Placer County General Plan (PCGP)*,² the *PCGP EIR*,³ the *Auburn/Bowman Community Plan (ABCP)*,⁴ and the *Placer County Noise Ordinance*.⁵

Impacts that have already been identified in the Bohemia Retail Initial Study as having *no impact* (“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”) or impacts with *less-than-significant* levels (“A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project”), are not further addressed within this chapter. The impacts identified as *potentially significant* in the Initial Study are addressed in this chapter.

10.1 ENVIRONMENTAL SETTING

The Environmental Setting section includes a discussion of acoustical terminology, the effects of noise on people, existing sensitive receptors in the project vicinity, groundborne vibration, and existing ambient and traffic noise levels in the project vicinity.

Acoustical Terminology

Acoustics is the term applied to the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves to human ears. Noise can be described as a subjective reaction to different types of sounds. If the pressure variations occur frequently enough (at least 20 times per second), then the variations may be heard by the human ear and referred to as sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as zero dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. A strong correlation exists between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dB is generally perceived as a doubling in loudness. For example, a 70 dB sound is half as loud as an 80 dB sound, and twice as loud as a 60 dB sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The day/night average level (Ldn) is based on the average noise level over a 24-hour day, with a +10 decibel weighting applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based on the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, the measurement tends to disguise short-term variations in the noise environment. Table 10-1 lists several examples of the noise levels associated with common situations.

Effects of Noise on People

With regard to increases in A-weighted noise levels, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of one dB cannot be perceived;
- Outside of the laboratory, a three dB change is considered a barely perceivable difference;
- A change in level of at least five dB is required before any noticeable change in human response would be expected; and
- A 10 dB change is subjectively heard as approximately a doubling in loudness, and would typically cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately six dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

Table 10-1 Typical Noise Levels		
Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing
<i>Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol, October 1998.</i>		

Project Vicinity

The project site is located within unincorporated area of Placer County, approximately two miles north of the City limits of Auburn, California, generally east of the intersection of State Route (SR) 49 and Hulbert Way. The site is located within the ABCP area, which encompasses approximately 40 square miles at the base of the Sierra Nevada foothills between Sacramento and Lake Tahoe.

It should be noted that the project would include a fueling station on the southwest corner of the property. The proposed fueling station would be well-removed from neighboring residential uses (more than 700 feet) and the station is not expected to be a significant source of noise. Therefore, noise associated with the fueling station was not further analyzed.

Existing Conditions

Existing Sensitive Receptors in the Project Vicinity

Some land uses are considered more sensitive to ambient noise levels than others. Land uses that are considered sensitive receptors include residences, schools, libraries, hospitals, and passive recreational areas. Noise-sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. Currently, sensitive receptors near the project site include the existing single-family residences to the north and east off of Dyer Court and Canal Street, respectively. The sensitive receptors may be affected by increased project-related traffic noise and/or project-related noise from on-site activities.

Existing Ambient Noise Levels in the Project Vicinity

The existing ambient noise environment in the immediate project site vicinity generally includes local traffic, distant traffic along SR 49, trains, community activities, and existing commercial and industrial operations in the vicinity. Existing ambient noise levels in the project vicinity were quantified by Bollard Acoustical Consultants, Inc. by including 24-hour ambient noise level measurement surveys. As presented on Figure 10-1, two locations were selected for noise measurements conducted on October 24-27, 2008. The results of the ambient noise level measurements are presented in Table 10-2 and are representative of the existing ambient noise levels at the closest sensitive receptors to the project site.

Noise Level Descriptor	Average Hourly Noise Level (Range), dB			
	Site 1		Site 2	
	Daytime	Nighttime	Daytime	Nighttime
Hourly Leq	55.7 (45-67)	44.1 (41-49)	50.7 (43-60)	42.8 (35-51)
Hourly Lmax	73.8 (62-95)	59.2 (50-67)	69.4 (57-83)	55.4 (45-74)
Ldn	55		52	

Source: Bollard Acoustical Consultants, Inc., 2009.

Existing Traffic Noise Environment in the Project Vicinity

Table 10-3 summarizes the calculated existing traffic noise levels at a reference distance of 100 feet from the centerlines of existing project-area roadways and expressed in terms of Ldn. The distance to traffic noise contour lines are also expressed in Table 10-3.

Figure 10-1
Project Site and Location Map



**Table 10-3
Existing Traffic Noise Levels and Contour Distances**

Roadway	Segment	Ldn (dB) at 100 ft	Individual Contour Distances			
			70 dB Ldn	65 dB Ldn	60 dB Ldn	
SR 49	North of Dry Creek Rd.	68	69	149	321	
	Dry Creek Rd. to Quartz Dr.	68	69	148	319	
	Quartz Dr. to Education St.	68	71	152	328	
	Education St. to Bell Rd.	68	70	151	326	
	Bell Rd. to Willow Creek Dr.	67	67	144	310	
	Willow Creek Dr. to Atwood Rd.	67	68	146	314	
	Atwood Rd. to Kemper Rd.	68	70	150	324	
	Kemper Rd. to Hulbert Wy.	68	77	166	357	
	Hulbert Wy. To Luther Rd.	68	76	163	351	
	Luther Rd. to Edgewood Rd.	68	72	155	334	
Bell Rd.	Edgewood Rd. to Nevada St.	68	70	150	323	
	South of Nevada St.	67	63	137	294	
	West of SR 49	66	53	115	248	
	SR 49 to Quartz Dr.	66	53	115	248	
	Quartz Dr. to New Airport Rd.	66	52	111	239	
	East of New Airport Rd.	69	81	176	378	
	Luther Rd.	West of SR 49	53	7	16	34
		SR 49 to Canal St.	61	26	56	120
		Canal St. to Dairy Rd.	60	22	47	101
	Canal St.	Dairy Rd. to Bowman Rd.	60	21	45	96
North of Project Driveway		52	6	13	29	
Project Driveway to Luther Rd.		52	6	13	29	
New Airport Rd.	South of Luther Rd.	44	2	4	9	
	North of Bell Rd.	56	12	27	57	
	Bell Rd. to SR 49	56	12	27	58	
Dry Creek Rd.	West of SR 49	56	11	25	53	
	East of SR 49	56	12	27	58	
Quartz Dr.	West of SR 49	55	10	20	44	
	North of Bell Rd.	56	11	24	53	
	South of Bell Rd.	56	11	25	53	
Education St.	West of SR 49	55	9	20	44	
Willow Creek Dr.	West of SR 49	52	6	13	27	
	East of SR 49	55	11	23	50	
Atwood Rd.	West of SR 49	59	18	38	82	
	East of SR 49	57	13	27	59	
Kemper Rd.	West of SR49	55	9	20	43	
Edgewood Rd.	West of SR 49	53	8	17	36	
	East of SR 49	42	1	3	7	
Nevada St.	West of SR 49	55	10	21	46	
Marguerite Mine Rd.	East of SR 49	53	7	15	33	
Dairy Rd.	South of Luther Rd.	53	8	16	35	

Sources: Omni-Means and Bollard Acoustical Consultants, Inc., FHWA-RD-77-108

Existing Aviation Noise Setting in Project Vicinity

The project site is located approximately two miles south of the Auburn Municipal Airport, which is within the jurisdiction of the Placer County Airport Land Use Commission Plan (ALUCP). The site and vicinity is located on lands identified within the ALUCP as a “Zone D” designation, which is generally defined as an area that is sometimes over flown by aircraft. As shown in Figure 10-2, the project site is located approximately one mile south of any point along the existing contour lines for the Auburn Municipal Airport.

10.2 REGULATORY SETTING

In order to limit population exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the State have established standards and ordinances to control noise. The *Placer County General Plan Noise Element*, the *Auburn Bowman Community Plan Noise Element*, and the California Environmental Quality Act (CEQA) Guidelines provide regulations regarding noise levels for uses relevant to the proposed project. The following provides a general overview of the existing regulations established by the State and the County.

State Regulations

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels.

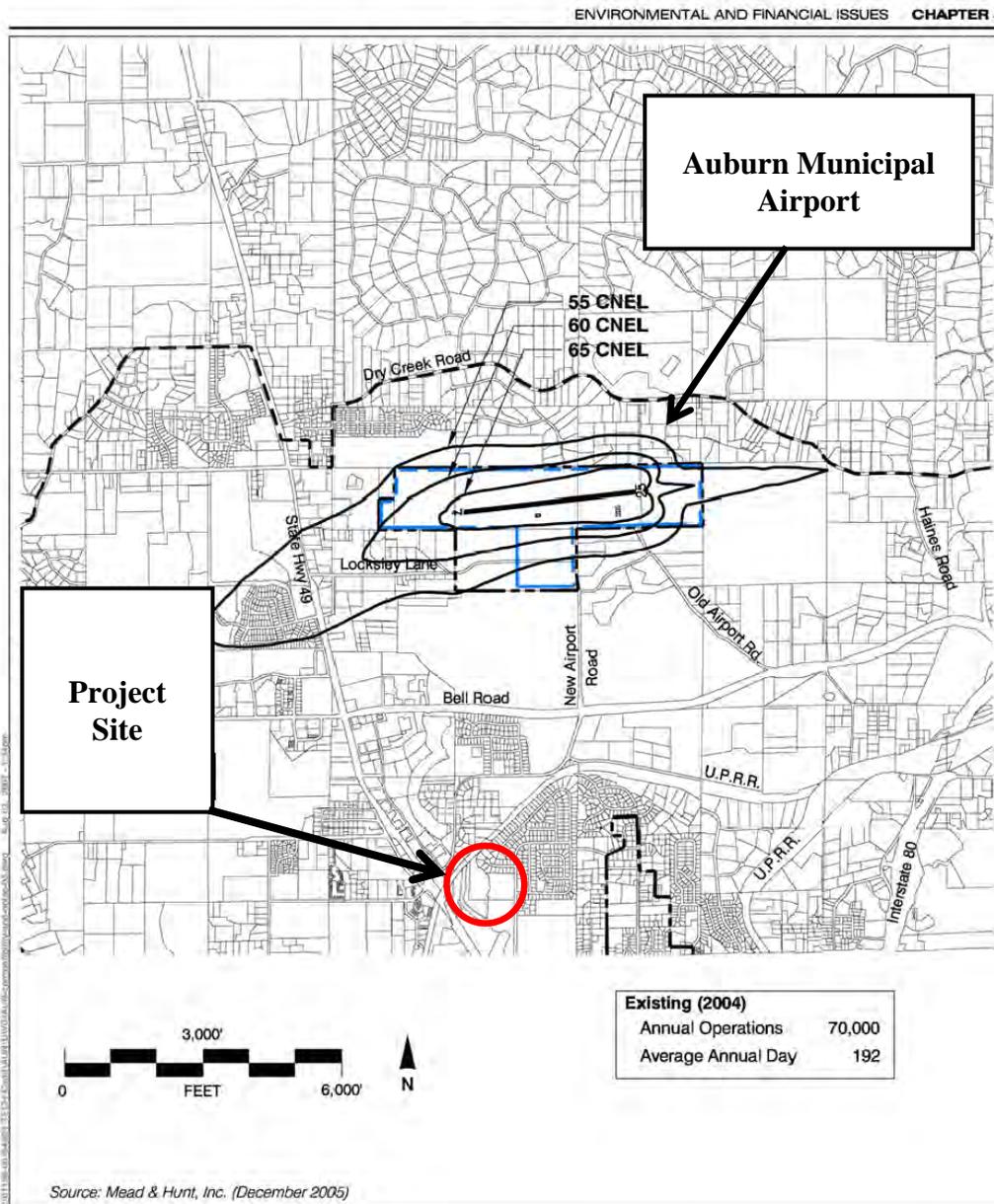
Local Regulations

Auburn/Bowman Community Plan

The project site is located within the ABCP, which establishes acceptable goals and policies for both transportation and non-transportation noise sources. According to the ABCP, the Plan area contains a number of significant noise sources including the following: traffic along major roadways and highways such as Interstate 80, SR 49, Bell Road, and Luther Road; railroad operations, the Auburn Municipal Airport, and industrial activities. The following are the applicable noise-related goals and policies.

- | | |
|--------|--|
| Goal a | To protect community plan area residents from the harmful and annoying effects of exposure to excessive noise. |
| Goal b | To preserve the rural noise environment of the community plan area and surrounding areas. |

Figure 10-2
ALUCP Existing Airport Noise Contour Lines



Source: Auburn Municipal Airport Master Plan Report (Adopted July 23, 2007)

Goal c To protect the economic base of the community plan area by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.

Goal d To encourage the application of state of the art land use planning methodologies in areas of potential noise conflicts.

Policy b Noise created by new non-transportation noise sources shall be mitigated so as not to exceed the noise level standards of Table 10-4 (Table 14 in Community Plan) as measured immediately within the property line of lands designated for noise-sensitive uses.

Policy c Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 10-4 (Table 14 in Community Plan) at existing or planned noise-sensitive uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design. [Requirements for the content of an acoustical analysis are given by Table 10-5 (Table 15 in Community Plan).]

Note: For the purpose of the Noise Element, transportation noise sources are defined as traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by Federal and State regulations. Other noise sources are presumed to be subject to local regulations, such as a noise control ordinance. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, loading docks, etc.

Policy d The feasibility of proposed projects with respect to existing and future transportation noise levels shall be evaluated by comparison to Table 10-6 (Table 16 in Community Plan).

Policy f Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in Table 10-6 (Table 16 in Community Plan) at outdoor activity areas or interior spaces of existing noise-sensitive land uses in either the incorporated or unincorporated areas.

Policy g Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 10-6 (Table 16 in Community Plan) or the performance standards of Table 10-4 (Table 14 in Community Plan), an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

Table 10-4 (Table 14 in Community Plan)		
Noise Level Performance Standards		
(For new projects affected by or including non-transportation sources)		
Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Leq, dB	50	45
Maximum level, dB	70	65
<p>Note: Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).</p> <p>Source: Placer County, Auburn/Bowman Community Plan, 1994 (updated 1999).</p>		

Table 10-5 (Table 15 in Community Plan)
Requirements for an Acoustical Analysis (See Policy 9.A.5)
An acoustical analysis prepared pursuant to Policy 9.A.5 shall:
1. Be the financial responsibility of the applicant.
2. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
3. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.
4. Estimate existing and projected cumulative (20 years) noise levels in terms of L_{dn} or CNEL and/or the standards of Table 14 (Community Plan), and compare those levels to the policies in this section. Noise prediction methodology must be consistent with the Placer County Acoustical Design Manual.
5. Recommend appropriate mitigation to achieve compliance with the policies and standards of this section, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which contain noise-sensitive land uses. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.
6. Estimate noise exposures after the prescribed mitigation measures have been implemented.
7. Describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.
Source: Placer County, Auburn/Bowman Community Plan, 1994 (updated 1999).

Policy h Where noise mitigation measures are required to achieve the standards of Tables 10-4 and 10-6 (Tables 14 and 16, respectively in Community Plan), the emphasis of such noise measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.

Placer County Noise Ordinance

The Placer County Noise Ordinance (Ordinance 5280-B) was adopted in 2004 and codified as Article 9.36 of the County Code. The purpose of the Noise Ordinance is to implement the Noise Standards identified in the PCGP and the ABCP. The County Noise Ordinance is enforced with the Penal Code to establish standards for reported nuisance abatement and enforcement within the County.

Table 10-6 (Table 16 in Community Plan)			
Maximum Allowable Noise Exposure – Transportation Noise Sources			
Land Use	Outdoor Activity Areas¹	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq}, dB²
Residential	60 ³	45	--
Transient Lodging	60 ³	45	--
Hospitals, Nursing Homes	60 ³	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60 ³	--	40
Office Buildings	60 ³	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

Notes:

- ¹ Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
- ² As determined for a typical worst-case hour during periods of use.
- ³ Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table. For properties affected by transportation noise from I-80 or railroad tracks, this maximum level shall be 70 dB Ldn/CNEL, provided that interior levels are in compliance with this table.

Source: Placer County. Auburn/Bowman Community Plan, Noise Element, p. 102. 1994 (updated 1999).

10.3 IMPACTS AND MITIGATION MEASURES

Standards of Significance

In accordance with Appendix G of the California Environmental Quality Act (CEQA), Placer County has determined that implementation of the project would result in significant noise and vibration impacts if the project would result in any of the following:

- Exposure of persons to or generation of stationary noise levels in excess of daytime (Leq 50 dB, Lmax 70 dB) or nighttime (Leq 45 dB, Lmax 65 dB) standards established in the PCGP Noise Element and the ABCP Noise Element (See Table 10-4);

- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. An increase in the existing ambient noise level(s) is considered significant if the existing ambient noise levels are:
 - Less than 60 dB, a significant increase would be +5 dB (or more);
 - Between 60 and 65 dB, a significant increase would be +3 dB (or more); and
 - Greater than 65 dB, a significant increase would be +1.5 dB (or more).
- Exposure of persons to or generation of transportation noise sources that exceed the outdoor activity area threshold (60 Ldn/CNEL, dB) or interior spaces threshold (45 Ldn/CNEL, dB), as established within the Noise Element of the ABCP (See Table 10-6);
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- For a project 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, where the project would expose people residing or working in the area to excessive noise levels; or
- For a project within the vicinity of a private airstrip, where the project would expose people residing or working in the project area to excessive noise levels.

Methods of Analysis

As stated earlier, impacts identified as *potentially significant* within the Initial Study are addressed below. All other impacts listed in the Standards of Significance above that have been identified as having *no impact* or a *less-than-significant* impact have already been addressed in the Initial Study.

A comparison of four project-related development scenarios to the standards of significance listed above is included in the noise analysis. The four scenarios include Existing Conditions, Short Term Plus Project Conditions, Cumulative No Project Conditions, and Cumulative Plus Project Conditions. The latter two scenarios have been incorporated into Chapter 18, Cumulative Impacts and Other CEQA Sections, of this EIR. Therefore, the analyses included within this chapter relate to Existing Conditions and Short Term Plus Project Conditions.

As the future tenants of the proposed project are not known at this time, the analysis included below also includes an assessment for two buildout development alternative options for the proposed project. The two buildout options for the proposed project are as follows:

Option 1: Discount Club Option – Assumes the development of a 155,000 square foot “Discount Club” store and gas station.

Option 2: Discount Superstore – Assumes the development of a 155,000 square foot “Discount Superstore” and gas station.

Construction Noise Impact Assessment Methodology

Construction noise was analyzed using data compiled by Caltrans Roadway Construction Noise Model V 1.0, which lists typical noise levels at 50 feet from construction equipment and various construction activities. Construction activities associated with the proposed project are discussed relative to the applicable policies located within the Noise Element of the PCGP.

Existing Ambient Noise Environment

To quantify the existing ambient noise environment in the project vicinity, 24-hour ambient noise level measurement surveys were completed at 1680 Canal Street (Site 1) and 12250 Dyer Court (Site 2) on October 24-27, 2008 (See Figure 10-1). Larson-Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with LDL Model 2560 one half inch microphones were used to complete the ambient noise level measurement surveys. The meters were calibrated before use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all of the pertinent specifications of the American National Standards Institute for Type 1 (precision) sound level meters.

Although originally developed for assessing the changes in ambient noise levels resulting from aircraft operations, the following recommendations created by the Federal Interagency Committee on Noise (FICON) are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as Ldn. Specifically, the recommendations provide a good correlation to transportation-related noise sources. In general, an increase in traffic noise levels becomes more significant as the ambient noise level increases. A summary of the significant changes in ambient noise exposure levels is presented in Table 10-7.

Existing Noise Level (Ldn)	Increase Required for Significant Impact (Ldn)
Less than 60 dB	+5 dB or greater
Between 60 and 65 dB	+3 dB or greater
Greater than 65 dB	+1.5 dB or greater

Source: Federal Interagency Committee on Noise (FICON).

Existing Traffic Noise Environment

To predict existing noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used by Bollard Acoustical Consultants, Inc. The noise model uses the Calveno reference noise factors for automobiles, medium trucks, and heavy trucks. The Model considers vehicle volume and speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the sound propagation path. The Model was developed to predict hourly Leq values for free-flowing traffic conditions.⁶ Included in Appendix M of the Draft EIR are detailed day/night traffic distributions. Traffic speeds of 55 mph, 45 mph, 40 mph, 35 mph were assumed for Bell Road east of New Airport Road, SR 49 and principal arterials, Luther Road, and all other studied roadways, respectively. Traffic volumes for existing conditions were

obtained from *Bohemia Retail Project Transportation Impact Analysis Report* prepared by Omni-Means (included as Appendix G of the Draft EIR).

Other Noise Measurements

Data collected to represent truck delivery noise estimates were gathered by Bollard Acoustical Consultants, Inc. in June 2008 at a Sacramento area truck stop. Measurements of 20 tractor-trailer truck pass-bys were recorded, including six refrigeration trucks. Based on the gathered data, trucks en route to and from a loading dock are estimated to produce an average SEL and Lmax of approximately 83 dB and 75 dB, respectively (at a distance of 50 feet).

Expected worse-case loading dock noise levels were recorded on August 16, 2008 at the Super Walmart store located in Citrus Heights, California as part of a long-term noise level survey (August 15-18, 2008), the loading dock measurements were recorded by Bollard Acoustical Consultants, Inc. at the store's four loading dock bay, at a distance of 100 feet. Measured loading dock operations were recorded at 58 dB Leq/74 dB Lmax and 55 dB Leq/73 dB Lmax for worst-case daytime and nighttime conditions, respectively. The reference loading dock noise levels were adjusted by -5 dB to account for the increased spherical spreading loss (-6 dB per doubling of distance). In addition, it should be noted not more than two Walmart trucks used the facility during the heaviest use hours. Therefore, this measurement data is assumed to be applicable to worst-case operations associated with the proposed project's two-truck docks. Furthermore, Bollard Acoustical Consultants, Inc. estimated that not more than one of the proposed six daily truck deliveries could occur during the nighttime hours (6:00 AM to 7:00 AM or 10:00 PM to 12:00 AM).

Project-Specific Impacts and Mitigation Measures

10-1 Construction noise impacts.

Activities associated with the construction of the proposed project would result in elevated noise levels, with maximum noise levels ranging from 77 to 85 dB at a distance of 50 feet, as shown in Table 10-8. Construction activities would be temporary in nature and would occur during normal daytime working hours. Nonetheless, because construction activities would result in periods of elevated noise levels at nearby sensitive receptors, the development of the proposed project could result in an adverse impact with regard to construction noise.

In addition, noise would be generated by increased truck traffic on area roadways during the construction phase. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. The noise increase would be of short duration, and would occur primarily during daytime hours. Construction activities are conditionally exempt from the Placer County Noise Ordinance between 6:00 AM and 8:00 PM, Monday through Friday and from 8:00 AM to 8:00 PM on Saturdays and Sundays. Generally, if a construction project adheres to the construction times identified in the Noise Ordinance, construction noise is exempted.

Table 10-8 Construction Noise Levels	
Type of Equipment	Maximum Level, dB at 50 Feet
Backhoe	78
Concrete Mixer	79
Sump Truck	77
Front End Loader	79
Pneumatic Tools	85
Air Compressor	78

Source: U.S. Department of Transportation. Roadway Construction Noise Model V 1.0.

Although exempt, construction activities associated with the development of the proposed project would result in a temporary increase in noise levels to the adjacent properties and are considered a *potentially significant* impact.

Mitigation Measure(s)

To minimize short-term, construction-related noise impacts, the following mitigation measures are required to reduce the potential impact to a *less-than-significant* level.

10-1(a) Construction noise emanating from any construction activities is prohibited on Sundays and Federal Holidays, and shall only occur:

- a) Monday through Friday, 6:00 a.m. to 8:00 p.m. (during daylight savings);*
- b) Monday through Friday, 7:00 a.m. to 8:00 p.m. (during standard time); and*
- c) Saturdays, 8:00 a.m. to 6:00 p.m.*

In addition, temporary signs (four feet by four feet) shall be located throughout the project site, as determined by the Design Review Committee, at key intersections depicting the above construction hour limitations. Said signs shall include a toll free public information phone number where surrounding residents can report violations and the disturbance coordinator will respond and resolve noise violations. This condition shall be included on the Improvement Plans and shown in the development notebook.

10-1(b) Fixed construction equipment, which may include, but not be limited to, compressors and generators and/or heavy equipment staging areas, shall be located as far away from sensitive receptors, as feasible. All internal combustion engines shall be fitted with factory specified mufflers. In addition, impact tools shall be shielded or shrouded. Intake and exhaust ports of powered construction equipment shall also be muffled or shielded.

10-1(c) A disturbance coordinator who would receive any public noise-related complaints about construction equipment and practices shall be appointed by the project applicant for the project site. The disturbance coordinator shall

be responsible for determining the cause of the complaint(s) and the implementation of any feasible measures to alleviate the complaint(s). The disturbance coordinator's contact information shall be supplied by the project applicant to the Placer County Planning Department, and shall be posted throughout the site and adjacent public spaces.

10-2 Traffic-related noise impacts as a result of project implementation.

Noise impacts were assessed for project-related traffic increases on the local roadway network for both development alternatives: Option 1 (Discount Club) and Option 2 (Discount Superstore). Predicted short-term traffic noise level increases for the local roadway network for Option 1 and 2 are shown in Tables 10-9 and 10-10, respectively.

Both tables illustrate whether the predicted noise level increases exceed the applicable standards presented in Table 10-7 for each roadway segment. It should be noted that the same speed and traffic distribution assumptions were incorporated as those discussed under the Existing Traffic Noise Environment section above.

Option 1 – Discount Club

As shown in Table 10-9, the majority of the predicted project-related traffic noise level increases would not result in any overall change to the existing ambient noise levels. However, four roadway segments would experience slight increases to the existing transportation-related ambient noise levels with project implementation under development Option 1. The roadway segments and corresponding thresholds (based on existing noise levels) for the four segments predicted to have project-related increases are:

- The existing noise level for Luther Road between Dairy Road and Bowman Road is between 60 and 65 dB, which has a corresponding noise increase threshold of 3 dB (Table 10-7). The predicted 1 dB increase for the roadway segment would not exceed the +3 dB threshold.
- The existing noise level for Canal Street, north of the project driveway is less than 60 dB, which has a corresponding noise increase threshold of 5 dB (Table 10-7). The predicted +3 dB increase for the roadway segment would not exceed the +5 dB threshold.
- The existing noise level for Canal Street between the project driveway and Luther Road is less than 60 dB, which has a corresponding noise increase threshold of 5 dB (Table 10-7). The predicted +2 dB noise increase would not exceed the +5 dB threshold.

**Table 10-9
Predicted Traffic Noise Exposure Levels for Discount Club (Option 1)**

Roadway	Segment	Plus Project (Ldn, dB)	Change in dB	Threshold Standard (Ldn, dB)	Exceeds Standard
SR 49	North of Dry Creek Rd.	69 (0)	0	--	--
	Dry Creek Rd. to Quartz Dr.	69 (0)	0	--	--
	Quartz Dr. to Education St.	69 (0)	0	--	--
	Education St. to Bell Rd.	69 (0)	0	--	--
	Bell Rd. to Willow Creek Dr.	69 (0)	0	--	--
	Willow Creek Dr. to Atwood Rd.	69 (0)	0	--	--
	Atwood Rd. to Kemper Rd.	69 (0)	0	--	--
	Kemper Rd. to Hulbert Wy.	70 (0)	0	--	--
	Hulbert Wy. To Luther Rd.	69 (0)	0	--	--
	Luther Rd. to Edgewood Rd.	69 (0)	0	--	--
	Edgewood Rd. to Nevada St.	69 (0)	0	--	--
	South of Nevada St.	68 (0)	0	--	--
Bell Rd.	West of SR 49	66 (0)	0	--	--
	SR 49 to Quartz Dr.	66 (0)	0	--	--
	Quartz Dr. to New Airport Rd.	66 (0)	0	--	--
	East of New Airport Rd.	69 (0)	0	--	--
Luther Rd.	West of SR 49	53 (0)	0	--	--
	SR 49 to Canal St.	61 (0)	0	--	--
	Canal St. to Dairy Rd.	61 (0)	0	--	--
	Dairy Rd. to Bowman Rd.	61 (+1)	+1	+3 or more	No
Canal St.	North of Project Driveway	41(+3)	+3	+5 or more	No
	Project Driveway to Luther Rd.	54 (+2)	+2	+5 or more	No
	South of Luther Rd.	44 (0)	0	--	--
New Airport Rd.	North of Bell Rd.	59 (0)	0	--	--
	Bell Rd. to SR 49	58 (0)	0	--	--
Dry Creek Rd.	West of SR 49	56 (0)	0	--	--
	East of SR 49	57 (0)	0	--	--
Quartz Dr.	West of SR 49	55 (0)	0	--	--
	North of Bell Rd.	56 (0)	0	--	--
	South of Bell Rd.	56 (0)	0	--	--
Education St.	West of SR 49	55 (0)	0	--	--
Willow Creek Dr.	West of SR 49	56 (0)	0	--	--
	East of SR 49	56 (0)	0	--	--
Atwood Rd.	West of SR 49	59 (0)	0	--	--
	East of SR 49	57 (0)	0	--	--
Kemper Rd.	West of SR49	55 (0)	0	--	--
Edgewood Rd.	West of SR 49	54 (+1)	+1	+5 or more	No
	East of SR 49	42 (0)	0	--	--
Nevada St.	West of SR 49	55 (0)	0	--	--
Marguerite Mine Rd.	East of SR 49	53 (0)	0	--	--
Dairy Rd.	South of Luther Rd.	54 (0)	0	--	--

Sources: FHWA-RD-77-108, Omni-Means, and Bollard Acoustical Consultants, Inc.

**Table 10-10
Predicted Traffic Noise Exposure Levels for Discount Superstore (Option 2)**

Roadway	Segment	Plus Project (Ldn, dB)	Change in dB	Threshold Standard (Ldn, dB)	Exceeds Standard
SR 49	North of Dry Creek Rd.	69 (0)	0	--	--
	Dry Creek Rd. to Quartz Dr.	69 (0)	0	--	--
	Quartz Dr. to Education St.	69 (0)	0	--	--
	Education St. to Bell Rd.	69 (0)	0	--	--
	Bell Rd. to Willow Creek Dr.	69 (0)	0	--	--
	Willow Creek Dr. to Atwood Rd.	69 (0)	0	--	--
	Atwood Rd. to Kemper Rd.	69 (0)	0	--	--
	Kemper Rd. to Hulbert Wy.	70 (0)	0	--	--
	Hulbert Wy. To Luther Rd.	69 (0)	0	--	--
	Luther Rd. to Edgewood Rd.	69 (0)	0	--	--
Edgewood Rd. to Nevada St.	69 (0)	0	--	--	
South of Nevada St.	68 (0)	0	--	--	
Bell Rd.	West of SR 49	66 (0)	0	--	--
	SR 49 to Quartz Dr.	66 (0)	0	--	--
	Quartz Dr. to New Airport Rd.	66 (0)	0	--	--
	East of New Airport Rd.	69 (0)	0	--	--
Luther Rd.	West of SR 49	53 (0)	0	--	--
	SR 49 to Canal St.	62 (+1)	+1	+3 or more	No
	Canal St. to Dairy Rd.	61 (0)	0	--	--
	Dairy Rd. to Bowman Rd.	61 (+1)	+1	+3 or more	No
Canal St.	North of Project Driveway	42 (+4)	+4	+5 or more	No
	Project Driveway to Luther Rd.	54 (+2)	+2	+5 or more	No
	South of Luther Rd.	44 (0)	0	--	--
New Airport Rd.	North of Bell Rd.	59 (0)	0	--	--
	Bell Rd. to SR 49	58 (0)	0	--	--
Dry Creek Rd.	West of SR 49	56 (0)	0	--	--
	East of SR 49	57 (0)	0	--	--
Quartz Dr.	West of SR 49	55 (0)	0	--	--
	North of Bell Rd.	56 (0)	0	--	--
	South of Bell Rd.	56 (0)	0	--	--
Education St.	West of SR 49	55 (0)	0	--	--
Willow Creek Dr.	West of SR 49	56 (0)	0	--	--
	East of SR 49	56 (0)	0	--	--
Atwood Rd.	West of SR 49	59 (0)	0	--	--
	East of SR 49	57 (0)	0	--	--
Kemper Rd.	West of SR49	55 (0)	0	--	--
Edgewood Rd.	West of SR 49	54 (+1)	+1	+5 or more	No
	East of SR 49	42 (0)	0	--	--
Nevada St.	West of SR 49	55 (0)	0	--	--
Marguerite Mine Rd.	East of SR 49	53 (0)	0	--	--
Dairy Rd.	South of Luther Rd.	54 (0)	0	--	--

Sources: FHWA-RD-77-108, Omni-Means, and Bollard Acoustical Consultants, Inc.

- The existing noise level for Edgewood Road, west of SR 49 is less than 60 dB, which has a corresponding noise increase threshold of 5 dB (Table 10-7). The predicted +1 dB increase would not exceed the +5 dB threshold.

As none of the predicted traffic-related noise increases would exceed the applicable noise increase threshold standards, development of Option 1 would result in *less-than-significant* impacts related to potential increases to the ambient noise environment from project-related increases in traffic operations.

Option 2 – Discount Superstore

As presented in Table 10-10, the majority of the project-related predicted traffic noise increases under Option 2 would result in five roadway segments with a slight increase in the existing transportation-related ambient noise levels. The roadway segments and corresponding thresholds (based on existing noise levels) for the four segments predicted to have project-related increases are:

- The existing noise level for Luther Road between SR 49 and Canal Street is between 60 and 65 dB, which has a corresponding noise increase threshold of 3 dB (Table 10-7). The predicted +1 dB noise increase would not exceed the +3 dB threshold.
- The existing noise level for Luther Road between Dairy Road and Bowman Road is between 60 and 65 dB, which has a corresponding noise increase threshold of 3 dB (Table 10-7). The predicted +1 dB noise increase would not exceed the +3 dB threshold.
- The existing noise level for Canal Street, north of the project driveway is less than 60 dB, which has a corresponding noise increase threshold of 5 dB (Table 10-7). The predicted +4 dB noise increase would not exceed the +5 dB threshold.
- The existing noise level for Canal Street between the project driveway and Luther Road is less than 60 dB, which has a corresponding noise increase threshold of 60 dB (Table 10-7). The predicted +2 dB noise increase would not exceed the +5 dB threshold.
- The existing noise level for Edgewood Road, west of SR 49 is less than 60 dB, which has a corresponding noise increase threshold of 5 dB (Table 10-7). The predicted +1 dB noise increase would not exceed the +5 dB threshold.

As with Option 1, development of Option 2 would not result in traffic-related noise increases that would exceed the applicable thresholds. Therefore, the development of either Options 1 or 2 would result in *less-than-significant* impacts related to potential increases to the ambient noise environment from project-related increases in traffic operations.

Mitigation Measure(s)

None required.

10-3 Potential impacts from on-site noise sources to existing sensitive receptors.

Project operations could expose existing nearby sensitive receptors to on-site noise levels that exceed applicable noise standards. Sensitive receptors include the single-family residences to the north and east of the project site.

On-site activities/sources that have the potential to exceed Placer County noise standards include: truck circulation, loading dock activities, trash compactor, rooftop mechanical equipment, parking lot activities, and the outdoor home/garden center public address (PA) system. Each of these activities is discussed and analyzed below for their potential noise impact(s) to existing sensitive receptors in the project vicinity. The following analysis is applicable to both development options (Discount Club and Discount Superstore), as both development options would include similar on-site activities.

Truck Circulation Noise

On-site truck delivery routes would be located approximately 90 feet away from the nearest sensitive receptors' backyard property lines to the north and approximately 135 feet from the nearest residential front yards and facades to the east of the site. The transportation of goods and services to and from the proposed project would include daily delivery trucks that would enter the project site via the Primary Access from SR 49 and travel through the proposed parking areas to the northeast corner and around the proposed retail building. Loading docks are proposed to be located near the southeast corner of the retail building. The proposed project would require up to six heavy truck deliveries per day, with as many as three of them including refrigeration units. The project developer has committed that all truck traffic would exit the project site via the Primary Access to reduce potential traffic noise to sensitive receptors along Canal Street.

Although brief, truck deliveries to/from the loading dock are estimated to produce an average Sound Exposure Level (SEL) and an Lmax of approximately 83 dB and 75 dB at a distance of 50 feet, respectively. The closest single-family residences along Dyer Court would be exposed to on-site delivery truck noise levels estimated to be 79 dB SEL/71 dB Lmax and 76 dB SEL/68 dB Lmax for the closest single-family residences along Canal Street. The estimated noise exposure levels were based upon a spreading loss adjustment of -4.5 dB per doubling of distance. Based upon the significance criteria presented in Table 10-4, the estimated truck traffic-related noise exposure levels (Lmax) to the nearest sensitive receptors would exceed both daytime (70 dB) and nighttime significance (65 dB) criteria for sensitive receptors along Dyer Court (to the north) and the applicable nighttime criteria for sensitive receptors along Canal Street (to the east).

Calculations for the hourly average noise exposure levels (Leq) from on-site truck pass-bys were calculated from the following equation, where the N is the number of truck movements

in an assumed peak hour (2 daytime, 1 nighttime); 35.6 is 10 times the logarithm of the number of seconds in an hour.

$$Leq = SEL + 10 \cdot \log(N) - 35.6$$

Based on the above equation, the calculated Leq is estimated to be 46 dB Leq (day)/42 dB Leq(night) for the sensitive receptors along Dyer Court (north) and 43 dB Leq (day)/ 40 dB Leq(night) to the sensitive receptors to the east. The hourly noise exposure levels would not exceed the applicable 24-hour average noise exposure criteria (50 dB Leq for daytime and 45 dB Leq for nighttime) illustrated in Table 10-4.

Despite the predicted hourly exposure levels (Leq) to be within an acceptable range, the potential maximum noise exposure levels (Lmax) for both daytime and nighttime periods are anticipated to exceed the County standards presented in Table 10-4. Potential noise increases related to delivery traffic is considered a *potentially significant* impact.

Loading Dock Noise

Noise generating activities associated with loading docks typically include engine noise (start up and stopping), air brakes, uploading/offloading activities, and idling engines. The loading docks are proposed to be located at the southeast area of the retail building. Truck routes to and from the loading docks are discussed above under the Truck Circulation Noise subsection.

To determine potential loading dock noise levels associated with the proposed project, the technical noise assessment (included as Appendix M of the Draft EIR) utilized representative noise level measurements for various loading docks in the Sacramento region and applied them to the project site and vicinity. The results of the noise measurement analysis for the closest sensitive receptors to the east (approximately 175 feet from center of proposed loading docks area) was estimated to be 53 dB Leq and 69 dB Lmax, for worst-case daytime hours, and 50 dB Leq and 68 dB Lmax for worst-case nighttime hours. The predicted loading dock noise exposure levels for both daytime and nighttime activities would exceed the County standards presented in Table 10-4; therefore, loading dock activities associated with the proposed project are considered as a *potentially significant* impact.

Trash Compactor Noise

The proposed project would likely include a trash compactor near the loading docks area. Based on manufacturer reference noise level data obtained for similar projects, the proposed compactor is expected to produce a noise level of 61 dB (approximately) at a distance of 15 feet. Assuming standard spherical spreading loss (-6 dB per doubling of distance), compactor noise would be approximately 38 dB (Leq and Lmax) at the closest residences on Canal Street, which would be located approximately 245 feet away. The estimated noise generated from the trash compactor would not exceed the County 50 dB Leq or the 70 dB Lmax daytime noise standards, nor would it be used during nighttime hours. Therefore, potential noise impacts associated with an on-site trash compactor are *less-than-significant*.

Rooftop Mechanical Equipment

Similar to other large retail developments, the proposed project would likely include rooftop mechanical devices that could include central heating and air conditioning (HVAC) equipment and/or additional chillers for refrigeration units. Observations made by Bollard Acoustical Consultants, Inc. during field noise surveys at similar development projects noted that rooftop equipment were inaudible, likely due to shielding provided by the structure (parapet and the proposed building height relative to single-family residential heights). Although the mechanical schematics for the rooftop mechanical equipment are not available at this time, potential noise increases to the ambient environment are anticipated to be *less-than-significant* due to the shielding provided by the design of the building.

Parking Lot Noise

Typical noise in parking lots include conversations, doors closing, engines running and idling, and vehicles braking. File data from Bollard Acoustical Consultants, Inc. was used to model the parking lot noise environment for the proposed project. A representative 72 dB SEL and 63 dB Lmax, at a distance of 50 feet, was used to represent parking lot activity noise. Based on a standard spherical spreading loss (-6dB per doubling of distance), the predicted parking lot noise exposure to the residences located to the north (Dyer Court) would be approximately 60 dB SEL and 61 dB Lmax. It should be noted that the adjusted noise exposure levels were calculated with an assumed distance of 200 feet from the center of the parking lot to the closest single-family residences located to the north for SEL and a 60-foot distance from the nearest parking area to the same residences for calculating the Lmax.

Information provided by Omni-Means (See Appendix G of the Draft EIR) estimates that a worst-case hour of store activity would involve approximately 230 vehicles entering the project site. The parking lot noise exposure was estimated using the following equation:

$$Leq = 60 \text{ dB} + 10\text{Log}(230) - 35.6 = 48 \text{ dB}$$

A single automobile parking activity is represented by 60 dB, 230 is the number of vehicles entering the parking lot (worst case scenario) and 35.6 is 10 times the logarithm of the number of seconds in an hour. Based upon the calculation, the predicted noise level is 48 dB Leq and 61 dB Lmax at the closest residential properties to the north, which would not exceed the County standards for daytime noise exposure levels presented in Table 10-4. Parking lot activity would likely be well reduced during nighttime hours of operation of the proposed project. Therefore, noise impacts associated with general parking lot activity would not exceed County standards and are considered to be *less-than-significant*.

Parking Lot Sweeper Activity

Potential street sweeping activities in the proposed parking area could impact nearby single-family residences. The closest existing residences to areas subject to sweeper activities are located to the north and east at approximate distances of 75, 90, and 135 feet. Typical sweeper truck pass-by noise levels are 84 dB SEL and 75 dB Lmax at a reference distance of 50 feet. Assuming a spreading loss adjustment of 4.5 dB per doubling of distance, noise exposure levels derived from parking areas sweeper activity to the nearest sensitive receptors is calculated to be 81 dB SEL/72 dB Lmax, 77 dB SEL/ 68 dB Lmax, respectively. Assuming a maximum of two pass-by trips per hour, the abovementioned Leq equation applied to potential noise emitted from parking lot sweeper activity is predicted to be 48 dB Leq and 44 dB Leq at the closest single-family residences to the north and east. The predicted noise levels (Leq) would be below the County standards presented in Table 10-4; however, the Lmax levels would exceed the daytime Lmax County standards (70 dB Lmax). Therefore, potential noise impacts related to parking lot sweeping activities is a ***potentially significant*** source of noise to nearby sensitive receptors.

Outdoor Home/Garden Center Public Address (PA) System

The proposed retail portion of the project could include a PA system for announcements within an outdoor Home/Garden Center. Under worst-case conditions, store announcements would not exceed 75 dB Lmax. Customers in the western area of the parking lot would experience an estimated 10 dB reduction of noise level due to building shielding and the direction of the PA system. Therefore, potential PA noise within the parking lots (at a minimum distance of 50 feet from building) would not exceed a noise level of 65 dB Lmax. The closest single-family residence would be located approximately 320 feet from the Home/Garden Center. Assuming a standard spherical spreading loss of -6 dB per doubling of distance, the noise level of the PA system to the closest sensitive receptor would be approximately 49 dB Lmax, which is well below the applicable County noise standards. Therefore, potential noise impacts resulting from a PA system in the Home/Garden Center would be ***less-than-significant***.

A summary of all the abovementioned on-site, project-related noise sources is presented in Table 10-11. As illustrated, the applicable County daytime noise exposure criteria of 50 dB Leq and/or 70 dB Lmax may be exceeded by as much as 4 dB at nearest sensitive receptors to the east. The applicable County nighttime standards (45 dB Leq and 65 dB Lmax) may be exceeded by as much as 7 dB at the nearest sensitive receptors. The potential for on-site operational activities including truck circulation, loading dock activity, and parking lot sweeper activity to exceed County noise level standards is a ***potentially significant*** impact.

**Table 10-11
Summary of On-Site Noise Sources**

Project Noise Source	Noise Level, dB	
	Hourly Leq/(Daytime Levels)	Lmax/(Nighttime Levels)
Residential Receivers on Canal Street (East)		
Tractor-Trailer Truck Movements	43 (40) *	68
Loading Docks	53 (50) *	69 (68) *
Trash Compactor	38	38
Roof-Top Mechanical (HVAC)	NA	NA
Sweeper	44	68
Total	54 (52) *	69 (68) *
Residential Receivers on Dyer Court (North)		
Tractor-Trailer Truck Movements	46 (43) *	71
Roof-Top Mechanical (HVAC)	NA	NA
Sweeper	47	71
Total	50 (49) *	71
Residential Receivers on Dyer Court (Northwest)		
Parking Lot	48	61
Roof-Top Mechanical (HVAC)	NA	NA
Sweeper	48	72
PA System	NA	49
Total	51 (48) *	72
*Calculated daytime (nighttime) noise level.		
<i>Source: Bollard Acoustical Consultants, Inc., Environmental Noise Assessment for the Bohemia Retail Project EIR, May 2009.</i>		

Mitigation Measure(s)

To minimize the abovementioned on-site, project-related noise impacts for truck circulation, loading dock activity, and parking lot sweeper activity, the following mitigation measures are required to reduce the potential impacts to *less-than-significant* levels. Construction of a 6-foot high noise barrier relative to the existing residential properties would be expected to provide the 6 dB of attenuation needed to satisfy the applicable noise exposure criterion within the noise sensitive backyards.

- 10-3(a) *Prior to the approval of improvement plans, a noise barrier shall be shown on the plans along the boundary of any residential property line (located to the north, northeast, and east) affected from increased noise levels determined in this Draft EIR (shown conceptually in Figure 10-1), for the review and approval of the Placer County Planning Department. A noise barrier six to eight feet in height would be required to reduce future delivery movements and loading dock activity noise levels below the Placer County standards. Barriers could take the form of earth berms, solid walls, or a*

combination of the two. Appropriate materials for noise walls include precast concrete or masonry block. Other materials may be acceptable provided they have a density of approximately four pounds per square foot.

10-3(b) Loading and delivery activities shall be limited to the following hours: 6:00 AM to 12:00 AM. These requirements shall be clearly indicated in all contracts between the property owner and truck delivery vendors.

10-4 Potential aviation noise could disturb customers and new employees within the project site.

The Auburn Municipal Airport is approximately two miles north of the project site, which is located approximately one mile south of the existing noise contour lines for the airport (see Figure 10-2). According to the ALUCP, the project site is within a compatibility Zone D area. According to the ALUCP, the only development restrictions for a Zone D designation include spectator-oriented sports stadiums, amphitheaters, and concert halls or structures that would be greater than 150 feet in height. The Auburn Municipal Airport contains a single runway oriented in an east to west direction, with most flights arriving/departing perpendicularly to the location of the project site. The proposed project would not introduce new on-site sensitive receptors. Customers and new employees to the proposed project would be exposed to infrequent aviation noise while arriving and/or departing the project site, which would be temporary and of a brief duration. Potential impacts from aviation noise to people working or shopping at the proposed project are considered to be *less-than-significant*.

Mitigation Measure(s)

None required.

Endnotes

¹ Bollard Acoustical Consultants, Inc. *Environmental Noise Assessment for the Bohemia Retail Project EIR*. May 29, 2009.

² Placer County. *Countywide General Plan Policy Document*. August 16, 1994.

³ Placer County. *Countywide General Plan EIR*. October 1993.

⁴ Placer County. *Auburn/Bowman Community Plan*. 1994 (updated 1999).

⁵ Placer County. *Placer County Noise Ordinance*. 2004.

⁶ Barry, T.M., J.A. Reagan. *FHWA Highway Traffic Noise Prediction Model*. FHWA-RD-77-108. 1978.