4.7 NOISE

Based on the analysis in the Initial Study (see Appendix A of this Draft EIR) and comments received in the scoping process, it was determined that construction and operation of the proposed project would not result in significant environmental impacts related to airport noise. Therefore, this chapter includes an evaluation of the potential environmental consequences from potential increases in ambient noise levels and groundborne noise levels. This chapter also describes the environmental setting, including regulatory framework and existing noise conditions in the project area, and identifies mitigation measures that would avoid or reduce significant impacts.

The analysis in this chapter is based in part on the *Acoustical Assessment for the proposed Westport Project, in the City of Cupertino, California*, dated July 2019, prepared by Kimley-Horn and Associates. A complete copy of this report is located in Appendix G, Acoustical Assessment, of this Draft EIR. A third-party peer review of this report was completed by PlaceWorks.

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 OVERVIEW OF NOISE FUNDAMENTALS

Noise Descriptors

The following are brief definitions of terminology used in this section:

- **Sound.** A disturbance created by a vibrating object, which when transmitted by pressure waves through a medium such as air, is capable of being detected by the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unit-less measure of sound on a logarithmic scale.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Continuous Noise Level (L_{eq}).** The mean of the noise level, energy averaged over the measurement period.
- **Statistical Sound Level (L_n).** The sound level that is exceeded "n" percent of time during a given sample period. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period), which is half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."
- **Day-Night Sound Level (L_{dn} or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

- Community Noise Equivalent Level (CNEL). The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the levels occurring during the period from 7:00 a.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. Note: For general community/environmental noise, CNEL and L_{dn} values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent/interchangeable and are treated therefore in this assessment.
- Peak Particle Velocity (PPV). The peak rate of speed at which soil particles move (e.g., inches per second) due to ground vibration.

Characteristics of Sound

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), pitch (frequency), and duration. The standard unit of measurement of the loudness of sound is the decibel (dB).

Changes of 1 to 3 dB are detectable under quiet, controlled conditions and changes of less than 1 dB are usually indiscernible. A 3 dB change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dB is readily discernable to most people in an exterior environment whereas a 10 dB change is perceived as a doubling (or halving) of the sound.

The human ear is not equally sensitive to all frequencies and, therefore, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) approximates the sensitivity of the human ear by weighting certain frequencies greater than others.

Unlike linear units, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. This logarithmic scale is used to better account for the large variations in pressure amplitude. In practical application, an increase of 10 dB is 10 times more intense than 1 dB, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system provides a usable scale to characterize the physical degree of magnitude of sound pressure levels and their perceived loudness to the human ear.

To help relate noise level values to common experience, Table 4.7-1 shows typical noise levels from noise sources. Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. For a single point source, sound levels decrease by approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by onsite operations from stationary equipment or activity at a project construction site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dB for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dB for each doubling of distance.

TABLE 4.7-1 TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Flyover at 1,000 feet		
	100	
Gas Lawn Mower at three feet		
	90	
Diesel Truck at 50 feet, at 50 mph		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area, Daytime		
	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Nighttime		
	30	Library
Quiet Rural 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 (Caltrans), 2013, *Technical Noise Supplement.*

Vibration Fundamentals

Vibration is an oscillating motion in earth. Like noise, vibration is transmitted in waves, but in this case through earth or solid objects. Unlike noise, vibration is typically characterized by lower frequencies that are felt rather than heard. Vibration can be either natural (as in the form of earthquakes, volcanic eruptions, or landslides) or man-made (as from explosions, heavy machinery, or trains). Both natural and man-made vibration may be continuous, such as from operating machinery, or impulsive, as from an explosion or impact pile driver. Typically, particle velocity (measured in inches or millimeters per second) is used to describe vibration and its potential effect on structures. Table 4.7-2 presents the expected human reaction and potential effect on buildings from various levels of peak particle velocity (PPV).

The way in which vibration is transmitted through the earth is called propagation. As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition, as well as the frequency of the wave.

TABLE 4.7-2 HUMAN REACTION TO TYPICAL VIBRATION LEVELS

Vibration Level Peak Particle Velocity (in/sec)	Human Reaction	Effect on Buildings
0.006 to 0.019	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Amplitude at which continuous vibration begins to annoy people	Virtually no risk of “architectural” (i.e., not structural) damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk to “architectural” damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” damage and possibly minor structural damage

Note: in/sec = inches per second
Source: California Department of Transportation (Caltrans), 2013, *Transportation and Construction Vibration Guidance Manual*.

4.7.1.2 REGULATORY FRAMEWORK

To limit population exposure to physically and/or psychologically damaging, as well as intrusive noise levels, the federal government, State, various county governments, and most municipalities in the State have established standards and ordinances to control noise. Those that apply to the proposed project are described below.

Federal

The City does not set quantitative vibration level standards. However, the Federal Transit Administration (FTA) provides criteria for acceptable levels of ground-borne vibration for various types of buildings that are sensitive to vibration, and these guidelines are often used to evaluate vibration impacts during construction. The level at which groundborne vibration is strong enough to cause architectural damage has not been determined conclusively. However, structures amplify groundborne vibration, and wood-frame buildings such as typical residential structures are more affected by ground vibration than heavier buildings. The most conservative estimates are reflected in the FTA standards, shown in Table 4.7-3.

TABLE 4.7-3 GROUNDBORNE VIBRATION CRITERIA: ARCHITECTURAL DAMAGE

	Building Category	PPV (in/sec)
I.	Reinforced concrete, steel, or timber (no plaster)	0.50
II.	Engineered concrete and masonry (no plaster)	0.30
III.	Non-engineered timber and masonry buildings	0.20
IV.	Buildings extremely susceptible to vibration damage	0.12

Note: PPV = peak particle velocity.
Source: Federal Transit Administration (FTA), 2018, *Transit Noise and Vibration Impact Assessment*.

Because Cupertino does not have an adopted standard, the threshold of 0.20 inches per second (in/sec) peak particle velocity (PPV) is the standard applied to typical residential structures surrounding the project site in the impact discussion in Section 4.7.3 below. According to California Department of Transportation (Caltrans), this measurement is also the level at which vibrations may begin to annoy people inside buildings.[1]

State

California Building Code, Title 24, Part 2, Volume 1, Chapter 12, Interior Environment, Section 1207.11.2, Allowable Interior Noise Levels, requires that interior noise levels attributable to exterior environmental noise sources in multi-family residential units be limited to 45 dBA Ldn/CNEL in any habitable room. The California Green Building Standards Code (CALGreen) has requirements for insulation that affect exterior-interior noise transmission for non-residential structures.

Local

Cupertino General Plan

The Cupertino General Plan (Community Vision 2015-2040), includes policies that are relevant to noise and applicable to the proposed project. The policies are identified in Chapter 3, Land Use and Community Character Element, and Chapter 7, Health and Safety Element, of the General Plan and listed below in Table 4.7-4

TABLE 4.7-4 GENERAL PLAN POLICIES RELEVANT TO NOISE

Policy Number	Policy
Chapter 3, Land Use and Community Character (LU) Element	
Policy LU-13.7	**Streetscape and Connectivity.** Create a walkable and bikeable boulevard with active uses and a distinct image for each subarea. ▪ **Strategy LU-13.7.5: Neighborhood Buffers**. Consider buffers such as setbacks, landscaping and/or building transitions to buffer abutting single family residential areas from visual and noise impacts.

[1] California Department of Transportation, September 2013, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*.

TABLE 4.7-4 GENERAL PLAN POLICIES RELEVANT TO NOISE

Policy Number	Policy
Policy LU-27.8	**Protection.** Protect residential neighborhoods from noise, traffic, light, glare, odors and visually intrusive effects from more intense development with landscape buffers, site and building design, setbacks and other appropriate measures.
Chapter 7, Health and Safety (HS) Element	
Policy HS-8.1	**Land Use Decision Evaluation.** Use the Land Use Compatibility for Community Noise Environments chart, the Future Noise Contour Map (see Figure D-2 in Appendix D) and the City Municipal Code to evaluate land use decisions.
Policy HS-8.2	**Building and Site Design.** Minimize noise impacts through appropriate building and site design. ▪ **Strategy HS-8.2.1**: **Commercial Delivery Areas.** Locate delivery areas for new commercial and industrial developments away from existing or planned homes. ▪ **Strategy HS-8.2.2: Noise Control Techniques.** Require analysis and implementation of techniques to control the effects of noise from industrial equipment and processes for projects near low- intensity residential uses. ▪ **Strategy HS-8.2.3: Sound Wall Requirements.** Exercise discretion in requiring sound walls to be sure that all other measures of noise control have been explored and that the sound wall blends with the neighborhood. Sound walls should be designed and landscaped to fit into the environment.
Policy HS-8.3	**Construction and Maintenance Activities.** Regulate construction and maintenance activities. Establish and enforce reasonable allowable periods of the day, during weekdays, weekends and holidays for construction activities. Require construction contractors to use the best available technology to minimize excessive noise and vibration from construction equipment such as pile drivers, jack hammers, and vibratory rollers.
Policy HS-8.4	**Freeway Design and Neighborhood Noise.** Ensure that roads and development along Highway 85 and Interstate 280 are designed and improved in a way that minimizes neighborhood noise.
Policy HS-8.5	**Neighborhoods.** Review residents' needs for convenience and safety and prioritize them over the convenient movement of commute or through traffic where practical.
Policy HS-8.6	**Traffic Calming Solutions to Street Noise.** Evaluate solutions to discourage through traffic in neighborhoods through enhanced paving and modified street design. ▪ **Strategy HS-8.6.1: Local Improvement.** Modify street design to minimize noise impact to neighbors.
Policy HS-8.7	**Reduction of Noise from Trucking Operations.** Work to carry out noise mitigation measures to diminish noise along Foothill and Stevens Creek Boulevards from the quarry and cement plant trucking operations. These measures include regulation of truck speed, the volume of truck activity, and trucking activity hours to avoid late evening and early morning. Alternatives to truck transport, specifically rail, are strongly encouraged when feasible. ▪ **Strategy HS-8.7.1: Restrictions in the County's Use Permit.** Coordinate with the County to restrict the number of trucks, their speed and noise levels along Foothill and Stevens Creek Boulevards, to the extent allowed in the Use Permit. Ensure that restrictions are monitored and enforced by the County. ▪ **Strategy HS-8.7.2: Road Improvements to Reduce Truck Impacts.** Consider road improvements such as medians, landscaping, noise attenuating asphalt, and other methods to reduce quarry truck impacts.

Source: Cupertino General Plan (Community Vision 2015-2040).

Most cities and counties in California have adopted noise and land use compatibility criteria based on the general assumption that lower noise levels should be achieved in residential areas, with higher noise levels acceptable in business districts, and industrial areas considered appropriate for noise levels up to or exceeding 70 dBA CNEL. Chapter 7, Health and Safety (HS) Element, of the General Plan presents a Land Use Noise Compatibility Matrix in Figure HS-8, Land Use Compatibility for Community Noise Environments, that identifies clearly acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for various land uses. Appendix D, Community Noise Fundamentals, of the General Plan, includes Figure D-2, Future Noise Contours, that illustrates the acceptable noise levels for the buildout of the General Plan.

With the Supreme Court decision regarding the assessment of the environment's impacts on proposed projects (*California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD)*, 62 Cal. 4th 369 (No. S 213478) issued December 17, 2015), it is generally no longer the purview of the CEQA process to evaluate the impact of existing environmental conditions on any given project. As a result, while the noise from existing sources is taken into account as part of the baseline, the direct effects of exterior noise from nearby noise sources as they pertain to land use compatibility of the proposed project is no longer a required topic for impact evaluation under CEQA. Nonetheless, for the complete understanding of the public, this noise analysis will discuss noise compatibility as it applies to the development of the proposed project. No determination of significance is required.

Cupertino Municipal Code

The Cupertino Municipal Code (CMC) includes various directives to minimize adverse impacts to noise. The provisions related to potential impacts from the proposed project are included in Title 10, Public Peace, Safety, and Morals, as follows:

- **Chapter 10.48, Community Noise Control**. The City's noise regulations are implemented and enforced through this chapter, which establishes citywide standards to regulate noise.
  - **Exterior Noise Limits.** CMC Section 10.48.040 states that no person shall create noise located on a property that causes the noise level at a nearby property to exceed the applicable limits set forth in Table 4.7-5. The CMC defines "daytime" as the period from 7:00 a.m. to 8:00 p.m. on weekdays, and 9:00 a.m. to 6:00 p.m. on weekends. "Nighttime" is defined as the period from 8:00 p.m. to 7:00 am on weekdays, and 6:00 p.m. to 9:00 a.m. on weekends.

TABLE 4.7-5 Municipal Code Exterior Noise Limits (dBA)

Land Use Type	Daytime	Nighttime
Residential	60	50
Non-Residential	65	55

Source: City of Cupertino Municipal Code, Section 10.48.040

Additionally, Section 10.48.050 includes a correction for allowable daytime incidents, provided that the sum of the limit and the duration of the exceedance does not exceed 20 dBA (e.g., 5 dB above the limit is allowed for 15 minutes; 5+15=20), as shown in Table 4.7-6.

TABLE 4.7-6 Brief Daytime Incident Corrections

Increment Above Normal Standard	Duration in 2-Hour Period
5 dBA	15 minutes
10 dBA	10 minutes
15 dBA	5 minutes
19 dBA	1 minute

Source: City of Cupertino Municipal Code, Section 10.48.050

  - **Interior Noise Limits.** CMC Section 10.48.054 states that noise produced in any multiple-family dwelling unit shall not produce a noise level that, when measured at five feet from any wall in any adjoining unit, exceeds 45 dBA from 7:00 a.m. to 10:00 p.m., or 40 dBA from 10:00 p.m. to 7:00 a.m.

- **Landscape Maintenance Activities Noise.** CMC Section 10.48.051 limits the hours of landscape maintenance activities from 8:00 a.m. to 8:00 p.m. on weekdays, and 9:00 a.m. to 6:00 p.m. on weekends and holidays, excluding public facilities which are allowed to begin at 7:00 a.m. During these hours, noise from the use of motorized equipment for landscape maintenance activities is allowed to exceed the maximum permissible noise limits of CMC Section 10.48.040, provided that the equipment is outfitted with appropriate mufflers and is operated over the minimal period necessary.
- **Construction Noise.** The City provides an exemption for this type of noise. According to CMC Section 10.48.053, grading, construction and demolition activities shall be allowed to exceed the noise limits of CMC Section 10.48.040 during daytime hours (i.e., weekdays from 7:00 a.m. to 8:00 p.m.; weekends from 9:00 a.m. to 6:00 p.m.); provided, that the equipment utilized has high-quality noise muffler and abatement devices installed and in good condition, and the activity meets one of the following two criteria:

  1. No individual device produces a noise level more than 87 dBA at a distance of 25 feet; or
  2. The noise level on any nearby property does not exceed 80 dBA.

  Except for emergency work, construction activities including grading, street construction, demolition, or underground utility work are not permitted within 750 feet of a residential area on Saturdays, Sundays, and holidays, and during the nighttime period. Construction activities, other than street construction, are prohibited on holidays. In addition, construction activities, other than street construction, are prohibited during nighttime periods unless they meet the City's nighttime maximum permissible noise level standards.

4.7.1.3 EXISTING CONDITIONS

Noise Measurements

To determine ambient noise levels in the project area, four 10-minute noise measurements were taken using a 3M SoundPro DL-1 Type I integrating sound level meter between 10:53 a.m. and 11:55 a.m. on May 1, 2018. The Appendix A of the acoustical assessment prepared for the proposed project, provided in Appendix G of this Draft EIR, includes the existing noise measurement data and the location of the noise measurements, shown on Exhibit 5. The four locations were selected for the following reasons:

- Noise Measurement #1 was taken to represent the ambient noise level north of the project site near the existing apartment complex;
- Noise Measurement #2 was taken to represent the ambient noise level east of the project site near the Senior Center;
- Noise Measurement #3 was taken to represent the ambient noise level south of the site along Stevens Creek Boulevard; and

- Noise Measurement #4 represents the existing ambient noise from the State Route 85 or SR-85 west of the project site.

The ambient noise levels measured at these four locations is shown in Table 4.7-7. The primary noise sources during all four measurements was from the traffic on Stevens Creek Boulevard, SR-85, and parking lot noises.

TABLE 4.7-7 NOISE MEASUREMENTS

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Time
1	Glenbrook Apartment Homes entrance on Mary Avenue	66.9	47.3	88.5	10:53 a.m.
2	Along Mary Avenue next to Senior Center	75.2	48.0	94.4	11:08 a.m.
3	Along Stevens Creek Boulevard, south of project site	77.9	53.7	90.2	11:26 a.m.
4	Parking lot adjacent to SR-85	75.4	60.0	81.2	11:41 a.m.

Source: Noise measurements taken by Kimley-Horn and Associates on May 1, 2018.

Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance. Sensitive receptors near the project site include the following, which are measured from the project site to the property line of the sensitive receptor location:

- Residences approximately 90 feet north of the site and 630 feet east of the site,
- Cupertino Senior Center approximately 80 feet east of the site, and
- De Anza College approximately 140 feet south of the site, across Stevens Creek Boulevard.

With respect to vibration, the nearest sensitive receptor is the building located 82 feet to the north measured from the estimated location of the construction equipment to the buildings.

Existing Roadway Noise Levels

Existing roadway noise levels were calculated for the roadway segments in the project vicinity. This task was accomplished using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and existing traffic volumes from the transportation analysis prepared by Kimley-Horn and Associates (see Chapter 4.8, Transportation, and Appendix H, Transportation Assessment, of this Draft EIR). The noise prediction 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 (also referred to as energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by the Caltrans. The average daily noise levels along roadway segments in proximity to the project site are included in Table 4.7-8.

TABLE 4.7-8 EXISTING TRAFFIC NOISE LEVELS

Roadway Segment	ADT	dBA CNEL at 100 feet from Centerline of Roadway
Stevens Creek Boulevard from SR-85 to Stelling Road	32,220	72.3
Mary Avenue from Parkwood Drive to Stevens Creek Boulevard	7,010	65.3

Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level.
Data source: Based on traffic data within the Transportation Analysis Memorandum, prepared by Kimley-Horn and Associates, 2019. Refer to Appendix B for traffic noise modeling assumptions and results.
Source: Kimley-Horn and Associates, PlaceWorks, 2019.

As shown in Table 4.7-8, the existing traffic-generated noise level on project-vicinity roadways is currently 72.3 dBA CNEL 100 feet from the centerline of Stevens Creek Boulevard and 65.3 dBA CNEL 100 feet from the centerline of Mary Avenue.

Noise Compatibility

Chapter 7, Health and Safety (HS) Element, of the General Plan presents a Land Use Noise Compatibility Matrix in Figure HS-8, Land Use Compatibility for Community Noise Environments, that identifies clearly acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for various land uses. For the purpose of the proposed multi-family uses, the highest conditionally acceptable exterior noise level is 70 dBA CNEL. The highest normally acceptable exterior noise level is 65 dBA CNEL. Appendix D, Community Noise Fundamentals, of the General Plan, includes Figure D-2, Future Noise Contours, that illustrates the acceptable noise levels for the buildout of the General Plan. As shown on Figure D-2, the western portion of the project site located within the 70 dBA CNEL contour while the eastern portion is in the 65 dBA CNEL contour.

4.7.2 THRESHOLDS OF SIGNIFICANCE

An Initial Study was prepared for the proposed project (see Appendix A of this Draft EIR). Based on the analysis contained in the Initial Study and comments received during the scoping process, it was determined that development of the proposed project would not result in significant environmental impacts pursuant to the following thresholds of significance and, therefore, are not discussed in this chapter.

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

Based on the Initial Study and comments received during the scoping process, it was determined that the proposed project could result in a potentially significant noise impact if it would result in:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, State, or federal standards.
2. Generation of excessive groundborne noise levels.

4.7.3 IMPACT DISCUSSION

NOISE-1	**The proposed project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the proposed project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, State, or federal standards.**

Construction

Construction noise estimates are based upon noise levels from the FHWA Roadway Construction Noise Model as well as the distance to nearby sensitive receptors.[2] Reference noise levels from the FHWA are used to estimate noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Construction noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise.

There are two types of short-term noise impacts associated with construction, noise generated from equipment and increase in traffic flow on local streets. Construction for the proposed project is expected to last approximately 16 months.

Construction Equipment Noise

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Noise levels typically attenuate (or drop off) at a rate of 6 dB per doubling of distance from point sources, such as industrial machinery.

Grading and excavation phases of project construction tend to be the shortest in duration and create the highest construction noise levels due to the operation of heavy equipment required to complete these activities. It should be noted that only a limited amount of equipment can operate near a given location at a particular time. Equipment typically used during this stage includes heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, and scrapers. Operating cycles for these types of construction

[2] Federal Highway Administration (FHWA), 2006, *Roadway Construction Noise Model (RCNM) User's Guide*, FHWA-HEP-05-054.

equipment may involve one or two minutes of full-power operation followed by three to four minutes at lower power settings. Other primary sources of noise would be shorter-duration incidents, such as dropping large pieces of equipment or the hydraulic movement of machinery lifts, which would last less than one minute. According to the applicant, no pile-driving will be used during construction for the proposed project.

Pursuant to CMC Section 10.48.053, the City allows heavy construction activities that exceed the noise standards to occur during daytime hours, provided that the equipment has high- quality noise muffler and abatement devices installed and is in good condition. The activity must not produce a noise level more than 87 dBA at a distance of 25 feet or exceed 80 dBA for nearby properties. Only one of these two criteria must be met. Construction within 750 feet of a residential area is not allowed over the weekends, holidays, and during the nighttime.

Sensitive receptors near the project site include residences approximately 90 feet north of the site, the Cupertino Senior Center approximately 80 feet east of the site, and the De Anza College approximately 140 feet south of the site, across Stevens Creek Boulevard. These distances are from the proposed project site to the sensitive receptor property line. These sensitive uses may be exposed to elevated noise levels during project construction.

Table 4.7-9 summarizes the estimated exterior construction noise level for sensitive receptors. Note that the distances in Table 4.7-9 are from the property line of the nearest receptor to the main construction zone of the proposed project.

TABLE 4.7-9 PROJECT CONSTRUCTION AVERAGE NOISE LEVELS

Construction Phase/Activity	Receptor Location			Estimated Exterior Construction Noise Level	
	Land Use	Direction	Distance[a]	(dBA L_{eq})[b]	dBA L_{max}
Demolition	Residential	North	175	73.9	78.7
	Institutional	East	160	74.6	79.5
		South	280	69.8	74.6
Site Preparation	Residential	North	175	74.2	74.1
	Institutional	East	160	75.0	74.9
		South	280	70.1	70.0
Grading	Residential	North	175	75.2	74.1
	Institutional	East	160	75.9	74.9
		South	280	73.0	74.4
Paving	Residential	North	175	74.2	74.1
	Institutional	East	160	74.2	74.1
		South	280	70.6	70.0
Building	Residential	North	175	74.9	74.1
	Institutional	East	160	75.7	74.9
		South	280	71.0	70.0

Notes:
a. Distance is from the property line of the nearest receptor to the main construction zone of the proposed project.
b. Derived from the FHWA *Roadway Construction Noise Model (FHWA-HEP-05-054),* Jan 2006. Refer to Appendix G for noise modeling assumptions and results.
Source: Kimley-Horn and Associates, PlaceWorks, 2019.

As shown in Table 4.7-9, the highest exterior noise levels at the nearest off-site receptor (Cupertino Senior Center) would be 75.9 dBA L_{eq} during the grading phase and 79.5 dBA L_{max} during the demolition phase.

Although construction activities are not projected to exceed the City's standard of 80 dBA at the nearest receptor, because the predicted noise level of 79.5 dBA during demolition are within 0.5 dBA of the threshold implementation of Mitigation Measure NOISE-1 is required. Implementation of Mitigation Measures NOISE-1 is required to ensure that construction noise levels do not exceed the City's standards and that construction activities adhere to the City's time-of-day restrictions. With implementation of Mitigation Measure NOISE-1, impacts from construction equipment would be less than significant.

Impact NOISE-1: The proposed project could generate a substantial temporary increase in ambient noise levels in the vicinity of the proposed project during the construction phase that could exceed the standards established in the local noise ordinance.

Mitigation Measure NOISE-1: Prior to Grading Permit issuance or the start of demolition activities, the project applicant shall demonstrate, to the satisfaction of the City of Cupertino Public Works Director and/or Community Development Director, that the proposed project complies with the following:

- Pursuant to Cupertino Municipal Code (CMC) Section 10.48.053 the construction activities shall be limited to daytime hours as defined in CMC Section 10.48.010 (i.e., daytime hours are from 7:00 a.m. to 8:00 p.m. on weekdays).
- At least 90 days prior to the start of construction activities, all offsite businesses and residents within 300 feet of the project site shall be notified of the planned construction activities. The notification shall include a brief description of the proposed project, the activities that would occur, the hours when construction would occur, and the construction period's overall duration. The notification should include the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint.
- At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance(s) to the job site, clearly visible to the public, which includes permitted construction days and hours, as well as the telephone numbers of the City's and contractor's authorized representatives that are assigned to respond in the event of a noise or vibration complaint. If the authorized contractor's representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City.
- During the entire active construction period, equipment and trucks used for project construction will utilize the best available noise control techniques (e.g., improved mufflers, equipment re-design, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds), wherever feasible.
- During the entire active construction period, stationary noise sources shall be located as far from sensitive receptors as possible, and they shall be muffled and enclosed within temporary sheds, or insulation barriers or other measures shall be incorporated to the extent feasible.
- Haul routes shall be selected to avoid the greatest amount of sensitive use areas.
- Signs will be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment will be turned off if not in use for more than 5 minutes.

- During the entire active construction period and to the extent feasible, the use of noise producing signals, including horns, whistles, alarms, and bells will be for safety warning purposes only. The construction manager will use smart back-up alarms, which automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws.

Construction Traffic Noise

Construction noise may be generated by large trucks moving materials to and from the project site. Large trucks would be necessary to deliver building materials as well as remove dump materials and cut soil. Excavation and cut and fill would be required, resulting in grading of approximately 69,000 net cubic yards to be exported from the site. The proposed project would generate the highest number of daily trips during the building construction phase.[3] It is estimated that the proposed project would generate up to 239 worker trips and 52 vendor trips per day. Because of the logarithmic nature of noise levels, a doubling of the traffic volume would result in a noise level increase of 3 dBA. As shown above in Table 4.7-8 (Section 4.7.1.3, Existing Conditions), the section of Stevens Creek Boulevard between SR-85 and Stelling Road has an average daily trip volume of 32,220 vehicles. Therefore, 291 project construction trips (239 worker trips plus 52 vendor trips) would not double the existing traffic volume of 32,220 vehicles per day. Accordingly, the construction related traffic noise would be *less than significant*.

Operation

Operational noise issues evaluated in this section include vehicle traffic noise as well as stationary source noise (e.g., mechanical equipment, on-site trucks/loading docks, etc.). Traffic noise modeling was completed using the FHWA RD-77-108 model. Traffic noise level significance is determined by comparing the increase in noise levels (traffic contribution only) to increments recognized by Caltrans as representing a perceptible increase in noise levels (i.e., 3 dBA). Operational stationary noise is evaluated based on the standards within the CMC Chapter 10.48, Community Noise Control.

Roadway Traffic Noise

Operation of the proposed project would contribute to traffic volumes along study roadway segments, shown in Table 4.7-10. According to the transportation analysis prepared by Kimley-Horn and Associates (see Chapter 4.8, Transportation, and Appendix H, Transportation Assessment, of this Draft EIR), the proposed project would generate2,174 average daily weekday trips before trip reductions are applied, 1,934 average daily weekday trips after trip reductions are applied, and 275 fewer (or negative 275) average daily weekday trips once credit is taken for the trips currently generated from the existing Oaks Shopping Center that has an existing occupancy rate of 85 percent. Therefore, the noise from traffic from the proposed project would be less than noise from traffic from existing conditions. However, to present a conservative analysis, this evaluation is based on the trips generated from the proposed project after trip reductions but does not account for trip credits from the existing shopping center. . Traffic noise levels for roadways primarily affected by the proposed project were calculated using the FHWA's Highway Noise

[3] Kimley-Horn and Associates, Inc., 2019, *Air Quality Assessment for proposed Westport Project in the City of Cupertino, California*. PlaceWorks.

Prediction Model (FHWA-RD-77-108). Traffic noise modeling was conducted for conditions with and without the proposed project.[4]

TABLE 4.7-10 EXISTING AND FUTURE WITH PROJECT TRAFFIC NOISE LEVELS

Roadway Segment	Existing Noise Level[a] (dBA CNEL)	Future With Project Noise Level[a] (dBA CNEL)	Change (dBA CNEL)	Significant Impacts?
Stevens Creek Boulevard from SR-85 to Stelling Road	72.3	73.0	0.7	No
Mary Avenue from Parkwood Drive to Stevens Creek Boulevard	65.3	66.4	1.1	No

Notes: dBA = A-weighted decibels; CNEL = community noise equivalent level.
a. Noise levels are calculated 100 feet from centerline of the roadway.
Source: Kimley-Horn and Associates, PlaceWorks, 2019.

In general, a traffic noise increase of less than 3 dBA is barely perceptible to people, while a 5-dBA increase is readily noticeable.[5] Therefore, permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant. As a general rule, for a traffic noise level to increase by 3 dBA the traffic volumes on project area roadways would essentially need to double.

As shown in Table 4.7-10, if the trips generated from the proposed project were new trips, they would not have a significant impact on traffic noise levels. The addition of trips to the existing noise levels on Stevens Creek Boulevard near the project site would have a less than 1 dBA increase. The addition of trips to the existing noise levels on Mary Avenue near the project site would have a slightly greater than 1 dBA increase; however, the increase on either roadway would be less than 3 dBA and, therefore, not perceptible. Therefore, permanent noise increases due to proposed project-related traffic would be *less than significant*.

Stationary Noise

Implementation of the proposed project would create different sources of noise in the project vicinity. The noise sources associated with the proposed project that would potentially impact off-site receptors include the following:

- **Residential Areas.** In general, residential land uses are not considered major sources of noise. Noise that is typical of high-density residential land uses includes group conversations, pet noise, vehicle noise (see discussion below), and general maintenance activities. Noise from residential stationary sources would primarily occur during the "daytime" activity hours of 7:00 a.m. to 10:00 p.m. Furthermore, the residences would be required to comply with the noise standards set forth in the Cupertino General Plan and CMC. Noise impacts would be *less than significant* in this regard.

[4] Kimley-Horn and Associates, 2018, *Westport Cupertino – Transportation Analysis.* PlaceWorks.
[5] California Department of Transportation (Caltrans), 2013, *Technical Noise Supplement*.

- **Mechanical Equipment.** The proposed project would generate stationary-source noise associated with heating, ventilation, and air conditioning (HVAC) units. Such HVAC units typically generate noise levels of approximately 55 dBA at a reference distance of 100 feet from the operating units during maximum heating or air conditioning operations. As stated above, the nearest off-site sensitive receptor property lines are located more than 80 feet from the existing commercial and mixed-use areas on the project site. The HVAC equipment associated with the proposed project would be similar to the existing commercial and retail uses. The proposed HVAC equipment would be buffered by a proposed on-site internal road (see Figure 3-4 in Chapter 3, Project Description, of this Draft EIR) and would be approximately 100 feet away from the nearest off-site residences. Given that off-site sensitive receptors would be located beyond 100 feet from on-site HVAC units, noise impacts generated by new HVAC units would be *less than significant*.
- **Loading Area Noise.** The proposed project would require on-site truck delivery operations for neighborhood-serving goods and services, trash/recycling pickup, as well as residential moving services that could generate noise from maneuvering and idling trucks and loading/unloading items. The majority of vehicles would consist of vendor deliveries in small cargo vans and small trucks. It is anticipated some residents would occasionally require larger moving trucks. The noise associated with occasional large truck delivery as well as smaller cargo vans would not result in a significant number of truck trips to significantly increase noise within the project area. Given the site is currently occupied with a 71,254 square-foot shopping center that generates noise from varying sizes of vans and trucks for deliveries/pickups, the proposed 20,000 square feet of retail is anticipated to create significantly less noise from such retail/commercial loading activities. Furthermore, loading area activities are anticipated to occur during daytime hours when there is the expectation for such noises in urban areas. Therefore, loading area noise associated with the proposed project site would not be an intrusive or significant noise source compared to existing conditions and associated impacts would be *less than significant*.
- **Parking Areas**. Traffic associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. Also, noise would primarily remain on the project site and would be intermittent (during peak-events). Parking lot noise can also be considered a “stationary” noise source. Noise levels from parking lot activities typically range from approximately 60 to 63 dBA at a distance of 50 feet. While the instantaneous maximum sound levels generated by a car door closing, engine starting up, and vehicle movements on-site may be periodically audible to adjacent noise-sensitive receptors, parking area noises are typical noise sources in urban areas.

  The proposed project includes a one-story subterranean parking structure located in the eastern portion of the site. Parking noise at this location is anticipated to be lower than existing conditions, because the majority of parking would occur in a structure that would be predominantly enclosed. Surface parking would be distributed throughout the project site. Noise associated with the surface parking areas would be consistent with the existing parking lot noise that currently occurs on the site. In addition, surface parking lot noise would be partially masked by background noise from traffic along SR-85 and Stevens Creek Boulevard. Therefore, parking lot noise would not result in substantially greater noise levels than currently exist in the vicinity. Noise impacts would be *less than significant*.

- **Landscape Maintenance Activities**. Development and operation of the proposed project would include landscaping activities (e.g., lawnmowers, leaf blowers, weed eaters) requiring periodic maintenance. Noise generated by a gasoline-powered lawnmower is estimated to be approximately 70 dBA at a distance of 5 feet. However, maintenance activities would operate during daytime hours for brief periods of time, as allowed by the CMC, and would not permanently increase ambient noise levels in the project vicinity. Furthermore, landscaping activities currently occur on the project site and this would not change. Therefore, with adherence to the CMC, impacts associated with landscape maintenance would be *less than significant*.

Significance With Mitigation: Less than significant.

Noise Compatibility

Chapter 7, Health and Safety (HS) Element, of the General Plan presents a Land Use Noise Compatibility Matrix in Figure HS-8, Land Use Compatibility for Community Noise Environments, that identifies normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for various land uses. In no case would it be desirable for any land use to exceed the highest conditionally acceptable noise level shown in Figure HS-8. Thus, for the purpose of the proposed multi-family uses, the highest conditionally acceptable exterior noise level is 70 dBA CNEL. The highest normally acceptable exterior noise level is 65 dBA CNEL. As discussed above, due to the Supreme Court decision regarding the assessment of the environment's impacts on proposed projects (*California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD)*, 62 Cal. 4th 369 (No. S 213478) issued December 17, 2015), it is generally no longer the purview of the CEQA process to evaluate the impact of existing environmental conditions on any given project. As a result, while the noise from existing sources is taken into account as part of the baseline, the direct effects of exterior noise from nearby noise sources as they pertain to land use compatibility of the proposed project is no longer a required topic for impact evaluation under CEQA. Nonetheless, for the complete understanding of the public, this noise analysis discusses noise compatibility as it applies to the development of the proposed project. However, no determination of significance is required.

According to the existing noise environment described in Section 4.7.1.3, Existing Conditions, the project site under existing conditions experiences noise levels up to 72.3 dBA CNEL from existing traffic on the section of Stevens Creek Boulevard between SR-85 and Stelling Road. Therefore, the ambient noise level around the project site exceeds the normally acceptable terms of 65 dBA CNEL and conditionally acceptable terms for multi-family use of 70 dBA CNEL. Therefore, the future residents of the proposed on-site multi-family residential units could be exposed to elevated noise levels from traffic noise along SR-85 and Stevens Creek Boulevard. Furthermore, the interior standard pursuant to the California Building Code is 45 dBA CNEL. As described in the General Plan, new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise reduction features included in the design. Conventional construction with closed windows and fresh air supply systems or air conditioning will normally suffice.[6] A detailed acoustical study demonstrating that all

[6] Cupertino General Plan, Chapter 7, Health and Safety, Figure HS-8, Land Use Compatibility for Community Noise Environments, Conditionally Acceptable, page HS-23.

residential units would meet the City and State standards would be required prior to the issuance of a building permit. Specifically, the detailed acoustical study would need to demonstrate that all residential units would meet the City's 65 dBA exterior noise standard for all patios, balconies, and common outdoor living areas through any necessary noise reduction features (barriers, berms, enclosures, etc.). Further, all residential units would be required to be designed to ensure that interior noise levels in habitable rooms from exterior sources (including vehicles on adjacent roadways) shall not exceed 45 dBA, in compliance with Title 24 of the California Code of Regulations.

As previously stated in Section 4.7.1.2, Regulatory Framework, this scenario is framed as an impact of the existing environment on the project and is therefore not in the purview of this environmental analysis. Therefore, no impact conclusion is required in this EIR.[7]

NOISE-2	**The proposed project would not generate excessive groundborne noise levels.**

Construction Vibration

Increases in groundborne vibration levels attributable to the proposed project would be primarily associated with construction-related activities. Construction on the project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures. Groundborne vibrations from construction may also cause human annoyance when the vibration rises significantly above the threshold of human perception for extended periods of time.

As described in Section 4.7.1.2, Regulatory Setting, the FTA has published standard vibration velocities for construction equipment operations (see Table 4.7-3). These measurements are also the level at which vibrations may begin to annoy people inside buildings.[8] As shown in Table 4.7-3, depending on the building category (i.e., reinforced concrete, steel, masonry, etc.) the potential construction vibration damage can vary. For example, in a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.50 in/sec PPV is considered safe and would not result in any construction vibration damage. The FTA architectural damage criterion for continuous vibrations for non-engineered timber and masonry buildings is 0.20 in/sec PPV.

[7] *California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD)*, 62 Cal. 4th 369 (No. S 213478) issued December 17, 2015.

[8] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as bulldozers and trucks. Pile drivers are not included in the mix of construction equipment required to construct the proposed project.

This evaluation uses the FTA recommended standard of 0.20 in/sec PPV with respect to the prevention of structural damage for normal buildings[9]and human annoyance.[10] Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet.

Table 4.7-10 identifies vibration levels for typical construction equipment at a distance of 25 feet and 82 feet, which is the estimated distance from construction equipment to the closest building. As shown in Table 4.7-11, based on FTA data, vibration velocities from typical heavy construction equipment operations that would be used during project construction would range from 0.003 to 0.210 inches/second PPV at 25 feet from the source of activity. No buildings are located within 25 feet of the project site.

TABLE 4.7-11 TYPICAL CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Equipment	Approximate PPV at 25 feet (inches per second)	Approximate PPV at 82 feet (inches per second)
Large Bulldozer	0.089	0.015
Caisson Drilling	0.089	0.015
Loaded Trucks	0.076	0.013
Rock Breaker	0.059	0.010
Jackhammer	0.035	0.006
Vibratory Roller	0.210	0.035
Small Bulldozer	0.003	0.001

Note: PPV, peak particle velocity
Source: Kimley-Horn and Associates, PlaceWorks, 2019.

The nearest off-site sensitive receptors would be the building located 82 feet to the north. Based on typical vibration levels, ground vibration generated by heavy-duty equipment could reach levels of 0.035 in/sec PPV at 82 feet. The use of construction equipment would not result in a groundborne vibration velocity level above the established threshold of 0.20 inch/second PPV. Furthermore, it is important to note that construction activities would occur throughout the project site and would not be concentrated at a single point near this off-site structure. As a result, impacts associated with excessive groundborne vibration during construction would be *less than significant*.

[9] Federal Transit Administration (FTA), 2018, *Transit Noise and Vibration Impact Assessment*.
[10] California Department of Transportation, 2013, *Technical Noise Supplement.*

Operational Vibration

Operation of the proposed project would not generate substantial levels of vibration because there are no notable sources of vibrational energy associated with the proposed project, such as heavy industrial machinery, railroad or subway operations. Thus, operation of the proposed project would result in *less-than-significant* groundborne vibration impacts.

Significance Without Mitigation: Less than significant.

4.7.4 CUMULATIVE IMPACTS

NOISE-3 The proposed project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to noise.

A significant cumulative noise impact may occur if the proposed project's contribution to the cumulative ambient noise environment is significant (3 dBA or higher). As described in Chapter 4, Environmental Evaluation, of this Draft EIR, the nearest cumulative project is the Loc-N-Stor project located at 10655 Mary Avenue about 0.5 miles to the north. This project is currently under preliminary review and no construction timeline has been established. The proposed project's construction activities were estimated to be below the City's standard of 80 dBA, but implementation of Mitigation Measure NOISE-1 is required to ensure the construction noise levels would not exceed 80 dBA for the surrounding off-site sensitive receptors. Furthermore, these periodic, temporary, noise impacts would cease upon completion of construction activities. If the Loc-N-Stor project were to be constructed at a similar time as the proposed project, it would be considered too far away to cause a cumulative construction noise impact. Based on the fact that noise dissipates as it travels away from its source, noise impacts from on-site activities and other stationary sources (e.g., mechanical equipment, parking areas) would be limited to the project site and vicinity. Thus, cumulative operational noise impacts from related projects, in conjunction with project-specific noise impacts, would not be cumulatively significant. As described in impact discussion NOISE-1 and NOISE-2, construction and operation of the proposed project would not result in any significant noise impacts. Therefore, the project's incremental effect to the future cumulative noise environment is not cumulatively considerable.

Significance With Mitigation: Less than significant.