

Appendix E. Noise Memo

TECHNICAL MEMORANDUM

To: Amanda Acuna, Senior Planner, City of Gardena
From: Sharon Toland, Project Manager, Harris & Associates
Subject: Hitco Project – Noise Impact Analysis
Date: June 3, 2022
CC: William Halligan, Esq., Senior Director/Senior Environmental Counsel, Harris & Associates

Dear Ms. Acuna,

The following presents the results of Harris & Associates' analysis of the potential noise impacts from implementation of the Hitco Project (Project). The project site is located at 1600 W. 135th Street, between Western Avenue and Normandie Avenue, in the City of Gardena (City). The property consists of two parcels (Assessor's Parcel Numbers 6102-013-026 and 6102-013-027) and is composed of 8.46 acres. The proposed project involves the demolition of all existing on-site buildings, parking lots, and associated improvements and consists of a new 190,860-square-foot tilt-up concrete industrial building. This building accommodate up to two tenants with a wide variety of uses, including light assembly, manufacturing, e-commerce, and warehousing/distribution. Project implementation requires a site plan review, lot line adjustment, and conditional use permit to allow for warehousing uses.

Noise Analysis Background

The California Department of Transportation defines "noise" as sound that is loud, unpleasant, unexpected, or undesired. Sound pressure levels are quantified using a logarithmic ratio of actual sound pressures to a reference pressure squared, called "bels." A bel is typically divided into tenths, or decibels (dB). Sound pressure alone is not a reliable indicator of loudness because frequency (or pitch) also affects how receptors respond to sound. To account for the pitch of sounds and the corresponding sensitivity of human hearing to them, the raw sound pressure level is adjusted with a frequency-dependent A-weighting scale that is stated in units of decibels (dBA) (Caltrans 2013).

A receptor's response to a given noise may vary depending on the sound level, duration of exposure, character of the noise sources, time of day during which the noise is experienced, and activity affected by the noise. Activities most affected by noise include rest, relaxation, recreation, study, and communications. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects from a variety of noise levels. The community noise equivalent level (CNEL) is the average equivalent A-weighted sound level over a 24-hour period. This measurement applies weights to noise levels during evening and nighttime hours to compensate for the increased disturbance response of people at those times. CNEL is the equivalent sound level for a 24-hour period with a +five dBA weighting applied to sound occurring between 7 p.m. and 10 p.m. and a +10 dBA weighting applied to sound occurring between 10 p.m. and 7 a.m. (City of Garden 2006a).

The dB level of a sound decreases (or attenuates) as the distance from the source of that sound increases. For a single point source, such as a piece of mechanical equipment, the sound level typically decreases by approximately six dBA for each doubling of distance from the source. Sound that originates from a linear (or "line") source, such as vehicular traffic, attenuates by approximately three dBA per doubling of distance. Other contributing factors that affect sound reception include ground absorption, natural topography that provides a natural barrier,

meteorological conditions, and the presence of human-made obstacles, such as buildings and sound barriers (Caltrans 2013).

Noise-sensitive land uses include noise receptors (receivers) where an excessive amount of noise interferes with normal activities. The project site is located in a primarily industrial area. Industrial uses are not generally considered noise sensitive. However, some residences are located between industrial buildings. The closest residences are located at the intersection of West 135th Street and Halldale Avenue, approximately 350 feet northeast of the project site, and near the intersection of West 135th Street and Normandie Drive, approximately 800 feet west of the site.

The most significant noise-producing activity within the City includes vehicle noise from arterials and train movements on the Union Pacific rail line. In addition, numerous fixed sources of noise exist within portions of the City including noise from commercial and industrial operations (City of Gardena 2006a).

Regulatory Setting

City of Gardena General Plan

Applicable policies and standards governing environmental noise in the City are set forth in the General Plan Community Safety Element - Noise Plan (2006). Table N-1 of the Gardena Noise Plan outlines the exterior noise compatibility for community noise environments, replicated below in Table 1, Noise Plan Community Noise Exposure Levels. A land use in an area identified as “normally acceptable” indicates that standard construction methods attenuate exterior noise to an acceptable indoor noise level and that people could conduct outdoor activities with minimal noise interference. Land uses that fall into the “conditionally acceptable” noise environment need noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, usually suffice. For land uses where the exterior noise level falls within the “normally unacceptable” range, new construction or development should generally be discouraged. If new construction or development proceeds, a detailed analysis of noise reduction requirements must be made with noise insulation features included in the design. For land uses where the exterior noise levels fall within the “clearly unacceptable” range, new construction generally should not be undertaken. The Noise Plan includes three goals and associated policies including using noise control to reduce transportation noise impacts (N Goal 1), incorporating noise considerations into land use planning decisions (N Goal 2), and developing measures to control non-transportation noise impacts (N Goal 3).

Table 1. Noise Plan Community Noise Exposure Levels (dBA CNEL)

Land Use Category	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – single-family, multi-family, duplex,	50–60	60–65	65–75	75–85
Residential – mobile homes	50–60	60–65	65–75	75–85
Transient lodging, motels, hotels	50–60	60–70	70–80	80–85
Schools, libraries, churches, hospitals, nursing homes	50–60	60–65	65–75	75–85
Auditoriums, concert halls, amphitheaters, meeting halls	NA	50–60	60–70	NA
Sports arenas, outdoor spectator sports, amusement parks	50–65	65–75	NA	75–85
Playgrounds, neighborhood parks	50–65	65–70	70 –75	75–85
Golf courses, riding stables, cemeteries	50–70	70–75	75–85	NA
Office and professional buildings	50–65	65 – 75	75–80	80 – 85
Commercial retail, banks, restaurants, theatres	50 – 70	70 – 80	80 -- 85	NA



Industrial, manufacturing, utilities, wholesale, service stations	50-70	70-85	NA	NA
Agriculture	50 - 85	NA	NA	NA

Source: City of Gardena 2006a.

Notes: CNEL = community noise equivalent level; dBA = A-weighted decibel; NA = not applicable

City of Gardena Municipal Code – Noise Ordinance

Sections 8.36.040 and 8.36.050 of the City’s Noise Ordinance establish exterior and interior noise standards as it relates to how loud operational noise can be. The allowable noise levels are presented in Table 2, Allowable Exterior and Interior Noise Levels. Subsection 8.36.040(C) states that in the event the ambient noise level exceeds the noise standard, the ambient noise level shall become the noise standard.

Table 2. Allowable Exterior and Interior Noise Levels (dBA)

Type of Land Use	15-minute Average Noise (dBA, Leq)		Maximum Noise Level (dBA, Lmax)	
	7:00 a.m. – 10:00 p.m	10:00 p.m – 7:00 a.m	7:00 a.m. – 10:00 p.m	10:00 p.m – 7:00 a.m
Residential	55	50	75	70
Residential portions of mixed use	60	50	80	70
Commercial	65	60	85	80
Industrial or manufacturing	70	70	90	90
Allowable Interior Noise Levels				
Residential	45	40	65	60
Residential portions of mixed use	45	40	70	60

Source: City of Gardena 2006b.

Notes: CNEL = community noise equivalent level; dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level

Noise levels are measured at the property line of the noise-sensitive land use.

- ¹ This category includes residences, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
- ² This category includes schools, libraries, theaters, and churches where it is important to avoid interference with activities such as speech, meditation, and concentration on reading material.

Per Section 8.36.080 of the City’s Noise Ordinance, project construction activities are explicitly exempt from the exterior and interior noise standards presented in Sections 8.36.040 and 8.36.050. Specifically, the ordinance states that “noise associated with construction, repair, remodeling, grading or demolition of any real property are exempt from the provisions in Chapter 8.36 (City of Gardena Noise Ordinance), provided said activities do not take place between the hours of 6:00 PM and 7:00 AM on weekdays between the hours of 6:00 PM and 9:00 AM on Saturday or any time on Sunday or a Federal holiday.”

Standards of Significance

Temporary construction noise and permanent noise increases from Project implementation are compared to the noise standards in the City’s General Plan Community Safety Element - Noise Plan and the City’s Noise Ordinance, outlined above, to determine whether a significant impact would occur.

Impact Analysis

The following analysis includes an analysis of potential temporary construction noise and permanent noise increases from vehicles and other operational sources from Project implementation.

Construction Impact Analysis

Construction of the project would have the potential to result in temporary noise level increases as a result of operation of heavy equipment and haul trucks. Construction of the project would generate noise that could expose nearby receptors to elevated noise levels that may disrupt communication and routine activities. The magnitude of the impact would depend on the type of construction activity, equipment, duration of the construction phase, distance between the noise source and receiver, and intervening structures. Sound levels from typical construction equipment range from 76 dBA to 88 dBA Leq at 50 feet from the source (FTA 2018). Noise from construction equipment generally exhibits point source acoustic characteristics. Strictly speaking, a point source sound decays at a rate of six dBA per doubling of distance from the source. The rule applies to the propagation of sound waves with no ground interaction.

Project construction would last for approximately 12 to 14 months and would require typical construction equipment. Therefore, construction would generate noise levels ranging from 76 to 88 dBA Leq at 50 feet from construction activities. The Project site is surrounded by industrial buildings that are not considered noise sensitive. Additionally, construction would take place during the allowable hours outlined in Section 8.36.080 of the City's Noise Ordinance: 7:00 AM to 6:00 PM and weekdays and 9:00 AM to 6:00 PM on Saturdays. Truck trips would be required for hauling material during demolition and delivery of construction materials; however, the site is currently a source of truck trips. Therefore, temporary impacts from construction would be less than significant.

Permanent Increase in Vehicle Noise

The proposed project would generate vehicle trips during operation, including personal vehicle trips from employees and truck trips from deliveries. However, the project site is currently developed with similar facilities that generate general vehicle and truck trips. Based on the project's Transportation Impact Analysis (Gibson 2022), the project is anticipated to result in a net decrease in vehicle trips compared to existing conditions. The project would generate approximately 178 fewer daily trips than the current use if it would be developed with manufacturing uses. If the project operates as a warehousing use, it is anticipated to result in a reduction of 728 daily trips compared to existing conditions. If the Project is developed as a high-cube distribution center, it is anticipated to result in a reduction of 784 daily trips. It is anticipated that the Project would have a similar trip distribution as the existing facilities and utilize similar truck routes. Therefore, the Project would be expected to result in similar or reduced ambient vehicle noise compared to existing conditions. Therefore, potential noise impacts are considered less than significant.

Other Operational Noise Sources

Operation of the Project would be expected to result in stationary noise from heating, ventilation, and air conditioning (HVAC) systems and industrial equipment. The specifications of future HVAC systems and industrial equipment are currently unknown. However, the nearest sensitive receptors are located approximately 350 feet from the Project site. At this distance, typical noise levels from major mechanical HVAC equipment (69–73 dBA CNEL) at a distance of 50), would be reduced to below the noise compatibility standard of 60 dBA CNEL for sensitive receptors. Industrial equipment would be subject to Noise Ordinance standards as well as Occupational Safety and Health Administration requirements to protect workers from hearing loss.

In addition to HVAC systems, the proposed land uses also have the potential to generate noise from truck deliveries and parking areas. Truck delivery noise sources include engines idling and beeping from back up warning signals at commercial loading docks. State law (13 CCR 2485) currently prohibits heavy-duty diesel delivery trucks from idling more than five minutes. Therefore, noise from idling will be limited to five minutes during truck deliveries. Beeping from trucks would not be continuous and would only occur while the truck is backing up. Noise sources from parking areas include car alarms, door slams, radios, and tire squeals. These sources are generally

short term and intermittent, and would be different from each other in kind, duration, and location so that the overall effects would be separate.

Additionally, the noise sources associated with the Project, including stationary equipment, truck deliveries, and parking areas would be similar to the operation of the existing industrial uses on the Project site. The site is surrounded by industrial development that is not considered noise sensitive and therefore would not be sensitive to minor changes in industrial noise on the Project site. Operational impacts from the Project would be less than significant.

Summary

Based on the analysis above, implementation of the Hitco Project would not result in any significant noise impacts compared to existing conditions. Therefore, no mitigation measures are necessary.

References

Caltrans (California Department of Transportation). 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September.

City of Gardena. 2006a. General Plan Community Safety element, Noise Plan. <https://cityofgardena.org/wp-content/uploads/2016/04/generalplan9.pdf>

City of Gardena. 2006b. Municipal Code Chapter 8.36, Noise. <https://www.codepublishing.com/CA/Gardena/#!/Gardena08/Gardena0836.html#8.36>

FTA (Federal Transit Administration). 2018. Transit Noise & Vibration Impact Assessment. Office of Planning and Environment. September.

Gibson Transportation Consulting, Inc. 2022. Transportation Assessment for the 1600 W. 135th Street Project, Gardena, California. April 15.

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Attachment 1. FHWA Noise Prediction Model Results

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