



Memorandum

Date: February 7, 2025

To: Scott Connelly, Seven77 Housing Partners, LLC

From: Philip Ault, Director of Noise and Air Quality, FirstCarbon Solutions

Subject: Courtyard Noise Analysis for the Proposed Seven77 Sunnyvale Saratoga Road Project, City of Sunnyvale, Santa Clara County, California

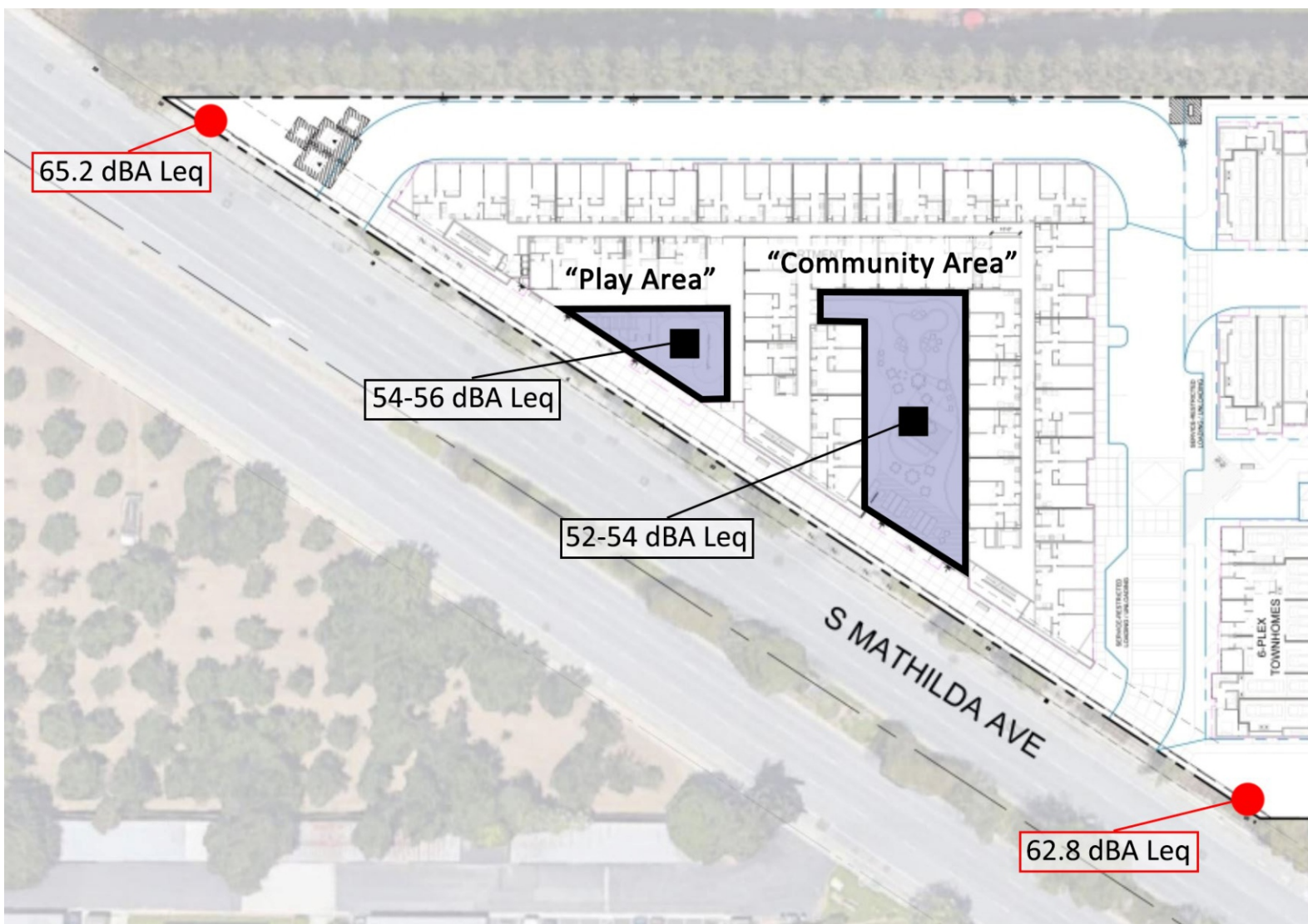
On behalf of Valley Oak Partners LLC (project applicant), FirstCarbon Solutions (FCS) prepared this memorandum to evaluate the acceptability of existing exterior noise levels on the Seven77 Sunnyvale Saratoga Road Project (proposed project), specifically the apartment building's two courtyard areas that would face South Mathilda Avenue (Exhibit 1). The analyses and opinions contained in this memorandum reflect FCS's professional judgment and are based on the City of Sunnyvale's (City's) General Plan exterior noise standards, United States Environmental Protection Agency (EPA) recommendations, and other industry guidelines. This analysis is not being conducted pursuant to the California Environmental Quality Act (CEQA) or any CEQA thresholds of significance. There are no City, State, or other standards that would directly regulate the acceptability of existing exterior noise levels affecting the proposed project's courtyard areas.

Based on FCS's analysis, existing ambient noise levels affecting the proposed project's courtyard areas would be acceptable and would not unreasonably interfere with normal outdoor voice communication.

PROJECT DESCRIPTION

The 5.24-acre project site is located in the City of Sunnyvale and is bounded by commercial developments and Sunnyvale Saratoga Road to the east, residential development and South Mathilda Avenue to the south and west, open land and Sunnyvale Municipal Tennis Center to the west, and commercial and residential development to the north. The proposed project would involve demolishing existing improvements at the project site to construct an apartment and townhome development. The western portion of the site would be developed with 160 apartment units and the eastern portion of the site would be developed with 80 townhomes.

The focus of this memorandum is two apartment courtyards that would face South Mathilda Avenue. The first courtyard is an approximately 1,197 square-foot play area that would be located on the apartment building's second level, approximately 11 feet above ground level. This courtyard is hereafter referred to as the play area. The second courtyard is an approximately 5,834 square-foot community area with outdoor tables, seating, and landscaping. It would be located on the apartment building's third level, approximately 23 feet above ground level. This courtyard is hereafter referred to as the community area. Both courtyards would be setback approximately 15 feet from the edge of South Mathilda Avenue, about 65 feet from the roadway's centerline. The street-facing boundary of each courtyard would be enclosed by a solid parapet or wall with no gaps that would be at least 6 feet tall.



Source: Studio T Square, 10/25/2023.



NOISE ACCEPTABILITY STANDARDS AND GUIDELINES

The primary noise standards and guidelines influencing this analysis are from the City's General Plan Safety and Noise Element¹ and the EPA's seminal noise report, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*.² Each is discussed below.

City of Sunnyvale General Plan Safety and Noise Element

The City's exterior noise standards are based on recommendations from the 2017 State of California General Plan Guidelines. For multi-family apartments and townhomes, the City applies a 65 A-weighted decibel (dBA) day/night average noise level (L_{dn}) exterior noise compatibility standard. The Safety and Noise Element explains that this standard applies to the primary usable open space areas of townhomes and multi-family apartment buildings, including common courtyards and other gathering spaces. The standard is measured from the approximate center of the affected area.

EPA Recommendations

The EPA explains that speech-interference is the primary interference of noise with human activities and is one of the main reasons for adverse community reactions to noise and long-term annoyance. EPA research shows that for outdoor voice communication, an outdoor noise level of 60 dBA equivalent noise/sound level (L_{eq}) allows normal conversation at distances up to 2 meters with 95 percent sentence intelligibility. However, the EPA applies a 5 dBA margin of safety and therefore recommends that outdoor residential and activity areas not exceed background ambient noise levels of 55 dBA L_{eq} when speech preservation is the primary goal.

EXISTING NOISE LEVELS

As part of a separate noise analysis relating to the proposed project's CEQA impacts, FCS conducted several short-term ambient noise measurements surrounding the project site. The noise measurements were taken on Wednesday, May 1, 2024, between approximately 12:30 p.m. and 2:30 p.m. Two measurements were taken along South Mathilda Avenue and are therefore relevant to the present

¹ City of Sunnyvale. General Plan Safety and Noise Element. July 26, 2011.

² United States Environmental Protection Agency (EPA) Office of Noise Abatement and Control. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. March 1974.

analysis. Table 1 shows the results of these measurements. For both measurements, vehicle traffic along South Mathilda Avenue was the primary source of noise.

Table 1: Existing Ambient Noise Levels Along South Mathilda Avenue

Site Location	Location Description	dBA L _{eq}
ST-3	At the southwestern corner of the project site, on the corner of existing on-site parking lot; 15 feet away from South Mathilda Avenue.	62.8
ST-4	By the western boundary of the project site, approximately 10 feet from South Mathilda Avenue; 300–400 feet south of Tennis Center and South Mathilda Avenue intersection.	65.2

To be conservative, the following analysis assumes that existing daytime ambient noise levels along South Mathilda Avenue are 65.2 dBA L_{eq}, equal to the louder noise measurement taken by FCS along South Mathilda Avenue. Increased traffic during afternoon and evening hours could result in greater noise levels along South Mathilda Avenue, but the increase would be no greater than a couple of decibels.

ANALYSIS

City of Sunnyvale General Plan Safety and Noise Element

As discussed earlier, the City's General Plan Safety and Noise Element applies a 65 dBA L_{dn} 24-hour exterior noise standard that is measured from the approximate center of affected outdoor use areas. The center of the proposed project's play area would be located approximately 32 feet from the edge of South Mathilda Avenue. Based on this distance, and conservatively assuming that 10 dBA of attenuation would be provided by the play area's wall and the massing of the proposed project itself, daytime noise levels near the center of the play area would be approximately 54 dBA L_{eq}. Corresponding 24-hour noise levels would be no more than a couple of decibels higher or lower than this value. Therefore, there is no potential that exterior noise levels in the play area would exceed the City's 65 dBA L_{dn} standard.

The center of the proposed project's community area would be located approximately 70 feet from the edge of South Mathilda Avenue. Based on this distance, and assuming a similar 10 dBA of attenuation provided by the community area's wall and the massing of the proposed project itself, daytime noise levels near the center of the community area would be approximately 52 dBA L_{eq}. Like the play area, there is no potential that corresponding 24-hour exterior noise levels would exceed the City's 65 dBA L_{dn} standard. Neither the play area nor the community area courtyards would experience noise levels that exceed that City's 65 dBA L_{dn} standard.

EPA Recommendations

As discussed earlier, EPA research shows that outdoor noise levels of 60 dBA L_{eq} are generally protective of outdoor voice communication and allow for 95 percent sentence intelligibility. However, the EPA applies

a 5 dBA margin of safety and therefore recommends that outdoor noise levels not exceed 55 dBA L_{eq} when speech preservation is the primary goal. Thus, it is understood that outdoor noise levels of 60 dBA L_{eq} are acceptable, but 55 dBA L_{eq} is a safer goal.

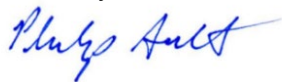
As estimated earlier, daytime noise levels near the center of the play area would be approximately 54 dBA L_{eq} . Noise levels during afternoon or evening periods with greater traffic along South Mathilda Avenue may be slightly increased by a couple of decibels, likely no greater than approximately 56 dBA L_{eq} . This is slightly higher than the EPA's 55 dBA L_{eq} goal, but well within the range of acceptable outdoor noise levels for speech preservation. An additional consideration is the fact that the play area is intended to be an area for active outdoor recreation, not necessarily a quiet area for conversation. Outdoor noise levels up to 56 dBA L_{eq} would be acceptable for this usage. The City's General Plan Safety and Noise Element considers noise levels up to 75 dBA to be acceptable for parks, for example.

As also estimated earlier, daytime noise levels near the center of the community area would be approximately 52 dBA L_{eq} . Noise levels during afternoon or evening periods with greater traffic along South Mathilda Avenue may be slightly increased by a couple of decibels, likely no greater than approximately 54 dBA L_{eq} . This is below the EPA's 55 dBA L_{eq} goal, demonstrating that seating and gathering locations within the community area would not be exposed to exterior noise levels that interfere with normal conversation.

CONCLUSION

Based on the above analysis, it is FCS's professional opinion that exterior noise levels within the proposed project's courtyards facing South Mathilda Avenue would not exceed the City's exterior noise standards and would not unreasonably interfere with outdoor voice communication. Thank you for the opportunity to conduct this noise impact analysis. Please feel free to contact Phil Ault (559.930.6191 or pault@fcs-intl.com) should you have any questions.

Sincerely,



Philip Ault, Director of Noise and Air Quality

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