

10 October 2025

Chase Rapp
68 Willow Owner, LLC
265 Lytton Ave, Suite 303
Palo Alto, CA 94301
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**Subject: 68 Willow Road Residences
Environmental Noise Study
Salter Project 25-0020**

Dear Chase:

We have conducted an environmental noise study for the project. The purpose of the study is to quantify the noise environment at the site, compare the measured data with applicable standards, and propose mitigation measures as necessary. This report summarizes the results.

PROJECT CRITERIA

California Building Code (Title 24, Part 2)

Section 1206.4 of the California Building Code requires that the indoor noise level in habitable rooms of dwellings not exceed DNL¹ 45 dB.

Menlo Park General Plan

The interior noise standard of the City of Menlo Park General Plan² is consistent with the State requirement for multi-family housing. Additionally, the City defines the maximum acceptable outdoor noise exposure level for multi-family residential areas as DNL 65 dB. In our experience, this type of exterior noise standard is typically applied to common outdoor-use areas, such as common open space, but not to small private decks and balconies. This should be confirmed with the City.

¹ DNL (Day-Night Average Sound Level) – A descriptor for a 24-hour A-weighted average noise level. DNL accounts for the increased acoustical sensitivity of people to noise during the nighttime hours. DNL penalizes sound levels by 10 dB during the hours from 10 PM to 7 AM. DNL is sometimes written as Ldn. For practical purposes CNEL (an acoustical descriptor for increased acoustical sensitivity during evening and nighttime hours) and DNL are usually interchangeable.

² City of Menlo Park General Plan, May 2013, Noise Policies and Implementing Programs, Policy N1.1



NOISE ENVIRONMENT

The project is located at the intersection of Willow Road and Willow Place in Menlo Park, CA. The noise environment at the site is predominantly controlled by vehicular traffic from Willow Road.

To quantify the existing noise environment, we conducted three continuous long-term noise measurements from 28 to 30 January 2025. The monitors were at a height of 12 feet above grade. See **Figure 1** for the measurement locations and measured noise levels.

We have added 1 dB to the data in our calculations to account for future traffic increases.

RECOMMENDATIONS

Interior Noise

We used the Resubmittal Set dated 27 December 2024 for our analysis. We calculated that the windows need to be rated as shown in **Figure 2**. Our calculations (see **Appendix A** for an example calculation) are based on the following:

- All rooms will have hard-surfaced flooring
- Residential ceilings are 9-feet tall
- Exterior walls will achieve STC 45 (e.g., three-coat stucco)

The recommended STC³ ratings are for full window assemblies (glass and frame) rather than just the glass itself. Tested sound-rated assemblies should be used. For reference, typical commercially-available one-inch glazing assemblies (two 1/4-inch thick panes with a 1/2-inch airspace) achieve approximately STC 32, which would satisfy the STC requirements for the project.

Where the windows need to be closed to achieve an indoor DNL of 45 dB, an alternative method of supplying fresh air (e.g., mechanical ventilation) should be provided. This applies to all of the locations where an STC rating is shown.

Exterior Noise

The project will include a common open space located southeast of Willow Road. The expected noise levels at the common open space are calculated to be below DNL 65 dB without additional mitigation.

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³ STC (Sound Transmission Class) – A single-number rating defined in ASTM E90 that quantifies the airborne sound insulating performance of a partition under laboratory conditions. Increasing STC ratings correspond to improved airborne sound insulation.

This concludes our environmental Noise Study for the 68 Willow Road project. Should you have any questions, please give us a call.

Best,

A handwritten signature in blue ink that reads "Valerie Smith". The signature is fluid and cursive.

Valerie Smith, PE
Vice President



Approx. Scale:
1" = 160-ft

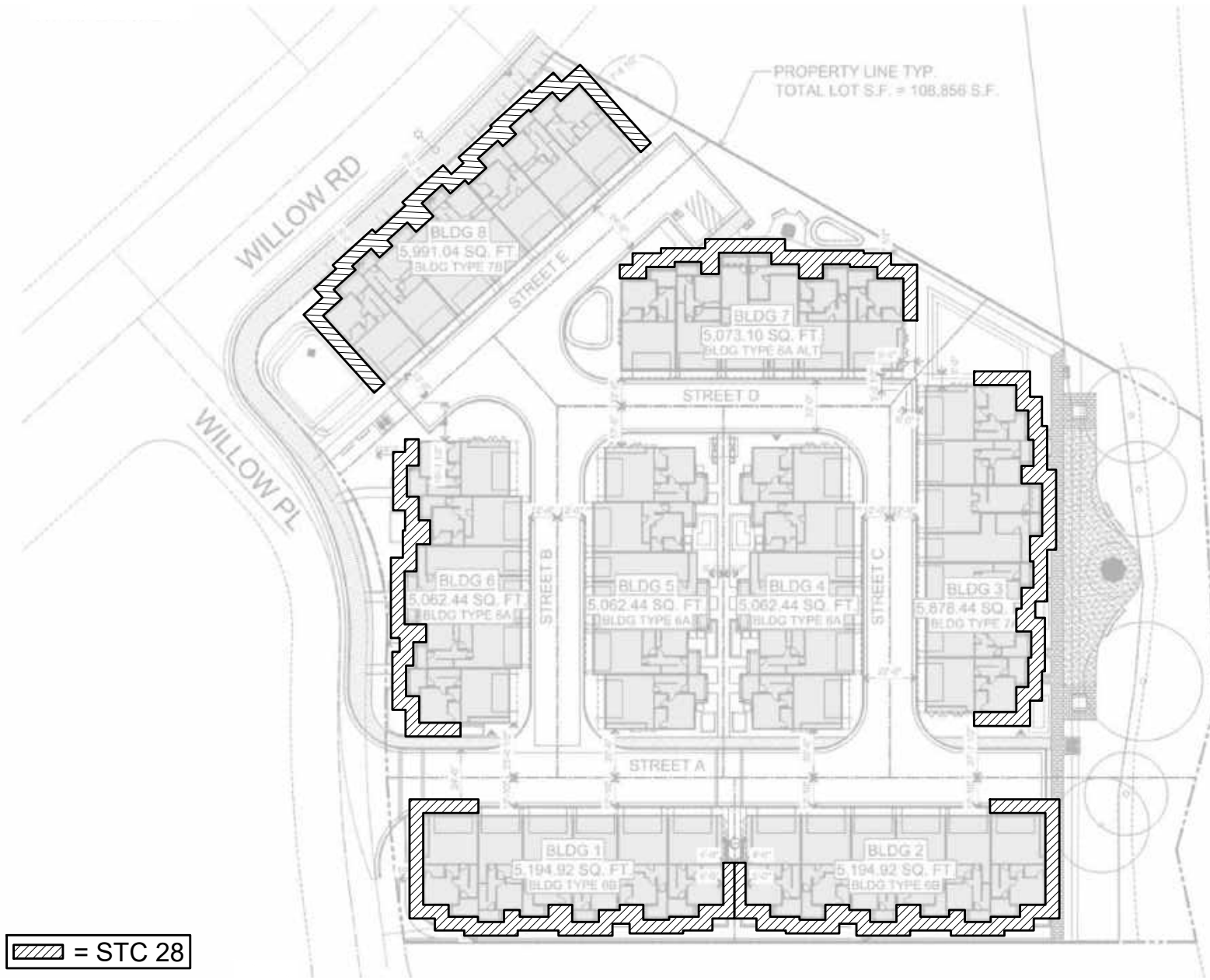
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68 WILLOW ROAD RESIDENCES MEASUREMENT LOCATIONS AND MEASURED NOISE LEVELS

FIGURE 1

Salter #
25-0020

MDH/VCS
10.10.2025



- NOTES: 1. STC RATINGS ARE FOR THE COMPLETE ASSEMBLY (E.G., GLASS, FRAME, AND OPERABLE SECTIONS) BASED ON TEST REPORTS FROM AN NVLAP-ACCREDITED LAB
2. WHERE NO STC RATING SHOWN, SOUND-RATED WINDOWS AND DOORS ARE NOT REQUIRED

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68 WILLOW ROAD RESIDENCES MINIMUM CODE-REQUIRED STC RATINGS FOR WINDOWS AND EXTERIOR DOORS (ALL FLOORS)

FIGURE 2

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MDH/VCS
10.10.2025

APPENDIX A: EXAMPLE CALCULATION



68 Willow Road
 2/9/2025
 Salter proj: 25-0020
 Project Calculations

EXTERIOR-TO-INTERIOR NOISE REDUCTION

Calculation Parameters

Willow Road Façade	DNL 63 dB from CadnaA	1	dB add for future traffic increase
Non-Carpet Room Absorption Alpha	0.7		
Spectrum Correction	4	dB	
Pressure Doubling	3	dB	
Safety Factor	3	dB	
Criterion	45	dB (DNL)	
Log Dropoff	10		

Residential Unit Values

Bedroom Width	14.5	ft
Bedroom Depth	11.5	ft
Bedroom Height	9	ft
Added Width	11.5	ft
Room Absorption	117	
Surface Area (corner)	234	
10log(S/A)	3.0	
Glazing %	25	
Calculated DNL Outdoors	63	db
Wall STC	45	

Window Sound Insulation Rating Estimate

Window STC	28	
Estimated Indoor Level	42	dB DNL

DNL from CadnaA



Equation from Harris (Handbook of Acoustical Measurements and Noise Control), Chapter 33