Davy
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Consultants in Acoustics

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JN2011-12

April 27, 2011

Mr Tom Hsieh
Togawa Smith Martin, Inc.
444 S Flower Street Suite 1220
Los Angeles, CA 90071

SUBJECT: ACOUSTICAL ANALYSIS
Yucca Valley Seniors., Studio City, California

Dear Tom:

Enclosed are copies of our acoustical analysis for the Yucca Valley Seniors Project in Yucca Valley, California.

The results of the monitoring indicate the project will comply with the requirements of the City of Yucca Valley if all south facing perimeter windows and glass doors in the Building closest to Twentynine Palms Highway are glazed with STC 31 glazing.

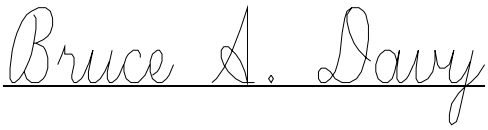
STC 31 glazing can be provided with either 1/4" laminated glass or a dual pane assembly with a 1/2" airspace. In either case, the glazing supplier should submit a test report documenting the STC 31 rating. The test report should be prepared in an independent, accredited testing laboratory in accordance with ASTM E-90.

The analysis we have completed is intended only to satisfy the environmental requirements of the plan check agency. We assume no responsibility for details of construction or final noise levels following completion of the proposed project. We are responsible only for the accuracy of our calculations. No other guarantees or assurances are given or implied.

If you have any questions concerning the enclosed report, please call me. It has been a pleasure working with you on this project.

Sincerely,

DAVY & ASSOCIATES, INC.



Bruce A. Davy, P.E.
President

BD/kbd

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ACOUSTICAL ANALYSIS

Yucca Valley Seniors
Yucca Valley, California

FOR

Togawa Smith Martin, Inc.
Los Angeles, California

April, 2011

1.0 Introduction

At the direction of **Togawa Smith Martin, Inc., Davy & Associates, Inc.** has completed an acoustical analysis of the Yucca Valley Seniors Project in Yucca Valley, California.

The California Administrative Code (Title 24) as enforced by the City of Yucca Valley specifies maximum allowable interior noise levels of CNEL 45 for all habitable spaces in residential buildings where exterior noise from transportation sources exceeds CNEL 60.

Section 2.0 of this report contains the results of measurements and calculations of the future exterior noise environment at the site to determine compliance with these requirements.

Section 3.0 of this report contains recommendations for complying with the City of Yucca Valley interior noise level requirements.

Section 4.0 of this report contains the requirements of the State Building Code concerning ventilation.

2.0 Exterior and Future Acoustical Environment

Environmental noise levels were monitored at the site in Yucca Valley, California on April 26, 2011 between the hours of 3:00 p.m. and 4:00 p.m. The location of the site is shown in Figure 1. Noise measurements were made at the south building line.

Noise levels at the site are dominated by traffic on Twentynine Palms Highway to the south. No other significant sources of noise were noted during the site visit.

Environmental noise levels were measured with a precision integrating LD 820 sound level meter that had been calibrated with a B&K 4230 Acoustical Calibrator immediately prior to use. The sound level meter measures and displays the equivalent noise level (LEQ), as well as the maximum and the minimum noise levels during the measurement period. A copy of the analysis of the acoustical data is attached to this report.

The data thus collected were analyzed to determine the CNEL level at the measurement location. The CNEL value was determined by measuring the equivalent noise level (LEQ) directly, and then calculating the equivalent noise level for each of the other 23 hours in the day.[1] This CNEL approach has been utilized extensively. The accuracy of this procedure has been established with automatic 24-hour measurements at the same location. The procedure has always been within acceptable accuracy limits. The results of the monitoring and calculations are summarized below in Table 1.

Table 1

Measured Ambient Noise Levels in dB

Location	Peak Hour LEQ	CNEL
South Building Line	66.6 dBA	67.6 dBA

Section 3501.(c) of the State Building Code states the following:

> Worst-case noise levels either existing or future, shall be used as the basis for determining compliance with this Section. Future noise levels shall be predicted for period of at least 10 years from the time of building permit application.

CALTRANS, Division of Traffic Operations publishes an annual traffic volume book that contains previous traffic trends. The 2003 traffic volumes on the California State Highway System Book (the latest edition available) lists an average annual increase of 2.3% per year in annual traffic volumes for the years 1998 through 2003. Assuming that this annual growth of 2.3% would hold for this site, it was projected that traffic volumes would increase by a factor 1.26 by the year 2021. This traffic volume increase over the next 10 years would result in a 1.0 dB traffic noise increase. Therefore, the projected future year noise level is summarized in Table 2.

Table 2

Exterior 2021 CNEL Value at the Site in dB

Location	CNEL
South Building Line	68.6 dB

[1] See, for example, "Insulation of Buildings Against Highway Noise," Bruce Davy and Steven Skale, Federal Highway Administration FHWA-TS-77-202.

With an exterior noise level of CNEL 68.6, the building must provide an A-weighted noise reduction value of at least 23.6 dB to achieve an interior CNEL 45 value.

Standard construction consisting of 2x4 studs with R-11 insulation, exterior stucco, interior gypboard, and standard glazing provides a minimum A-weighted noise reduction of 20 dB.

If all south facing perimeter windows and glass doors in the Building closest to Twentynine Palms Highway are glazed with STC 31 glazing, the noise reduction of the Building will be a minimum of 28 dB.

This means that with the use of standard construction and STC 31 glazing in all south facing perimeter windows and glass doors in the Building closest to Twentynine Palms Highway, interior noise levels should not exceed CNEL 45. Therefore, the Building will comply with the California Noise Insulation Standards as enforced by the City of Yucca Valley.

Due to acoustical shielding by the Building closest to Twentynine Palms Highway and increased distance all other buildings will be exposed to noise levels less than CNEL 60 and interior noise levels will be less than CNEL 45 with standard glazing.

STC 31 glazing can be provided with either 1/4" laminated glass or a dual pane assembly with a 1/2" airspace. In either case, the glazing supplier should submit a test report documenting the STC 31 rating. The test report should be prepared in an independent, accredited testing laboratory in accordance with ASTM E-90.

3.0 Construction Recommendations

3.1 Roof ceiling construction will be roofing on plywood. Batt insulation will be installed in joist spaces. The ceilings will be one layer of gypboard nailed direct.

3.2 All exterior walls will be 2x4 studs 16" o.c. with batt insulation in the stud spaces. Exteriors will be exterior plaster or stucco. The interiors will be gypboard.

3.3 All south facing perimeter windows and glass doors in the Building closest to Twentynine Palms Highway will be glazed with STC 31 glazing. STC 31 glazing can be provided with either 1/4" laminated glass or a dual pane assembly with a 1/2" airspace. In either case, the glazing supplier should submit a test report documenting the STC 31 rating. The test report should be prepared in an independent, accredited testing laboratory in accordance with ASTM E-90.

3.4 All other windows and glass doors may be standard glazing.

3.5 All entry doors should be 1-3/4" solid core doors with weather stripping seals on the sides and top. Glazing in entry doors should not be accepted.

4.0 Ventilation Requirements

The California Noise Insulation Standards (Title 24) states the following paragraph concerning ventilation:

> "If interior allowable noise levels are met by requiring that windows be unopenable or closed, the design for the structure must also specify a ventilation or air-conditioning system to provide a habitable interior environment. The ventilation system must not compromise the dwelling unit or guest room noise reduction."

With windows open, typical noise reduction values will be in the 12 dB range. This means that a ventilation system must be provided for all habitable rooms. This can normally be supplied with an FAU (forced air unit) with a summer switch. Outside air intake must be in compliance with the Uniform Building Code.

Bruce A. Davy

Bruce A. Davy, P.E.
Davy & Associates, Inc.

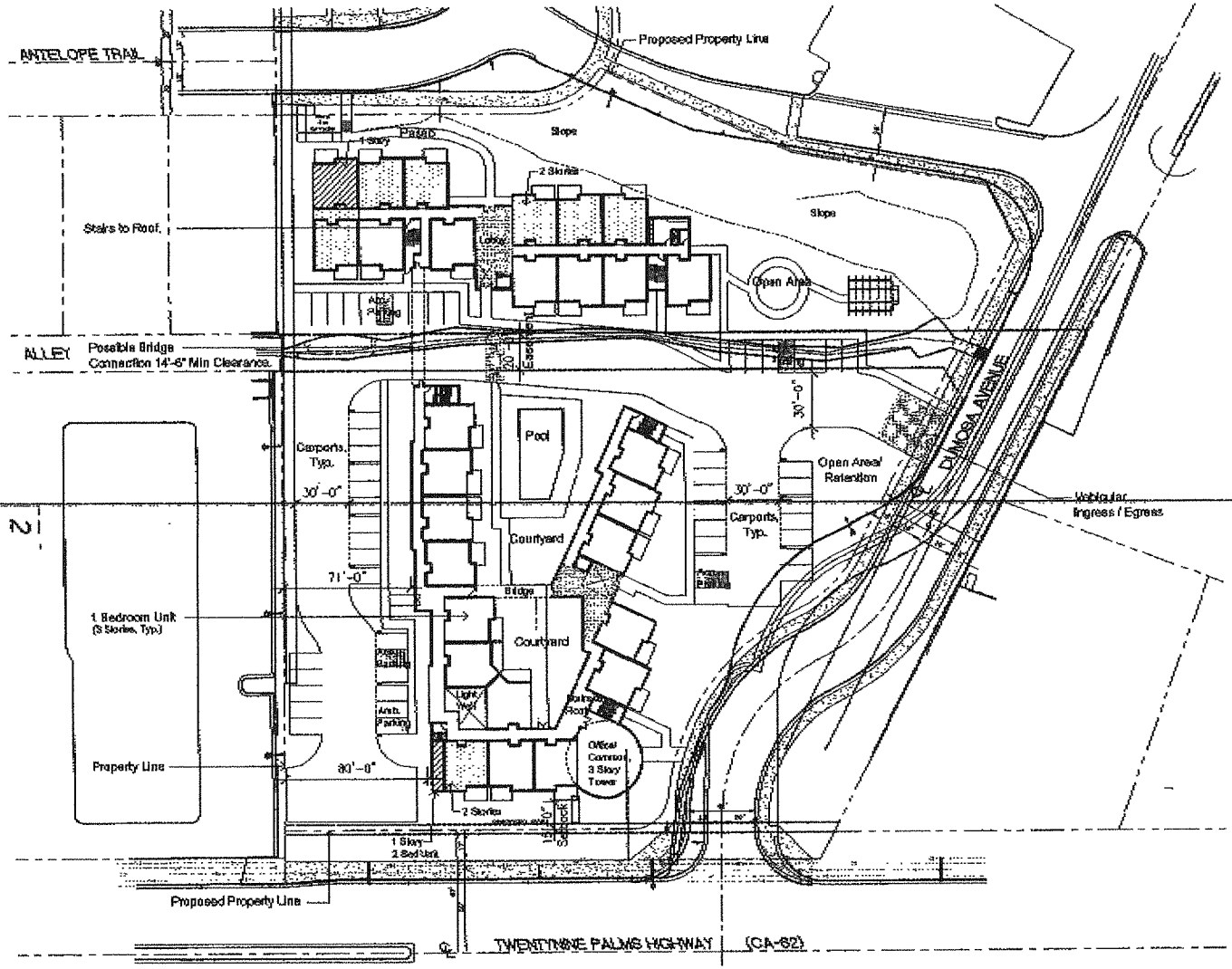
SITE MONITORING NOISE ANALYSIS

JN2011-12

PROJECT:	Yucca Valley Seniors, Yucca Valley
LOCATION:	South Building Line
TEST DATE:	April 27 , 2011
START TIME:	3:00 P.M.
END TIME:	4:00 P.M.
EQUIPMENT USED:	LD 820 SLM 1/2" Random Incidence Mic Windscreen B&K 4230 Calibrator Tripod Wind Speed Indicator Micronta Thermometer/Hygrometer
TEMPERATURE:	76f
RELATIVE HUMIDITY:	40%
WIND:	0-2 mph

LEQ:	66.6	L90:	56.0
LMAX:	76.3	L50:	64.4
LMIN:	50.3	L25:	67.9
CNEL:	67.6	L8:	71.0
LDN:	67.6	L2:	72.9
		L1:	74.4

DAVY
& ASSOCIATES, INC.
Consultants in Acoustics



Concept Design

Yucca Valley Seniors

Yucca Valley, California

National Community Renaissance

PROJECT SUMMARY

Location:
29 Palms Hwy & cross street of Dunosa Ave
APN: 0596-371-011 and the southerly portion of 0596-381-021

Lot Area:
Net Lot Area - 109,007 sf (2.50 Acres), excludes street dedications; includes easements

Zone:
General Commercial (CG)
Public-Quasi Public (P/QP)

Building Height:
3 Stories / 40' (max.)

Setbacks
Front : 15'-0"
Side : 15'-0"
Rear : 15'-0"

Lot Coverage (60% max.):
25.9% (28,257 sf Bldgs. Footprint / 109,007 Net Lot Area)

Open Space:
Private - 7,575 sf ([26 ground level units x 150 sf] + [49 upper level units x 75 sf])
Common - 49,615 sf, 45.5% (49,615 sf / 109,007 sf ; 30% Min. Req.)

Density
Proposed Density = 75 Units
1,453 s.f. / dwelling unit (or 30 dwelling units / Acre) *
* Calculations based on Net Lot Area

Unit Mix

1B (650 sf):	74 units (99%)
2B (750 sf):	1 unit (1%)
	75 units

Parking
75 Stalls (75 units x 1 Stall / unit)

1

0 30 60 120 ft

Scale: 1" = 30'-0" (Full Size)
Scale: 1" = 60'-0" (Half Size)

April 1, 2011

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FIGURE 1. SITE LOCATION