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Date: November 20, 2020

To: Jim Lockington
Manager, New Store Development
In-N-Out Burger

From: Christ Kirikian
Principal
Director of Air Quality & Acoustics

Subject: In-N-Out Burger: Santa Rosa
Noise Memorandum

SUMMARY

This memo provides additional clarification to the submitted noise study prepared by Illingworth & Rodkin, Inc. dated September 3, 2019 based on comments from the City of Santa Rosa. The analysis below provides additional information related to exterior noise levels at the adjacent mobile home uses from truck delivery doors (opening and closing) between expected delivery times of 1:30 AM to 9:00 AM. Additionally, the analysis below provides exterior noise levels at the adjacent mobile home uses from vehicle doors (passenger and roll-up). As discussed below, noise levels generated from the truck delivery activities and customer car doors would be within the normally and conditionally acceptable range for mobile home uses.


GENERAL PLAN


The City has adopted local guidelines based in part on the community noise compatibility guidelines established by the State Department of Health Services for use in assessing the compatibility of various land use types with a range of noise levels, as shown in **Table 1: Land Use Compatibility Standards**. These guidelines are set forth in the State CEQA Guidelines in terms of the CNEL. CNEL guidelines for specific land uses are classified into four categories: (1) normally acceptable; (2) conditionally acceptable; (3) normally unacceptable; and (4) clearly unacceptable.


Mobile Home uses are considered to be normally acceptable in areas exposed to an Ldn of 50 to 60 dBA, conditionally acceptable in areas exposed to an Ldn of 55 to 70 dBA, normally unacceptable in areas exposed to an Ldn of 70 to 75 dBA, and unacceptable in areas exposed to an Ldn of 75 dBA or more.


Table 1
Land Use Compatibility Standards

	COMMUNITY NOISE EXPOSURE Ldn or CNEL, dB					
	55	60	65	70	75	80
RESIDENTIAL - LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES		Light Gray	Light Gray	Light Gray	Dark Gray	Black
RESIDENTIAL - MULTI FAMILY		Light Gray	Light Gray	Light Gray	Dark Gray	Black
TRANSIENT LODGING - MOTELS, HOTELS		Light Gray	Light Gray	Light Gray	Dark Gray	Black
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES		Light Gray	Light Gray	Light Gray	Dark Gray	Black
AUDITORIUMS, CONCERT HALLS, AMPHITHEATERS	Light Gray	Light Gray	Light Gray	Light Gray	Dark Gray	Black
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS	Light Gray	Light Gray	Light Gray	Light Gray	Dark Gray	Black
PLAYGROUNDS NEIGHBORHOOD PARKS				Light Gray	Dark Gray	Black
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES				Light Gray	Dark Gray	Black
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL				Light Gray	Dark Gray	Black
INDUSTRIAL, MANUFACTURING UTILITIES, AGRICULTURE				Light Gray	Dark Gray	Black

-  **NORMALLY ACCEPTABLE**
 Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

-  **CONDITIONALLY ACCEPTABLE**
 New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice,

-  **NORMALLY UNACCEPTABLE**
 New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise reduction features included in the design.

-  **CLEARLY UNACCEPTABLE**
 New construction or development should generally not be undertaken.

METHODOLOGY

Potential operational noise levels related to truck deliveries and car doors were calculated with the noise model SoundPLAN, a commercially available software that produces computer simulations of noise propagation from sources. The operational noise levels were calculated for sensitive-receptor locations using SoundPLAN. The SoundPLAN model includes real-world noise levels and contains noise data in a reference library. The model accounts for large differences in topography, and the presence of intervening structures or landscaping that would block a direct line of sight between operation activities from the proposed Project Site and nearby sensitive receptors.

To quantify events related to opening and closing of truck doors, a point source was modeled with a sound power level (L_{WA}) of 99.0 dB L_w/unit, as referenced in the SoundPLAN noise library as 'Truck: Doors L_{max}.'

To quantify events related to car door slamming, a point source was modeled with a sound power level (L_{WA}) of 98.0 dB L_w/unit, as referenced in the SoundPLAN noise library as 'Car door slamming.'

OPERATIONAL NOISE SOURCES

Truck deliveries would take place no more than once daily between the hours of 1:30 AM to 9:00 AM lasting less than an hour. Site access for these delivery trucks would be from Yolanda Avenue and would unload at the service entrance located adjacent to parking stalls #41 through #47, with the rear of the truck completely masked and shielded by the proposed restaurant building (refer to **Figure 1: Delivery Route**). The nearest noise sensitive receptor would be the mobile home uses to the north approximately 160 feet from the rear of the truck. It is important to note, the mobile home uses would be separated by a proposed 8-foot concrete wall. Therefore, the proposed restaurant building and the 8-foot wall would provide substantial noise reduction from noise generated from the truck delivery door opening and closing.

To provide a worst-case scenario analysis, it was assumed truck deliveries would take place throughout the entire estimated period of 1:30 AM to 9:00 AM. As shown in **Table 1: Exterior Noise Levels on Adjacent Mobile**, truck delivery activities including opening and closing of doors would generate maximum noise levels of 53 dBA (refer to **Figure 2: Noise Contour Map – Truck Door**). Consequently, assuming a worst-case scenario, noise levels would be within the normally acceptable noise ranges for mobile home uses.

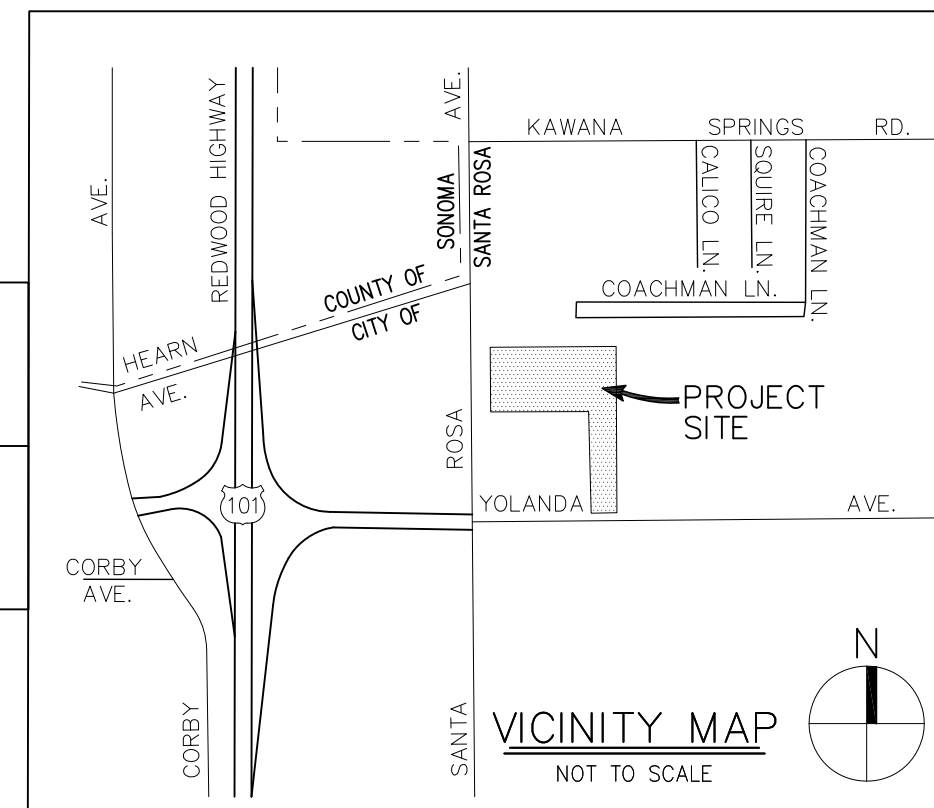
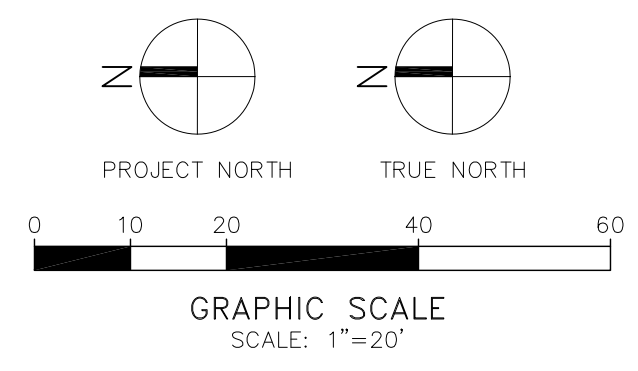
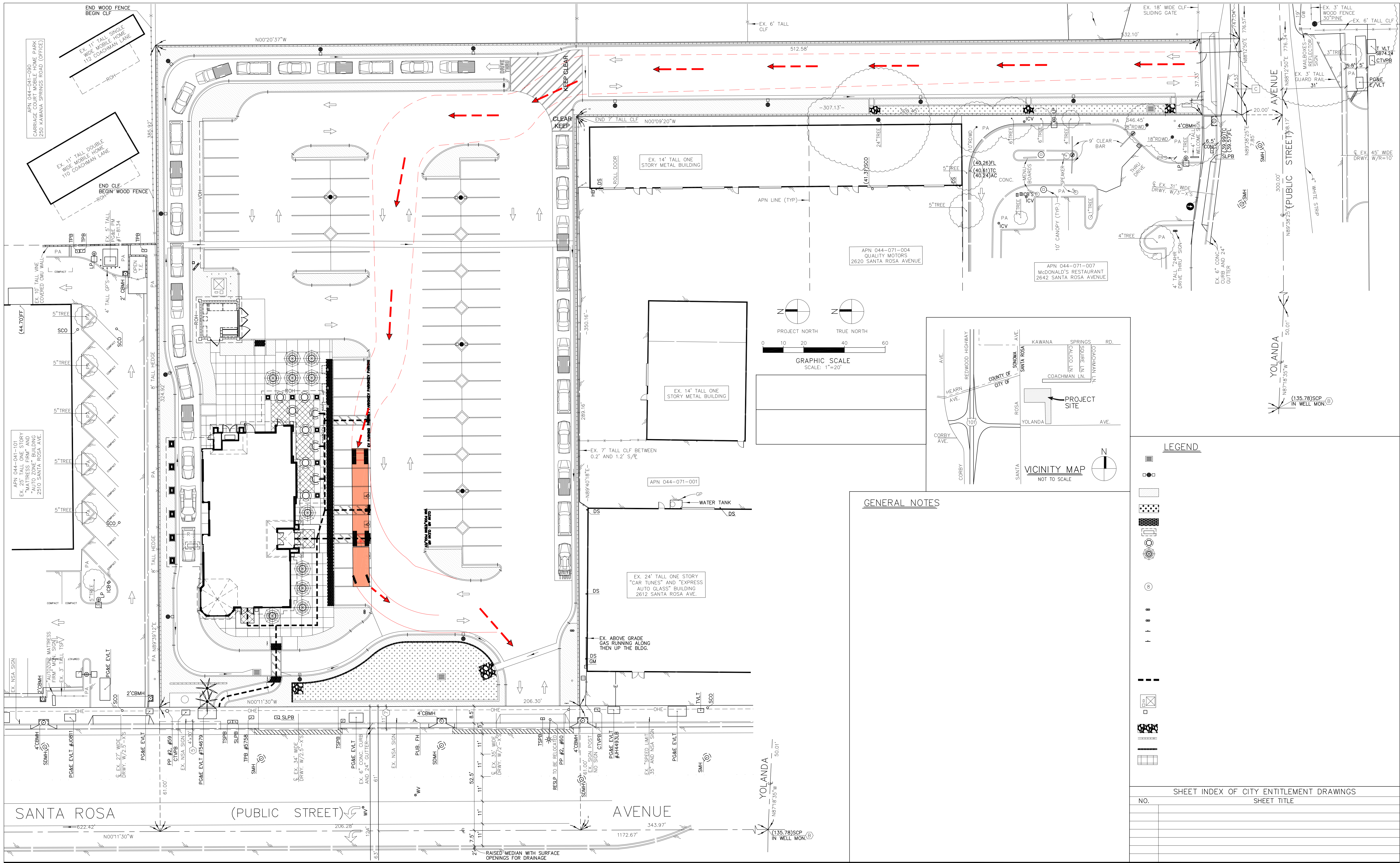
The nearest customer parking stalls include #12 through #19 (located approximately 30 feet from the nearest mobile home use and 20 feet from the 8-foot concrete wall) and #20 through #31 (located approximately 75 feet from the nearest mobile home use). To provide a worst-case scenario analysis, it was assumed all customer car doors and the stalls mentioned previously nearest to the mobile home uses

would all open and close simultaneously throughout the entire hour. As shown in **Table 1**, maximum noise levels from customer car doors all opening and closing simultaneously would be 67 dBA (refer to **Figure 3: Noise Contour Map – Vehicle Doors**). Consequently, assuming a worst-case scenario, noise levels would be within the conditionally acceptable noise ranges for mobile home uses.

Table 1
Exterior Noise Levels on Adjacent Mobile Homes

Noise Source	Noise Level, dBA	Maximum Conditionally Acceptable Level, dBA	Significant Impact?
Truck Delivery Door (Open and Close)	53	70	No
Car Door (Open and Close)	67	70	No
<hr/> <i>Source: Refer to Appendix A for SoundPLAN output sheets.</i>			

FIGURE 1
Delivery Route



GENERAL NOTES

LEGEND

NO.	SHEET INDEX OF CITY ENTITLEMENT DRAWINGS	SHEET TITLE

DEVELOPER:
IN-N-OUT BURGER
 13502 HAMBURGER LANE
 BALDWIN PARK, CA 91706
 CONTACT: JIM LOCKINGTON
 PHONE: (626) 813-8289

Underground Service Alert
 Call: Toll Free
811
 TWO WORKING DAYS
 BEFORE YOU DIG

REVISIONS

▲	
▲	
▲	
▲	
▲	

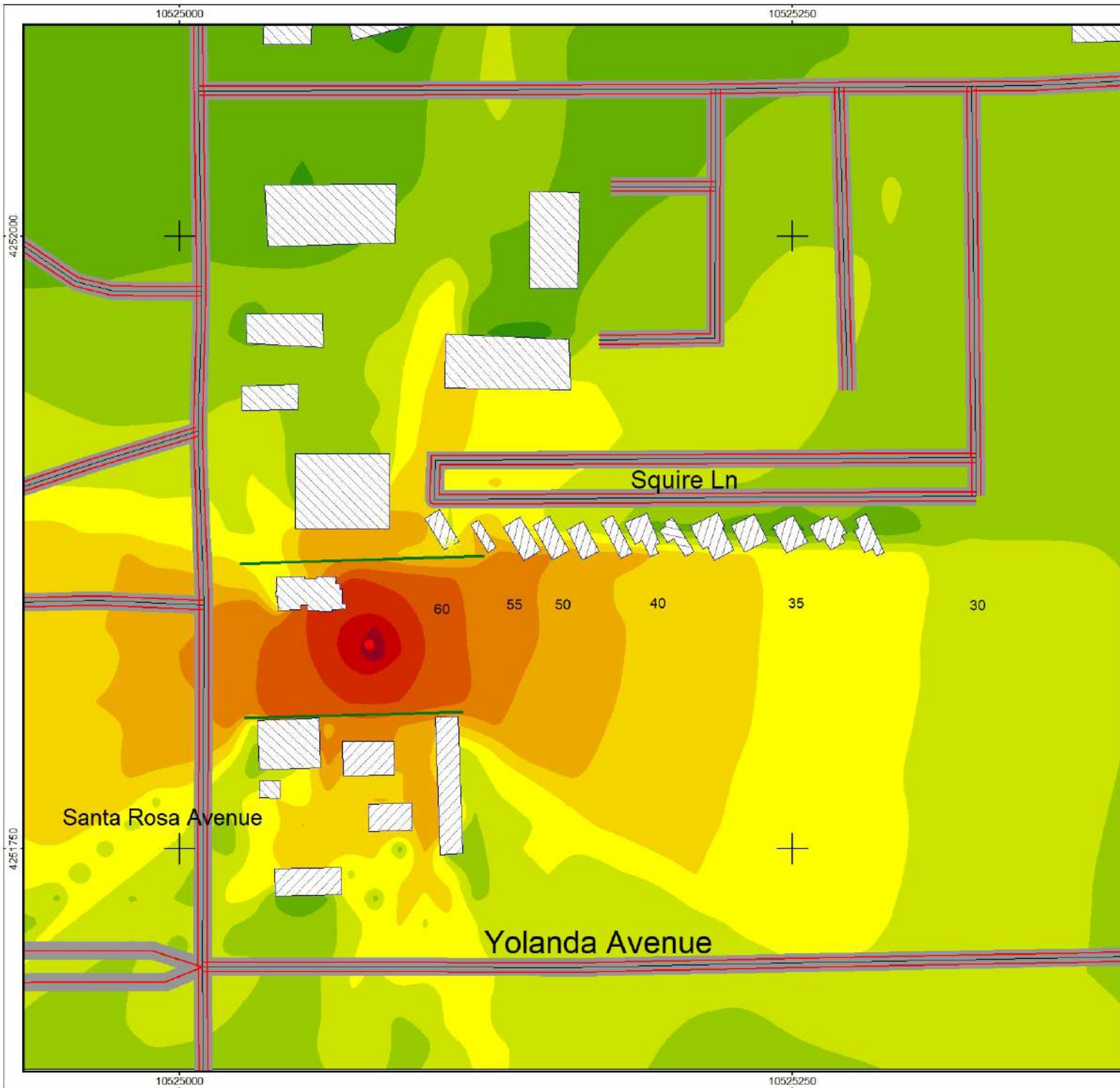
IN-N-OUT BURGER
 2532 SANTA ROSA AVENUE
 SANTA ROSA, CA 95407

CITY ENTITLEMENT
NEW SITE PLAN

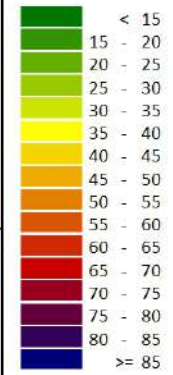
C30
JN 18027-18027 C30censp

FIGURE 2

Noise Contour Map - Truck Door



Levels Hourly
in dB(A)



Signs and symbols

- Main building
- Mobile Home Use
- Truck Door
- Road
- Wall



Length scale 1:1601

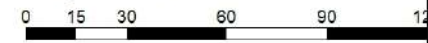
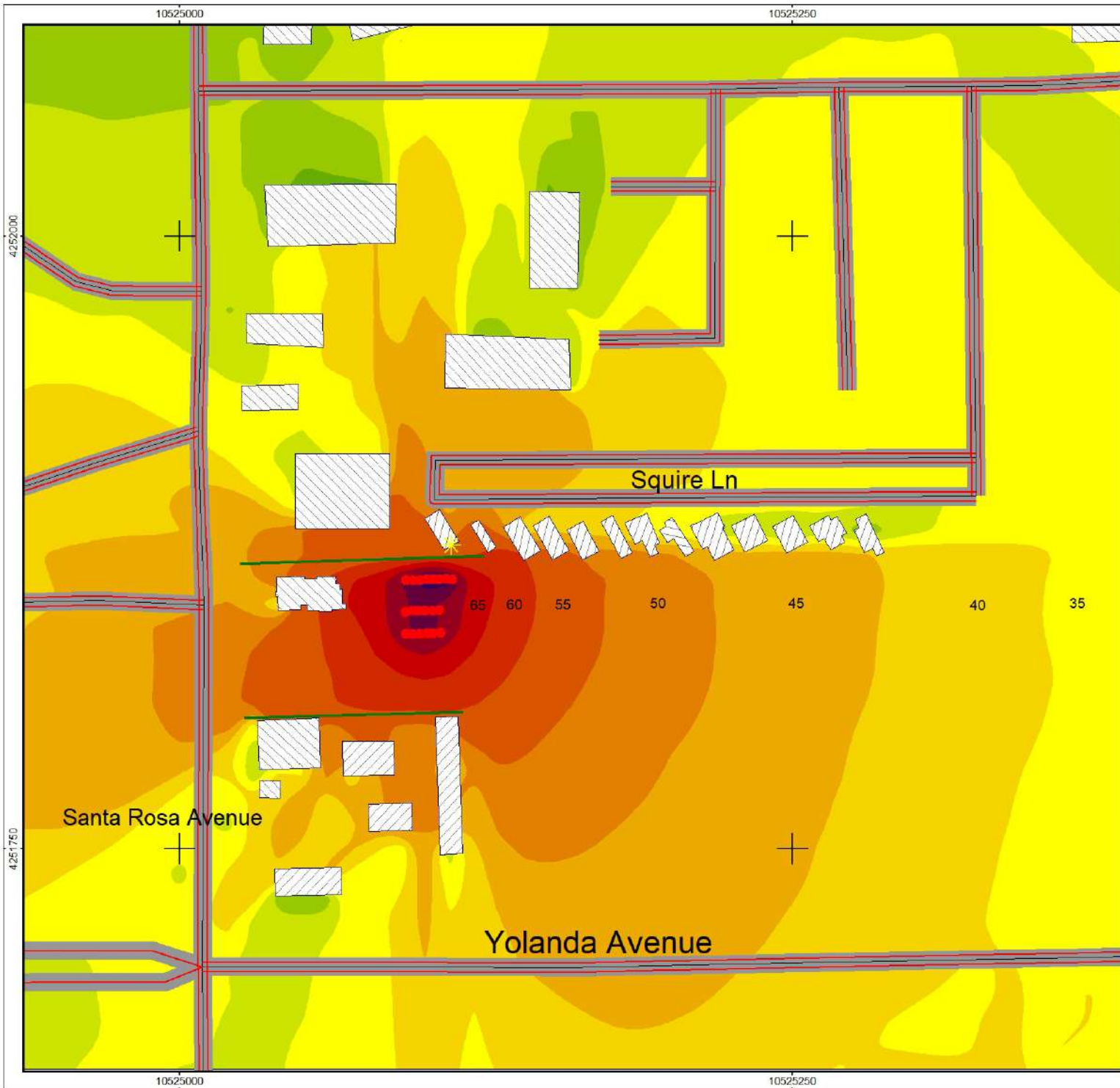
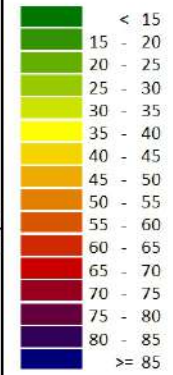


FIGURE 3

Noise Contour Map - Vehicle Doors



Levels Hourly
in dB(A)

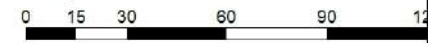


Signs and symbols

- Main building
- Mobile Home Use
- Parking Stall
- Road
- Wall



Length scale 1:1601



APPENDIX A

SoundPLAN Output Sheets

Truck Delivery Door (Open and Close)

Receiver	FI	Ldn/dB(A)	Leq,d/dB(A)	Leq,e/dB(A)	Leq,n/dB(A)	Hourly/dB(A)	Time slice	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)
Mobile Homes	G	56.4	44.9		50.5	52.7	Ldn	23.3	31.1	35.4	44.1	50.5	51.7	50.8	44.1
							Leq,d	11.8	19.6	23.8	32.5	39	40.2	39.3	32.6
							Leq,e								
							Leq,n	17.4	25.2	29.5	38.2	44.6	45.8	45	38.2
							Hourly	19.6	27.4	31.6	40.3	46.8	48	47.1	40.4

Car Door (Open and Close)

Receiver	FI	Ldn/dB(A)	Leq,d/dB(A)	Leq,e/dB(A)	Leq,n/dB(A)	Hourly/dB(A)	Time slice	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)	16kHz dB(A)
Mobile Homes	G	70.7	58.8		64.8	66.6	Ldn	33.2	43.4	53.7	62.5	67.5	64.3	60.8	53.3	39.2
							Leq,d	21.3	31.5	41.8	50.6	55.6	52.4	48.9	41.4	27.3
							Leq,e									
							Leq,n	27.3	37.5	47.8	56.6	61.6	58.4	55	47.4	33.3
							Hourly	29.1	39.3	49.6	58.4	63.3	60.2	56.7	49.2	35