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TECHNICAL MEMORANDUM

FROM: Kristen Miner, Environmental Analyst, Analytical Environmental Services (AES)

DATE: March 2020

RE: Noise Memo for the San José 7-Eleven Convenience Store and Fueling Station Project

Project Description

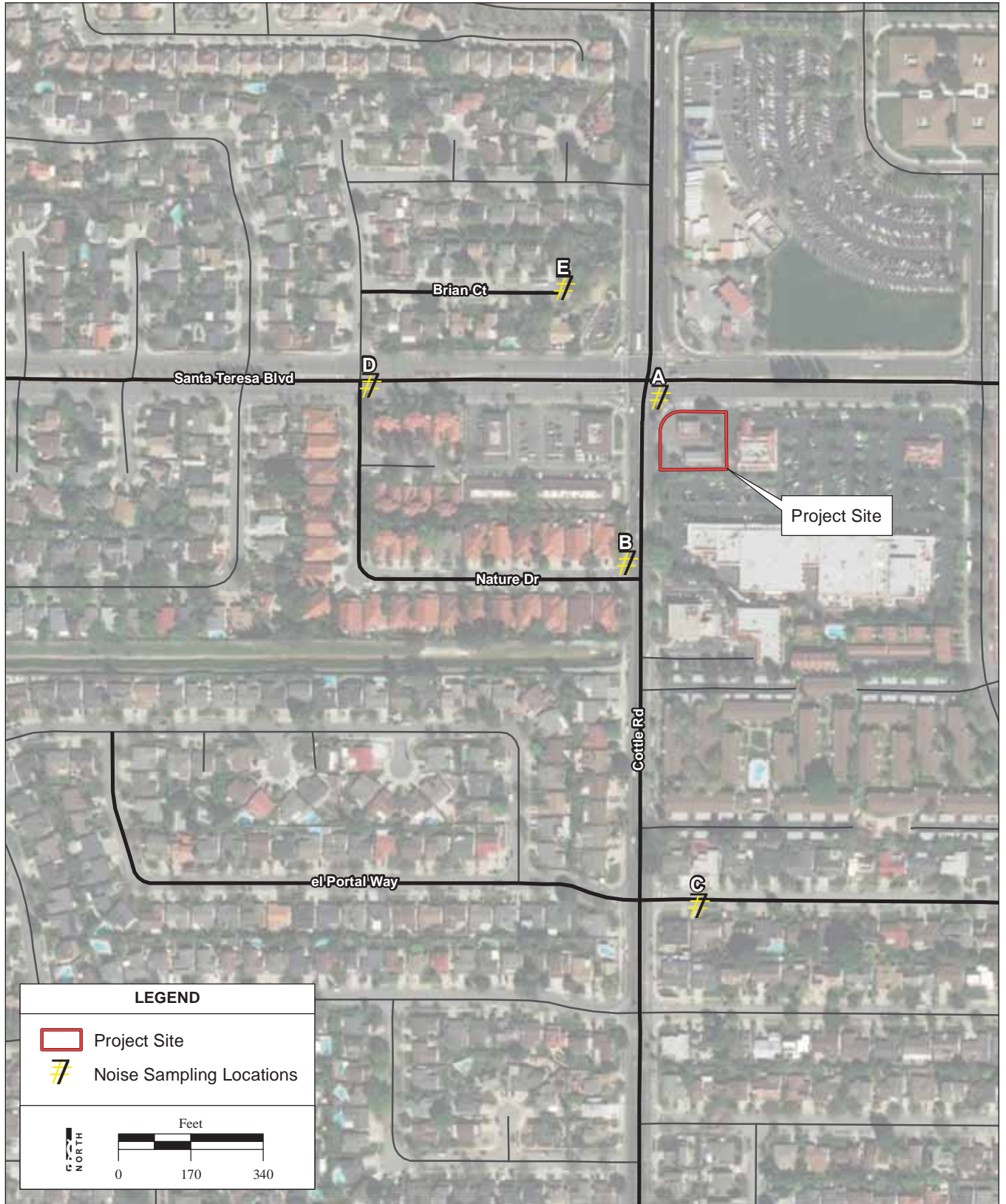
The project site is located in a commercial area within a larger residential area and is bordered by a medical center to the north, residential buildings to the west, and commercial buildings to the south and east. California State Route (SR) 85 travels east to west, bypasses downtown San Jose, and is approximately 0.4 miles north of the project site. There are no sensitive receptors located immediately adjacent to the project site boundaries. However, residential uses are located approximately 350 feet northwest of the project site, across Santa Teresa Blvd; and approximately 150 feet southwest of the project site, across Cottle Road. A restaurant is located directly adjacent to and approximately 70 feet east of the project site and several commercial businesses are located approximately 200 feet south of the project site.

The Proposed Project would demolish all existing structures and construct an approximately 3,000 square foot convenience store, a fuel canopy with four (4) fuel dispensers and three (3) new underground fuel tanks on a 0.47 gross acre site.

The major sources of noise in Santa Clara County are transportation, including airports, railroads, and highways. The project site is designated as within the 65 – 70 dBA noise contours for the designated noise sources in the City of San José (San José 2040, 2010).

Noise Sampling

A site visit was conducted on June 20, 2019 by Sean Anayah, Environmental Analyst, and Charlane Gross, Senior Archaeologist. Noise samples were collected from five locations within the project vicinity (**Figure 1**). The data findings are included with Exhibit A of this technical memorandum. Preliminary findings and mitigation measures are provided below, however these



SOURCE: Caltrans, 2019; DigitalGlobe aerial photograph, 8/19/2017; AES, 6/27/2019

6211 Santa Teresa Gas Station Initial Study / 219516 ■

Figure 1
Noise Sampling Locations

are subject to change depending on the findings from the data.

Findings

Construction

Table 1 provides the Federal noise abatement criteria, which were developed by the Federal Highway Administration in accordance with the *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (23 CFR 772). The noise abatement criteria in **Table 1** were developed to be used as absolute values which, when approached or exceeded, require the consideration of traffic/construction noise abatement measures.

TABLE 1
FEDERAL NOISE ABATEMENT CRITERIA (HOURLY– dBA SOUNDLEVEL)

Activity Category	Leq (h), dBA	Activity Category Description
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Residential
C	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	—	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	—	Undeveloped lands that are not permitted.

SOURCE: Federal Highway Administration, 2011

Construction of the Proposed Project would temporarily introduce noise from heavy construction equipment, additional vehicle trips to the project area from construction employees, and material and equipment delivery. Heavy equipment operation would dominate the noise environment during construction. Equipment that would be used during construction would include, but is not limited to,

dozers, jackhammers, backhoes, excavator, flat-bed truck, paver, pneumatic tools, concrete mixer, and welder/touch. The highest level of noise generated from these types of construction equipment is 85 dBA at a distance of 50 feet (e.g. jackhammer) (Caltrans, 2013). Therefore, overall, equipment used during improvement activities of the project roadways and construction on the project site itself would emit an ambient noise level of approximately 85 L_{eq} , dBA at 50 feet from the project site. The nearest sensitive receptor to the project site is a residence that is approximately 150 feet southwest. To determine the approximate noise level increase at the nearest residential receptor, a noise attenuation factor of 6.0 dBA per doubling of distance was utilized (Urban Crossroads, 2018). This noise attenuation factor was selected because a noise study for a 7-Eleven gas station project in the City of Eastvale, used this factor, which this project is similar to the Proposed Project. Furthermore, this is a conservative assumption assuming no shielding of noise between the Fuel Station Project and sensitive receptors. The nearest ambient noise level measured to the residential receptor, Location C (Exhibit A), is approximately 48 dBA. The new ambient noise level at the resident receptor due to construction of the Proposed Project was determined to be approximately 76 dBA.

The City's Municipal Code limits construction hours near residential land uses, and Policy EC-1.7 in the Envision San José 2040 General Plan addresses the types of construction equipment that are sources of significant noise. The following Standard Permit Conditions would be implemented as part of the project noise logistics plan to reduce construction noise and vibration levels consistent with the City of San José policy:

- i. Construct solid plywood fences around ground level construction sites adjacent to operational businesses, residences, or other noise-sensitive land uses.
- ii. Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- iii. Prohibit unnecessary idling of internal combustion engines.
- iv. Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from sensitive receptors. Construct temporary noise barriers to screen stationary noise-generating equipment when located near adjoining sensitive land uses.
- v. Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- vi. Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
- vii. Notify all adjacent business, residences, and other noise-sensitive land uses of the construction schedule, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses and nearby residences.
- viii. If complaints are received or excessive noise levels cannot be reduced using the measures above, erect a temporary noise control blanket barrier along surrounding building facades that face the construction sites.

- ix. Designate a “disturbance coordinator” who shall be responsible for responding to any complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., bad muffler, etc.) and shall require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

Chapter 20.100.450 of the City’s Municipal Code to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday for any on-site or off-site work within 500 feet of any residential unit. No construction activities are permitted on weekends or later hours unless authorized in a development permit. However, construction outside of these hours may be approved through a development permit based on a site-specific “construction noise mitigation plan” and a finding by the Director of Planning, Building and Code Enforcement that the construction noise mitigation plan is adequate to prevent noise disturbance of affected residential uses.

Implementation of the Standard Permit Condition would reduce the noise impact from construction, and the anticipated construction period of the Proposed Project would be six months. Therefore, the temporary ambient noise increase would be less than significant.

Operation

Operation noise Traffic noise would be the most significant source of noise from operations at the project site. To determine the effect of project-generated noise from traffic on the nearest resident receptor, AM and PM traffic volume conditions provided were compared to existing traffic volumes provided in Trip Generation Analysis prepared by Abram Associates Traffic Engineering, Inc. for the Proposed Project (included as Appendix F in the Initial Study). Based on the existing and projected traffic volume numbers, it was determined that noise levels during peak traffic hours would not result in an audible increase in the ambient noise levels. The closest available traffic volume data for the project site is Santa Teresa Boulevard, east of Camino Verde Drive (which is located approximately 575 feet east of the project site), which experiences 21,303 vehicle trips per day. The project site is projected to add 71 additional daily trips during the AM and PM peak traffic hours to the transportation network. This would be a negligible increase in the current traffic volume on Santa Teresa Boulevard of approximately 0.3 percent. In order for the Proposed Development to create a noticeable increase in the ambient noise level of 3.0 dBA or greater, the existing traffic volume would have to be doubled (Caltrans, 2013). Consequently, the projected increase in traffic volume due to the Proposed Project would be negligible in combination with the current traffic volume. This impact would be **less than significant**.

The Proposed Project could contribute to the ambient noise levels through other methods, such as heating, ventilation, and air conditioning systems; trash enclosure activity; and fueling activities. For example, the highest operation activity noise levels determined for the operation of a 7-Eleven gas station project in City of Eastvale was for a trash enclosure activity and a rooftop air condition unit, which both produce noise levels of approximately 77 dBA L_{eq} at a distance of 5 feet (Urban Crossroads, 2018). The Proposed Project would have two rooftop HVAC systems and one trash enclosure area. Both HVAC systems would be located on the rooftop of the proposed 7-Eleven

store: one on the western side of the store and one on the eastern side. The trash enclosure area would be located adjacent to the northeastern corner of the 7-Eleven store. To determine the effect of Proposed Project's operation activities, the ambient noise measurement (Location C, see Exhibit A) nearest to the residential receptor (approximately 150 feet south) was combined with the projected operation noise. The sound attenuation factor used in the City of Eastvale noise study, 6.0 dBA per doubling of distance (Urban Crossroads, 2018), was utilized in this calculation because of the similar city environment. This attenuation factor and the highest noise level that could occur at the project site, 77 dBA at a distance of 5 feet from the project site, was used for the project site to be conservative. Combining the existing and projected noise levels resulted in approximately 58.5 dBA in ambient noise, which is 0.5 dBA increase from the current ambient noise level, 58.0 dBA. This increase would not constitute a noticeable difference in the ambient noise level at the nearest resident receptor. This is **less than significant**.

References

- California Department of Transportation (Caltrans). 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013. Available online at: https://www.dtsc-ssfl.com/files/lib_ceqa/ref_draft_peir/Chap4_10-Noise/Caltrans_2013a_Tech_Noise_Supplement.pdf. Accessed March 2020.
- Federal Highway Administration, 2011. Highway Traffic Noise: Analysis and Abatement Guidance. Available online at: http://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf. Accessed on June 27, 2019.
- San José 2040, 2010. Envision San José General Plan: Noise Assessment. Available online at: <http://www.buttecounty.net/dds/Planning/GeneralPlan/Chapters.aspx/>. Accessed on June 27, 2019.
- Urban Crossroads. 2018. 7-Eleven Gas Station Noise Impact Analysis City Of Eastvale. November 8, 2019.

San Jose 7-Eleven Convenience & Gas Station

7/3/2019

Information Panel

Comments

Location

Name

Location A

Parent Session

S201

Start Time

Thursday, June 20, 2019 11:33:23

Stop Time

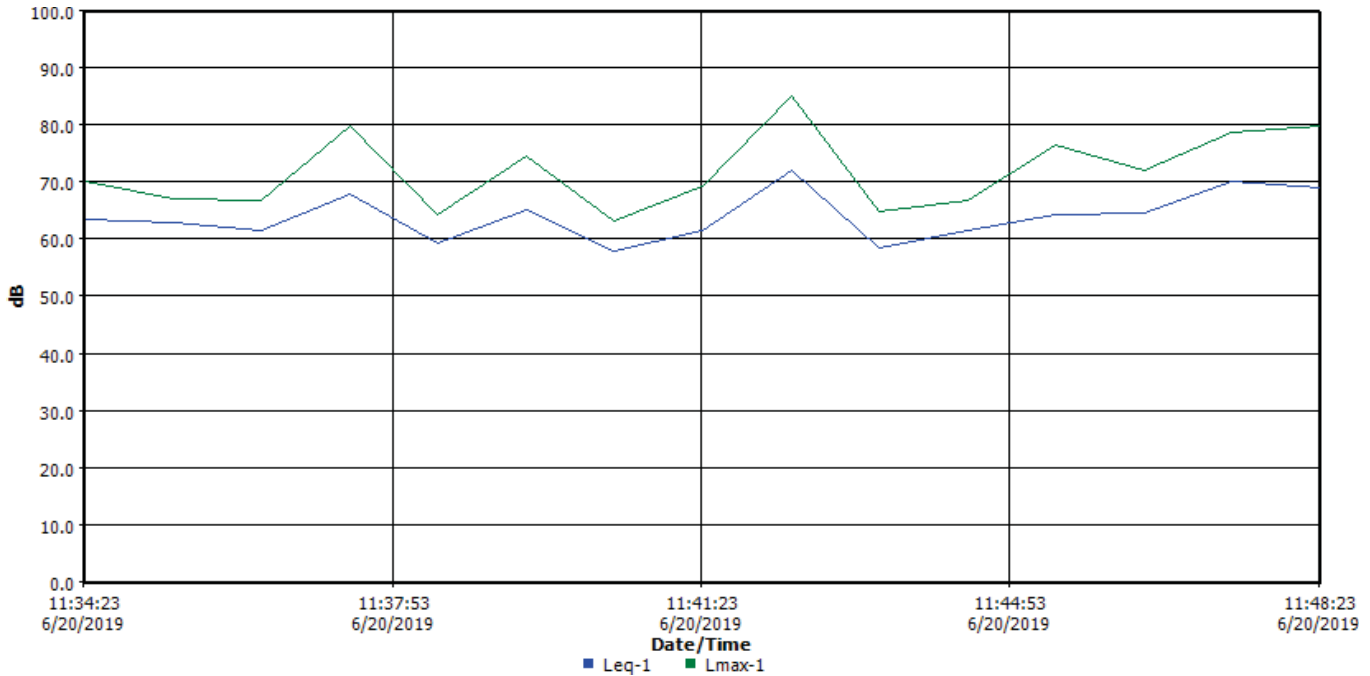
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User Name

General Data Panel

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Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Criterion Time	1	8 hrs.
Leq	1	70.7 dB	LDN	1	70.7 dB
CNEL	1	70.7 dB	SEL	1	100.2 dB

Logged Data Chart



San Jose 7-Eleven Convenience & Gas Station

7/3/2019

Information Panel

Comments

Location

Name

Location B

Parent Session

S202

Start Time

Thursday, June 20, 2019 11:57:56

Stop Time

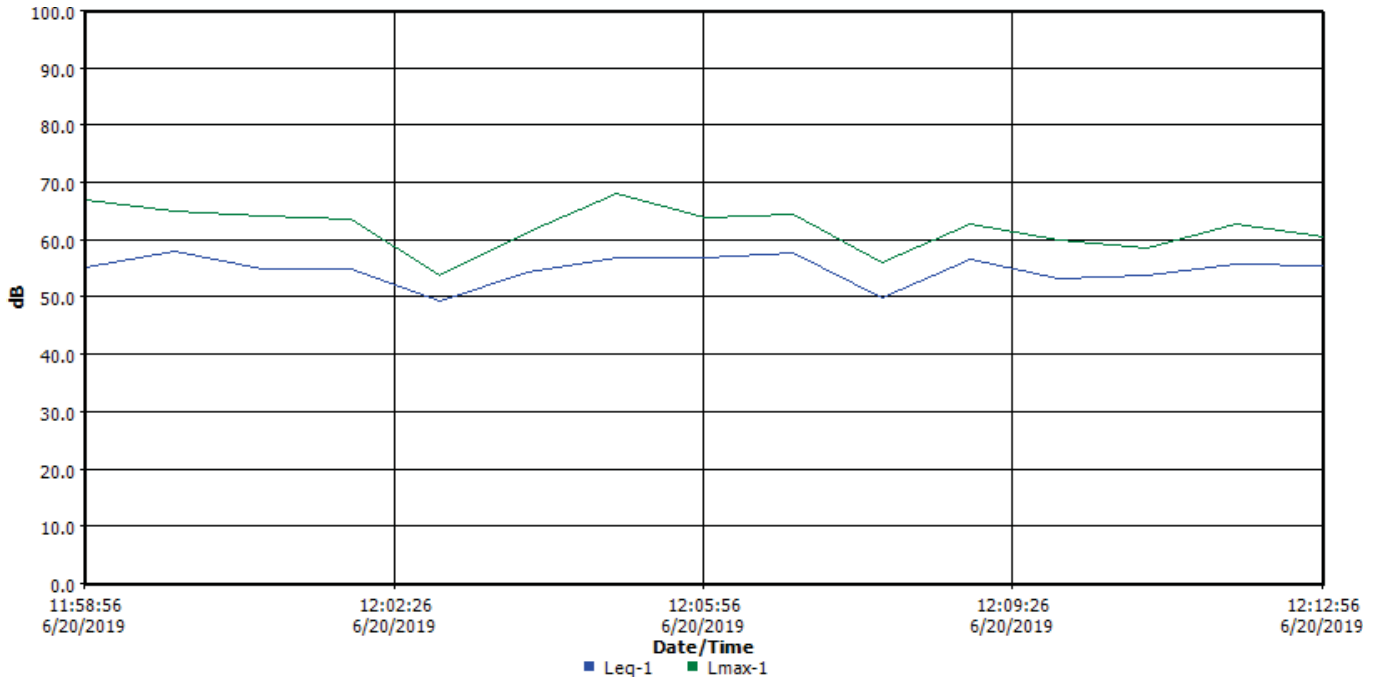
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User Name

General Data Panel

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Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Criterion Time	1	8 hrs.
Leq	1	55.5 dB	LDN	1	55.5 dB
CNEL	1	55.5 dB	SEL	1	85.1 dB

Logged Data Chart



San Jose 7-Eleven Convenience & Gas Station

7/3/2019

Information Panel

Comments

Location

Name

Location C

Parent Session

S203

Start Time

Thursday, June 20, 2019 12:21:43

Stop Time

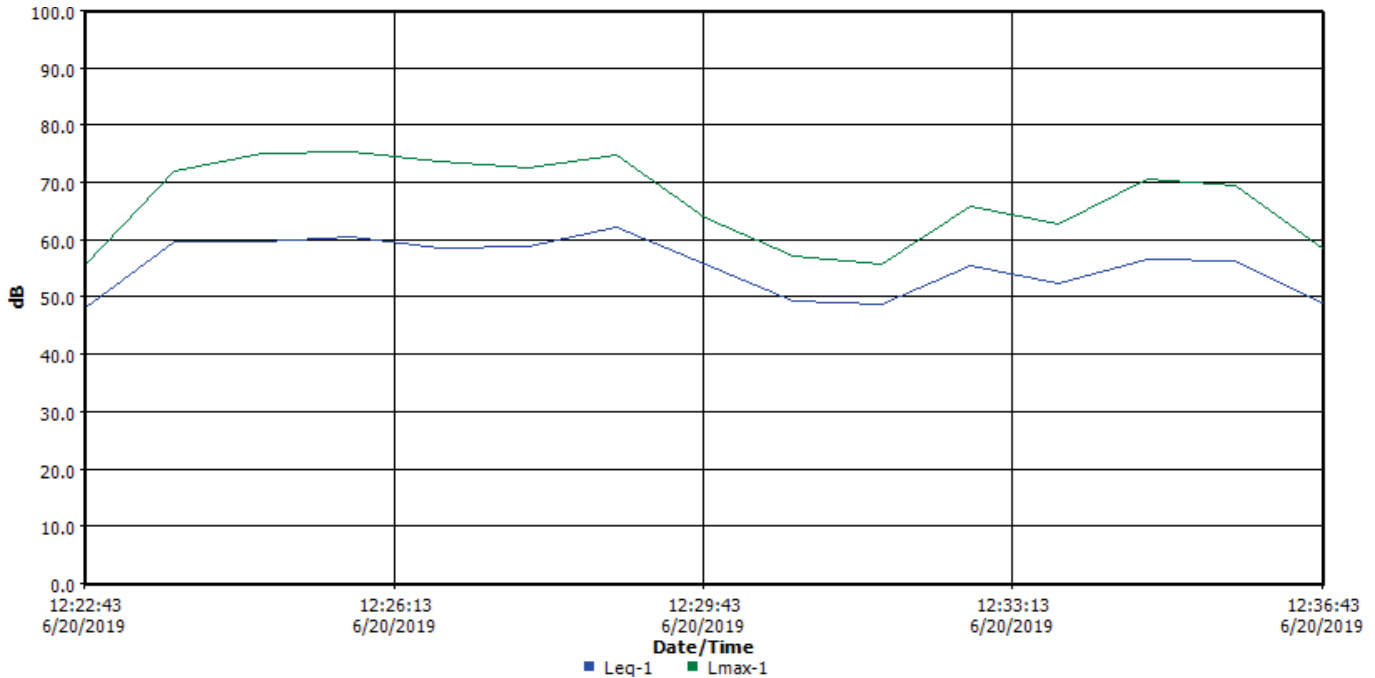
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User Name

General Data Panel

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Bandwidth	1	OFF	Criterion Time	1	8 hrs.
Leq	1	57.5 dB	LDN	1	57.5 dB
CNEL	1	57.5 dB	SEL	1	87 dB

Logged Data Chart



San Jose 7-Eleven Convenience & Gas Station

7/3/2019

Information Panel

Comments

Location

Name

Location D

Parent Session

S204

Start Time

Thursday, June 20, 2019 12:41:19

Stop Time

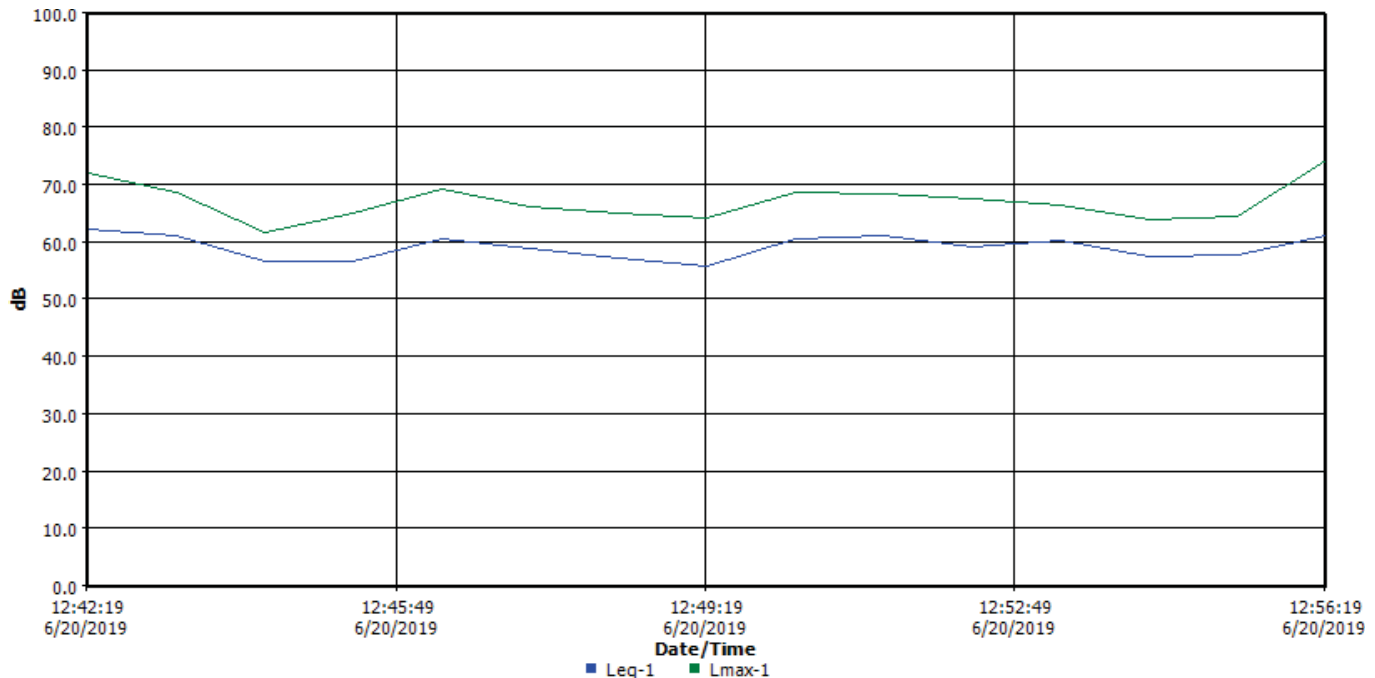
Thursday, June 20, 2019 12:56:27

User Name

General Data Panel

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Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Criterion Time	1	8 hrs.
Leq	1	59.6 dB	LDN	1	59.6 dB
CNEL	1	59.6 dB	SEL	1	89.1 dB

Logged Data Chart



San Jose 7-Eleven Convenience & Gas Station

7/3/2019

Information Panel

Comments

Location

Name

Location E

Parent Session

S205

Start Time

Thursday, June 20, 2019 13:00:05

Stop Time

Thursday, June 20, 2019 13:15:07

User Name

General Data Panel

Description	Meter/Sensor	Value	Description	Meter/Sensor	Value
Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Criterion Time	1	8 hrs.
Leq	1	55.1 dB	LDN	1	55.1 dB
CNEL	1	55.1 dB	SEL	1	84.7 dB

Logged Data Chart

