CITY OF REDONDO BEACH

NOISE MEASUREMENT TEST

06/26/2024

QUALITY OF LIFE UNIT

Police Department
Code Enforcement

Report Prepared for The City of Redondo Beach

Noise Measurement Test

Summary
On June 26, 2024, at approximately 0700 hrs to 0845 hrs, Code Enforcement conducted four Noise Measurement Test's. Two tests were conducted from the 700 blk of Camino Real at the sidewalk on the Alta Vista Park boundary. Two additional tests were conducted directly in front of 729 S. Juanita Ave. The locations where measurements were performed were selected by staff based on the close proximity of the noise source to the residential areas. The intent of the measurement locations was to examine and quantify the noise levels between R-1 Zone from P-PRO Zone as the primary noise source of concern. The Noise Meter was calibrated prior to testing. Each measurement was conducted at the boundary line of the property of which the noise source is located and no closer than 5 ft from the noise source.

The Noise Meter was calibrated again, once the 4 tests were completed. The results of the noise report will have exposure of pre-existing noise from Camino Real and the 700 blk of N Juanita, such as normal daily traffic. The noise generated by the traffic and citizen activities. These other actives result and impact greater than the noise generated by the pickleball play.

RBMC 4-24.101 **Declaration of policy.**
In order to control unnecessary, excessive, and annoying sounds emanating from all areas of the City, it is hereby declared to be the policy of the City to prohibit such sound generated from all sources as specified in this chapter.

It is determined that certain noise levels are detrimental to the public health, welfare, and safety and contrary to the public interest; therefore, the Council does ordain and declare that creating, maintaining, or causing, or allowing to create, maintain, or cause, any noise in a manner prohibited by, or not in conformance with, the provisions of this chapter is a public nuisance and shall be punishable as such.

RBMC 4-24.102 **Definitions.**
All terminology used in this chapter, not defined in this section, shall be in conformance with the applicable publications of the American National Standards Institute (ANSI) or its successor body. The words and phrases used in this chapter are defined as follows:

"A-weighted sound level" shall mean the sound pressure level in decibels as measured on a sound level meter using the A-weighting network. The level so read is designated dB(A) or dBA.

"Ambient noise level" shall mean the composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

"Construction" shall mean any site preparation, assembly, erection, or substantial repair, alteration, or similar action, but excluding demolition, for or on public or private rights-of-way, structures, utilities, or similar property.

"Cumulative period" shall mean an additive period of time composed of individual time segments which may be continuous or interrupted.

"Decibel (dB)" shall mean a unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 microPascals (20 microNewtons per square meter).

"Demolition" shall mean any dismantling, intentional destruction, or removal of structures, utilities, public or private right-of-way surfaces, or similar property.

"Emergency" shall mean any occurrence or set of circumstances involving actual or imminent physical trauma or property damage which demands immediate action.

"Emergency work" shall mean any work performed for the purpose of preventing or alleviating the physical trauma or property damage threatened or caused by an emergency.

"Fixed noise source" shall mean a stationary device which creates sounds while fixed or motionless, including, but not limited to, residential, agricultural, industrial, and commercial machinery and equipment, pumps, fans, compressors, air-conditioners, and refrigeration equipment.

"Impulsive sound" shall mean a sound of short duration, usually less than one second, with an abrupt onset and rapid decay. Examples of sources of impulsive sound include explosions, drop forge impacts, and the discharge of firearms.

"Intrusive noise" shall mean that noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content, as well as the prevailing ambient noise level.

"Land use district" shall mean all the zones established by Section 10-2.300 of Chapter 2 of Title **10** of this Code.

"Licensed" shall mean the issuance of a formal license or a permit by the appropriate jurisdictional authority, or, where no permits or licenses are issued, the sanctioning of the activity by the jurisdiction as noted in public records.

"Mobile noise source" shall mean any noise source other than a fixed noise source.

"Motor vehicle" shall mean any and all self-propelled vehicles as defined in the Vehicle Code of the State, including all on-highway type motor vehicles subject to registration under said Code and all off-highway type motor vehicles subject to identification under said Code.

"Muffler or sound dissipative device" shall mean a device for abating the sound of escaping gases of an internal combustion engine.

"Noise" shall mean any sound which annoys, disturbs, causes, or tends to cause an adverse psychological or physiological effect on humans of normal sensitiveness.

"Noise control officer (NCO)" shall be the Chief of Police or his delegated representative. The NCO shall have the lead responsibility for the enforcement of the provisions of this chapter.

"Noise disturbance" shall mean any sound which:

(1) Endangers or injures the safety or health of humans; or

(2) Annoys or disturbs a person of normal sensitiveness; or

(3) Endangers or injures personal or real property.

"Person" shall mean any individual, association, partnership, or corporation and shall include any officer, employee, department, agency, or instrumentality of the State.

"Presumed ambient noise level" shall mean the noise level assumed to be the ambient of any given land use category.

"Public right-of-way" shall mean any street, avenue, boulevard, highway, sidewalk, alley, or similar place which is owned or controlled by a governmental entity.

"Public space (public property)" shall mean any real property, or structure thereon, which is owned or controlled by a governmental entity.

"Pure tone (single tone)" shall mean any sound which can be distinctly heard as a single pitch or a set of single pitches. For the purposes of this chapter, a pure tone shall exist if the 1/3 octave band sound pressure level in the band with the tone exceeds the arithmetic average of the sound pressure levels of the two contiguous 1/3 octave bands by five dB for center frequencies of 500 Hz and above, by eight dB for center frequencies between 160 and 400 Hz, and by 15 dB for center frequencies less than or equal to 125 Hz.

"Real property boundary, property lines, leasehold boundaries" shall mean an imaginary line along the ground surface and its vertical extension, which line separates the real property or leasehold owned or controlled by one person from that owned or controlled by another person, including intra-building real or leased property divisions.

"Receiving land use district category" shall mean the defined area or region of a generally consistent land use wherein the ambient noise levels are generally similar (within a range of five dBA) Typically, all sites within any given land use district category will be of comparable proximity to major noise sources.

"Sound" shall mean an oscillation in pressure, particle displacement, particle velocity, or other physical parameter in a medium with internal forces that cause the compression and rearfaction of that medium. The description of sound may include any characteristic of such sound, including duration, intensity, and frequency.

"Sound amplifying equipment" shall mean any machine or device for the amplification of the human voice, music, or any other sound, excluding internal automobile sound sources when used and heard only by the occupants of the vehicle in which such sound source is contained, and, as used in this chapter, warning and communication devices on public health and safety vehicles.

"Sound level" shall mean the weighted sound pressure level obtained by the use of a sound level meter and frequency weighting network, such as A, B, or C as specified in the American National Standards Institute specifications for sound level meters (ANSI S 1.4-1971, or the latest approved revision thereof). If the frequency weighting employed is not indicated, the A-weighting shall apply.

"Sound level meter" shall mean an instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement of sound levels, which instrument satisfies the requirements pertinent for type S2A meters in the American National Standard specifications for sound level meters (S 1.4-1971, or the most recent revision thereof).

"Sound pressure" shall mean the instantaneous difference between the actual pressure and the average or barometric pressure at a given point in space as produced by sound energy.

"Sound pressure level" shall mean 20 times the logarithm to the base 10 of the ratio of the RMS sound pressure to the reference pressure of 20 microPascals (20 x 10 6 N/m^2). The sound pressure level is denoted LP or SPL and is expressed in decibels.

"Sound truck" shall mean any motor vehicle, or any other vehicle, except public health and safety vehicles, regardless of motive power, whether in motion or stationary, having mounted thereon or attached thereto any sound amplifying equipment.

"Vibration" shall mean the mechanical motion of the earth or ground, buildings, or other types of structures induced by the operation of any mechanical device or equipment located upon or affixed thereto. For the purposes of this chapter, the magnitude of the vibration shall be stated as the acceleration in "g" bunits (one "g" is equal to 32.2 ft/sec^2 or 9.31 $meters/sec^2$).

"Weekday" shall mean any day, Monday through Friday, which is not a legal holiday.

***KEYWORD:**
Leq=equivalent continuous sound level. This parameter calculates a constant level of noise spectrum with the same energy content as the varying acoustic noise signal being measured.

A weighting= Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. An A-weighting represents the human ear's response at low to medium sound levels. Equal loudness curve: 40 dB. The most commonly applied frequency weighting. Can be used for all sound levels.

Ambient Reading: Camino Real

Camino Real is also used as a bus route.

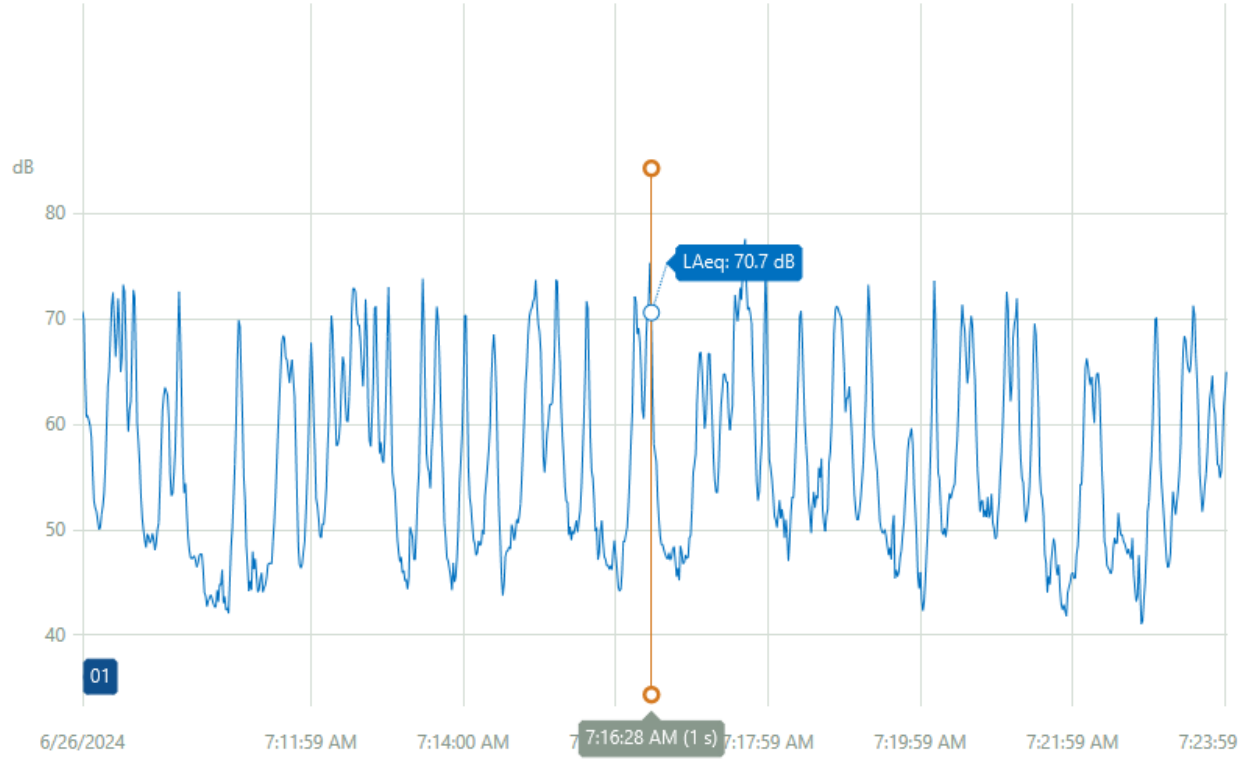
Ambient Reading: Camino Real:

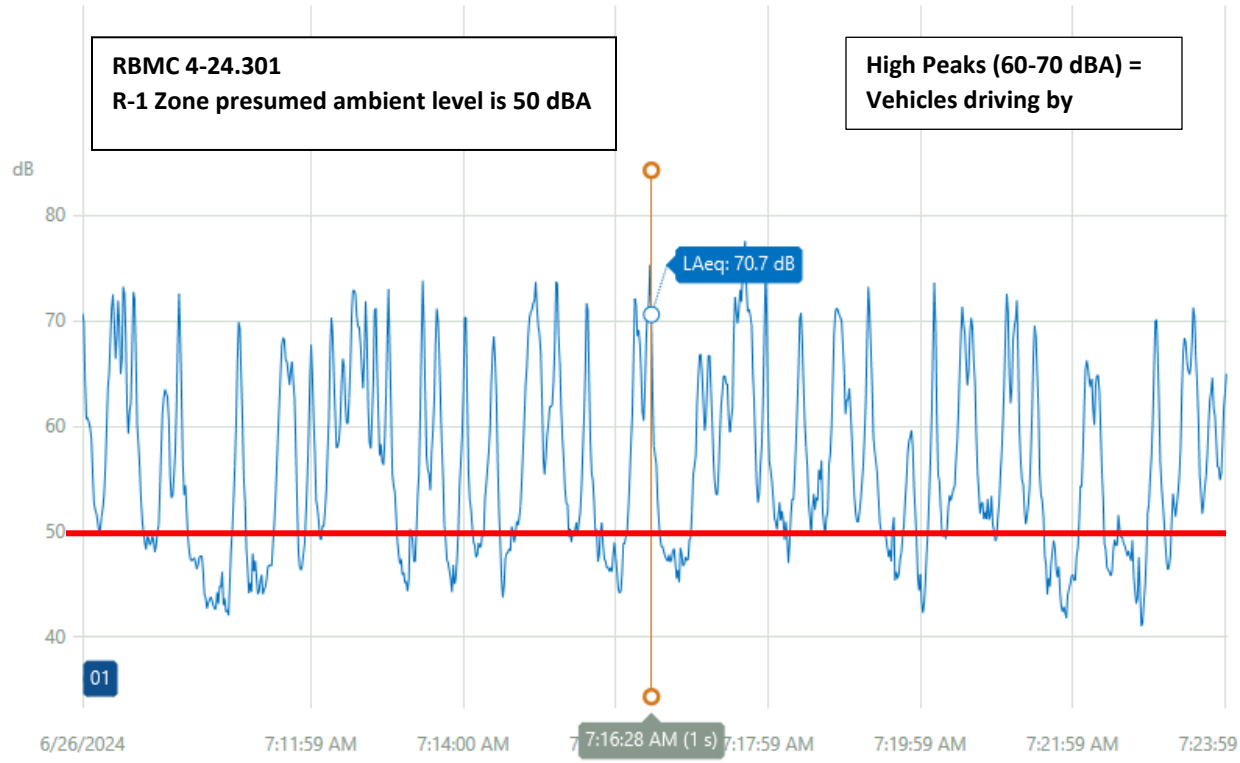
The first ambient noise measurement on Camino Real was taken at 0709 hrs-0724 hrs for a duration of 15 minutes. It should be noted that during the time of the readings there were several vehicles driving by during their morning commute. The following report indicated that the ***LAeq DB was a level of 64.0.**

Instrument

Instrument type	2245
Instrument serial number	102002
Instrument software type	FW-2245-000
Instrument software version	1.1.2.386
Transducer type	4966
Transducer serial number	3360865
Sound field	Free-field
Windscreen	None
Hard Calibration date	2/16/2023
Calibration date	6/26/2024

Measurement





Type	ID	Name	Start time	End time	Elapsed time	LAeq [dB]	LAFmax [dB]	LASmax [dB]	LAFmin [dB]	LASmin [dB]	LCpeak [dB]	LAF 1.0 [dB]	LAF10.0 [dB]	LAF50.0 [dB]	LAF90.0 [dB]	LAF99.0 [dB]	Overload	Description
Total	Sum				00:15:02	64.0	78.6	77.2	39.4	42.0	94.6	73.7	69.3	54.7	46.1	42.4	---	---
Total-Exclude	Sum				00:15:02	64.0	78.6	77.2	39.4	42.0	94.6	73.7	69.3	54.7	46.1	42.4	---	---
Cursor	01	2245-10200201	6/26/2024 7:16:28 AM	6/26/2024 7:16:29 AM	1	70.7	75.1	74.3	67.2	72.1	86.6	75.1	74.3	70.7	68.1	67.3	---	---

Pickle Ball Play Reading: Camino Real

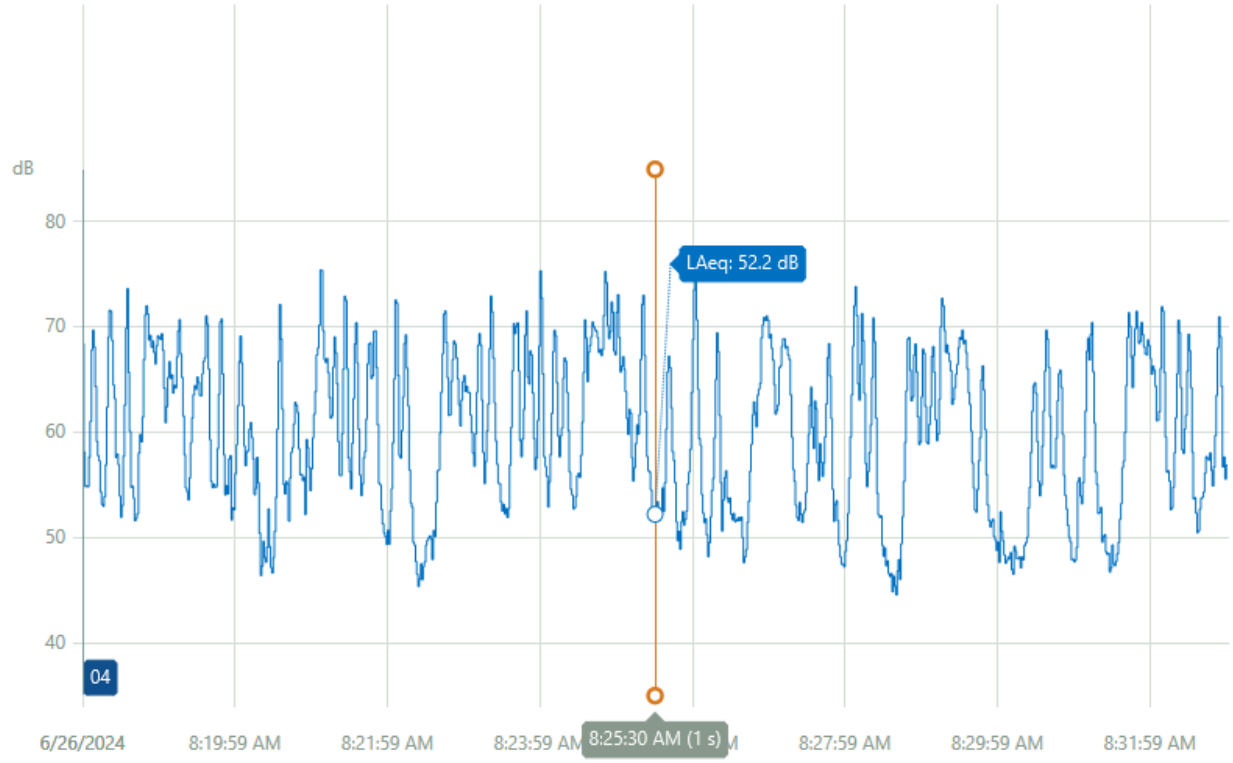
Camino Real is also used as a bus route.

Pickle Ball Play Reading: Camino Real:
The first pickleball play noise measurement on Camino Real was taken at 0818 hrs-8:33 hrs for the duration of 15 minutes. It should be noted that during the time of the reading there were vehicles driving by their morning commute and pedestrians walking. The following report indicated that the ***LAeq DB was a level of 64.9.**

Instrument

Instrument type	2245
Instrument serial number	102002
Instrument software type	FW-2245-000
Instrument software version	1.1.2.386
Transducer type	4966
Transducer serial number	3360865
Sound field	Free-field
Windscreen	None
Hard Calibration date	2/16/2023
Calibration date	6/26/2024

Measurement



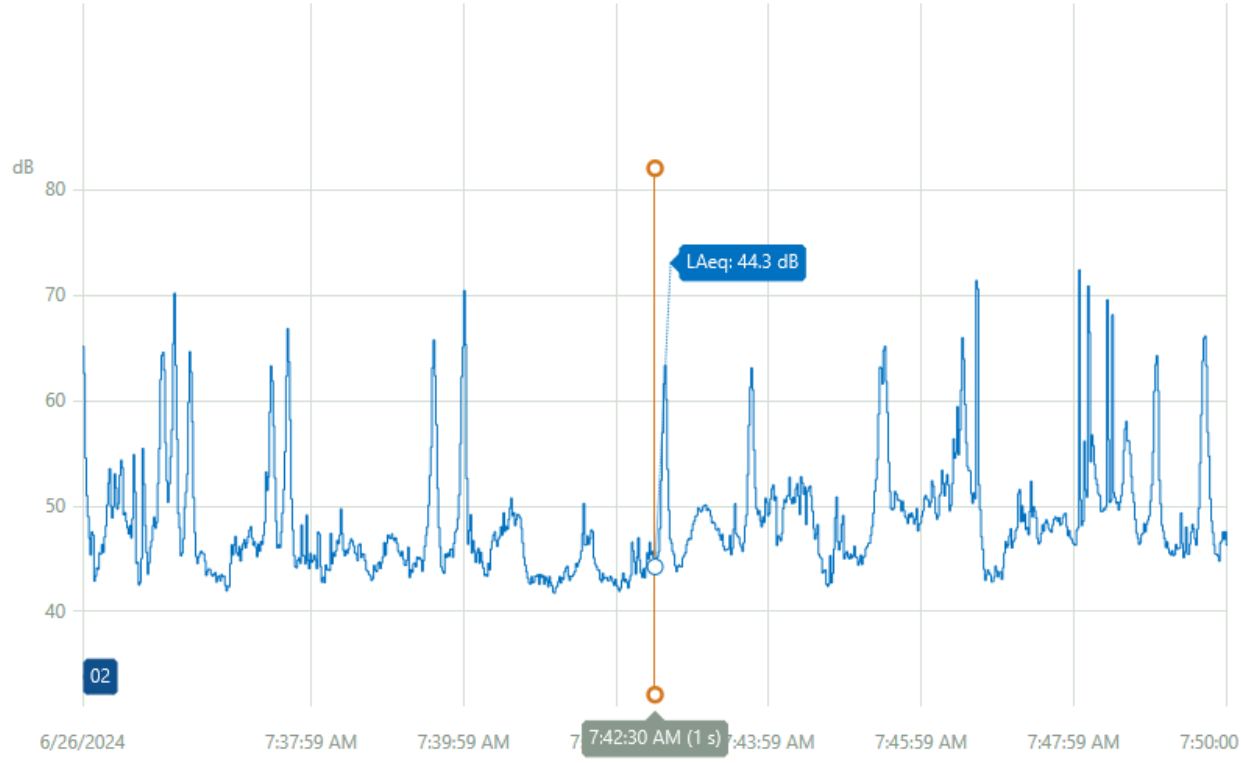
Type	ID	Name	Start time	End time	Elapsed time	LAeq [dB]	LAFmax [dB]	LASmax [dB]	LAFmin [dB]	LASmin [dB]	LCpeak [dB]	LAF 1.0 [dB]	LAF10.0 [dB]	LAF50.0 [dB]	LAF90.0 [dB]	LAF99.0 [dB]	Overload	Description
Total	Sum				00:15:01	64.9	77.5	75.5	43.2	44.8	91.3	73.6	69.3	59.6	49.5	46.1	---	---
Total-Exclude	Sum				00:15:01	64.9	77.5	75.5	43.2	44.8	91.3	73.6	69.3	59.6	49.5	46.1	---	---
Cursor	04	2245-10200204	6/26/2024 8:25:30 AM	6/26/2024 8:25:31 AM	1	52.2	52.9	53.2	51.6	52.6	70.8	53.0	52.7	52.2	51.8	51.6	---	---

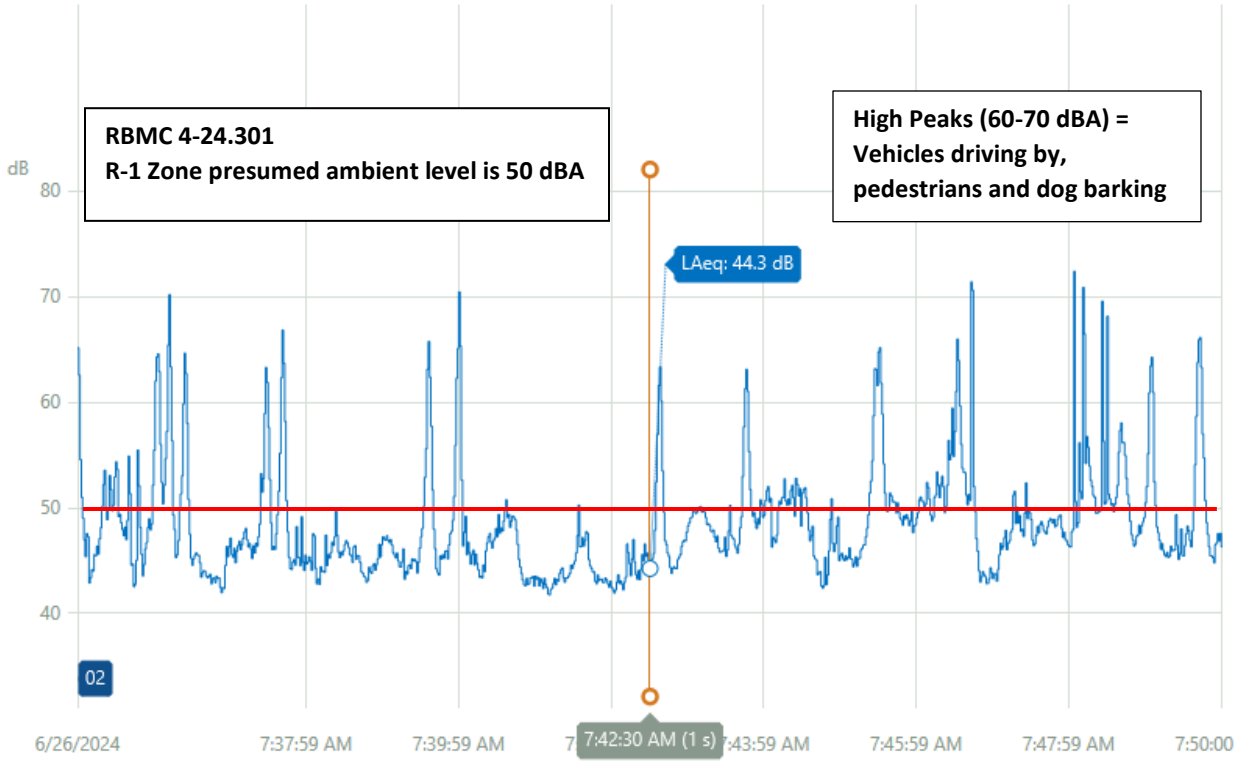
Ambient Reading: Juanita

Ambient Reading: Juanita:
The second ambient noise measurement on Juanita was taken at 0735 hrs-0750 hrs for the duration of 15 minutes. It should be noted that during the time of the reading there were vehicles driving by at random, young kids riding bikes and local residents walking by and asking questions. The following report indicated that the ***LAeq DB was a level of 54.8.**

Instrument type	2245
Instrument serial number	102002
Instrument software type	FW-2245-000
Instrument software version	1.1.2.386
Transducer type	4966
Transducer serial number	3360865
Sound field	Free-field
Windscreen	None
Hard Calibration date	2/16/2023
Calibration date	6/26/2024

Measurement





Type	ID	Name	Start time	End time	Elapsed time	LAeq [dB]	LAFmax [dB]	LASmax [dB]	LAFmin [dB]	LASmin [dB]	LCpeak [dB]	LAF 1.0 [dB]	LAF10.0 [dB]	LAF50.0 [dB]	LAF90.0 [dB]	LAF99.0 [dB]	Overload	Description
Total	Sum				00:15:01	54.8	80.5	73.1	41.0	41.9	91.9	66.0	54.6	47.1	43.4	42.1	---	---
Total-Exclude	Sum				00:15:01	54.8	80.5	73.1	41.0	41.9	91.9	66.0	54.6	47.1	43.4	42.1	---	---
Cursor	02	2245-10200202	6/26/2024 7:42:30 AM	6/26/2024 7:42:31 AM	1	44.3	44.8	45.3	43.7	44.7	72.5	44.9	44.6	44.2	43.9	43.7	---	---

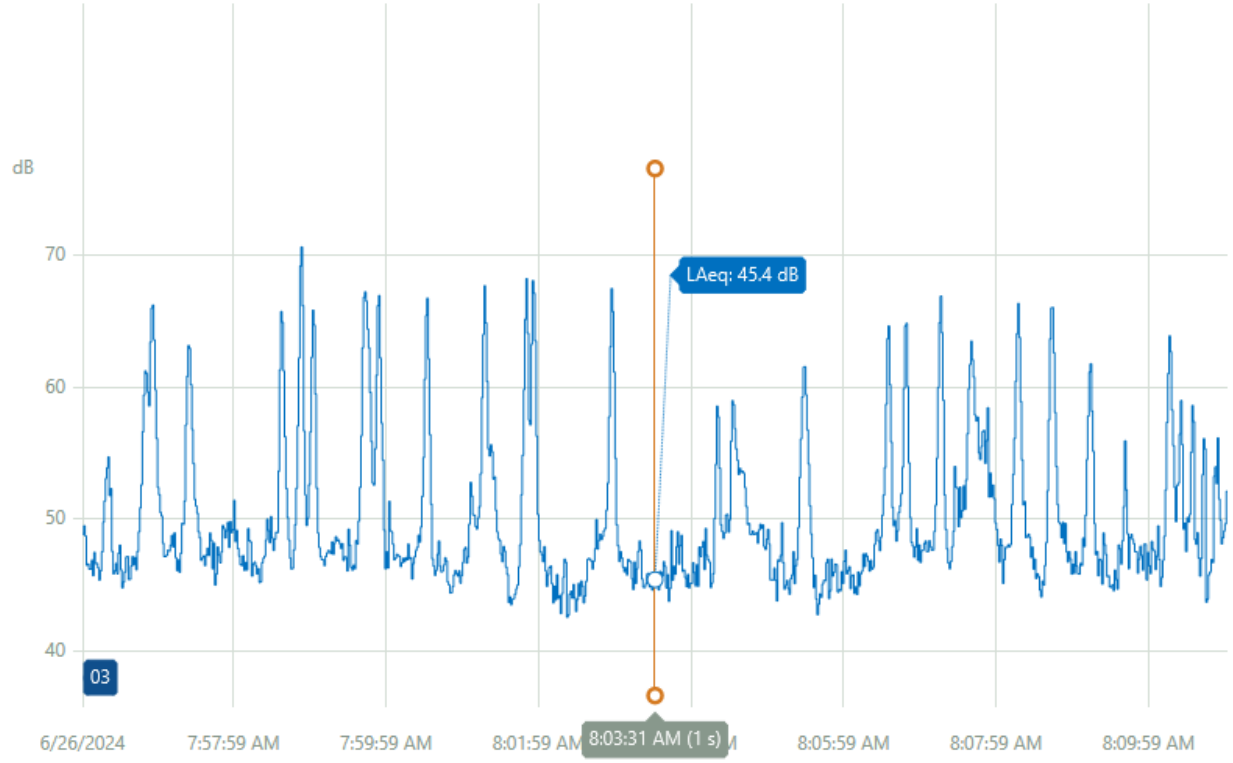
Pickle Ball Play Reading: Juanita

Pickle Ball Play Reading: Juanita:
The second pickleball play measurement on Juanita was taken at 0756 hrs- 0811 hrs for a duration of 15 minutes. It should be noted that during the reading there were vehicles driving by, pedestrians walking and dogs barking. The following report indicated that the ***LAeq DB was a level of 55.6**

Instrument

Instrument type	2245
Instrument serial number	102002
Instrument software type	FW-2245-000
Instrument software version	1.1.2.386
Transducer type	4966
Transducer serial number	3360865
Sound field	Free-field
Windscreen	None
Hard Calibration date	2/16/2023
Calibration date	06/26/2024

Measurement



Type	ID	Name	Start time	End time	Elapsed time	LAeq [dB]	LAFmax [dB]	LASmax [dB]	LAFmin [dB]	LASmin [dB]	LCpeak [dB]	LAF 1.0 [dB]	LAF10.0 [dB]	LAF50.0 [dB]	LAF90.0 [dB]	LAF99.0 [dB]	Overload	Description
Total	Sum				00:15:01	55.6	71.6	69.8	41.5	43.2	88.0	67.1	59.0	47.9	44.9	43.0	---	---
Total-Exclude	Sum				00:15:01	55.6	71.6	69.8	41.5	43.2	88.0	67.1	59.0	47.9	44.9	43.0	---	---
Cursor	03	2245-10200203	6/26/2024 8:03:31 AM	6/26/2024 8:03:32 AM	1	45.4	46.1	45.3	44.5	45.0	72.7	46.1	45.8	45.5	44.8	44.4	---	---

Redondo Beach Zoning Regulations:

§ 4-24.301**Maximum permissible sound levels by land use categories.**

The noise standards for the various categories of land use districts identified shall be the higher of either the presumed or actual measured ambient and shall apply to all such property within a designated category as follows:

Receiving Land Use District Category	**Time Period**	**Presumed Ambient Level (dBA)**
Low Density	10:00 p.m. to 7:00 a.m.	45
Residential R-1-A, R-1, R-2, P-D-R, P-U-D Overlay	7:00 a.m. to 10:00 p.m.	50
Medium Density	10:00 p.m. to 7:00 a.m.	50
Residential R-3, R4, P-D-R, P-U-D Overlay	7:00 a.m. to 10:00 p.m.	55
High Density	10:00 p.m. to 7:00 a.m.	55
Residential R-5, R-6, P-D-R, P-U-D Overlay, C-I	7:00 a.m. to 10:00 p.m.	60
Commercial NSC,	10:00 p.m. to 7:00 a.m.	60
CSC, GC, P-D-C	7:00 a.m. to 10:00 p.m.	65
Industrial P-D-I	10:00 p.m. to 7:00 a.m.	60
	7:00 a.m. to 10:00 p.m.	65
Industrial P-I	10:00 p.m. to 7:00 a.m.	70
	7:00 a.m. to 10:00 p.m.	70

As indicated above, the presumed ambient levels in the Planned Development Residential (P-D-R) and the Planned Unit Development (P-U-D) Overlay land use districts are categorized so as to be consistent with the actual density of the development. The presumed ambient levels for the Planned Development (P-D) and the Civic Center (C-C) land use districts shall be consistent with those established for the lowest adjacent land use district.

(a)

Correction for time characteristics. No person shall operate, or cause to be operated, any source of sound at any location within the City or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person which causes the noise level when measured on any other property to exceed:

(1)

The noise standard of the receiving land use district for a cumulative period of more than 30 minutes in any hour; or

(2)

The noise standard of the receiving land use district plus five dB for a cumulative period of more than 15 minutes in any hour; or

(3)

The noise standard of the receiving land use district plus 10 dB for a cumulative period of more than five minutes in any hour; or

(4)

The noise standard of the receiving land use district plus 15 dB for a cumulative period of more than one minute in any hour; or

(5)

The noise standard of the receiving land use district plus 20 dB for any period of time.

(b)

Levels exceeding the noise limit categories. If the measured ambient level exceeds that permissible as set forth in subsections (1), (2), (3), and (4) of subsection **(a)** of this section, the allowable noise exposure standard shall be increased in five dB increments as appropriate to encompass or reflect such ambient noise level. In the event the ambient noise level exceeds the noise level set forth in subsection (5) of subsection **(a)** of this section, the maximum allowable noise level shall be increased to reflect the maximum ambient noise level.

(c)

Correction for location of noise source. If the measurement location is on a boundary between two different land use district categories, the noise level limit applicable to the lower land use district category, plus five dB shall apply.

(d)

Correction for ambient noise levels when alleged offending sources cannot be shut down. If possible, the ambient noise shall be measured at the same location along the property

line utilized in subsection **(a)** of this section with the alleged offending noise source inoperative. If for any reason the alleged offending noise source cannot be shut down, then the ambient noise shall be estimated by performing a measurement in the same general area of the source, but at a sufficient distance such that the offending noise from the source is inaudible. If the difference between the noise levels with the noise source operating and not operating, with the utilization of either of the above-described methods of measurement, is six dB or greater, then the noise measurement of the alleged source can be considered valid.

(e)

Correction for character of sound. In the event the alleged offensive noise contains a steady audible tone, such as a whine, screech, or hum, or is a repetitive noise, such as hammering or riveting, the standard limits set forth in this section shall be reduced by five dB.

The noise standard for zone: **P-PRO** is not mentioned in the maximum permissible sound levels for this land use category.

10-2.1117**Development standards: P-PRO parks, recreation, and open space zone.**

(a)

Floor area ratio. The floor area ratio (F.A.R.) of all buildings on a lot shall not exceed 0.25 (see definition of floor area ratio in Section 10-2.402).

(b)

Building height. No building or structure shall exceed a height of 30 feet (see definition of building height in Section 10-2.402).

(c) Stories. No building shall exceed two stories (see definition of story in Section 10-2.402).

(d) Setbacks. Setbacks shall be determined subject to Planning Commission Design Review.

(e) General regulations. See Article 3 of this chapter.

(f) Parking regulations. See Article 5 of this chapter.

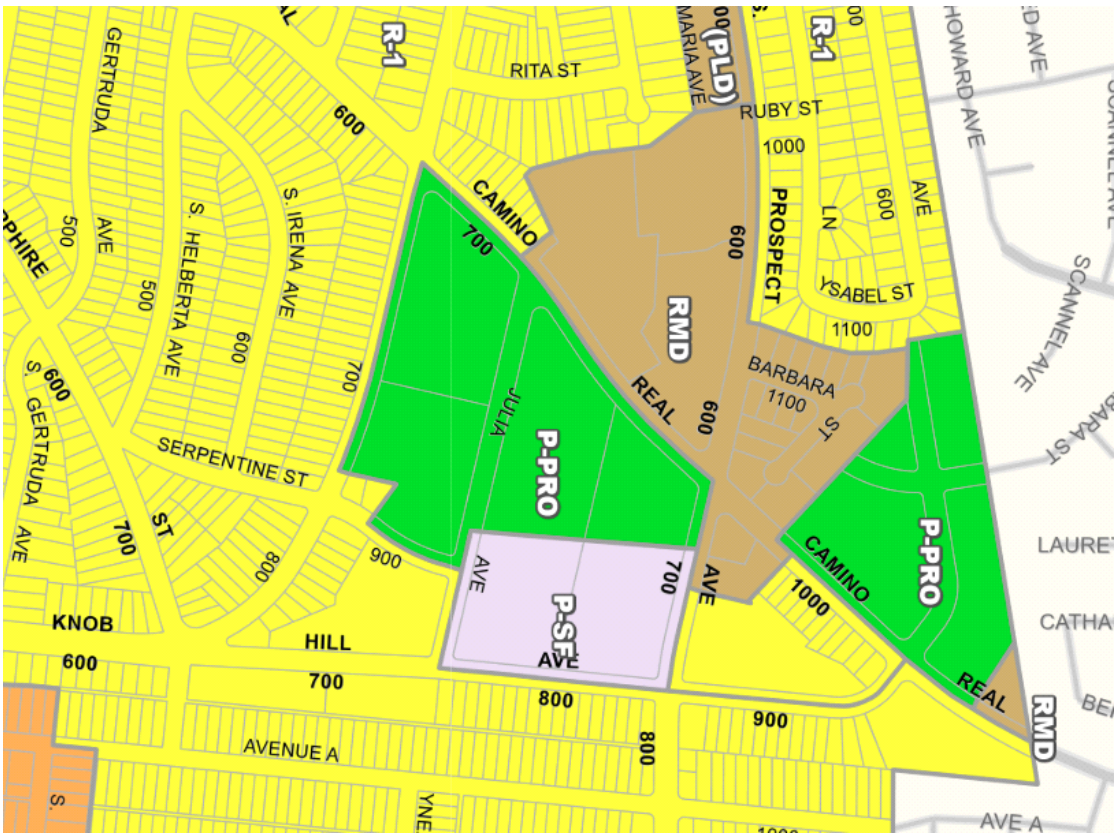
(g) Sign regulations. See Article 6 of this chapter.

(h) Landscaping regulations. See Article 7 of this chapter.

(i) Procedures. See Article 12 of this chapter.

(Ord. 2756 c.s., eff. January 18, 1996, as amended by § 9, Ord. 2884 c.s., eff. May 2, 2002)

Zoning below shows all tests were taken in the R-1 Zone.



CLOSING:

Our measurements indicate that the pickleball play related sources of noise that we were able to identify and measure at Alta Vista Park did not impact the residential zones greater than the background noise of regular traffic and normal citizen activities.