ATTACHMENT D

City of Newport Beach

Class 32 Exemption Checklist

BUSHARD STREET WATER WELL

17902 Bushard Street
Fountain Valley, CA 92708

Case Number: PA2024-0166

Prepared By:

City of Newport Beach
Community Development Department
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November 2025

CITY OF NEWPORT BEACH

ENVIRONMENTAL CHECKLIST FORM
CLASS 32 CATEGORICAL EXEMPTION
INFILL DEVELOPMENT PROJECT

CASE NUMBER: PA2024-0166 – Bushard Streete Water Well

PROJECT ADDRESS: 17902 Bushard Street
Fountain Valley, CA 92708

APN(s): 167-271-34

PROJECT APPLICANT: City of Newport Beach, Utilities Department
Mark Vukojevic, Utilities Director
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Newport Beach, CA 92660
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PROPERTY OWNER: Laguna Beach County Water District
306 3rd Street
Laguna Beach, CA 92651

LAND USE DESIGNATION: Low Density Residential

ZONING: R-1 Single Family Residential

INTRODUCTION:
Article 19 of the California Environmental Quality Act (CEQA Guidelines Section 15300 to Section 15333) includes a list of classes of projects that have been determined to not have a significant effect on the environment and as a result, are exempt from review under CEQA. These are referred to as "categorical exemptions." The categorical exemptions include an urban infill exemption designed to streamline development in already-developed urban areas. This report is intended to determine if the Proposed Project meets the provisions to be categorically exempt from CEQA per State CEQA Guidelines 15332 (Class 32 – In-fill Development Projects).

The following criteria must be met for a project to be characterized as in-fill development:

a. The project is consistent with the applicable general plan designation and

all applicable general plan policies as well as with applicable zoning designation and regulations.

b. The project is in the City on a site less than five acres and is substantially surrounded by urban uses.
c. The Project Site has no value as habitat for endangered, rare or threatened species.
d. Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.
e. The site can be adequately served by all required utilities and public services.

This evaluation was prepared to determine whether the Proposed Project qualifies for the class 32 in-fill development exemption. This evaluation is supported by the attached technical appendices.

SURROUNDING LAND USES AND SETTING:

The Proposed Project would be constructed on a 31,929 square foot site at 17902 Bushard Street (APN 167-271-34) in the City of Fountain Valley (City), Orange County, California (see **Figure 1** – Regional Vicinity Map). The Project Site is located on the east side of Bushard Street, approximately 280 feet north of Talbert Avenue. The Project Site is currently vacant but was previously improved with a single-family house and small commercial landscape nursery. Surrounding use includes single-family residences on the north, east, and south sides of the site (**Figure 2** – Site Location – Aerial View Map). Further north, beyond the single-family residences, is Fountain Valley High School. West of the project site, across Bushard Street, is a multi-family senior apartment development and the Fountain Valley Senior Center. The Project Site has a Fountain Valley General Plan (FVGP) land use designation of Low Density Residential and is zoned R-1 Single Family Residential (see **Figure 3** – General Plan Land Use Designation Map and **Figure 4** – Zoning District Map).

The Project Site is located within the United States Geological Survey (USGS) 2022 *Newport Beach, California* 7.5-minute, 24000 topographic quadrangle. The Project Site is also located within FEMA Flood Plain Panel 06059C0254J and is designated within Zone X, which is described as an "area with reduced flood risk due to levee"[1]. The Project Site is not located within any fire hazard severity zones (see **Figure 5** –Fire Hazard Severity Zone Map).

[1] FEMA Flood Map Service Center Map, FEMA Flood Map Service Center | Search By Address, accessed October 23, 2025.

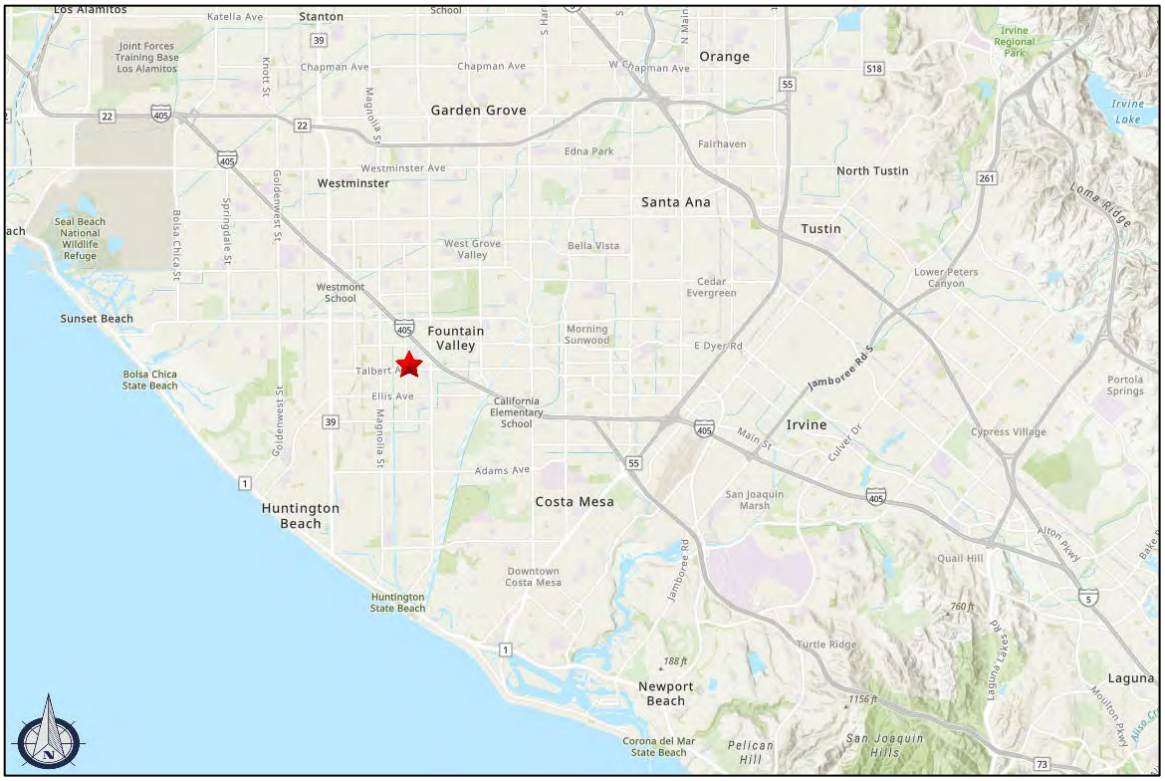


Figure 1. Regional Vicinity Map

Figure 2. Site Location – Aerial View Map

Figure 3. General Plan Land Use Designation Map

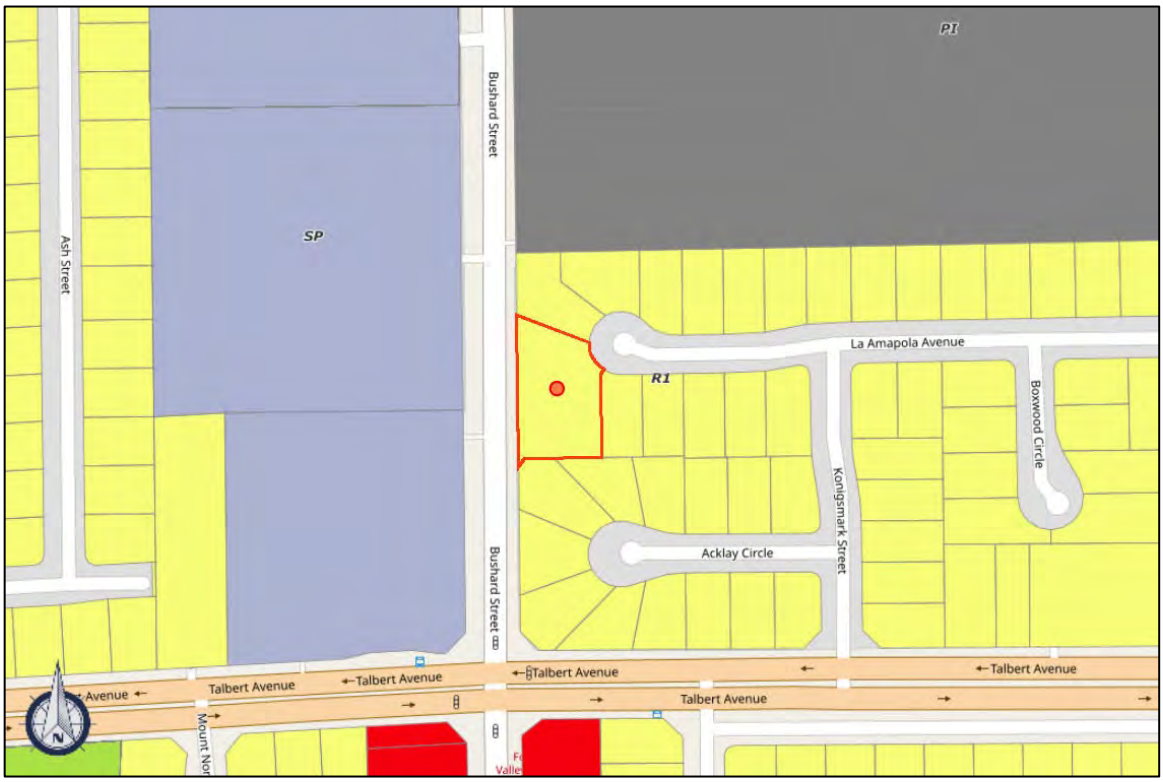


Figure 4. Zoning District Map

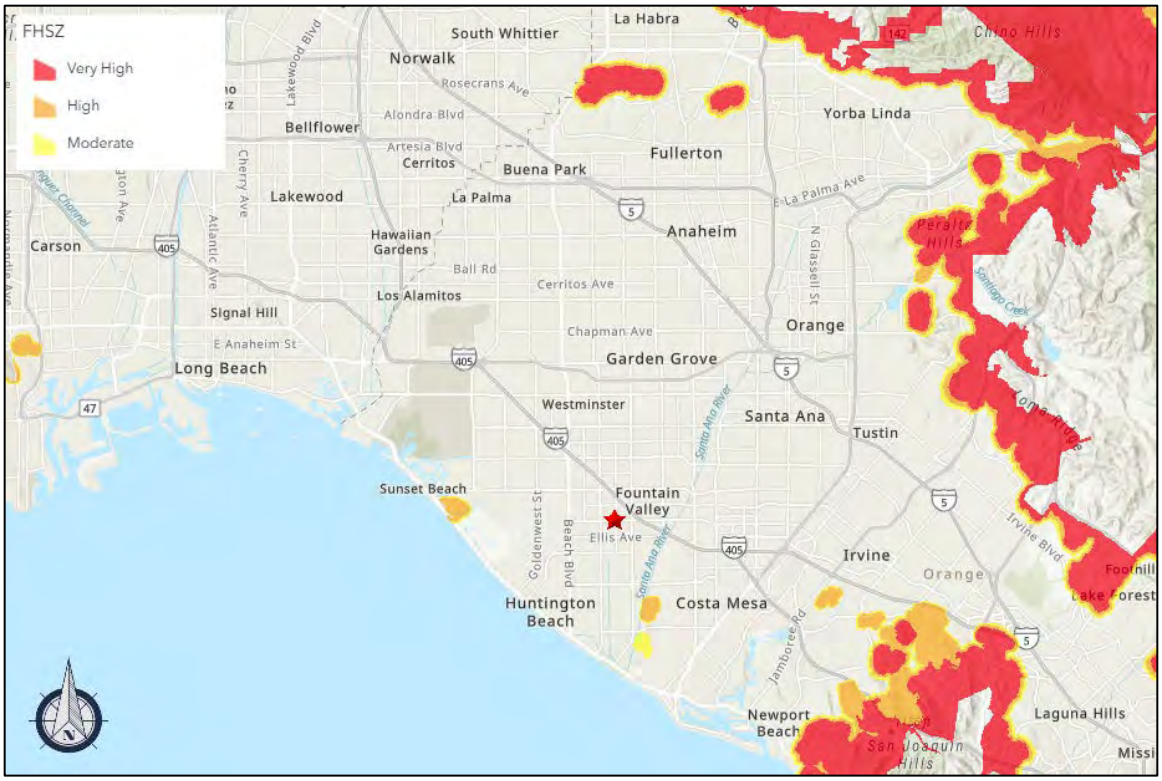


Figure 5. Fire Hazard Severity Zone Map

PROJECT DESCRIPTION:

The Proposed Project consists of the construction two water wells to an approximate depth of 700 feet and 300 feet. Once completed, the water wells will be connected to the City of Newport's existing water mains located in the Talbert Channel. Specifically, the Proposed Project will include the following:

- Construction of the two water wells, one to an approximate depth of 700 feet and the other to an approximate depth of 300 feet. The wells are approximately 75 feet apart and will be drilled consecutively.

- Upon completion of each well, the well will be connected to a turbine pump and related appurtenances. This will include pipeline stub out for a future system interconnect adjacent to the groundwater production facility. The system interconnection would allow Fountain Valley access to water produced by the Newport Beach wells in the event of an emergency that disrupts Fountain Valley's water service.

- Both wells and related equipment will be housed within a 2,400 square foot structure that is 15 feet tall. The building is proposed to be located near the western portion of the site, setback 20 feet from the Bushard Street right-of-way. The building will also be setback 45.58 feet from the north property line, 48.41 feet from the south property line, 78.55 feet from the east property line, and 64 feet from the La Amapola Circle right-of-way.

- A new 24-inch water main will be provided to connect the two wells to the existing Newport Beach water main that is located within the Talbert Channel. The new 24-inch water main will traverse from the site, south within the Bushard Street right-of-way, thence west in the Talbert Avenue right-of-way, finally connecting to the existing water main within the Talbert Channel.

- An 8-foot-tall concrete masonry block wall to be constructed along the property boundaries, which will include two 20-foot-wide sliding gates to provide access to the Property from Bushard Street.

- Approximately 5,368 square feet of landscaping will be provided along the north, south, and east property lines. The remainder of the site will be improved with asphalt paving.

- An 18-inch reinforced concrete storm drain will connect from a drain box adjacent to each of the water well, through the Bushard Street right-of-way, to the existing storm drain in Talbert Avenue.

- An 8-inch C900 water main that connects the 8-inch Asbestos Cement water main on La Amapola Circle to the 8-inch Asbestos Cement water main on Bushard Street with isolating gate valves at each end of the tie-in will be provided. This water main will not connect to the wells, but rather will provide a loop connection for the City of Fountain Valley's water supply system.

- The site will be connected to electrical power through an underground connection from the nearest utility pole on Bushard Street. A transformer will be located near the northeast corner of site. An emergency generator will be located on the east side of the building.

- In the unlikely event per- and polyfluoroalkyl substances (PFAs) are found in the groundwater, additional filtration and treatment equipment will be located on the east side of the water well housing structure.

Construction is expected to take 18 months. Once the construction is complete, the water wells will operate 24-hours a day. The operation of water wells chiefly is unmanned but will require a maintenance crew visit twice a week. A copy of the proposed site plan is in **Appendix A.**

Standard Regulatory Requirements

The Applicant is required to follow all existing standard regulations during construction. These include but are not limited to the following:

Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-712) Compliance. The MBTA of 1918 (16 U.S.C. 703-712), which was last updated in 2004 protects individuals as well as any part, nest, or eggs of any bird listed as

migratory. In practice, federal permits issued for activities that potentially impact migratory birds typically have conditions have require pre-disturbance surveys for nesting birds. In the event nesting is observed, a buffer area with a specified radius must be established, within which no disturbance or intrusion is allowed until the young have fledged and left the nest, or it has been determined that the nest has failed. If not otherwise specified in the permit, the size of the buffer area varies with species and local circumstances (e.g., busy roads, intervening topography, etc.) and is based on the professional judgement of a monitoring biologist. A list of migratory bird species protected under the MBTA is published by USFWS.

State of California Fish and Game Code Section 3500, et. seq., Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Activities that result in the abandonment of an active bird of prey nest may also be considered in violation of this code. In addition, California Fish and Game Code, Section 3511 prohibits the taking of any bird listed as fully protected, and California Fish and Game Code, Section 3515 states that is it unlawful to take any non-game migratory bird protected under the MBTA.

California Code of Regulations, Title 14, Section 4308 (14 CCR § 4308) (Accommodation for Unanticipated Cultural/Paleontological Resources). No person shall remove, injure, disfigure, deface, or destroy any object of archaeological or historical interest or value.

California Health and Safety Code, and Public Resources Code (Human Remains). In the event that human remains are discovered, there shall be no disposition of such human remains, other than in accordance with the procedures and requirements set forth in California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98. These code provisions require notification of the County Coroner and the Native American Heritage Commission, who in turn must notify those persons believed to be most likely descended from the deceased Native American for appropriate disposition of the remains. Excavation or disturbance may continue in other areas of the Project Site that are not reasonably suspected to overlie adjacent remains or archaeological resources.

National Pollution Discharge Elimination System (NPDES). Because the site is greater than one acre, the applicant is required by the Santa Ana Regional Water Quality Control Board to prepare a Stormwater Pollution Prevention Plan (SWPPP) to address water quality and runoff during construction to comply with the State of California General Construction Permit. The SWPPP will outline the source control and/or treatment control Best Management

Practices (BMPs) to avoid or mitigate runoff pollutants at the construction site to the "maximum extent practicable." All recommendations in the Plan shall be implemented during area grading and construction. The Project shall comply with each of the recommendations detailed in the Plan, and other such measure(s) as the City deems necessary to mitigate potential stormwater runoff impacts.

INFORMATION DEMONSTRATING THAT THE PROJECT SATISFIES THE CONDITIONS DESCRIBED IN SECTION 15332 OF TITLE 14 OF THE CALIFORNIA CODE OF REGULATIONS:

Section 15332 of CEQA Guidelines states that "Class 32 consists of projects characterized as in-fill development meeting the conditions" described below:

a. The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.
b. The proposed development occurs within city limits on a Project Site of no more than five acres substantially surrounded by urban uses.
c. The Project Site has no value as habitat for endangered, rare, or threatened species.
d. Approval of the project would not result in significant effects relating to traffic, noise, air quality, or water quality.
e. The site can be adequately served by all required utilities and public services.

The following analysis discusses the Proposed Project in relation to each condition as listed in CEQA Guidelines Section 15332:

1. Is the project consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations?

The project site has a General Plan Land Use designation of Low Density Residential and is zoned R1. Pursuant to Government Code 53091, zoning and building codes do not apply to facilities for the generation of water, therefore the Project would be a permitted use in all zones. Nevertheless, the Project is consistent with the following General Plan Policies:

Policy LU-1.1 Land use compatibility and viability. The Project is in the immediate vicinity of other public facilities. Specifically, Fountain Valley High School is within 250 feet from the Property. Additionally, the proposed well housing would have a residential design and be smaller size than other residences in the area. Landscape setbacks would be provided adjacent to La Amapola Avenue to further blend the

site into the residential neighborhood. Along Bushard, a block wall will be provided to match the height of other blocks walls in the area. Access to the site would be Bushard, a secondary arterial, further limiting impacts to the adjoining neighborhoods.

Policy LU-3.2 Scale and character. The single-story well housing would have a residential design and be in scale with other single-story homes in the area. In fact, the Project is more consistent in scale and character with the residences under La Amapola when compared to the residential densities available through Senate Bill 9 and the various state law amendments authorizing accessory dwelling units. The City of Fountain Valley's municipal code requires a minimum lot size of 7,200 square feet, minimum lot width of 60 feet (45 feet for cul-de-sac lots), and lot depth of 90 feet. Based on its size and shape, the 22,172 square foot parcel could be subdivided into three parcels. Utilizing either ADU law and SB 9, or combination thereof, each of the subsequent parcels could build up to four dwelling units. This would result in twelve units being built on the site. In comparison to other uses, the Project will maintain a residential design and is in scale and character with the area.

Policy PFS-1.1 Water supply and distribution. According to the Orange County Water District Engineer's Report[2], water Conservation, recharge basins, and recent wet periods (2005-06, 2011-12, 2018-19, and 2022-23) has resulted in an increase in groundwater supplies. The proposed water wells will not create a significant drawdown of the water basin and will not impact supply for the City of Fountain Valley.

2. Is the proposed development located within the city limits on a Project Site of no more than five acres substantially surrounded by urban uses?

The Project Site is located within the City of Fountain Valley city limits. The Project limits include work on the Project Site and within the Bushard and Talbert rights-of-way. As noted in the following table, the total area within the project boundaries is 4.704 acres.

Component	Size
Project Site	0.733 acre
Bushard Street Right-of-Way	0.883 acre
Talbert Avenue Right-of-Way	3.088 acres
Total	**4.704 acres**

All surrounding uses are urban uses, which include commercial and residential land uses.

[2] https://www.ocwd.com/wp-content/uploads/2022-23-Engineers-Report-Final.pdf

3. Does the Project Site have value as habitat for endangered, rare, or threatened species?

The Project Site is currently vacant but was previously improved with a single-family residence and commercial landscape nursery. Only ground cover (primarily weeds and grasses) remains on the site. It is located within a developed urban setting as surrounding uses are developed with commercial and residential uses. According to the U.S. Fish & Wildlife Service IPaC viewer[3], there are no critical habitats on the Project Site. Furthermore, the Environmental Impact Report prepared for the 2023 City of Fountain Valley General Plan update[4], states the only portion of the City that contain habitat is the region around Mile Square Park. The Project Site is over one mile from Mile Square Park and development of the water wells would not impact any habitat within the park.

The Proposed Project would adhere to all applicable regulatory requirements. Landscape would be removed in accordance with the Migratory Bird Act and the California Fish and Game Code. Therefore, the Project Site has no value as habitat for endangered, rare, or threatened species.

4. Would approval of the project result in any significant effects relating to traffic, noise, air quality, or water quality?

Traffic:

a. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

The City uses the Foutain Valley General Plan Mobility Element[5] to discuss the City's circulation system, including transit, roadway, bicycle, and pedestrian facilities. The Circulation Element establishes goals and policies that guide the City's mobility system, including streets, transit facilities, and pedestrian facilities. Access to the Project Site will be limited to Bushard Street, which is classified by the General Plan as a Secondary Arterial. Secondary Arterials are intended to distribute traffic between local streets and arterials, and can typically accommodate 25,000 average daily vehicle trips. Bushard is also listed on the Circulation Element Trails Plan Map as a Class II bike path. A Class II bike lane is provided on both sides of the street.

The Proposed Project will not impact the roadway operations or bicycle access. The entry access gate will be setback from the sidewalk to allow maintenance

[3] https://ipac.ecosphere.fws.gov/location/index
[4] https://www.fountainvalley.gov/DocumentCenter/View/19301/GPU-EIR
[5] https://www.fountainvalley.gov/DocumentCenter/View/19654/Fountain_Valley_2045_General_Plan

vehicles to stop to allow the gate to open without blocking the travel lanes. Additionally, the site will be chiefly unmanned and will not generate any significant number of vehicle trips to the roadway network.

b. Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

CEQA Guidelines Section 15064.3 discusses that transportation impacts of projects are, in general, best measured by evaluating the Proposed Project's VMT. To analyze traffic impacts, the City has adopted *The City of Fountain Valley Traffic Impact Analysis Guidelines for Land Use Projects in CEQA and for General Plan Consistency* (Guidelines)[6]. All traffic impact analyses for CEQA are required to follow the City's TIA Guidelines.

There are three types of VMT project screening that lead agencies can apply to effectively screen projects from project-level assessment. These are: Type 1: Transit Priority Area (TPA) Screening; Low VMT Area Screening; and lastly, Project Type Screening. Importantly, the Project only needs to fulfill one of these screening types to qualify for screening.

Of the aforementioned types of screening, the Project screens out based on Project Type Screening. Specifically, the Guidelines state, "Local serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact absent substantial evidence to the contrary." Furthermore, the Guidelines provide a list of projects that can be presumed to have a less than significant impact. Among the list includes projects that generate less than 110 net new daily vehicle trips. The Project is unmanned and will only generate a few vehicle trips per week for maintenance crews, far less than the 110 trips per day. Therefore, the Proposed Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Proposed Project does not involve any design features that would increase traffic hazards due to geometric design or incompatible uses. Access to the Project Site is proposed via driveways along Bushard Street with no access proposed on La Amapola Circle. The drive approaches will comply the City of Fountain Valley's Public Works standards.

[6] https://www.fountainvalley.gov/DocumentCenter/View/13730/VMT-Guidenliens_City-of-Fountain-Valley

d. Would the project result in inadequate emergency access?

The Proposed Project is required to located two water wells within a 2,400 square foot structure. Two access points are provided on Bushard Street to allow emergency ingress and egress. The building is within 150 feet of the right-of-way to allow the Fire Department to pull hoses onto the site without the need for on-site fire hydrants. As a result, the Proposed Project would not result in inadequate emergency access.

Noise:

A Noise Impact Analysis dated August 8, 2025 by Ganddini Group (**Appendix B**) was prepared for the Proposed Project to analyze the Proposed Project's potential noise impacts. As discussed below, approval of the Proposed Project would not result in any significant effects relating to noise.

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction Noise – The construction activities for the Proposed Project are anticipated to include preparation and grading of the site, drilling of the water wells, construction of the water well housing structure, site improvements, and installation of the water main and stormwater main in the right-of-way. The nearest sensitive receptor to the Project Site is the single-family residences located on the adjoining properties.

Section 6.28.070 of the City's Municipal Code exempts construction noise that occurs between 7:00 a.m. and 8:00 p.m. from the stationary noise standard of 55 dB at the nearby residential property lines. Nighttime well drilling will be subject to the noise standards presented below in Sections 6.28.050 and 6.28.060. Specifically, drill noise will be considered significant if it exceeds an exterior noise level of 55 dBA Leq at the adjacent residential properties of if it is expected to exceed 45 dBA Leq inside any nearby residences.

Construction noise levels will range between range between 44 and 57 dBA Leq at first floor levels of nearby residential properties and between 50 and 57 dBA Leq at second story levels of nearby residential properties (see **Figure 6** – Construction Noise). As an added measure, a temporary noise barrier will be included to further reduce nighttime noise levels (see **Figure 7** – Noise Barrier)

Figure 6. Construction Noise

Figure 7. Noise Barrier

Operational Noise

Noise generated from the operation of the wells is primarily derived from the well pumps. These pumps are contained in the well-housing building, which will include acoustic paneling on the interior walls. Operational noise levels will range between 36 and 49 dBA Leq at first floor levels of nearby residential properties and between 46 and 56 dBA Leq at second story levels of nearby residential properties (see **Figure 8** – Operational Noise).

Figure 8. Operational Noise

Roadway Vehicular Noise

Vehicular noise is a combination of noise produced by engine, exhaust, and tires. The level of traffic noise depends on three primary factors (1) the volume of traffic, (2) the speed of traffic, and (3) the number of trucks in the flow of traffic. The Proposed Project does not propose a substantial increase in the number of vehicle trips to or from the site. No impact from roadway vehicular noise is anticipated.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Vibration is oscillatory motion through a solid medium, like the ground. Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. Vibration can impact adjoining uses if it exceeds 85 VdB.

Vibration impacts from construction activities associated with the Proposed Project would typically be created from the operation of heavy off-road equipment and drilling of water wells. Proposed well sites are no closer than 58 feet from the project site property line and groundborne vibration associated with well drilling is expected to be approximately 0.025 at that distance. Therefore, well drilling would not result in significant impacts related to groundborne vibration.

Operations-related vibration impacts – Operation of the water wells is not anticipated to generate vibration. The only potential for impact is from vehicles and trucks driving on the site. Loaded trucks generally have a VdB of 85.6 at a distance of 25 feet the VdB decreases over distance, therefore based on the distance to the nearest residential structure, vibration levels will not exceed the 85 VdB threshold and no impact is expected.

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The nearest airport is John Wayne Airport, located in Santa Ana, California, which is approximately 5.5 miles from the Project Site. The Project Site is not located within the airport's land use plan area. Furthermore, the Proposed Project is not expected to expose people residing or working in the Proposed Project area to excessive noise levels. Therefore, the Proposed Project would have no impact on exposing people residing or working in the area to excessive airplane noise.

Air Quality:

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The Project Site is located within the South Coast Air Basin (SCAB) which is characterized by relatively poor air quality and is a Federal- and State- designated nonattainment area for O3, PM10 and PM2.5 (US EPA 2012). The South Coast Air Quality Management District (SCAQMD) has established significance thresholds for both construction and operational activities relative to these criteria pollutants. The Project Site is located within the Coastal general forecasting area and Central Orange County air monitoring area (SRA-17). The nearest air monitoring station to the Project Site is located in Anaheim near Interstate 5 and Ball Road (ARB #30031). Air monitoring areas and stations provide air pollutant data to comprise a "background" for the project location and the existing local air quality.

As discussed below under threshold b and threshold c, implementation of the Proposed Project would result in less than significant impacts relative to the daily significance thresholds for criteria air pollutant construction emissions established by SCAQMD. By complying with the thresholds of significance, the Proposed Project would be incompliance with the SCAQMD Air Quality Management Plan (AQMP) and the federal and state air quality standards.

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Construction

The construction activities can generate criteria pollutants through the operation of construction equipment and from fugitive dust. Current requirements of the California Air Resources Board (CARB) require construction fleets to utilize low emission vehicles and ensure all vehicles in use are properly maintained to minimize impacts.[7] California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 regulates emissions from off-road diesel equipment in California. This regulation limits idling of equipment to no more than five minutes, requires equipment operators to label each piece of equipment and provide annual reports to CARB of their fleet's usage and emissions. In addition to the fleet requirements, fugitive dust control measures that exceed South Coast Air Quality Management District's Rule 403 will be utilized. This includes:

- Requiring use of nontoxic soil stabilizers to reduce wind erosion.
- Applying water every four hours to active soil disturbing activities.
- Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks

[7] https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/off-roaddiesel/froa-1.pdf

hauling dirt, sand, soil, or other loose materials.

As a result of the implementation of existing regulations, the Proposed Project's short-term construction impact on regional or localized air resources would be less than significant.

Operational Emissions

Operation of the Proposed Project is not anticipated to create any air quality emissions or criteria pollutants. The water well pumps are powered electrically and connected to the existing power grid. Furthermore, the site is unmanned only generating a few vehicle trips a week for maintenance. These minimal number of vehicle trips would not contribute substantially to an existing or projected air quality violation. By complying with the SCAQMD standards, the Proposed Project would not contribute to a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). Therefore, the Proposed Project's long-term regional and local air quality impacts will be less than significant.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are the single-family residences that are adjacent to the Project Site. The greatest potential for toxic air contaminant (TACs) emissions would be related to diesel particulate matter (DPM) emissions associated with heavy equipment operations during construction of the Proposed Project. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". "Individual cancer risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

Given the relatively limited number of heavy-duty construction equipment, the varying distances that the construction equipment would operate to the nearby sensitive receptors, and the short-term construction schedule, the Proposed Project would not result in a long-term (i.e., 30 or 70 years) substantial source of toxic air contaminant emissions and corresponding "individual cancer risk". In addition, California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449 regulates emissions from off-road diesel equipment in California. This regulation limits idling of equipment to no more than five minutes, requires equipment operators to label each piece of equipment and provide annual reports to CARB of their fleet's usage and emissions. This regulation also requires systematic upgrading of the emission Tier level of each fleet, and currently no commercial operator is allowed to purchase Tier 0, Tier 1 or Tier 2 equipment. In

addition to the purchase restrictions, equipment operators need to meet fleet average emissions targets that become more stringent each year between years 2014 and 2023. By January, 2026, 75 percent or more of all contractors' equipment fleets must be Tier 2 or higher and by January, 2029, 100 percent of all equipment fleets must be Tier 2 or higher. Therefore, no significant short-term DPM impacts would occur during construction of the Proposed Project.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Land uses that commonly receive odor complaints include agricultural uses (farming and livestock), chemical plants, composting operations, dairies, fiberglass molding facilities, food processing plants, landfills, refineries, rail yards, and wastewater treatment plants. The Proposed Project is not anticipated to generate odors.

Water Quality:

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction Impacts

Construction-related runoff pollutants are typically generated from waste and hazardous materials handling or storage areas, outdoor work areas, material storage areas, and general maintenance areas (e.g., vehicle or equipment fueling and maintenance, including washing). Construction projects that disturb one acre or more of soil, including the Proposed Project, are regulated under the Construction General Permit (CGP, Order No. 2022-0057-DWQ) issued by the State Water Resources Control Board (SWRCB). Projects obtain coverage under the CGP by developing and implementing a stormwater prevention pollution plan (SWPPP), estimating sediment risk from construction activities to receiving waters, and specifying best management practices that would be implemented as a part of the Proposed Project's construction phase to minimize pollution of stormwater prior to and during grading and construction.

The contractor would be required to prepare and implement a SWPPP and associated BMPs in compliance with the CGP during grading and construction. The SWPPP would specify BMPs that would be implemented for the Proposed Project to protect the water quality of receiving waters. Other construction BMPs that may be incorporated into the Proposed Project's SWPPP and implemented during the construction phase include but are not limited to:

- Installation of perimeter silt fences and perimeter sandbags and/or gravel bags

- Stabilized construction exits with rumble strip(s)/plate(s)
- Installation of storm drain inlet protection on affected roadways
- Installation of silt fences around stockpile and covering of stockpiles
- Stabilization of disturbed areas where construction ceases for a determined period of time (e.g., one week) with erosion controls
- Installation of temporary sanitary facilities and dumpsters

Adherence to the BMPs in the SWPPP would reduce, prevent, minimize, and/or treat pollutants and prevent degradation of downstream receiving waters; reduce or avoid contamination of urban runoff with sediment; and reduce or avoid contamination with other pollutants such as trash and debris, oil, grease, fuels, and other toxic chemicals.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The Proposed Project is intended to pump groundwater from the aquifer. These two water wells would allow Newport Beach to extract 5,000-6,000-acre feet of water per year, which would not impact the aquifer. According to the Orange County Water District (OCWD), the Orange County Groundwater Basin holds over 40 million acre-feet with a current operational capacity of 500,000 acre-feet.[8] Total water demands within OCWD for the 2022-2023 water year was 351,719 acre-feet, which was the lowest in 50 years,[9] despite an increase in development within the County. Increasing the demand by extracting an additional 6,000 acre-feet would not impact the aquifer and not result in a substantial decrease in the groundwater supply.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in a substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?

The existing Project Site is currently vacant. In the existing condition, drainage of the site generally surface flows towards Bushard Street, thence south to a curb inlet catch basins near Talbert Avenue. The Proposed Project would install multiple drainage catch basins on site, which will connect to a new storm drain that will connect to the existing off-site storm drain system. This will result in improved

[8] https://www.ocwd.com/wp-content/uploads/GWRS-TechnicalBrochure_WEB.pdf
[9] https://www.ocwd.com/wp-content/uploads/2022-23-Engineers-Report-Final.pdf

drainage patterns and prevent uncontrolled surface drainage from the site.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The Project Site is located within the United States Geological Survey (USGS) 2022 *Newport Beach, California* 7.5-minute, 24000 topographic quadrangle. The Project Site is also located within FEMA Flood Plain Panel 06059C0254J and is designated within Zone X, which is described as an "area with reduced flood risk due to levee" The Project Site is located outside of the 100-year flood plain, and would not impede or redirect flood flows. Furthermore, onsite storm drain catch basins would be designed to prevent pollutants from entering to the storm drain system.

Seiches are surface waves created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to development near large water bodies and water storage facilities, because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. Due to the distance from any body of water, seiches are not anticipated to impact the project site.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Proposed Project involves the construction of two water wells and its associated infrastructure. The Project will incorporate storm water and urban runoff pollution prevention controls, and best management practices (BMPs) on construction sites in accordance with the Orange County MS4 Permit. Therefore, the Project would not conflict or obstruct implementation of a water quality control plan.

At full operation, the two water wells are expected to extract 5,000-6,000-acre feet of water per year from the aquifer. According to the Orange County Water District (OCWD), the Orange County Groundwater Basin holds over 40 million acre-feet with a current operational capacity of 500,000 acre-feet per year. Current extraction rates are approximately 350,0009 acre-feet per year. The additional extraction from these two wells will not impact sustainable management of the ground water supply or exceed operational capacity of groundwater extraction.

5. Can the Project Site be adequately served by all required utilities and public services?

a. Fire Protection:

According to CAL FIRE's Fire Hazard Severity Zone (FHSZ) Map, the Project Site is not designated in a Very High, High, or Moderate FHSZ for either the Local Responsibility Area (LRA) or State Responsibility Area (SRA). The Proposed Project

does not introduce any features that would require additional fire services beyond what is already serviced to the City. Fire services are provided to the City by the Fountain Valley Fire Department. The nearest Fire Station is Fountain Valley Fire Station 1, which is located at 17737 Bushard Steet. This Fire Station is less than 1,000 feet from the Project Site.

b. Police Protection:

Police Protection for the Project Site would be provided by the Fountain Valley Police Department. The Proposed Project will be unmanned and is not anticipated to generate growth or new employment. Calls for Police Services are not anticipated to increase beyond those required for the existing vacant site. Therefore, no impact is expected.

Installation of new water wells would provide the City of Newport Beach with additional water supply, which could spur growth in Newport. Notwithstanding this, new development in Newport Beach is limited to what was previously analyzed under the City's General Plan buildout scenario.[10] This buildout scenario already considers needed growth in Police Services. Therefore, the project will not impact police protection.

c. Schools:

Since the Proposed Project will be unmanned and is not anticipated to generate growth or new employment, impacts to Fountain Valley schools will not occur. Nevertheless, the additional water supply for the City of Newport Beach could induce growth. Impacts on schools resulting from this additional growth was previously analyzed in the City of Newport Beach General Plan buildout scenario. Further, school enrollment for the Newport-Mesa Unified School District[11] has been trending down year to year, providing sufficient capacity for any minimal indirect increase in school enrollments resulting from the project.

d. Parks:

Since the Proposed Project will be unmanned and is not anticipated to generate growth or new employment, impacts to Fountain Valley parks will not occur. Nevertheless, the additional water supply for the City of Newport Beach could induce growth. Impacts on parks resulting from this additional growth was previously analyzed in the City of Newport Beach General Plan buildout scenario.

[10] https://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan
[11] https://www.ed-data.org/district/Orange/Newport--Mesa-Unified/ps_Mzg2NzA%5E

e. Other Public Facilities:

Other public facilities, such as library services will not be impacted since the Proposed Project will be unmanned and is not anticipated to generate growth or new employment in Fountain Valley. Any impacts resulting in growth in the City of Newport Beach were previously analyzed in the City of Newport Beach General Plan buildout scenario.

f. Wastewater/Sewer:

The water wells will not generate wastewater. No impacts will occur.

g. Storm Water Drainage:

The proposal includes constructing an 18-inch reinforced concrete storm drain that will connect from a drain box adjacent to each of the water wells, through Bushard Street right-of-way, to the existing storm drain in Talbert Avenue. The Talbert Avenue storm drain flows into the Talbert Channel, which ultimately drains into the Pacific Ocean near Brookhurst Street and Pacific Coast Highway. The new storm drain is proposed to accommodate flushing of the wells and onsite drainage. Tin 2022 the City of Fountain Valley prepared an Infrastructure Technical Report[12] as part of the General Plan Update. This technical report did not find any deficiencies in the existing storm drain system.

h. Water Supplies:

The proposed project will increase water supplies for the City of Newport Beach. As noted in Section 4.e. of this analysis, operations of the water wells will not impact ground water supplies for other communities.

i. Solid Waste Disposal:

The water wells will not generate solid waste. No impacts will occur.

j. Electricity: k. Natural Gas: l. Telephone Service: m. Television Service:

The Project Site is in a built-out, urban setting. The Project Site and the surrounding properties are fully served by various utility service providers, including:

- Electric: Southern California Edison (SCE)
- Natural Gas: Southern California Gas (SoCalGas)
- Telecommunications: AT&T, Frontier, Verizon, T-Mobile, Spectrum

[12] https://www.fountainvalley.gov/DocumentCenter/View/17436/Appendix_513-1_-Existing-Conditions-Infrastructure-Report?bidId=

EXCEPTIONS:

CEQA Guidelines Section 15300.2 outlines exceptions, such as if a project results in a cumulatively significant impact, that would render a project inapplicable for a Categorical Exemption. As discussed in the analysis above, the Proposed Project would not result in any significant impact or cumulatively significant impact on the environment. Additionally, the Proposed Project would not result in damage to scenic resources or a substantial adverse change in the significance of a historical resource. The Project Site is located on a site that is developed with a commercial office building and surface parking. The Proposed Project would consist of infill development on a site that is not listed on any list compiled pursuant to Section 65962.5 of the Government Code.

The following analysis discusses the Proposed Project in relation to CEQA Guidelines Section 15300.2 – Exceptions.

a. ***Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.***

The Proposed Project does not qualify for the Class 3, 4, 5, 6, or 11 categorical exemptions. Therefore, exception A of Section 15300.2 is not applicable to the Proposed Project.

b. ***Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.***

As discussed above under threshold questions three through five, the Proposed Project would not have a cumulative impact of successive projects of the same type in the same place, over time. The Proposed Project would consist of a new auto dealership development and does not propose to redevelop the site with successive projects of the same type over time.

c. ***Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.***

As discussed above under threshold questions three through five, the Proposed Project would not have any significant effect related to traffic, noise, air quality, water quality, and biological and cultural resources. The Proposed Project falls below regulatory thresholds and would adhere to all applicable regulations, such

as the City's Municipal Code.

d. Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

The California Department of Transportation (Caltrans) manages the State Scenic Highway Program and provides a State Scenic Highway Map tool on the Caltrans website. According to the Caltrans State Scenic Highway Map tool[13], there are no scenic highways on or adjacent to the Project Site. The closest scenic highway is Pacific Coast Highway, which at its nearest point is located approximately 4 miles southwest of the Project Site.

e. Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

According to the California Environmental Protection Agency (CalEPA) and the Department of Toxic Control Substances (DTSC)'s Cortese List (Section 65962.5 of the Government Code) The Project Site is not located on the Cortese List or on any database of hazardous substance release sites, such as the EnviroStor database. Therefore, exception E is not applicable to the Proposed Project.

f. Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

According to the California Register of Historic Resources[14] and the National Register of Historic Places[15], the Project Site is not designated as a historic place or resource. The City of Fountain Valley does not have a historic resource ordinance or list. Therefore, exception F is not applicable to the Proposed Project.

CONCLUSION:

Based on the analysis above, the Proposed Project is classified as a Class 32 pursuant to CEQA Guidelines Section 15300 and is categorically exempt from CEQA.

[13] https://www.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa

[14] https://ohp.parks.ca.gov/ListedResources/?view=county&criteria=30

[15] https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466

DETERMINATION:

I find that the analysis adequately supports each question and that the effects of the Proposed Project are typical of those generated within that class of projects (*i.e.*, Class 32 – Infill Development Projects) characterized as in-fill development meeting the conditions of Section 15332 of Title 14 of the California Code of Regulations. The Proposed Project would not cause a significant effect on the environment and is, therefore, categorically exempt from the requirement for the preparation of environmental documents under the California Environmental Quality Act.

Mark Vukojevic
Signature of Lead Agency

October 28, 2028
Date

Mark Vukojevic, Utilities Director
Printed Name, Title

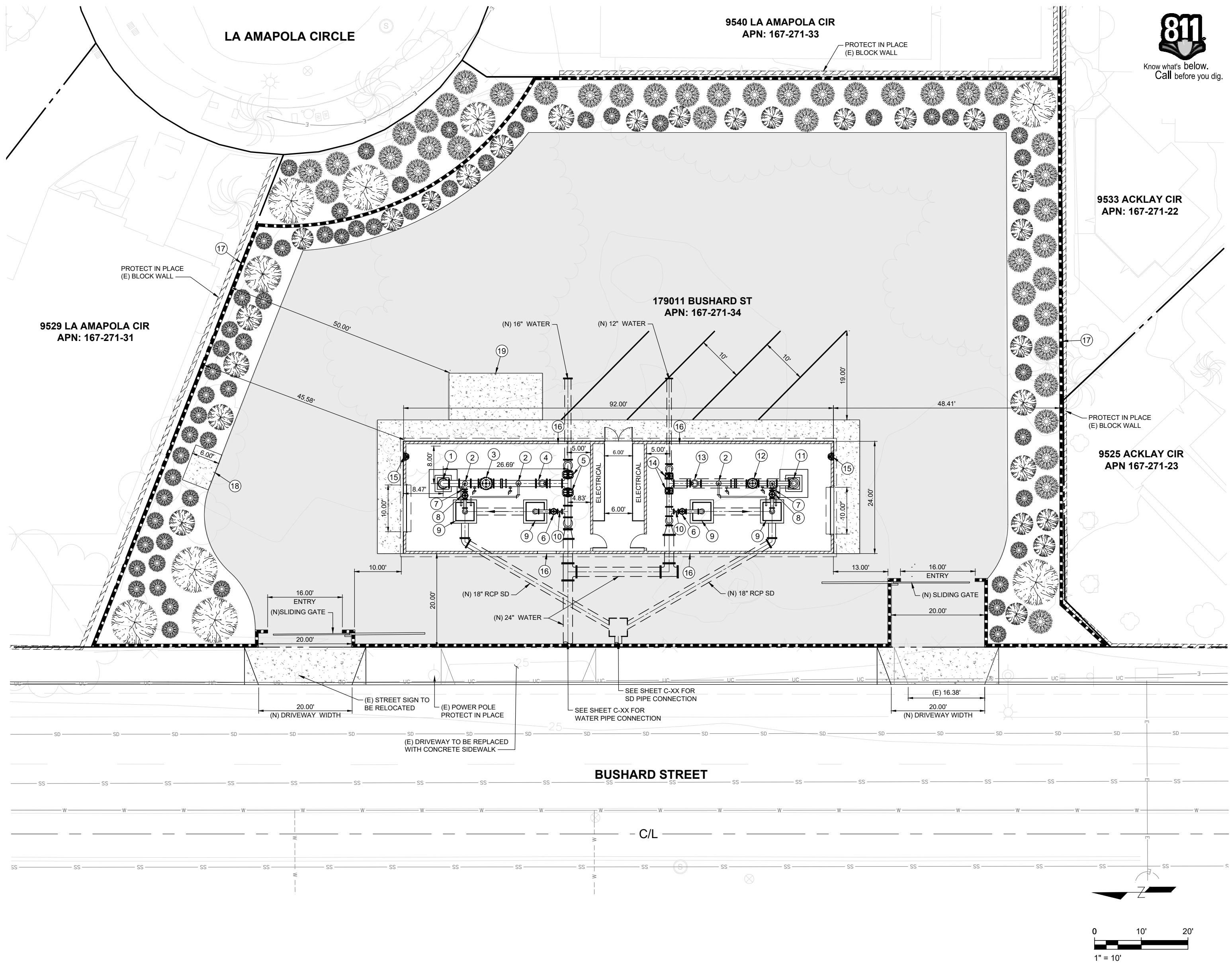
(714) 718-3401
Phone Number

Appendix A

Site Plan

CONSTRUCTION NOTES

1. DEEP WELL VERTICAL TURBINE PUMP AND FABRICATED STEEL DISCHARGE HEAD WITH 3/4 EXTRA HEAVY HALF COUPLING FOR PRE-LUBE PER SPEC SECTION XX
2. 3" AIR RELEASE AND VACCUMM VALVE PER DETAIL X ON SHEET M-XX
3. 16" DIA FLANGED RATE OF FLOW CONTROL VALVE, CLA-VAL MODEL 40-01 OR APPROVED EQUAL PER SPEC SECTION XX
4. 16" DIA FLANGED PROPELLER METER PER SPEC SECTION XX
5. 16" DIA FLANGED GATE VALVE (CL 150) WITH HANDWHEEL AND POSITION INDICATOR PER SPEC SECTION XX
6. 8" DIA FLANGED SURGE ANTICIPATOR VALVE, CLA VAL MODEL 52G-03BKC D/S WITH CRA30-300 AND CRL20-200 RANGE PER SPEC SECTION XX
7. 8" DIA FLANGED BUTTERFLY VALVE (CL 150) WITH HANDWHEEL AND POSITION INDICATOR
8. 8" DIA FLANGED DEEP WELL PUMP CONTROL VALVE, CLA-VAL MODEL 61-02
9. 4'X4' PRECAST DRAIN BOX WITH ALUMINUM GRATE AND FRAME
10. 8" DIA FLAGED RESILIENT WEDGE GATE VALVE WITH HANDWHEEL OPERATOR
11. SHALLOW WELL VERTICAL TURBINE PUMP AND FABRICATED STEEL DISCHARGE HEAD WITH 3/4 EXTRA HEAVY HALF COUPLING FOR PRE-LUBE PER PROJECT PER SPEC SECTION XX
12. 12" DIA FLANGED RATE OF FLOW CONTROL VALVE, CLA-VAL MODEL 40-01 OR APPROVED EQUAL
13. 12" DIA FLANGED PROPELLER METER PER SPEC SECTION XX
14. 12" DIA FLANGED GATE VALVE (CL 150) WITH HANDWHEEL AND POSITION INDICATOR
15. EXHAUST FAN PER DETAIL X ON SHEET M-XX
16. LOUVERD WALL VENT PER DETAIL X ON SHEET M-XX
17. 8' HIGH CMU BLOCK WALL, PER DETAIL X ON SHEET C-XX
18. 8'X6' CONCRETE TRANSFORMER PAD, PER DETAIL X ON SHEET C-XX
19. 10'X20' CONCRETE PAD FOR EMERGENCY GENERATOR, PER DETAIL X ON SHEET C-XX



SYMBOL

- POWER POLE
- SEWER MANHOLE
- STORM DRAIN MANHOLE
- FIRE HYDRANT
- WATER METER
- STREET LIGHT PULL BOX
- STREET LIGHT
- WATER VALVE
- SIGN
- (N) TREE
- CENTERLINE
- STORM DRAIN LINE
- SEWER LINE
- WATER LINE
- GAS LINE
- UNDERGROUND ELECTRICAL LINE
- OVERHEAD ELECTRICAL LINE
- UNDERGROUND COMMUNICATION
- PROPERTY LINE
- (E) 8' HIGH BLOCKWALL
- (N) 8' HIGH BLOCKWALL
- (N) ASPHALT PAVEMENT
- (N) CONCRETE

C-XXXX-X

FOR PRELIMINARY USE ONLY
NOT TO BE USED FOR CONSTRUCTION
DATE: MARCH 2025

mkn
16310 BAKE PARKWAY
IRVINE, CA 92618 (949) 637-3999

NO.	DATE	DESCRIPTION OF REVISIONS	APPR.

REVIEWED:
MICHAEL SINACORI, P.E.
ASSISTANT CITY ENGINEER
DATE: ____

DESIGNED: PA | DRAWN: OH | CHECKED: --- | DATE: 3/7/2025

NEWPORT BEACH PROPOSED WELLS
17911 BUSHARD ST FOUNTAIN VALLEY

CITY OF NEWPORT BEACH
PUBLIC WORKS DEPARTMENT

W-XXXX-X
SHEET 1 OF X

Appendix B

Noise Impact Study, Ganddini Group

BUSHARD STREET WATER WELL PROJECT NOISE IMPACT ANALYSIS

City of Fountain Valley

August 8, 2025

Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

BUSHARD STREET WATER WELL PROJECT NOISE IMPACT ANALYSIS

City of Fountain Valley

August 8, 2025

prepared by
Roma Stromberg, INCE, MS
Catherine Howe, MS

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Project No. 19786

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Proposed Project

The proposed project involves the drilling of two water wells: one to a depth of 300 feet and the other to a depth of 700 feet. The drilling will occur 24 hours per day for several weeks. Once complete, the two well heads will be contained in a 2,400 square foot structure. Maintenance workers will visit the site every few days, but no other activity is expected.

Existing Noise Environment

The proposed project is located in a built-out suburban area with single-family land uses to the north, south and east and Bushard Avenue and multiple family land uses to the west. Existing noise levels in the project vicinity range between 40.0 and 69.5 dBA L_{eq}. The dominant noise source in the project vicinity was vehicle traffic. Secondary noise sources included residential ambiance, pedestrians, bird song, and occasional aircraft overflight.

Construction Noise

Construction noise levels will range between range between 44 and 57 dBA L_{eq} at first floor levels of nearby residential properties and between 50 and 57 dBA L_{eq} at second story levels of nearby residential properties without the use of noise barriers during construction; therefore, noise levels at several of the affected receptors would exceed the City's nighttime standard of 50 dBA without the use of noise barriers during construction. The following noise reduction measure is recommended during construction to ensure the project does not exceed applicable nighttime noise standards:

> **Recommendation #1**
> Prior to commencement of well drilling, the project shall install temporary noise barriers with an STC rating of at least 20 dB around each well drill as illustrated on Figure 10 and Figure 12. The temporary noise barriers should measure 8 feet high along the south, east, and west sides and 12 feet high along the north side of the well drills, and shall remain in place through completion of all well drilling activity.

No mitigation measures would be required with implementation of Recommendation #1 into the project construction plans.

Operational Noise

Operational noise levels will range between range between 36 and 49 dBA L_{eq} at first floor levels of nearby residential properties and between 46 and 56 dBA L_{eq} at second story levels of nearby residential properties. The modeling that was conducted to arrive at these sound levels assumes installation of the eight-foot concrete wall shown as shown in on the proposed site plan; and installation of metal acoustical paneling on interior walls of the proposed building similar to what is provided inside of the building at 17399 Magnolia Street. Operational noise impacts would be less than significant and no mitigation is required.

Groundborne Vibration Impacts

The proposed well sites are no closer than 58 feet from the project site property line and groundborne vibration associated with well drilling is expected to be approximately 0.025 at that distance. Therefore, well drilling would not result in significant impacts related to groundborne vibration. No mitigation is required.

The most substantial sources of groundborne vibration during post-construction project operations will include the movement of passenger vehicles and trucks on paved and generally smooth surfaces. Loaded trucks generally have a VdB of 85.6 at a distance of 25 feet (Caltrans 2020), As stated previously, the nearest structure is 50 feet from the proposed alignment. Therefore, groundborne vibration levels generated by project operation would not exceed the City groundborne vibration standard for land uses of 85 VdB at a sensitive receptor. Groundborne vibration impacts would be less than significant and no mitigation is required.

Air Traffic

As the proposed well site is located approximately 5.6 miles northwest of the nearest airport (John Wayne Airport) and is not located within an airport noise contour. The project would not expose people residing or working in the project area to excessive noise levels associated with airports; impacts are less than significant and no mitigation is required.

1. INTRODUCTION

This section describes the purpose of this study and the proposed project.

PURPOSE AND OBJECTIVES

The purpose of this report is to provide an assessment of potential noise impacts associated with construction and operation of the proposed project and incorporate any needed noise reduction measures into the project design. The noise issues related to the proposed land use and development have been evaluated considering applicable Federal, State, and local policies, including those of the City of Fountain Valley.

Although this is a technical report, effort has been made to write the report clearly and concisely. A list of acronyms and a glossary are provided in Appendix A and Appendix B of this report to assist the reader with technical terms related to noise analysis.

PROJECT LOCATION

The project site is located at 17902 Bushard in the City of Fountain Valley, California. Existing single family residential land uses border the project site on the north, south and east; and Bushard Street borders project site on the west. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

The proposed project involves the drilling of two water wells: one to a depth of 300 feet and the other to a depth of 700 feet. The drilling will occur 24 hours per day for several weeks. Once complete, the two well heads will be contained in a 2,400 square foot structure. Maintenance workers will visit the site every few days, but no other activity is expected. The proposed site plan is provided in Figure 2.

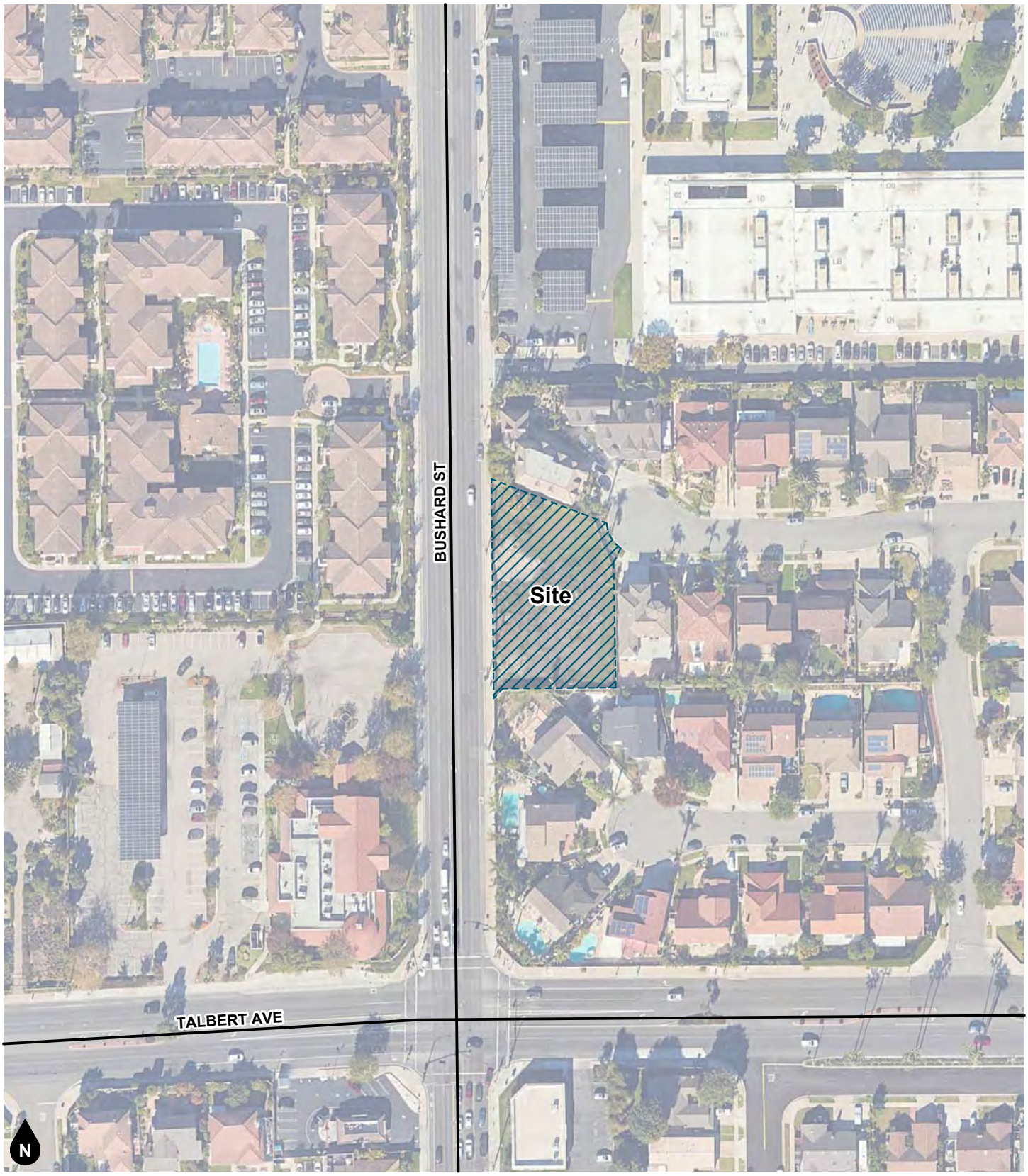


Figure 1
Project Location Map

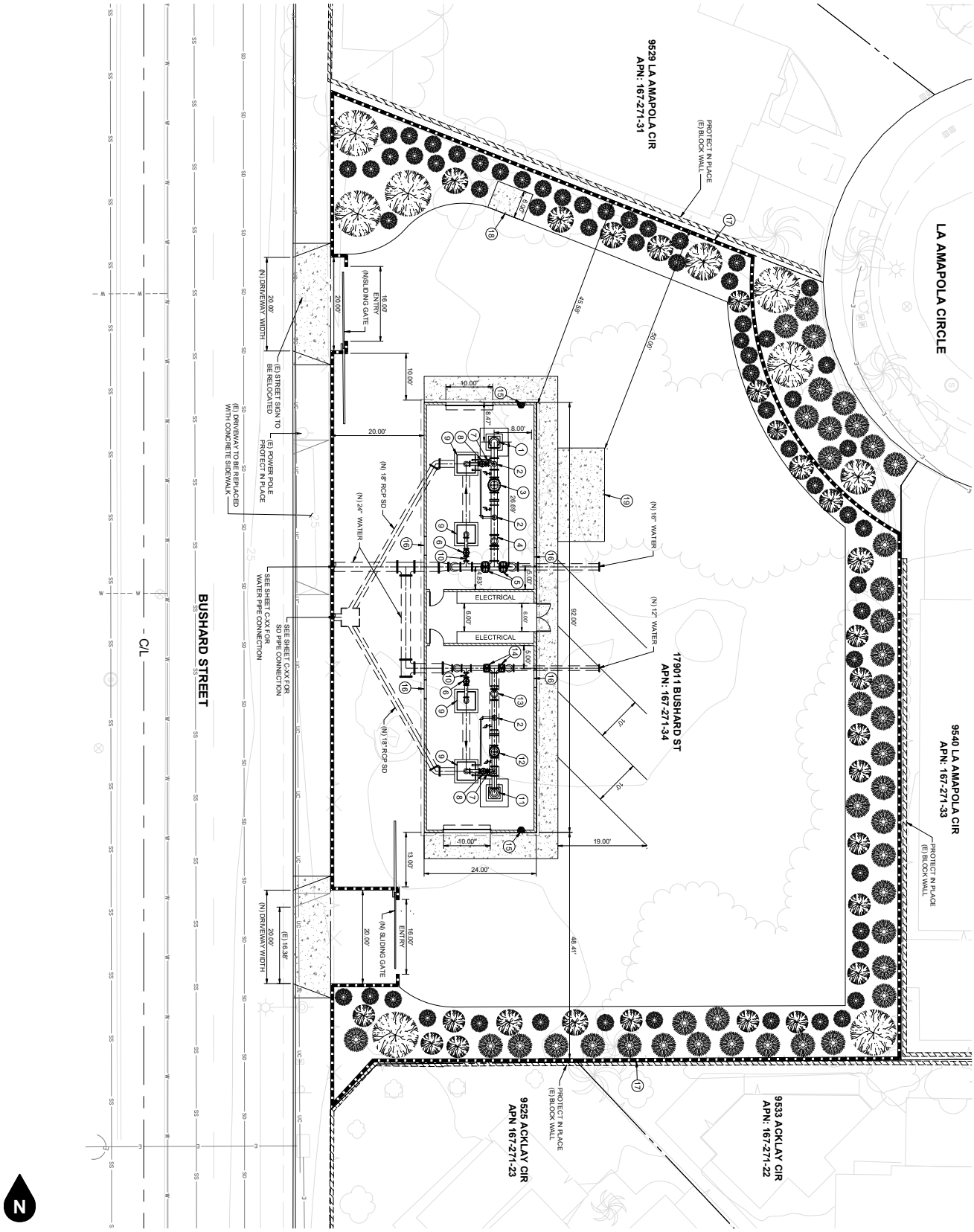


Figure 2
Site Plan

2. NOISE AND VIBRATION FUNDAMENTALS

This section provides an overview of key noise and vibration concepts.

NOISE FUNDAMENTALS

Sound is a pressure wave created by a moving or vibrating source that travels through an elastic medium such as air. Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in extreme circumstances, hearing impairment.

Commonly used noise terms are presented in Appendix B. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA.

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiates uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as a doubled traffic volume, would increase the noise levels by 3 dBA; halving of the energy would result in a 3 dBA decrease. Figure 3 shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, or the equivalent noise level for that period of time. For example, $L_{eq(3)}$ would represent a 3-hour average. When no period is specified, a one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (DNL). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. DNL is a very similar 24-hour average measure that weights only the nighttime hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud. This definition is recommended by the California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013).

VIBRATION FUNDAMENTALS

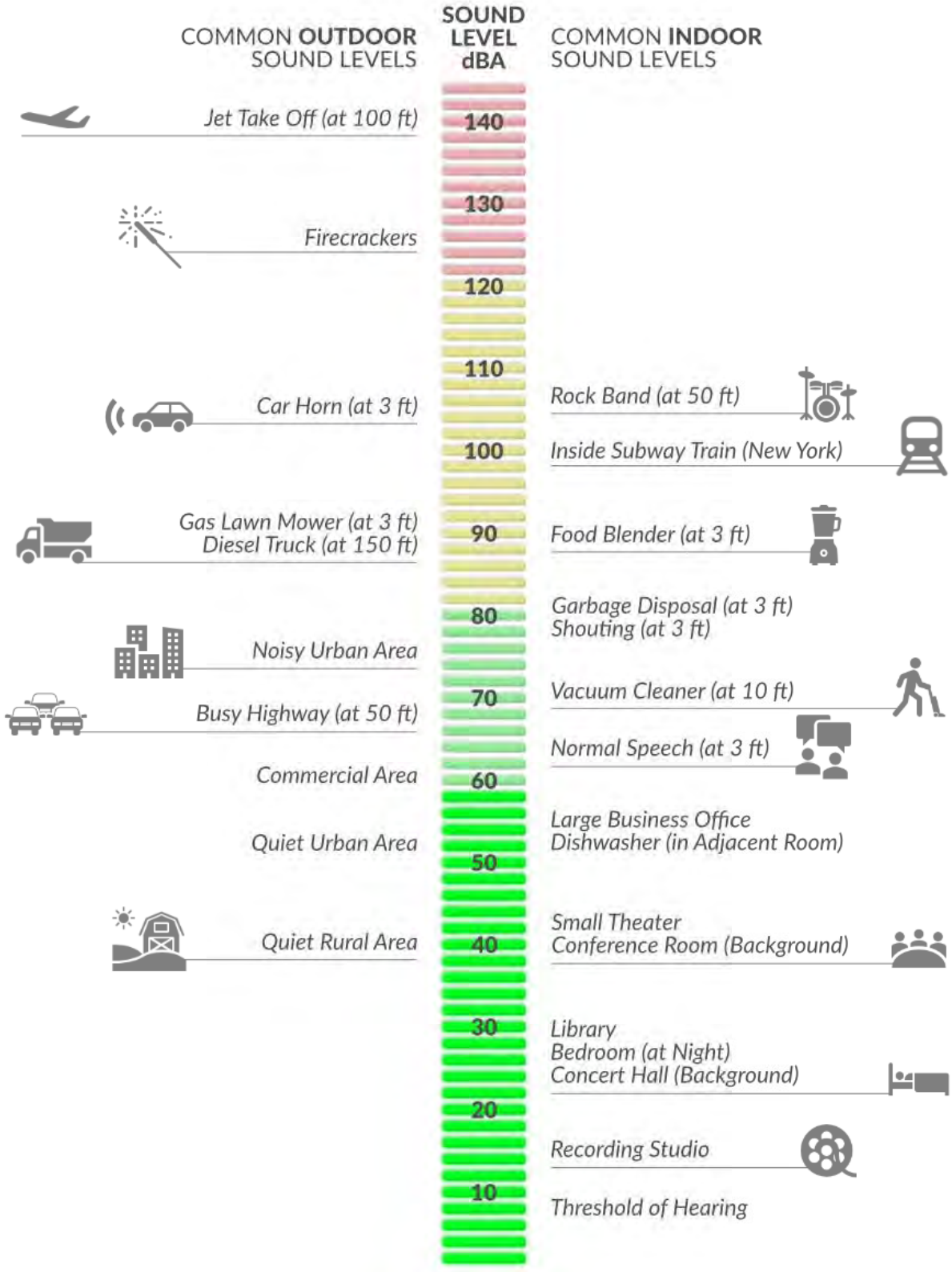
The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression and shear waves.

Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. Compression waves, or P-waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. Shear waves, or S-waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation".

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

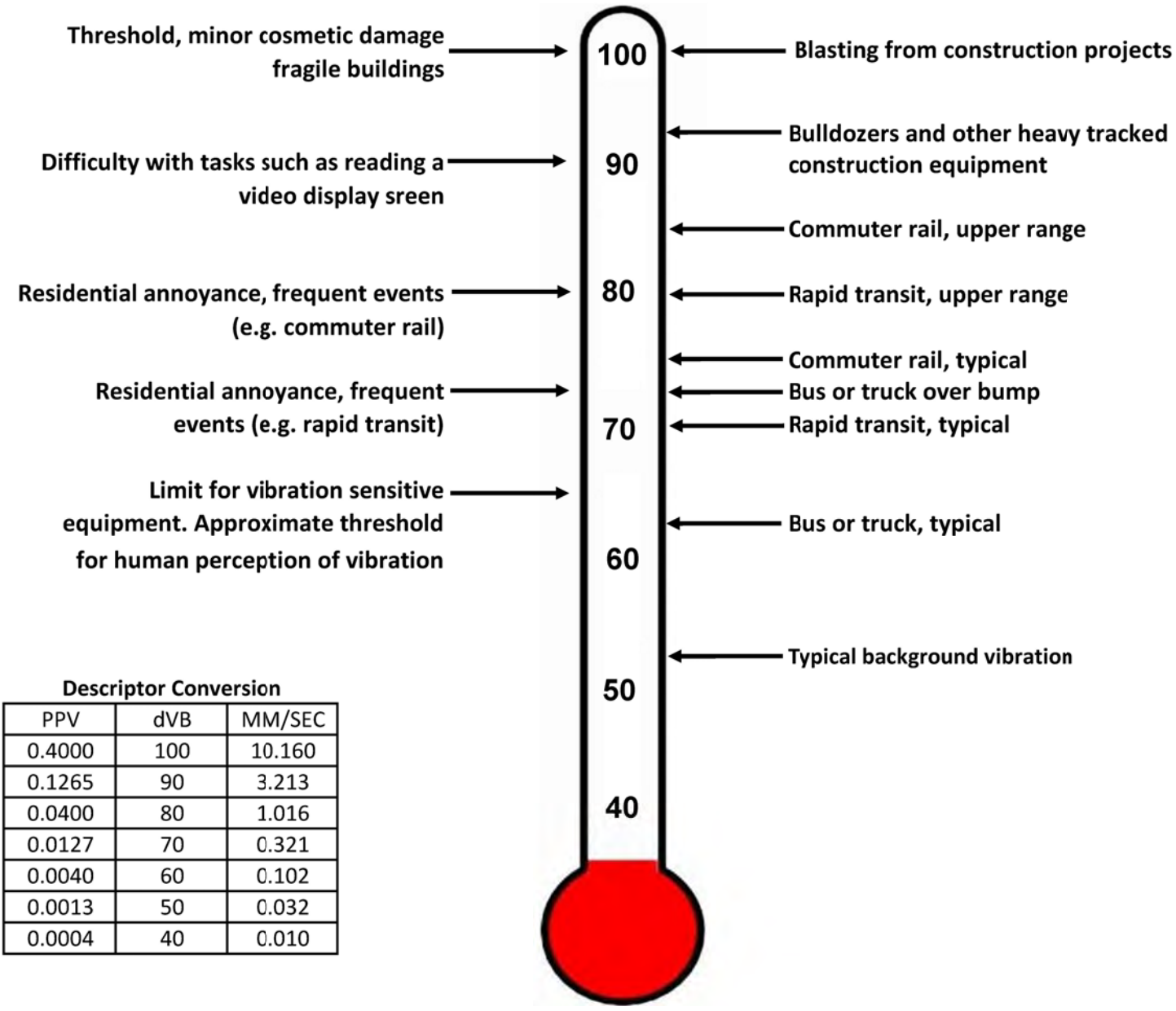
Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. The Federal Railroad Administration uses the abbreviation "VdB" for vibration decibels to reduce the potential for confusion with sound decibel.

PPV is appropriate for evaluating the potential of building damage. Decibel notation acts to compress the range of numbers required in measuring vibration. Similar to the noise descriptors, L_{eq} and L_{max} can be used to describe the average vibration and the maximum vibration level observed during a single vibration measurement interval. Figure 4 illustrates common vibration sources and the human and structural responses to ground-borne vibration.



Based on Policy & Guidance from Federal Aviation Administration

Figure 3
A-Weighted Comparative Sound Levels



Descriptor Conversion

PPV	dVB	MM/SEC
0.4000	100	10.160
0.1265	90	3.213
0.0400	80	1.016
0.0127	70	0.321
0.0040	60	0.102
0.0013	50	0.032
0.0004	40	0.010

Source: FRA, 2012. Federal Railroad Administration High-Speed Ground Transportation Noise and Vibration Impact Assessment. Office of Railroad Policy Development, Washington, D.C. DOT/FRA/ORD-12/15. September.

Figure 4
Typical Levels of Groundborne Vibration

3. EXISTING NOISE ENVIRONMENT

This section describes the existing noise setting in the project vicinity.

EXISTING LAND USES AND SENSITIVE RECEPTORS

The project site is bound by existing single family residential land uses on the north, south and east. Bushard Avenue borders the street to the west. There are multiple family residential units located west of Bushard Avenue. All of the above-mentioned residential land uses are considered to be sensitive receptors that may be affected by project generated noise.

AMBIENT NOISE MEASUREMENTS

An American National Standards Institute (ANSI Section SI.4 2014, Class 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels. In order to document existing ambient noise levels in the project area, one (1) long term (24-hours) and four (4) 15-minute daytime noise measurements were taken using a Type I Larson Davis Noise Meter. Figure 5 shows the noise measurement location map. Field worksheets and noise measurement worksheets are provided in Appendix C.

As shown on Figure 5, existing ambient noise measurements were taken at the following locations:

- LTNM1: represents the existing noise environment of the project site as well as the nighttime noise levels associated with STNMs 1-3, all single-family residences.
- STNM1: represents the existing noise environment of the residential uses in the vicinity of 9529 La Amapola Avenue adjacent to the project site to the north.
- STNM2: represents the existing noise environment of the residential uses located in the vicinity of 9525 Acklay Circle adjacent to the project site to the south.
- STNM3: represents the existing noise environment of the residential uses located in the vicinity of 9540 La Amapola Avenue, adjacent to the project site to the east.
- STNM4: represents the existing noise environment of the residential uses located in the vicinity of 17697 Bushard Street west of the project site and west of Bushard Avenue.

Table 1 provides a summary of the short-term ambient noise measurements which ranged between 55.1 and 69.5 dBA L_{eq}; and Table 2 provides a summary of the long-term ambient noise measurements which ranged between 40.0 and 63.4 dBA L_{eq}. The dominant noise source in the project vicinity was vehicle traffic. Secondary noise sources included residential ambiance, pedestrians, bird song, and occasional aircraft overflight.

Table 1
Short-Term Noise Measurement Summary (dBA)

Site Location	Time Started	Leq	Lmax	L(2)	L(8)	L(25)	L(50)
STNM1	2:18 PM	59.2	70.5	65.6	63.4	60.5	56.9
STNM2	2:41 PM	58.6	68.3	64.6	62.7	60.1	56.8
STNM3	3:06 PM	55.1	63.4	60.9	59.5	56.4	52.8
STNM4	3:39 PM	69.5	84.7	77.0	73.9	70.8	65.5

Notes:
(1) See Figure 5 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.
(2) Noise measurements performed on July 15-16, 2025.

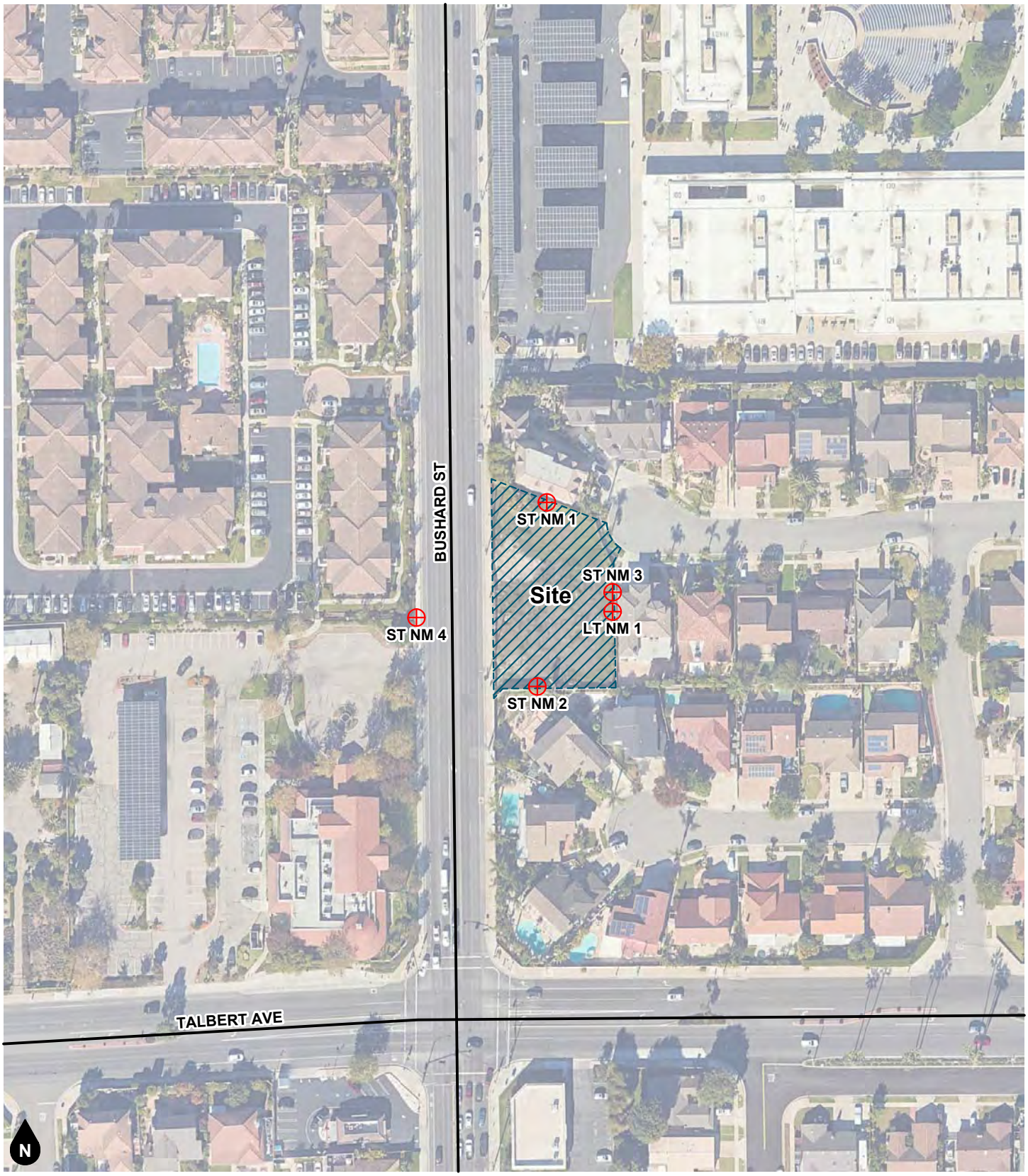
Table 2
Long-Term Noise Measurement Summary (LTNM1)

24-Hour Ambient Noise (dBA)[1,2]								
Hourly Measurements	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
Overall Summary	6:00 PM	56.4	91.5	28.4	61.1	58.0	54.2	49.9
1	6:00 PM	55.5	66.2	42.3	61.7	59.6	56.5	53.4
2	7:00 PM	55.6	69.5	41.7	62.5	59.9	56.3	52.8
3	8:00 PM	54.9	78.3	41.4	60.5	58.3	55.1	51.4
4	9:00 PM	52.9	71.5	38.2	60.4	57.0	52.8	48.2
5	10:00 PM	63.4	90.8	33.7	60.7	56.1	49.7	44.4
6	11:00 PM	48.3	70.8	31.6	56.4	52.9	46.5	41.9
7	12:00 AM	45.1	65.1	32.7	55.0	49.6	41.3	37.9
8	1:00 AM	44.0	67.4	29.0	53.3	45.9	38.3	35.3
9	2:00 AM	40.0	58.5	29.4	50.5	41.8	36.7	34.3
10	3:00 AM	41.8	60.4	28.4	52.0	44.3	37.4	34.8
11	4:00 AM	45.0	61.6	31.3	55.1	50.1	41.2	37.6
12	5:00 AM	49.4	65.3	35.4	58.1	54.5	48.2	43.3
13	6:00 AM	52.3	70.5	37.8	59.9	56.8	52.6	47.1
14	7:00 AM	53.9	80.9	38.7	59.1	57.2	53.9	49.8
15	8:00 AM	57.3	73.3	39.6	67.4	60.4	55.8	52.7
16	9:00 AM	59.1	81.6	39.7	68.2	59.4	55.8	52.4
17	10:00 AM	61.5	91.5	41.8	61.5	58.5	55.3	52.5
18	11:00 AM	58.5	86.6	41.4	59.8	57.7	55.3	52.8
19	12:00 PM	54.1	68.9	42.9	59.6	57.6	54.9	52.4
20	1:00 PM	60.2	90.2	43.4	60.4	58.0	55.3	52.6
21	2:00 PM	54.5	69.1	42.7	60.5	58.4	55.5	52.6
22	3:00 PM	55.5	72.3	44.4	61.8	59.2	56.2	53.4
23	4:00 PM	56.5	76.6	45.4	61.9	60.0	57.1	54.0
24	5:00 PM	56.8	70.9	46.4	62.4	60.6	57.7	54.6
CNEL	63.5							

Notes:

(1) See Figure 5 for noise measurement locations. Noise measurement was performed over a 24-hour duration.

(2) Noise measurement performed from December 5, 2023 to December 6, 2023.



Legend

NM 1 Noise Measurement Location

ST NM Short-Term Noise Measurement

LT NM Long-Term Noise Measurement

Figure 5
Noise Measurement Location Map

4. REGULATORY SETTING

This section documents the regulatory framework and applicable noise standards.

CITY OF FOUNTAIN VALLEY GENERAL PLAN

Goal PFS-5 Protect public health and welfare by eliminating existing noise problems and preventing significant degradation of the acoustic environment.

Policy PFS-5.1 Land use compatibility. Approve development and require mitigation measures to ensure existing and future land use compatibility as shown in the City's Noise Control Ordinance and state interior and exterior noise standards.

Policy PFS-5.3 New nonresidential. When new nonresidential development is proposed adjacent to land designated for residential uses, require the developer to assess the potential noise impacts and fund feasible noise-related mitigation measures.

CITY OF FOUNTAIN VALLEY MUNICIPAL ORDINANCE

Construction Noise

Section 6.28.070 Special Provisions
Noise sources associated with the construction, repair, remodeling or grading of any real property, provided said activities take place between the hours of seven a.m. and eight p.m. Monday through Friday, nine a.m. through eight p.m. on Saturday and at no time on Sunday or any legal holiday are exempt from the noise standards presented in Sections 6.28.050 and 6.28.060. For purposes of this exception the use of saws, buffers, sanders, drills, and sprayers shall be included, as shall similar activity. Nighttime well drilling will be subject to the noise standards presented below in Sections 6.28.050 and 6.28.060. Specifically, drill noise will be considered significant if it exceeds an exterior noise level of 55 dBA L_{eq} at the adjacent residential properties of if it is expected to exceed 45 dBA L_{eq} inside any nearby residences.

Operational Noise

Section 6.28.050. Exterior noise standards.
(a) The following noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

Noise Zone	Noise Level (dBA)	Time Period
1	55	7:00 AM – 10:00 PM
	50	10:00 PM – 7:00 AM

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by 5 dB(A).

(b) It is unlawful for any person at any location within the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other residential property, either incorporated or unincorporated, to exceed:

(1) The noise standard for a cumulative period of more than thirty minutes in any hour; or

(2) The noise standard plus five dB(A) for a cumulative period of more than fifteen minutes in any hour; or
(3) The noise standard plus ten dB(A) for a cumulative period of more than five minutes in any hour; or
(4) The noise standard plus fifteen dB(A) for a cumulative period of more than one minute in any hour; or
(5) The noise standard plus twenty dB(A) for any period of time.

(c) In the event the ambient noise level exceeds any of the first four noise limit categories set forth in subsection (b) of this section, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

For noise sources that are generally constant or otherwise last for several hours, i.e. HVAC, fans, and pumps, it is industry practice to evaluate noise impacts in light of the 30-minute L_{eq} as it is the most conservative.

6.28.060. Interior noise standards.

(a) The following interior noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

Noise Zone	Noise Level (dBA)	Time Period
1	55	7:00 AM – 10:00 PM
	45	10:00 PM – 7:00 AM

In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five dB(A).

(b) It is unlawful for any person at any location within the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, when the foregoing causes the noise level when measured within any other dwelling unit on any residential property, either incorporated or unincorporated, to exceed:

(1) The interior noise standard for a cumulative period of more than five minutes in any hour; or
(2) The interior noise standard plus five dB(A) for a cumulative period of more than one minute in any hour; or
(3) The interior noise standard plus ten dB(A) for any period of time.

(c) In the event the ambient noise level exceeds either of the first two noise limit categories set forth in subsection (b) of this section, the cumulative period applicable to said category shall be increased to reflect said ambient noise level. In the event the ambient noise level exceeds the third noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

FEDERAL TRANSIT ADMINISTRATION

The Federal Transit Administration (FTA) has published reasonable criteria for assessing construction and groundborne vibration impacts (FTA 2018) that is appropriate to supplement lead agency criteria or to use as the primary criteria when appropriate. FTA construction noise criteria is presented in

The FTA construction noise criteria is based on the potential for adverse community reaction. As shown in Table 3, the daytime noise threshold for residential land uses is 80 dBA L_{eq} averaged over an 8-hour period ($L_{eq\ (8\text{-}hr)}$; and the nighttime noise threshold is 70 dBA $L_{eq\ (8\text{-}hr)}$.

The FTA has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities. As shown in Table 4, the threshold at which there is a risk to "architectural" damage to non-engineered timber and masonry buildings is a peak particle velocity (PPV) of 0.2 inches/second at engineered concrete and masonry buildings a PPV of 0.3, and at reinforced-concrete, steel, or timber buildings a PPV of 0.5 inches/second.

Table 3
FTA Construction Noise Criteria

Land Use	Leq equipment (8 hour), dBA	
	Day	Night
Residential	80	70
Commercial	85	85
Industrial	90	90

Source: Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual (September 2018).

Table 4
FTA Construction Vibration Damage Criteria

Building/Structural Category	PPV, in/sec	Approximate L_v[1]
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremelly susceptible to vibration damage	0.1	90

Source: Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual (September 2018).
(1) RMS velocity in decibels, VdB re 1 micro-in/sec.

5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

This section discusses the analysis methodologies used to assess noise impacts.

WELL DRILLING NOISE MODELING

The project will require the drilling of two water wells: one to a depth of 300 feet and the other to a depth of 700 feet. The drilling will occur 24 hours per day for several weeks. The wells will be drilled consecutively, not concurrently. The SoundPLAN model was used to model well drilling at nearby sensitive receptors. A noise reference level of 84 dB at a distance of 50 feet was used to represent the drill rig. SoundPLAN input and output is provided in Appendix D.

WELL OPERATION NOISE MODELING

Noise levels associated with a worst-case scenario were estimated at the property line of the project site using the SoundPLAN noise model. The intention of the modeling effort was to determine how much noise reduction is necessary i.e., mufflers, concrete walls, acoustical paneling, etc. would be required in order to ensure that well noise will not violate applicable City standards.

As stated in the project description, drilling will occur 24 hours a day for several weeks; and the wells will be drilled consecutively, not concurrently. A noise measurement was conducted at a similar facility with the same size pump and was used for modeling purposes (86.6 dB at 3 feet). Noise measurements were also taken outside of the pump house to evaluate how typical building methods work together to attenuate noise associated with the pump One noise measurement was taken outside of each side of the pump house. And although concrete masonry walls are expected to provide approximately 40 dB of sound reduction, there were elements in the wall assemblies that lowered this number as was apparent during noise measurements. For example, the northern wall which was approximately ten-feet from the pump included a closed double door but a few inches of daylight entering from the bottom of the door was noticed. The northern wall had no other readily noticeable openings. It is estimated that the northern wall provides a sound reduction of 18 dB. The western wall had large circulation fans and provided sound reduction of approximately 14 dB; and the eastern wall, which had louvered vents provided a noise reduction of 21 dB. Since only the northern pump was in operation, the sound reduction of the southern wall is irrelevant. The estimated sound reductions calculated for the representative well house were applied to the proposed well house as appropriate in the SoundPLAN noise model. The proposed SoundPLAN input and output is provided in Appendix D.

GROUNDBORNE VIBRATION MODELING

Per the FTA *Transit Noise and Vibration Impact Assessment Manual* (2018) drilling has a vibration impact of 0.089 inches per second peak particle velocity (PPV) at 25 feet which is perceptible but below any risk to architectural damage.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{equipment} = PPV_{ref} (25/D_{rec})^{n}$$

Where: PPV_{ref} = reference PPV at 25ft
D_{rec} = distance from equipment to receiver in ft
n = 1.5 (the value related to the attenuation rate through ground)

6. NOISE AND VIBRATION IMPACTS

This section analyzes the significance of project-related noise and groundborne vibration impacts relative to standards established by the City of Fountain Valley and other applicable agencies in the context of CEQA. Appendix G of the California Environmental Quality Act Guidelines (Title 14, Division 6, Chapter 3 of the California Code of Regulations) includes an environmental checklist that identifies issues upon which findings of significance should be made.

NOISE IMPACTS

Would the project result in:

a) *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Construction Noise

Finding: Less Than Significant (With Recommendation #1)

As shown on Figure 6 through Figure 9, construction noise levels will range between range between 44 and 57 dBA L_{eq} at first floor levels of nearby residential properties and between 50 and 57 dBA L_{eq} at second story levels of nearby residential properties; therefore, noise levels at several of the affected receptors would exceed the City's nighttime standard of 50 dBA without the use of noise barriers during construction. The following noise reduction measure is recommended during construction to ensure the project does not exceed applicable nighttime noise standards:

> **Recommendation #1**
> Prior to commencement of well drilling, the project shall install temporary noise barriers with an STC rating of at least 20 dB around each well drill as illustrated on Figure 10 and Figure 12. The temporary noise barriers should measure 8 feet high along the south, east, and west sides and 12 feet high along the north side of the well drills, and shall remain in place through completion of all well drilling activity.

Newer residential structures provide approximately 20 dB of exterior to interior noise reduction. Therefore, unmitigated interior noise levels will range between 22 and 37 dBA Leq and will not exceed the City's interior noise standard of 45 dBA L_{eq}.

No mitigation measures would be required with implementation of Recommendation #1 into the project construction plans.

Operational Noise

Finding: Less Than Significant

As shown on Figure 14, operational noise levels will range between range between 36 and 49 dBA L_{eq} at first floor levels of nearby residential properties and between 46 and 56 dBA L_{eq} at second story levels of nearby residential properties. the project site property lines shared with existing single family land uses, The modeling that was conducted to arrive at these sound levels assumes installation of the eight-foot concrete wall shown as shown in Figure 2; and installation of metal acoustical paneling on interior walls of the proposed building similar to what is provided inside of the building at 17399 Magnolia Street. Representative noise data and

photos showing the existing metal acoustical paneling are provided in Appendix C. Impacts would be less than significant and no mitigation is required.

As stated above, newer residential structures provide approximately 20 dB of exterior to interior noise reduction. Therefore, unmitigated interior noise levels during project operation will range between 16 and 29 dBA L_{eq} at first floor receptors; and between 26 and 36 dBA L_{eq} at second floor receptors; and will not exceed the City's interior noise standard of 45 dBA L_{eq}. No mitigation is required.

GROUNDBORNE VIBRATION IMPACTS

Would the project result in:

b) Generation of excessive groundborne vibration or groundborne noise levels?

Finding: Less Than Significant

In relation to the Environmental Checklist noise issue "b", the City of Fountain Valley has not adopted numerical criteria for groundborne vibration impacts. Therefore, in the absence of City-established thresholds, groundborne vibration impacts are based on guidance from the *Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual* (FTA, September 2018) (see Regulatory Setting section). Accordingly, the project may result in a significant impact if it causes groundborne vibration to exceed 0.2 PPV inches/second at nearby offsite structures.

Construction-Related Vibration Impacts

Proposed well sites are no closer than 58 feet from the project site property line and groundborne vibration associated with well drilling is expected to be approximately 0.025 at that distance. Therefore, well drilling would not result in significant impacts related to groundborne vibration. No mitigation is required.

Operation-Related Vibration Impacts

The most substantial sources of groundborne vibration during post-construction project operations will include the movement of passenger vehicles and trucks on paved and generally smooth surfaces. Loaded trucks generally have a VdB of 85.6 at a distance of 25 feet (Caltrans 2020), As stated previously, the nearest structure is 50 feet from the proposed alignment. Therefore, groundborne vibration levels generated by project operation would not exceed the City groundborne vibration standard for land uses of 85 VdB at a sensitive receptor. This impact would not be significant. No mitigation is required.

AIR TRAFFIC IMPACTS

Would the project result in:

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?

Finding: No Impact

As the proposed well site is located approximately 5.6 miles northwest of the nearest airport (John Wayne Airport) and is not located within an airport noise contour. The project would not expose people residing or working in the project area to excessive noise levels associated with airports; impacts are less than significant and no mitigation is required.

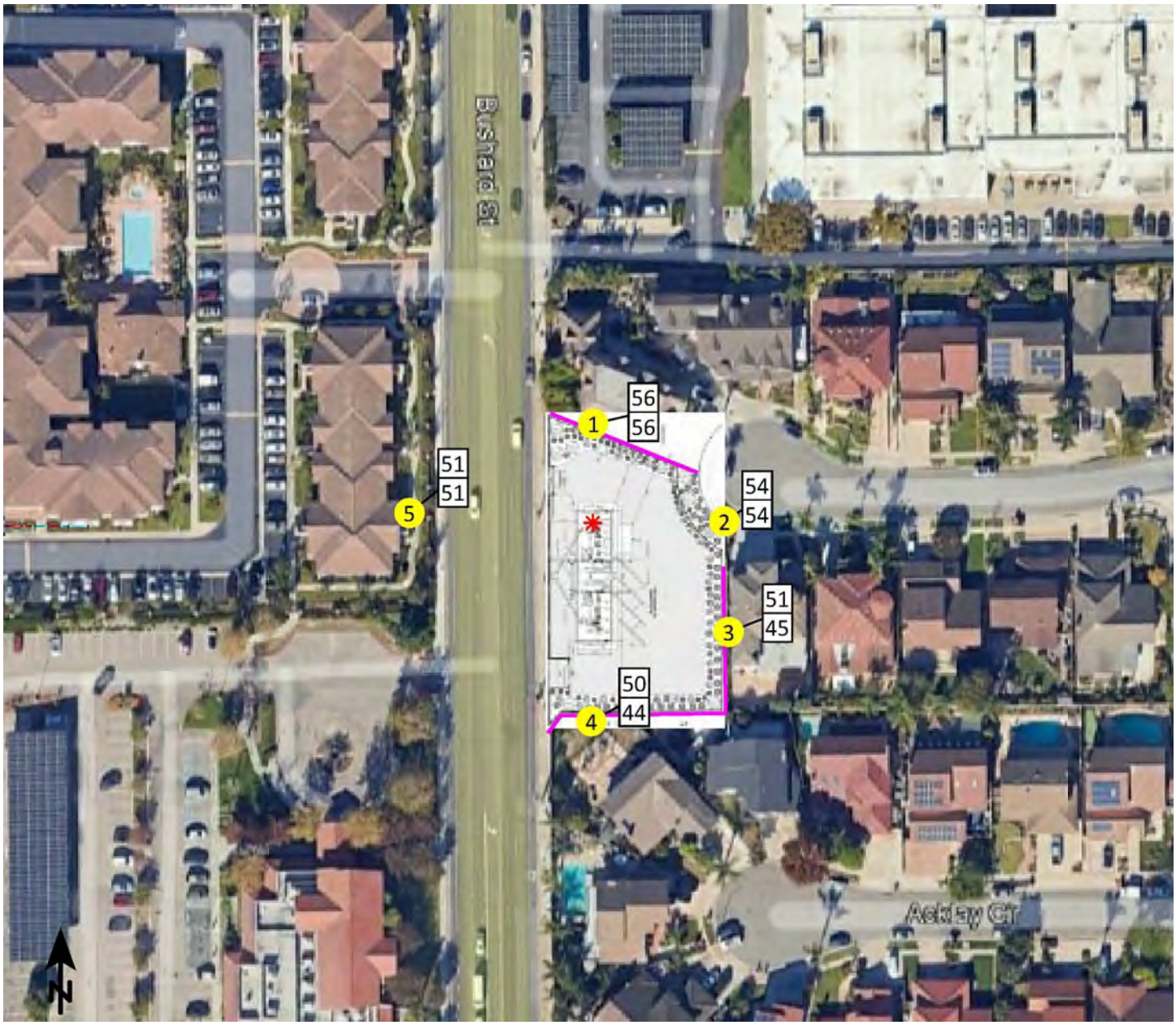


Figure 6
Construction Noise Levels – North Well

Figure 7
Construction Noise Level Contours – North Well

Figure 8
Construction Noise Levels – South Well

Figure 9
Construction Noise Level Contours – South Well

Signs and symbols

- Concrete Walls
  Existing Perimeter = 6 ft
- Temporary Construction Noise Barrrier
  8 feet on the South, East, and West
  and 12 feet on the North
- Receiver
- Well Drill
- Noise Level Tables (dBA, Leq)
  1st Fl/2nd Fl

3	59	52
2	58	51
1	57	50

Figure 10
Construction Noise Levels With Recommendations - North Well

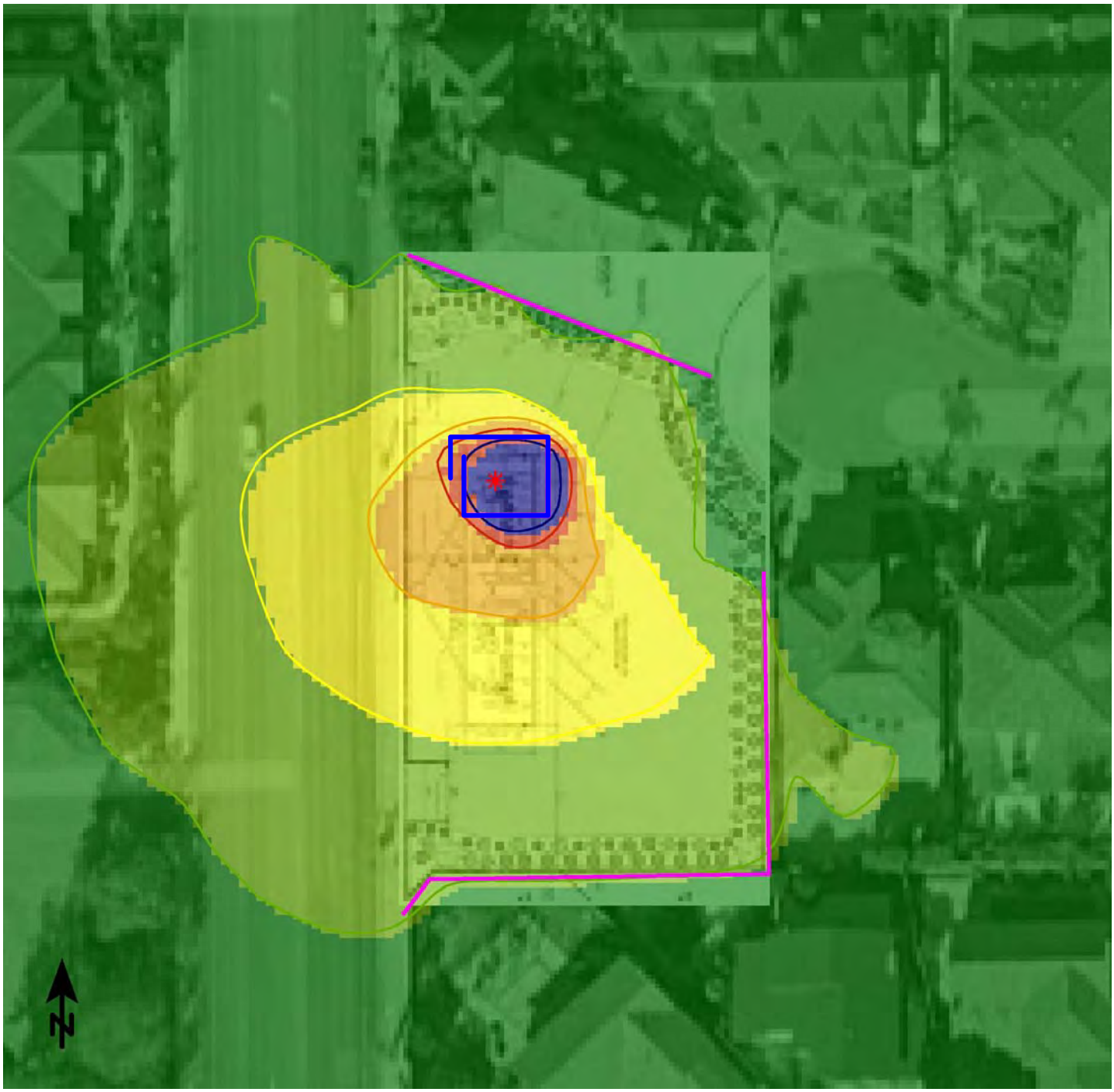


Figure 11
Construction Noise Level Contours With Recommendations - North Well

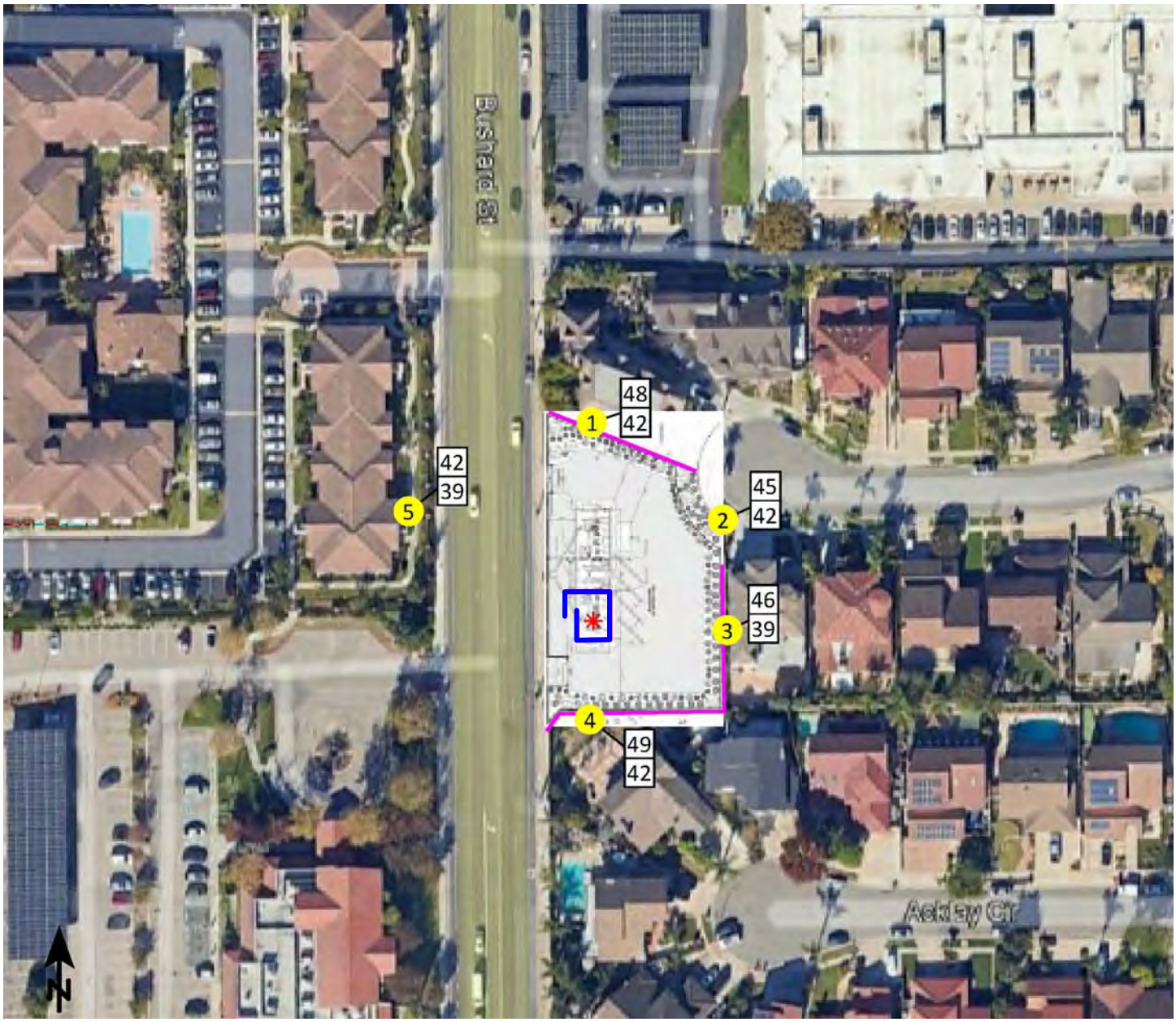


Figure 12
Construction Noise Levels With Recommendations - South Well

Figure 13
Construction Noise Level Contours With Recommendations - South Well

Figure 14
Operational Noise Levels - Both Wells

7. REFERENCES

California, State of, Department of Transportation (Caltrans)
2020 Transportation and Construction Vibration Guidance Manual. April.

Federal Transit Administration (FTA)
2018 Transit Noise and Vibration Impact Assessment. Typical Construction Equipment Vibration Emissions.

Federal Highway Administration (FHWA)
2006 Roadway Construction Noise Model User's Guide January.

Fountain Valley, City of
2021 General Plan (PlanRC). December.
Municipal Code (Updated through April 2, 2025)

APPENDICES

Appendix A List of Acronyms
Appendix B Glossary
Appendix C Noise Measurement Field Worksheets
Appendix D Soundplan Construction Noise Modeling

APPENDIX A

LIST OF ACRONYMS

Term	Definition
ADT	Average Daily Traffic
ANSI	American National Standard Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
D/E/N	Day / Evening / Night
dB	Decibel
dBA or dB(A)	Decibel "A-Weighted"
dBA/DD	Decibel per Double Distance
dBA L_{eq}	Average Noise Level over a Period of Time
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
L_{02},L_{08},L_{50},L_{90}	A-weighted Noise Levels at 2 percent, 8 percent, 50 percent, and 90 percent, respectively, of the time period
DNL	Day-Night Average Noise Level
$L_{eq(x)}$	Equivalent Noise Level for '"x" period of time
L_{eq}	Equivalent Noise Level
L_{max}	Maximum Level of Noise (measured using a sound level meter)
L_{min}	Minimum Level of Noise (measured using a sound level meter)
LOS C	Level of Service C
OPR	California Governor's Office of Planning and Research
PPV	Peak Particle Velocities
RCNM	Road Construction Noise Model
REMEL	Reference Energy Mean Emission Level
RMS	Root Mean Square

APPENDIX B

GLOSSARY

Term	Definition
Ambient Noise Level	The all-encompassing noise environment associated with a given environment, at a specified time, usually a composite of sound from many sources, at many directions, near and far, in which usually no particular sound is dominant.
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear.
CNEL	Community Noise Equivalent Level. CNEL is a weighted 24-hour noise level that is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours.
Decibel, dB	A logarithmic unit of noise level measurement that relates the energy of a noise source to that of a constant reference level; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
DNL, Ldn	Day Night Level. The DNL, or Ldn is a weighted 24-hour noise level that is obtained by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the nighttime hours.
Equivalent Continuous Noise Level, L_{eq}	A level of steady state sound that in a stated time period, and a stated location, has the same A-weighted sound energy as the time-varying sound.
Fast/Slow Meter Response	The fast and slow meter responses are different settings on a sound level meter. The fast response setting takes a measurement every 100 milliseconds, while a slow setting takes one every second.
Frequency, Hertz	In a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., the number of cycles per second).
L_{02}, L_{08}, L_{50}, L_{90}	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level, 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
L_{max}, L_{min}	Lmax is the RMS (root mean squared) maximum level of a noise source or environment measured on a sound level meter, during a designated time interval, using fast meter response. Lmin is the minimum level.
Offensive/ Offending/Intrusive Noise	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of sound depends on its amplitude, duration, frequency, and time of occurrence, and tonal information content as well as the prevailing ambient noise level.
Root Mean Square (RMS)	A measure of the magnitude of a varying noise source quantity. The name derives from the calculation of the square root of the mean of the squares of the values. It can be calculated from either a series of lone values or a continuous varying function.

APPENDIX C

NOISE MEASUREMENT FIELD WORKSHEETS

Noise Measurement
Field Data

Project Name: Representative Water Well, 17399 Magnolia Street Project, Fountain Valley **Date:** July 21, 2025

Project #: 19786

Noise Measurement #: STNM Interior Run Time 15 minutes **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 17399 Magnolia Street, Fountain Valley, CA 92708

Site Description (Type of Existing Land Use and any other notable features): Project Site: Inside water well pump house, about 3' from main noise , N active water pump. Adjacent: Active internal air extractor fans on W wall of pump house. Machinery control room in middle of pumphouse. S water pump OOC (inactive).

Weather: Marine layer burn off to full sun. Sunset: 8:01 PM **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 8 mph **Humidity:** 60% **Terrain:** Flat

Start Time: 1:44 PM **End Time:** 1:59 PM **Run Time:**

Leq:	86.6	dB	**Primary Noise Source:** N active water pump 3 to 4' from microphone
Lmax	88.5	dB	
L2	87.8	dB	**Secondary Noise Sources:** Internal air extractor fan on W wall, about 12' from microphone. Noise from
L8	87.5	dB	machinery control room through door at S end of room.
L25	86.9	dB	
L50	86.4	dB	

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	7/31/2024	**FACTORY CALIBRATION DATE:**	7/10/2024
FIELD CALIBRATION DATE:	7/21/2025		

PHOTOS:

STNM interior looking SW, active water pump on the right, active interior air extractor fan on the left (on western wall).

STNM interior looking S from northern water pump towards control room (through open door in southern wall). Pump continually in operation. Air extractor fan on western wall also on, making significant noise.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.616.s	Computer's File Name	LxT_0003099-20250721 134401-LxT_Data.616.ldb
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	33°42'36.16"N 117°58'26.44"W
Job Description	Main Interior Noise Source: 15 minute noise measurement		
Note	Ganddini Project# 19786 Representative Water Well 17399 Magnolia St, Fountain Valley.		
Start Time	2025-07-21 13:44:01	Duration	0:15:00.0
End Time	2025-07-21 13:59:01	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	86.6 dB		
LAE	116.1 dB	SEA	--- dB
EA	45.7 mPa²h	LAFTM5	87.2 dB
EA8	1.5 Pa²h		
EA40	7.3 Pa²h		
LA_{peak}	99.2 dB	2025-07-21 13:53:25	
LAS_{max}	88.5 dB	2025-07-21 13:57:15	
LAS_{min}	84.8 dB	2025-07-21 13:54:50	
LA_{eq}	86.6 dB		
LC_{eq}	87.2 dB	LC_{eq} - LA_{eq}	0.6 dB
LAI_{eq}	86.8 dB	LAI_{eq} - LA_{eq}	0.2 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	1	0:14:59.9
LAS > 85.0 dB	1	0:14:59.9
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	86.6 dB		87.2 dB		--- dB	
$L_{S(max)}$	88.5 dB	2025-07-21 13:57:15	--- dB		--- dB	
$L_{S(min)}$	84.8 dB	2025-07-21 13:54:50	--- dB		--- dB	
$L_{Peak(max)}$	99.2 dB	2025-07-21 13:53:25	--- dB		--- dB	

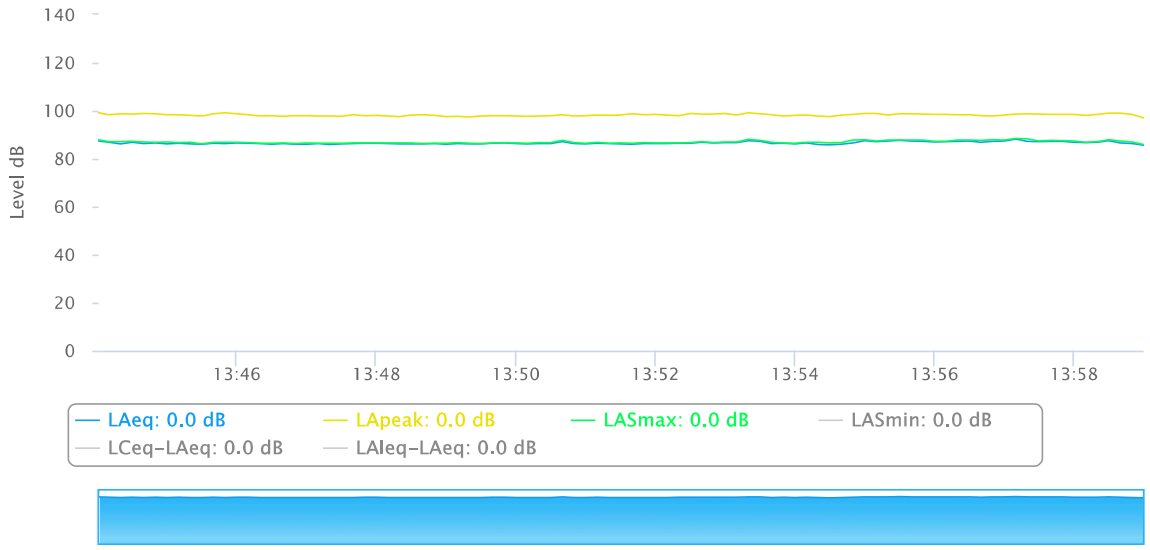
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

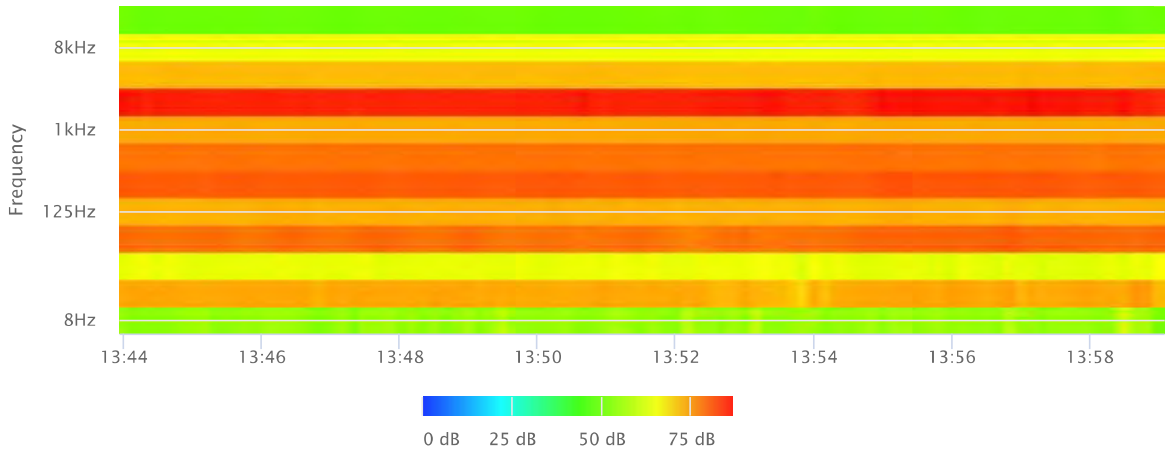
Statistics

LAS 2.0	87.8 dB
LAS 8.0	87.5 dB
LAS 25.0	86.9 dB
LAS 50.0	86.4 dB
LAS 66.6	86.3 dB
LAS 90.0	86.0 dB

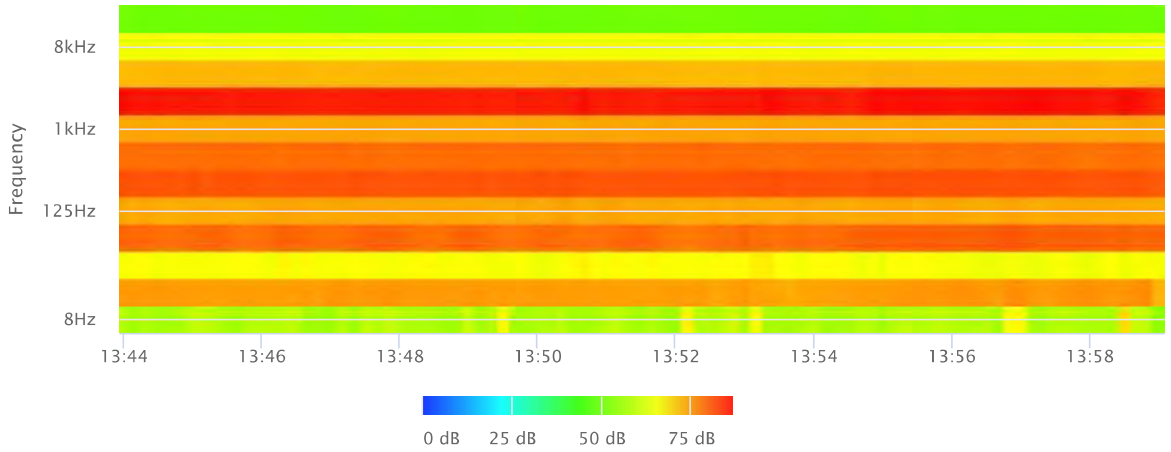
Time History



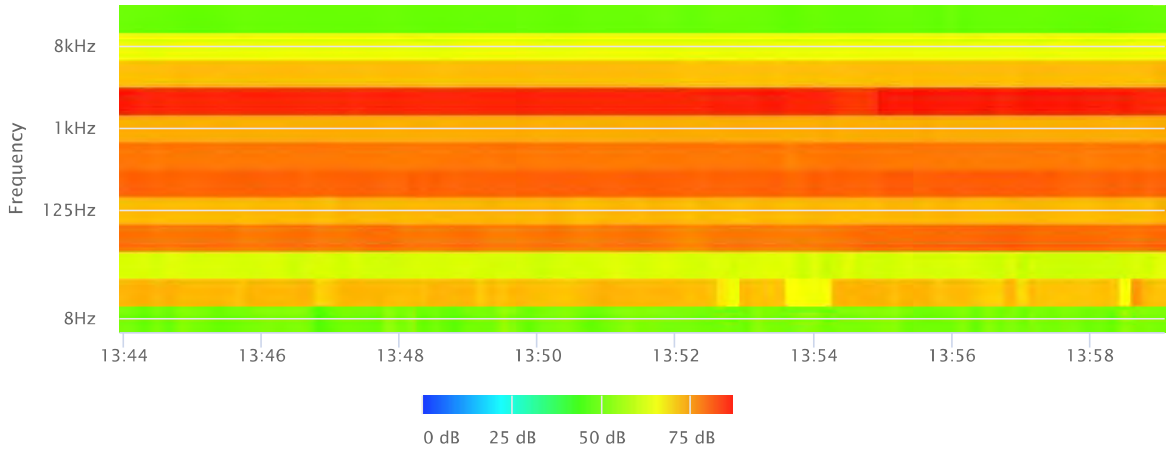
OBA 1/1 Leq



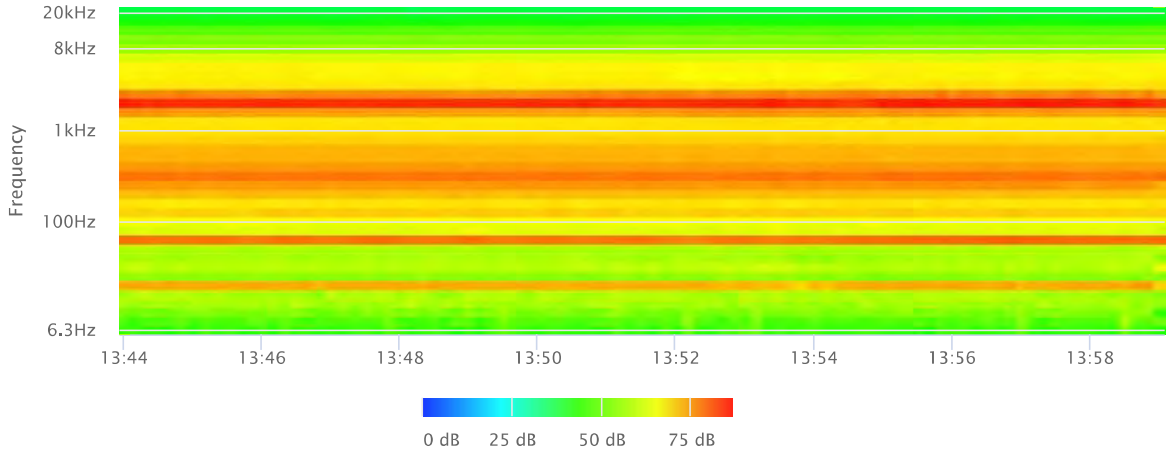
OBA 1/1 Lmax



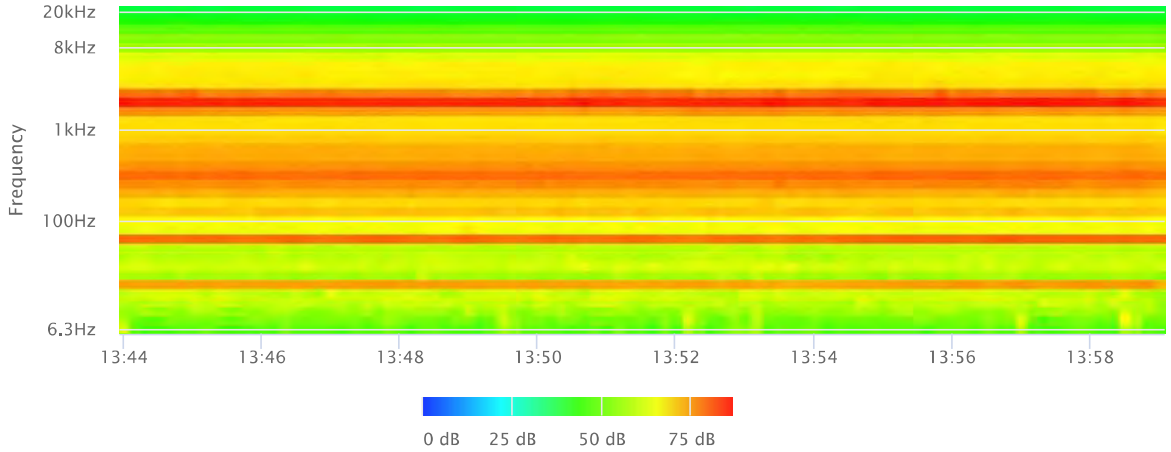
OBA 1/1 Lmin



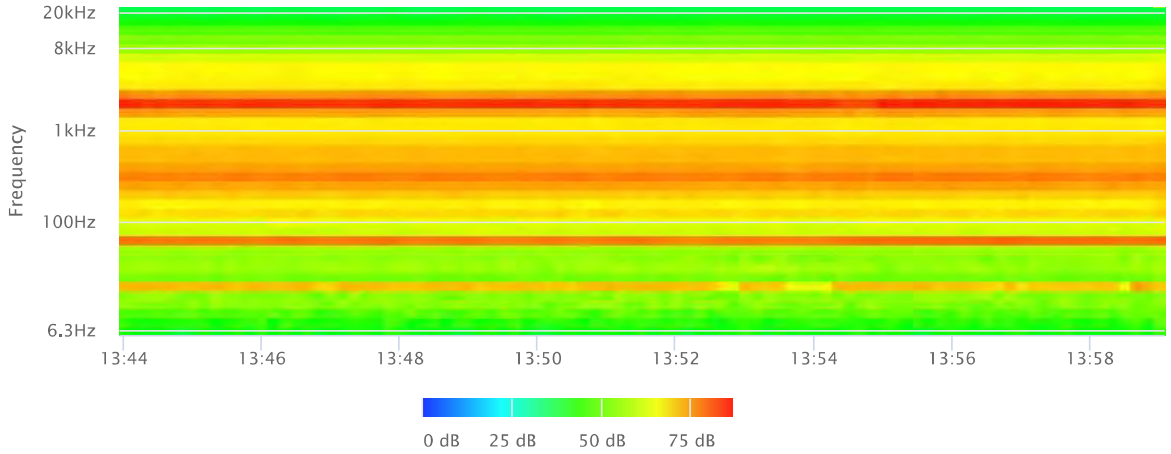
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
13:44
13:46
13:48
13:50
13:52
13:54
13:56
13:58
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Representative Water Well, 17399 Magnolia Street Project, Fountain Valley **Date:** July 21, 2025

Project #: 19786

Noise Measurement #: RNM1 Run Time 15 minutes **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 17399 Magnolia Street, Fountain Valley, CA 92708

Site Description (Type of Existing Land Use and any other notable features): Project Site: About 50' E from E wall of water well pump house, in asphalt covered parking lot. Adjacent Active preschool 260' ENE, church 200' ESE, elementary school 380' NW of RNM1 location. Magnolia St, N-S, 570' E & Slater Ave, E-W, 500' S.

Weather: Marine layer burn off to full sun. Sunset: 8:01 PM **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 8 mph **Humidity:** 60% **Terrain:** Flat

Start Time: 11:40 AM **End Time:** 11:55 AM **Run Time:**

Leq:	52.4	dB
Lmax	64.8	dB
L2	59.0	dB
L8	54.1	dB
L25	52.1	dB
L50	51.1	dB

Primary Noise Source: Noise from pump house, internal air extractor fans on W wall of punp house active, N waterpunp active, S waterpump removed (temporarily OOC).

Secondary Noise Sources: Noise from children attending preschool, Some residential ambiance. Distant traffic ambiance from Magnolia St, Slater Ave & traffic on other roads, Air traffic.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	7/31/2024	**FACTORY CALIBRATION DATE:**	7/10/2024
FIELD CALIBRATION DATE:	7/21/2025		

ganddini

Noise Measurement
Field Data

PHOTOS:

RNM1 looking W across parking lot towards main entrance to water well pump house 17399 Magnolia Street, Fountain valley (50' W).

RNM1 looking E across asphalt parking lot towrds church building (right) & preschoool (left), 17415 Magnolia Street, Fountain Valley (about 220' E).

Measurement Report

Report Summary

Meter's File Name	LxT_Data.614.s	Computer's File Name	LxT_0003099-20250721 114021-LxT_Data.614.ldbi
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	RNM1 E side 33°42'35.74"N 117°58'25.59'
Job Description	15 minute noise measurerment		
Note	Ganddini Project# 19786 Representative Water Well 17399 Magnolia St, Fountain Valley.		
Start Time	2025-07-21 11:40:21	Duration	0:15:00.0
End Time	2025-07-21 11:55:21	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	52.4 dB		
LAE	81.9 dB	SEA	--- dB
EA	17.3 µPa²h	LAFTM5	57.9 dB
EA8	553.1 µPa²h		
EA40	2.8 mPa²h		
LA_{peak}	91.2 dB	2025-07-21 11:52:32	
LAS_{max}	64.8 dB	2025-07-21 11:49:56	
LAS_{min}	48.5 dB	2025-07-21 11:45:23	
LA_{eq}	52.4 dB		
LC_{eq}	61.6 dB	LC_{eq} - LA_{eq}	9.2 dB
LAI_{eq}	56.0 dB	LAI_{eq} - LA_{eq}	3.6 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	52.4 dB		61.6 dB		--- dB	
$L_{S(max)}$	64.8 dB	2025-07-21 11:49:56	--- dB		--- dB	
$L_{S(min)}$	48.5 dB	2025-07-21 11:45:23	--- dB		--- dB	
$L_{Peak(max)}$	91.2 dB	2025-07-21 11:52:32	--- dB		--- dB	

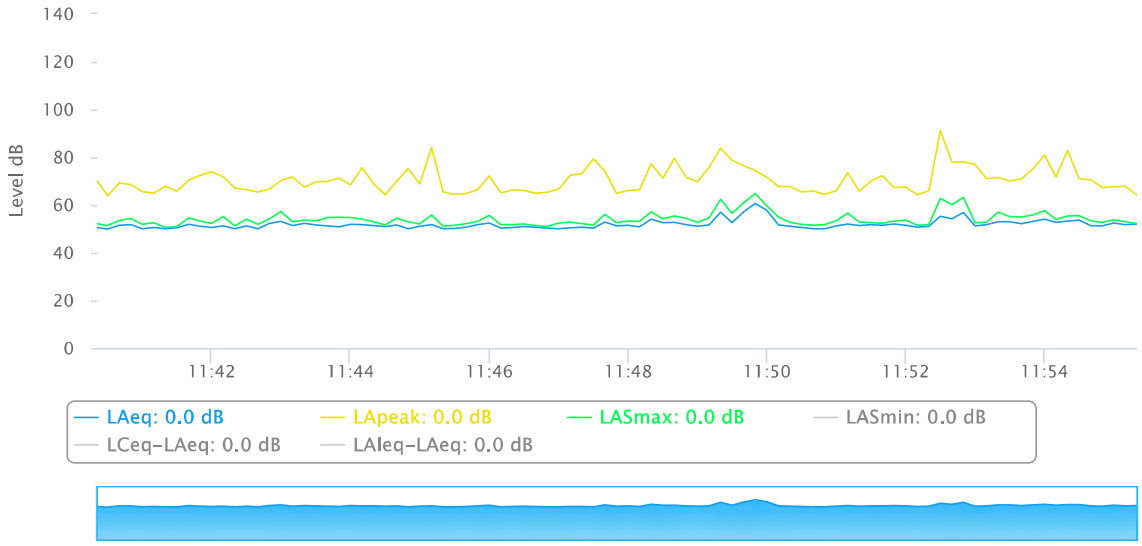
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

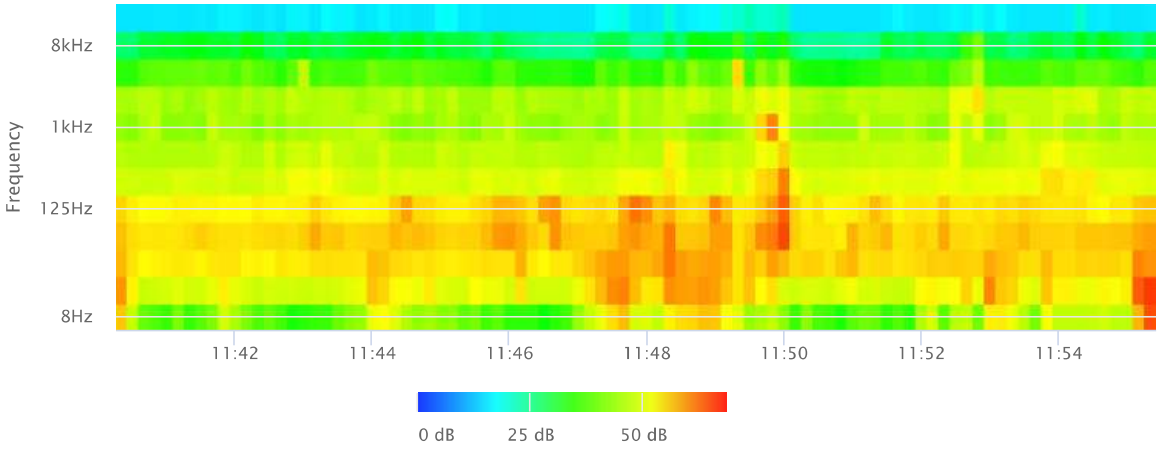
Statistics

LAS 2.0	59.0 dB
LAS 8.0	54.1 dB
LAS 25.0	52.1 dB
LAS 50.0	51.1 dB
LAS 66.6	50.6 dB
LAS 90.0	49.8 dB

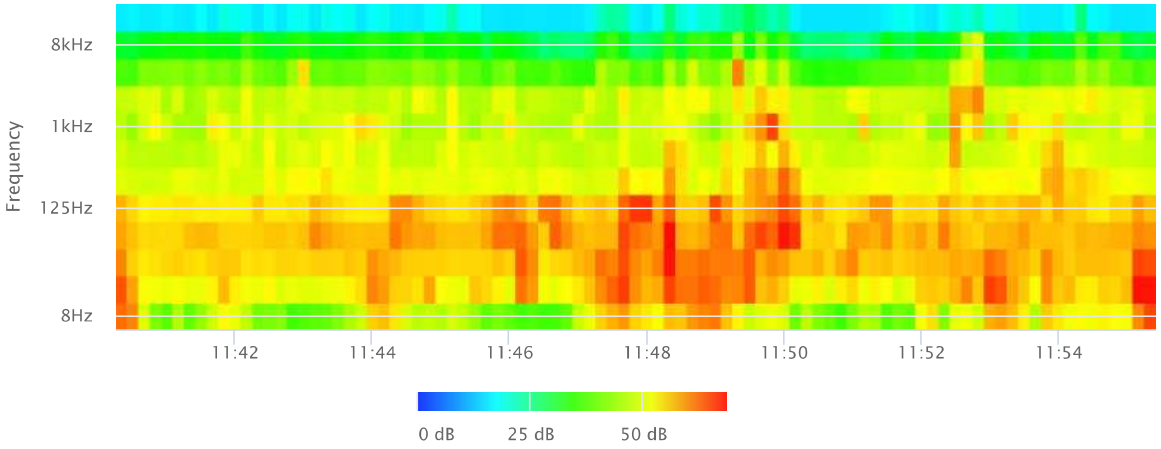
Time History



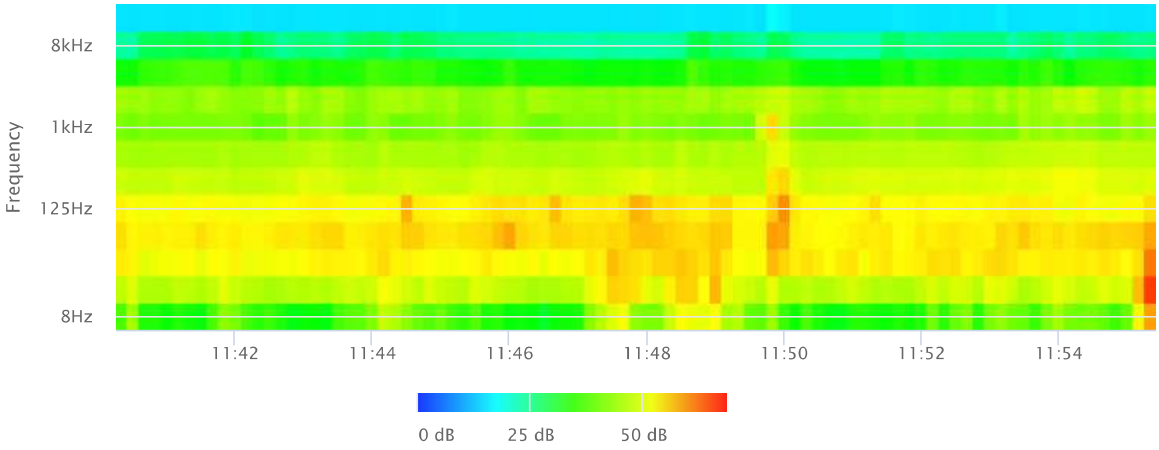
OBA 1/1 Leq



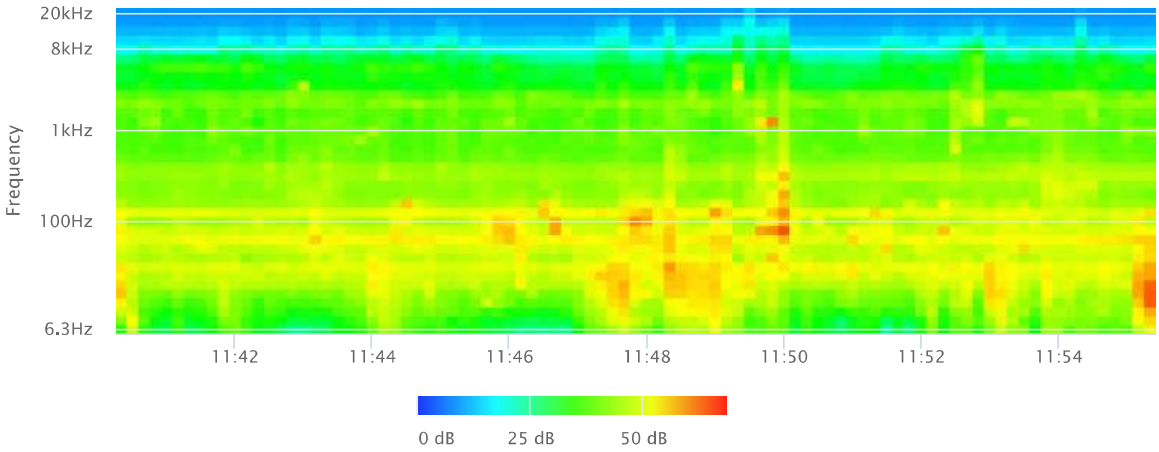
OBA 1/1 Lmax



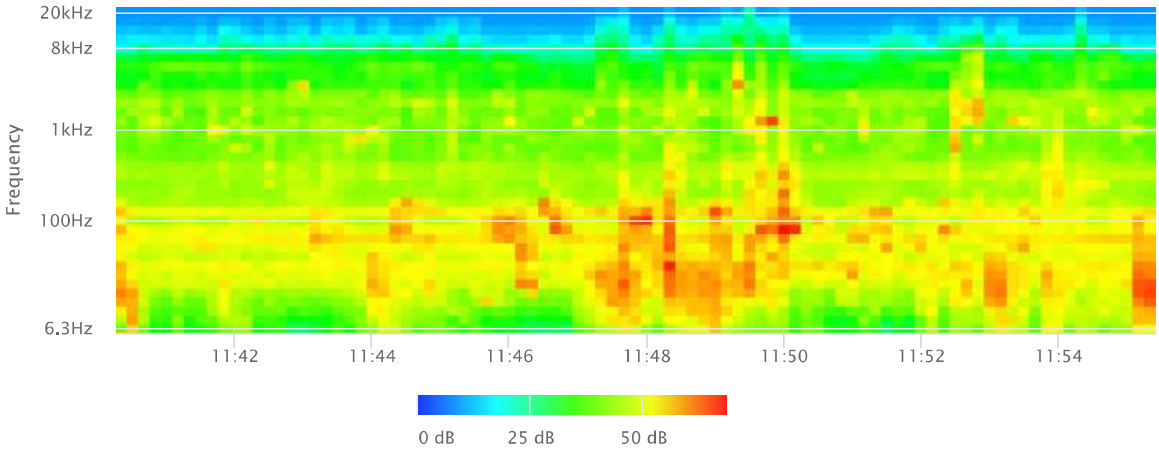
OBA 1/1 Lmin



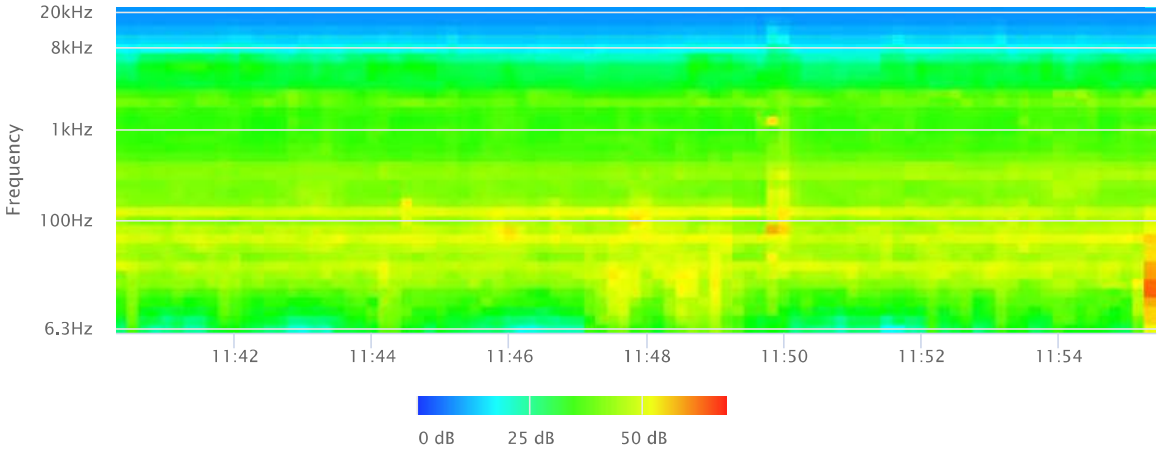
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
11:42
11:44
11:46
11:48
11:50
11:52
11:54
0 dB
25 dB
50 dB

Noise Measurement
Field Data

Project Name: Representative Water Well, 17399 Magnolia Street Project, Fountain Valley **Date:** July 21, 2025

Project #: 19786

Noise Measurement #: RNM2 Run Time 15 minutes **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 17399 Magnolia Street, Fountain Valley, CA 92708

Site Description (Type of Existing Land Use and any other notable features): Project Site: about 50' N of the N end of the water well pump house, located in grass, elementary school playing field. Adjacent: Preschool 330' E, church 290' SE, elementary school 300' NW of RNM2. Magnolia St, 640' E & Slater Ave, 600' S.

Weather: Marine layer burn off to full sun. Sunset: 8:01 PM **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 8 mph **Humidity:** 60% **Terrain:** Flat

Start Time: 2:42 PM **End Time:** 2:57 PM **Run Time:**

Leq: 55.6 dB

Lmax 60.9 dB

L2 57.6 dB

L8 57.0 dB

L25 56.2 dB

L50 55.3 dB

Primary Noise Source: Noise from pump house, internal air extractor fans on W wall of punp house active, N waterpunp active, S waterpump removed (temporarily OOC).

Secondary Noise Sources: Some residential ambiance. Distant traffic ambiance from Magnolia St, Slater Ave & ground traffic on other roads, Occasional air traffic.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	7/31/2024	**FACTORY CALIBRATION DATE:**	7/10/2024
FIELD CALIBRATION DATE:	7/21/2025		

Noise Measurement
Field Data

PHOTOS:

RNM2 looking S towrds northern wall of water well pump house (50' S).

RNM2 looking E towards church parking lot (30' E).

Measurement Report

Report Summary

Meter's File Name	LxT_Data.618.s	Computer's File Name	LxT_0003099-20250721 144217-LxT_Data.618.ldbi
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	RNM2 N side 33°42'36.78"N 117°58'26.49'
Job Description	15 minute noise measurement		
Note	Ganddini Project# 19786 Representative Water Well 17399 Magnolia St, Fountain Valley.		
Start Time	2025-07-21 14:42:17	Duration	0:15:00.0
End Time	2025-07-21 14:57:17	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	55.6 dB		
LAE	85.1 dB	SEA	--- dB
EA	36.0 µPa²h	LAFTM5	57.6 dB
EA8	1.2 mPa²h		
EA40	5.8 mPa²h		
LA_{peak}	80.3 dB	2025-07-21 14:53:35	
LAS_{max}	60.9 dB	2025-07-21 14:44:25	
LAS_{min}	53.3 dB	2025-07-21 14:44:43	
LA_{eq}	55.6 dB		
LC_{eq}	66.3 dB	LC_{eq} - LA_{eq}	10.7 dB
LAI_{eq}	56.6 dB	LAI_{eq} - LA_{eq}	1.0 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	55.6 dB		66.3 dB		--- dB	
$L_{S(max)}$	60.9 dB	2025-07-21 14:44:25	--- dB		--- dB	
$L_{S(min)}$	53.3 dB	2025-07-21 14:44:43	--- dB		--- dB	
$L_{Peak(max)}$	80.3 dB	2025-07-21 14:53:35	--- dB		--- dB	

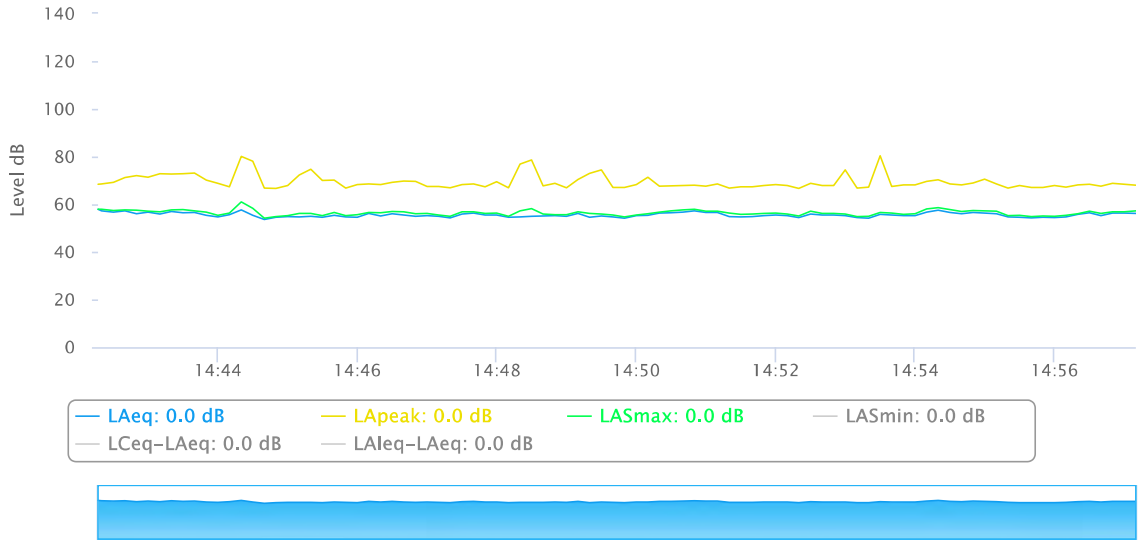
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

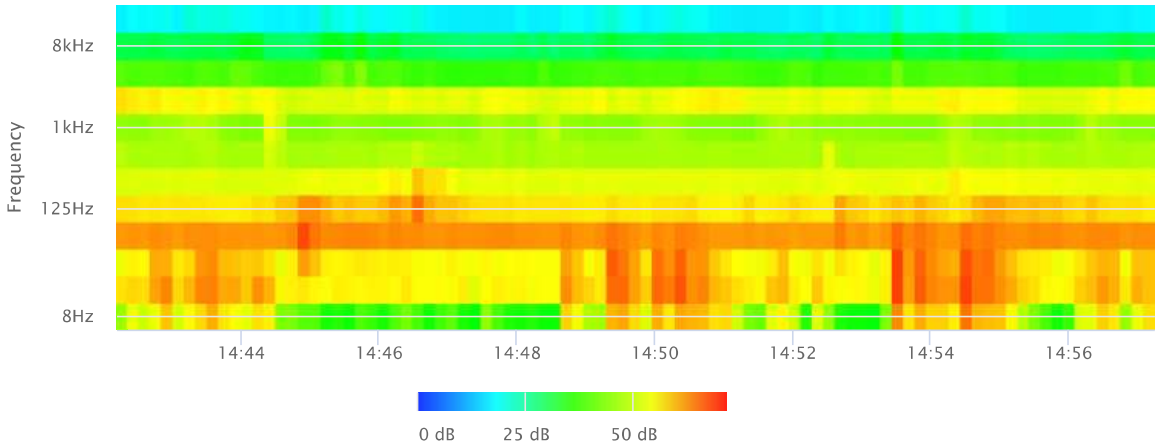
Statistics

LAS 2.0	57.6 dB
LAS 8.0	57.0 dB
LAS 25.0	56.2 dB
LAS 50.0	55.3 dB
LAS 66.6	54.9 dB
LAS 90.0	54.2 dB

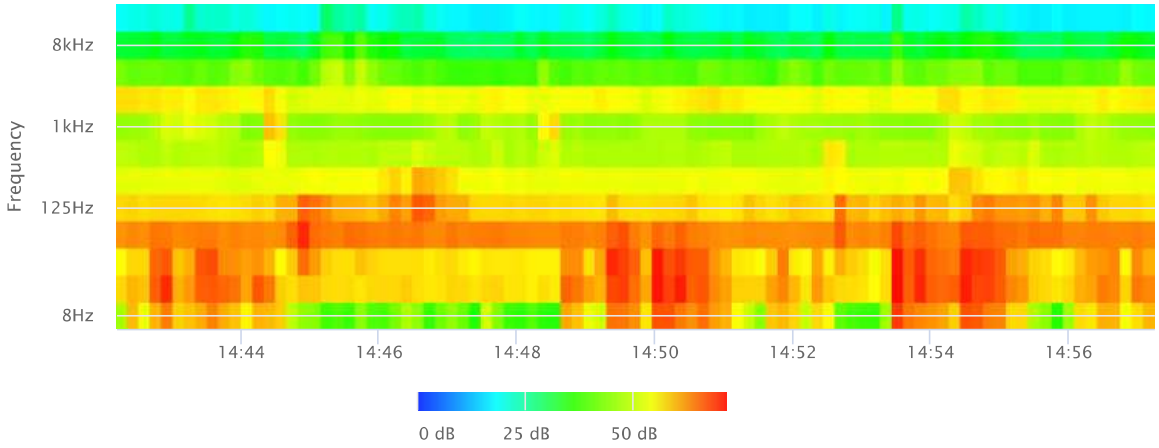
Time History



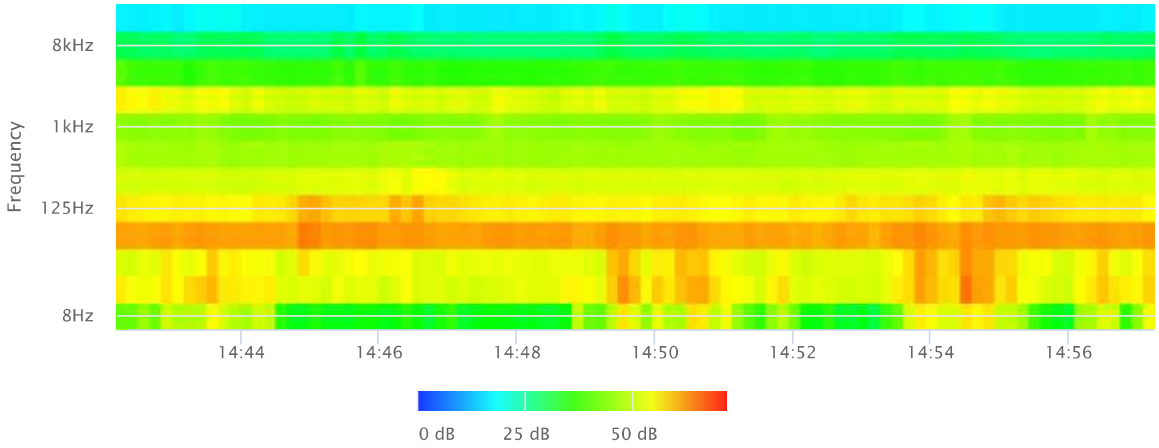
OBA 1/1 Leq



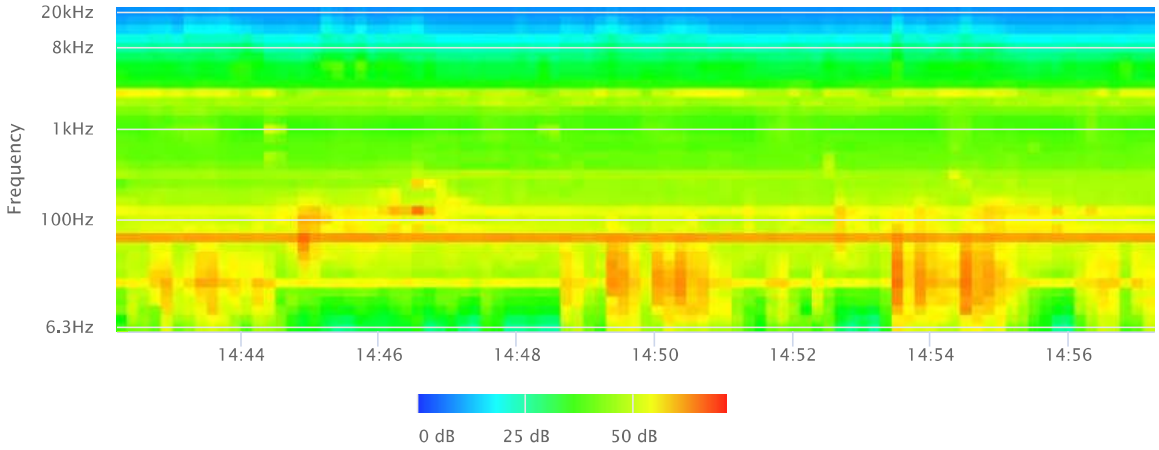
OBA 1/1 Lmax



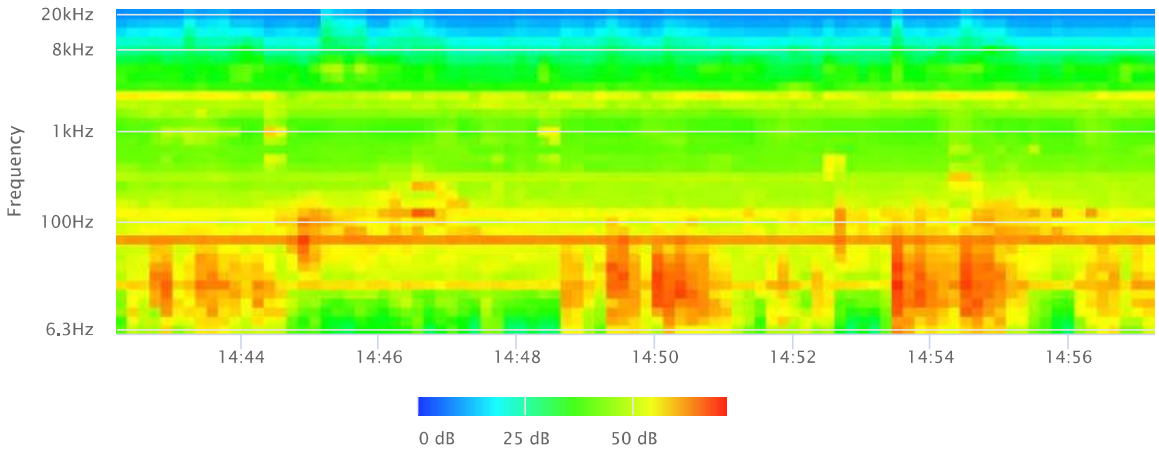
OBA 1/1 Lmin



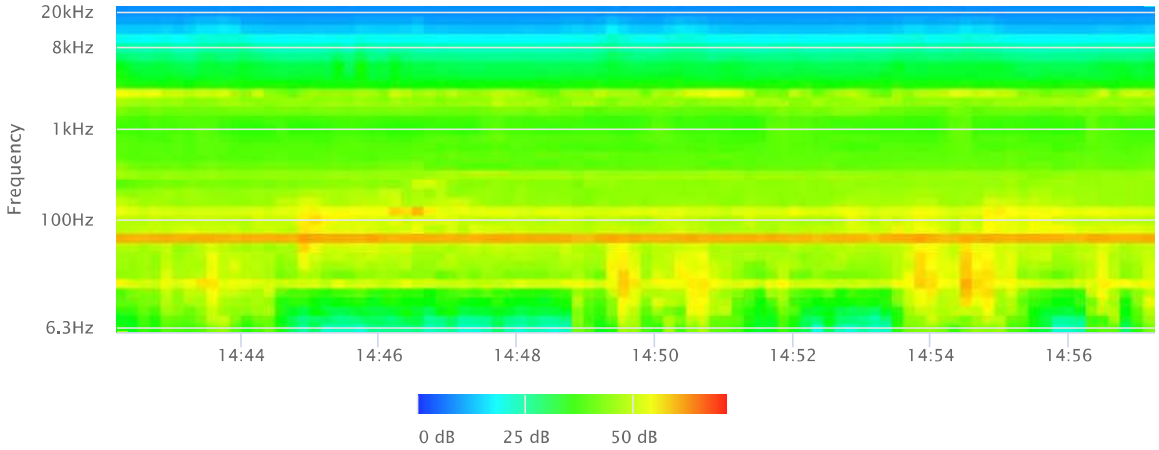
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:44
14:46
14:48
14:50
14:52
14:54
14:56

0 dB
25 dB
50 dB

Noise Measurement
Field Data

Project Name: Representative Water Well, 17399 Magnolia Street Project, Fountain Valley **Date:** July 21, 2025

Project #: 19786

Noise Measurement #: RNM3 Run Time 15 minutes **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 17399 Magnolia Street, Fountain Valley, CA 92708

Site Description (Type of Existing Land Use and any other notable features): Project Site: about 50' W of the W wall of the water well pump house, located in grass, elementary school playing field. Adjacent: Preschool 390' ENE, church 330' E, elementary school 300' NW of RNM3. Magnolia St, 690' E & Slater Ave, 500' S.

Weather: Marine layer burn off to full sun. Sunset: 8:01 PM **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 8 mph **Humidity:** 60% **Terrain:** Flat

Start Time: 2:18 PM **End Time:** 2:33 PM **Run Time:**

Leq: 59.4 dB
Lmax 64.8 dB
L2 61.5 dB
L8 60.1 dB
L25 59.6 dB
L50 59.2 dB

Primary Noise Source: Noise from pump house, internal air extractor fans on W wall of punp house active, N waterpunp active, S waterpump removed (temporarily OOC).

Secondary Noise Sources: Some residential ambiance. Distant traffic ambiance from Magnolia St, Slater Ave & ground traffic on other roads, Occasional air traffic.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	7/31/2024	**FACTORY CALIBRATION DATE:**	7/10/2024
FIELD CALIBRATION DATE:	7/21/2025		

Noise Measurement
Field Data

PHOTOS:

RNM3 looking E towards Western wall of water well pump hpose 17399 Magnolia Street, Fountain Valley (50' E).

RNM3 looking NW across school playing field towards school buildings 17360 Santa Suzanne Street, Fountain Valley.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.617.s	Computer's File Name	LxT_0003099-20250721 141852-LxT_Data.617.ldbi
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	RNM3 W side 33°42'35.87"N 117°58'27.22
Job Description	15 minute noise measurement		
Note	Ganddini Project# 19786 Representative Water Well 17399 Magnolia St, Fountain Valley.		
Start Time	2025-07-21 14:18:52	Duration	0:15:00.0
End Time	2025-07-21 14:33:52	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	59.4 dB		
LAE	88.9 dB	SEA	--- dB
EA	86.6 µPa²h	LAFTM5	60.8 dB
EA8	2.8 mPa²h		
EA40	13.9 mPa²h		
LA_{peak}	83.6 dB	2025-07-21 14:30:41	
LAS_{max}	64.8 dB	2025-07-21 14:26:59	
LAS_{min}	57.9 dB	2025-07-21 14:28:03	
LA_{eq}	59.4 dB		
LC_{eq}	66.1 dB	LC_{eq} - LA_{eq}	6.8 dB
LAI_{eq}	60.2 dB	LAI_{eq} - LA_{eq}	0.9 dB

Exceedances	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

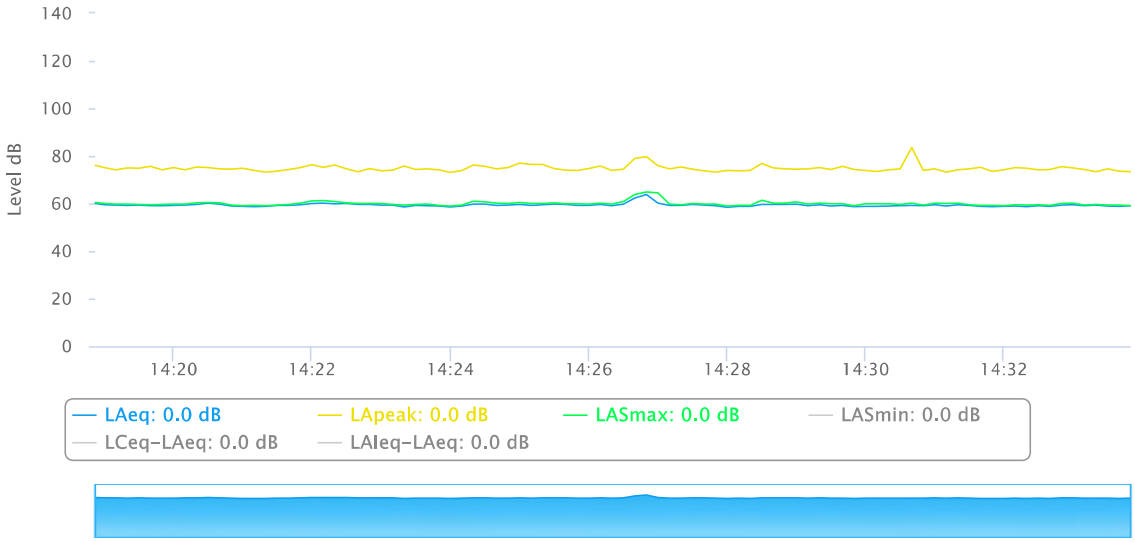
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	59.4 dB		66.1 dB		--- dB	
$Ls_{(max)}$	64.8 dB	2025-07-21 14:26:59	--- dB		--- dB	
$LS_{(min)}$	57.9 dB	2025-07-21 14:28:03	--- dB		--- dB	
$L_{Peak(max)}$	83.6 dB	2025-07-21 14:30:41	--- dB		--- dB	

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

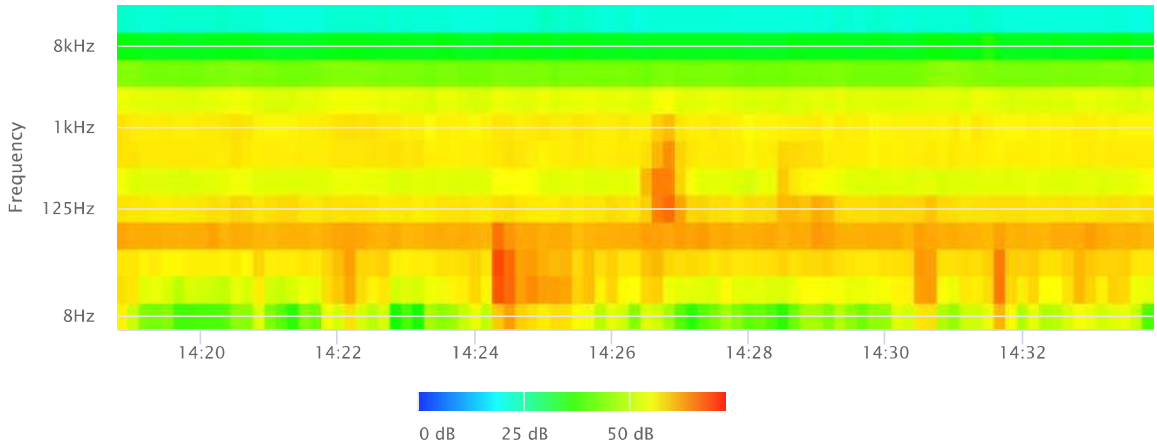
Statistics

LAS 2.0	61.6 dB
LAS 8.0	60.1 dB
LAS 25.0	59.6 dB
LAS 50.0	59.2 dB
LAS 66.6	59.0 dB
LAS 90.0	58.6 dB

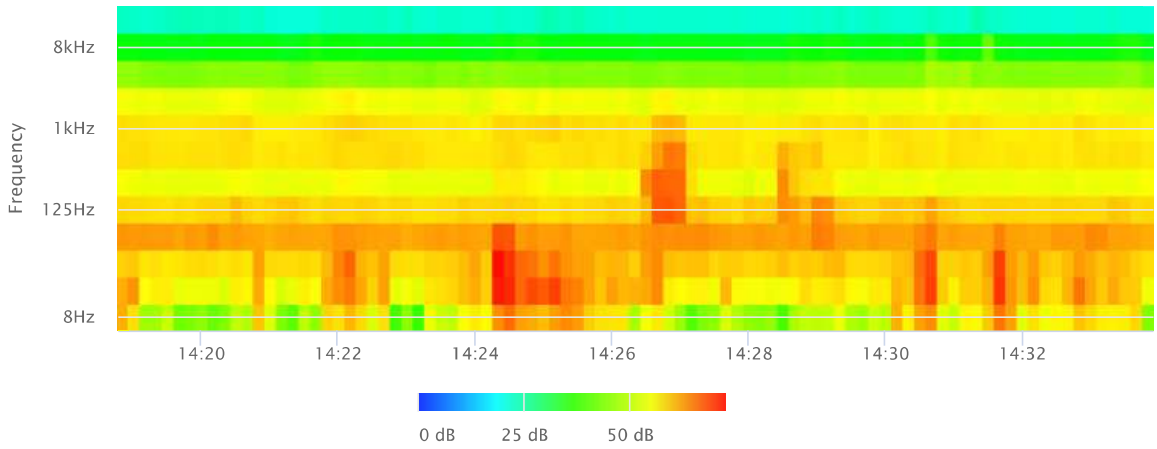
Time History



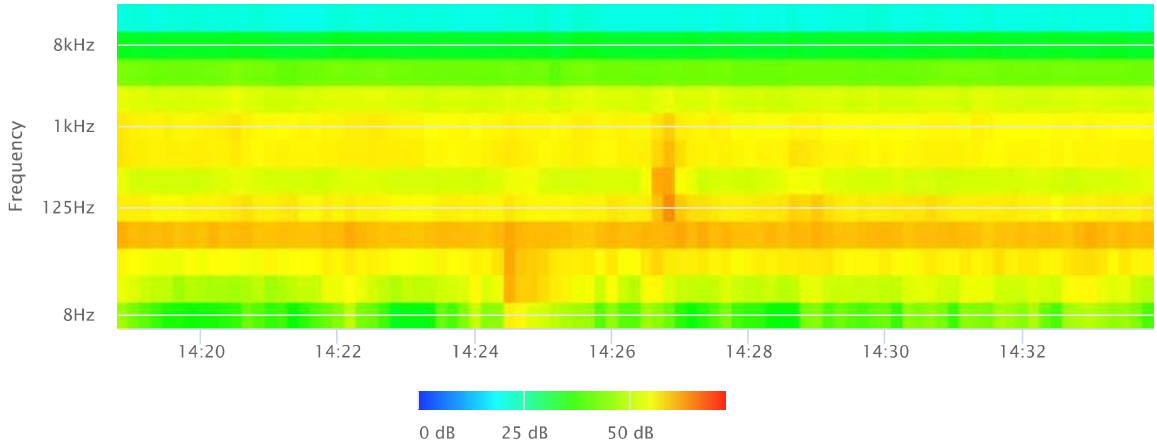
OBA 1/1 Leq



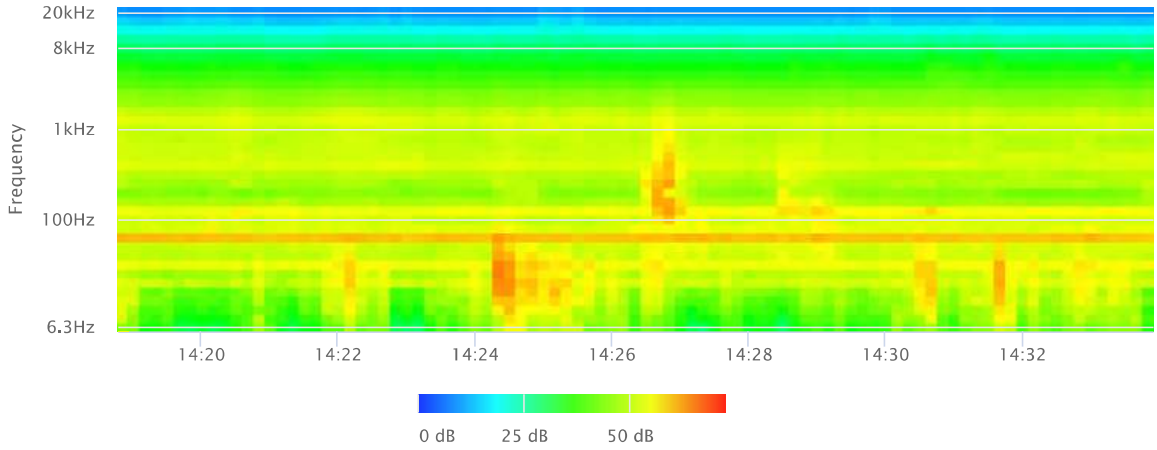
OBA 1/1 Lmax



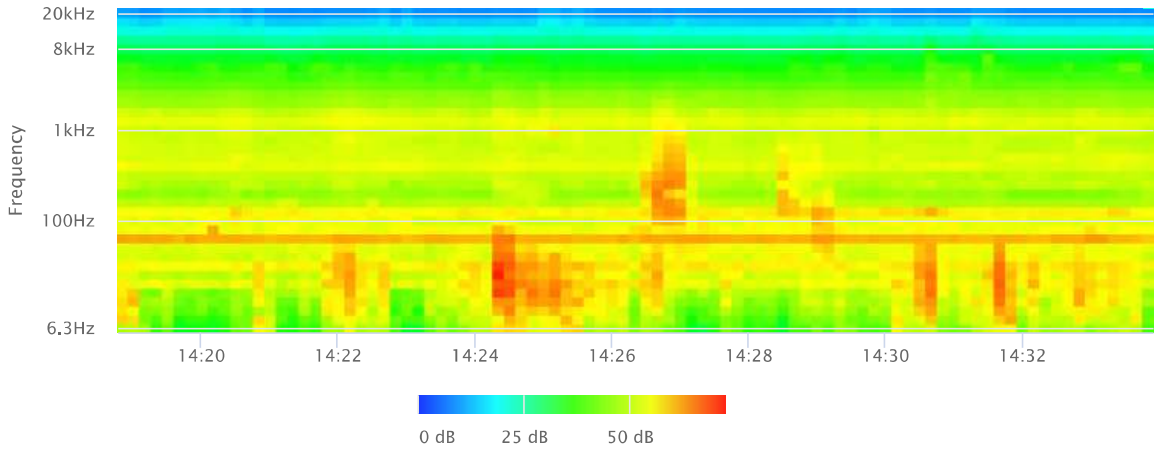
OBA 1/1 Lmin



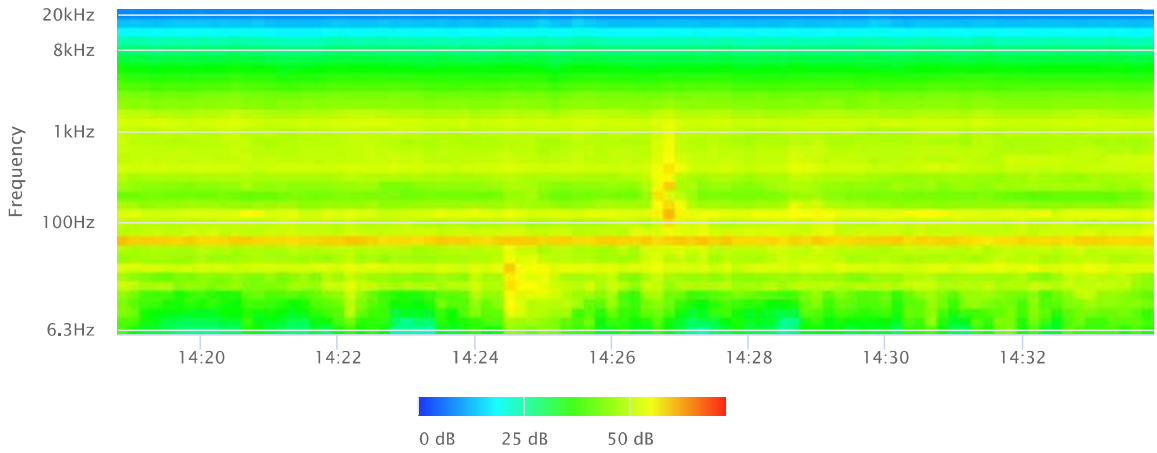
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:20
14:22
14:24
14:26
14:28
14:30
14:32
0 dB
25 dB
50 dB

Noise Measurement
Field Data

Project Name: Representative Water Well, 17399 Magnolia Street Project, Fountain Valley **Date:** July 21, 2025

Project #: 19786

Noise Measurement #: RNM4 Run Time 15 minutes **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 17399 Magnolia Street, Fountain Valley, CA 92708

Site Description (Type of Existing Land Use and any other notable features): Project Site: About 50' S of S end of water well pump house located in grass elementary school playing field. Adjacent: Preschool 370' NE, church 240' E, elementary school 410' NW of RNM4. Magnolia St, 640' E & Slater Ave, 390' S.

Weather: Marine layer burn off to full sun. Sunset: 8:01 PM **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 8 mph **Humidity:** 60% **Terrain:** Flat

Start Time: 12:26 PM **End Time:** 12:41 PM **Run Time:**

Leq: 47.1 dB

Lmax 58.1 dB

L2 52.5 dB

L8 49.7 dB

L25 47.4 dB

L50 45.9 dB

Primary Noise Source: Noise from pump house, internal air extractor fans on W wall of punp house active, N waterpump active, S waterpump removed (temporarily OOC).

Secondary Noise Sources: Some residential ambiance. Distant traffic ambiance from Magnolia St, Slater Ave & ground traffic on other roads, Occasional air traffic.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	7/31/2024	**FACTORY CALIBRATION DATE:**	7/10/2024
FIELD CALIBRATION DATE:	7/21/2025		

Noise Measurement
Field Data

PHOTOS:

RNM4 looking N towards Southern wall of water well pump house (50' N).
6' high, dark green tarp covered chain link fence (20' N).

RNM4 looking E towards church parking lot (30' E).

Measurement Report

Report Summary

Meter's File Name	LxT_Data.615.s	Computer's File Name	LxT_0003099-20250721 122637-LxT_Data.615.ldbi
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	RNM4 S side 33°42'34.83"N 117°58'26.47'
Job Description	15 minute noise measurement		
Note	Ganddini Project# 19786 Representative Water Well 17399 Magnolia St, Fountain Valley.		
Start Time	2025-07-21 12:26:37	Duration	0:15:00.0
End Time	2025-07-21 12:41:37	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	47.1 dB		
LAE	76.6 dB	SEA	--- dB
EA	5.1 µPa²h	LAFTM5	51.4 dB
EA8	164.2 µPa²h		
EA40	820.8 µPa²h		
LA_{peak}	80.8 dB	2025-07-21 12:38:32	
LAS_{max}	58.1 dB	2025-07-21 12:28:55	
LAS_{min}	42.3 dB	2025-07-21 12:33:18	
LA_{eq}	47.1 dB		
LC_{eq}	60.4 dB	LC_{eq} - LA_{eq}	13.3 dB
LAI_{eq}	49.5 dB	LAI_{eq} - LA_{eq}	2.4 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	47.1 dB		60.4 dB		--- dB	
$L_{S(max)}$	58.1 dB	2025-07-21 12:28:55	--- dB		--- dB	
$L_{S(min)}$	42.3 dB	2025-07-21 12:33:18	--- dB		--- dB	
$L_{Peak(max)}$	80.8 dB	2025-07-21 12:38:32	--- dB		--- dB	

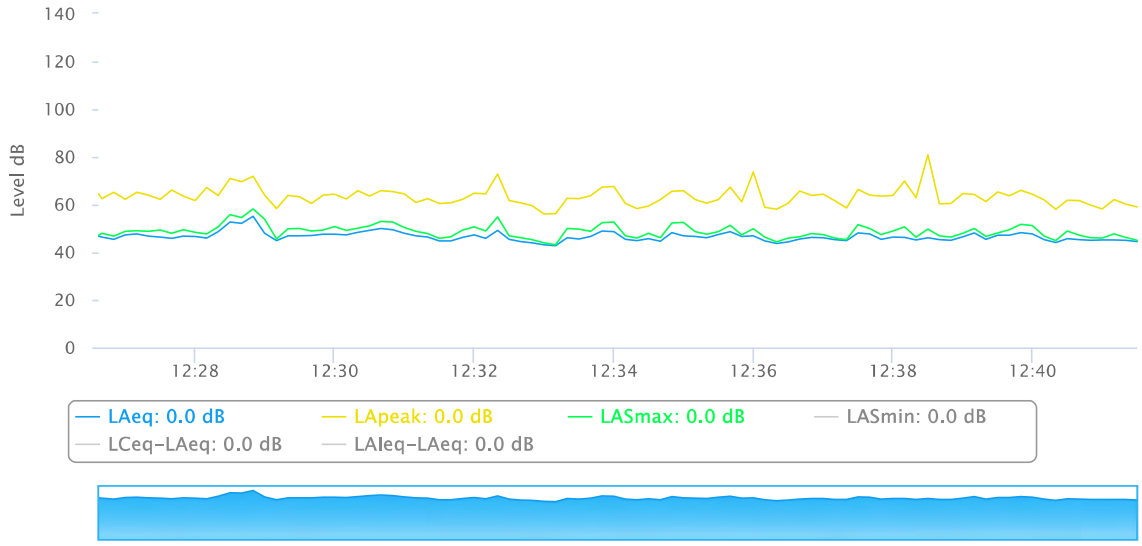
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

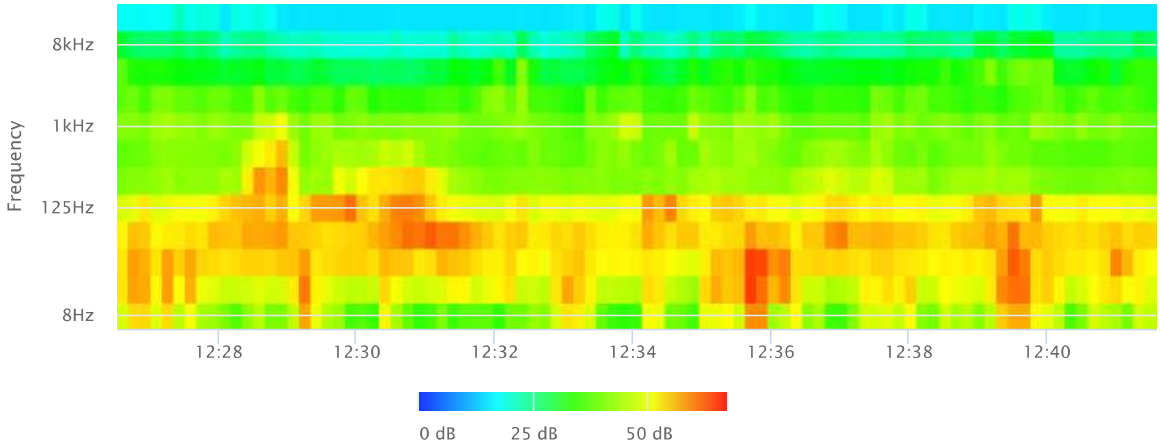
Statistics

LAS 2.0	52.5 dB
LAS 8.0	49.7 dB
LAS 25.0	47.4 dB
LAS 50.0	45.9 dB
LAS 66.6	45.3 dB
LAS 90.0	44.3 dB

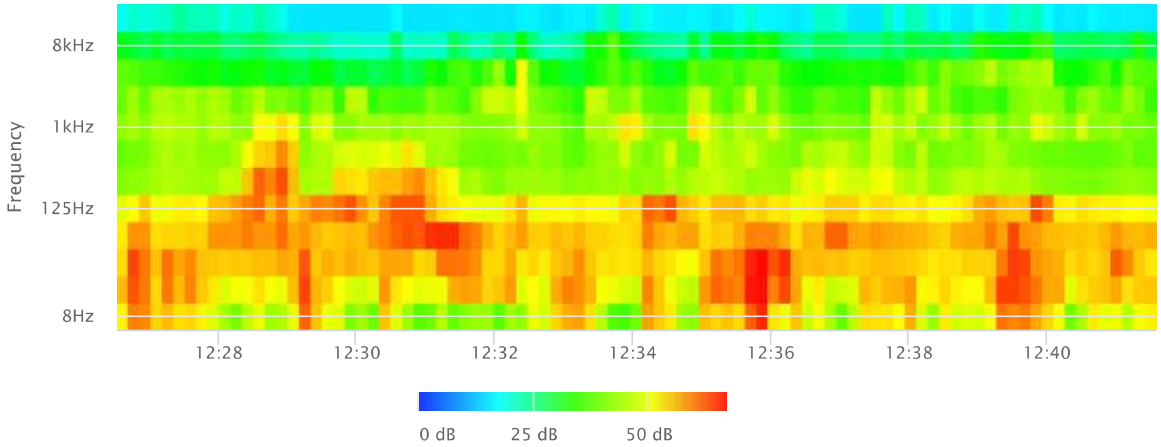
Time History



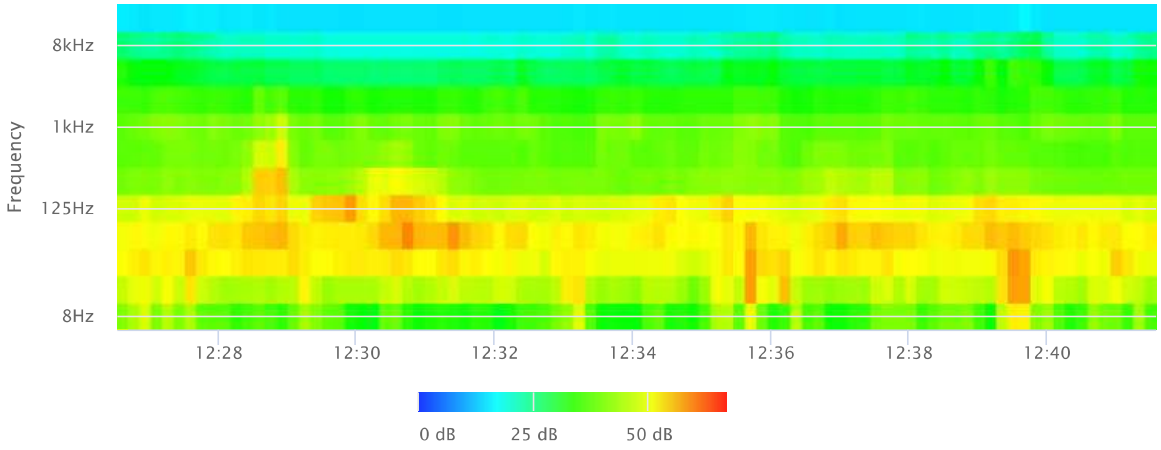
OBA 1/1 Leq



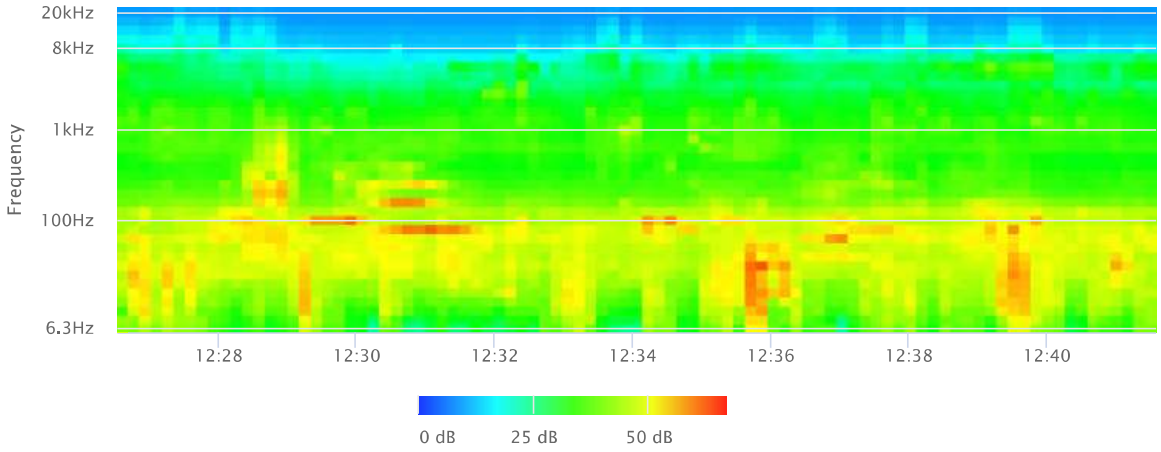
OBA 1/1 Lmax



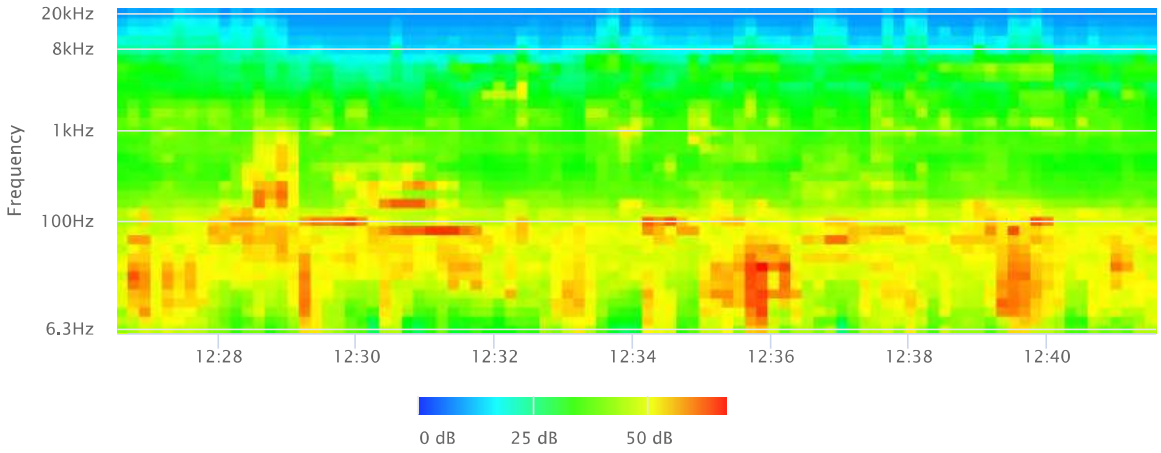
OBA 1/1 Lmin



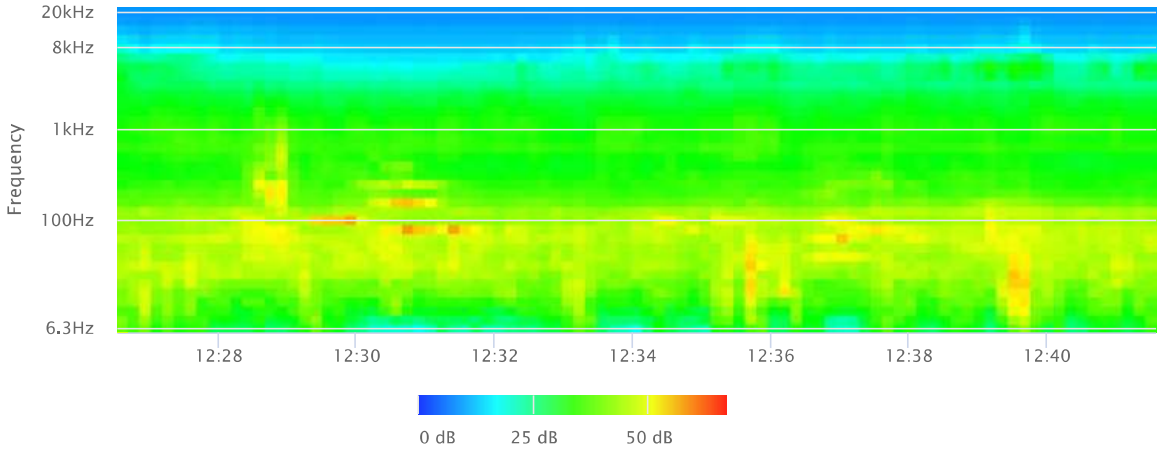
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
12:28
12:30
12:32
12:34
12:36
12:38
12:40
0 dB
25 dB
50 dB

Noise Measurement
Field Data

Project Name: Bushard Street Water Well Project, Fountain Valley **Date:** July 15, 2025

Project #: 19786

Noise Measurement #: STNM1 Run Time 15 minutes **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 9529 La Amapola Avenue, Fountain Valley, CA 92708

Site Description (Type of Existing Land Use and any other notable features): Project Site: About middle of N edge of site area, about 20' S of residence 9529 La Amapola Ave. Adjacent: Bushard St running N-S, 70' W of STNM1. High school located 140' N of STNM1, apparently no children present at high school at this time.

Weather: No cloud, full sun. Sunset: 8:06PM **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 8 mph **Humidity:** 60% **Terrain:** Flat

Start Time: 2:18 PM **End Time:** 2:33 PM **Run Time:**

Leq:	59.2	dB	**Primary Noise Source:** Noise from the 212 vehicles passing microphone travelling along Bushard Street.
Lmax	70.5	dB	Traffic ambiance from vehicles travelling on Talbert Ave & other roads.
L2	65.6	dB	**Secondary Noise Sources:** Some residential ambiance. Occasional overhead airtraffic. Leaf rustle from
L8	63.4	dB	8mph breeze. Bird song.
L25	60.5	dB	
L50	56.9	dB	

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	7/31/2024	**FACTORY CALIBRATION DATE:**	7/10/2024
FIELD CALIBRATION DATE:	7/15/2025		

Noise Measurement
Field Data

PHOTOS:

STNM1 looking W across empty site area towards Bushard Street, Valley Fountain (behind 6' tall, dark green tarp covered chainlink fence, about 70' W)
Senior community center buildings 17967 Bushard Street on other side of street.

STNM1 looking ENE. Residence 9529 La Amapola Avenue, Fountain Valley to the left. W end of La Amapola Avenue beyond residence.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.609.s	Computer's File Name	LxT_0003099-20250715 141816-LxT_Data.609.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM1 33°42'11.07"N 117°57'45.68"W
Job Description	15 minute noise measurement		
Note	Ganddini Project# 19786 Bushard Street Water Wells, Fountain Valley.		
Start Time	2025-07-15 14:18:16	Duration	0:15:00.0
End Time	2025-07-15 14:33:16	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	59.2 dB		
LAE	88.7 dB	SEA	--- dB
EA	83.0 µPa²h	LAFTM5	62.6 dB
EA8	2.7 mPa²h		
EA40	13.3 mPa²h		
LA_{peak}	95.8 dB	2025-07-15 14:28:37	
LAS_{max}	70.5 dB	2025-07-15 14:19:06	
LAS_{min}	47.0 dB	2025-07-15 14:25:19	
LA_{eq}	59.2 dB		
LC_{eq}	67.9 dB	LC_{eq} - LA_{eq}	8.7 dB
LAI_{eq}	60.5 dB	LAI_{eq} - LA_{eq}	1.3 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	7	0:00:45.5
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	59.2 dB		67.9 dB		--- dB	
$Ls_{(max)}$	70.5 dB	2025-07-15 14:19:06	--- dB		--- dB	
$LS_{(min)}$	47.0 dB	2025-07-15 14:25:19	--- dB		--- dB	
$L_{Peak(max)}$	95.8 dB	2025-07-15 14:28:37	--- dB		--- dB	

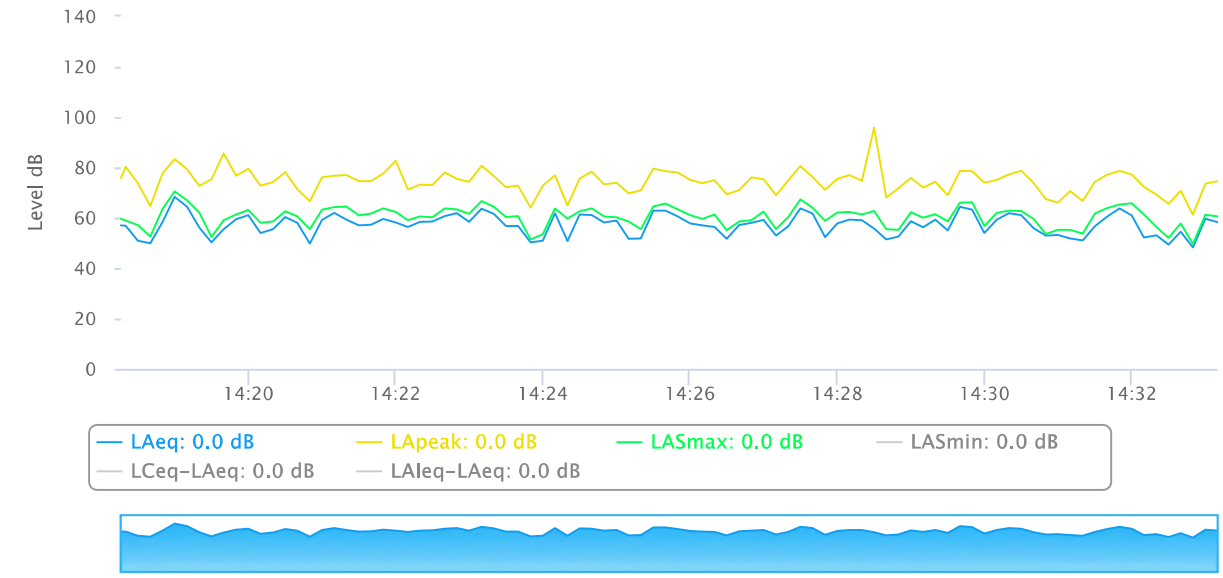
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

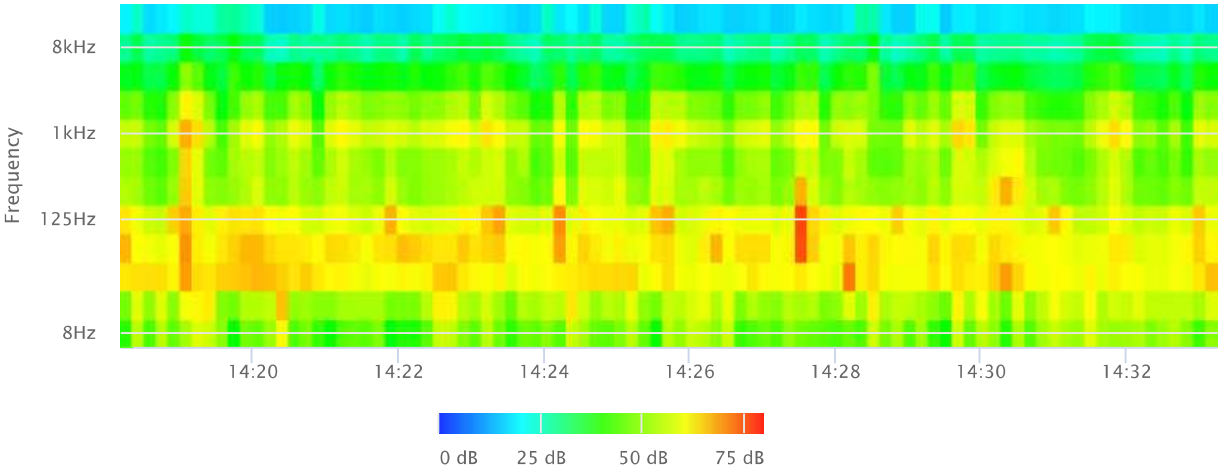
Statistics

LAS 2.0	65.6 dB
LAS 8.0	63.4 dB
LAS 25.0	60.5 dB
LAS 50.0	56.9 dB
LAS 66.6	53.7 dB
LAS 90.0	49.8 dB

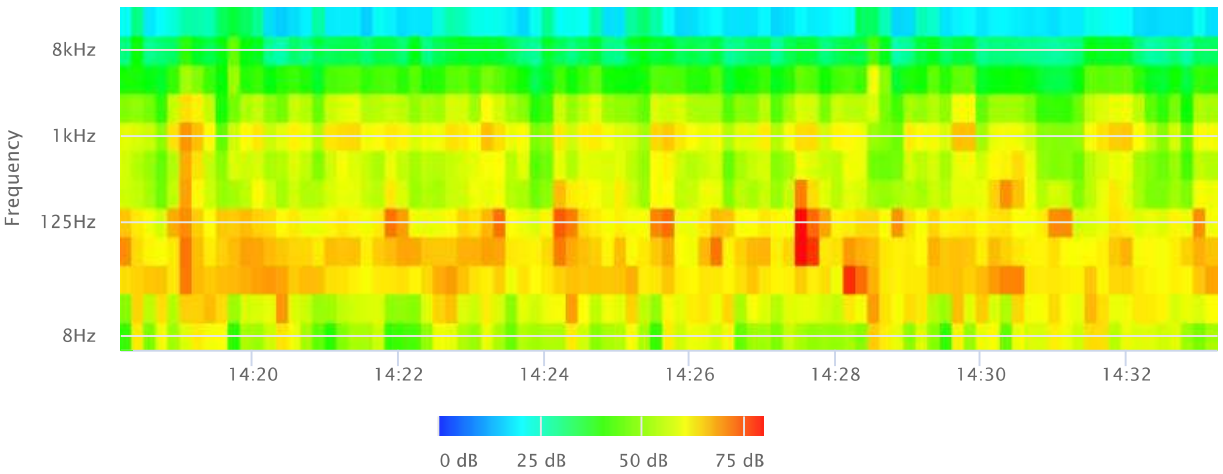
Time History



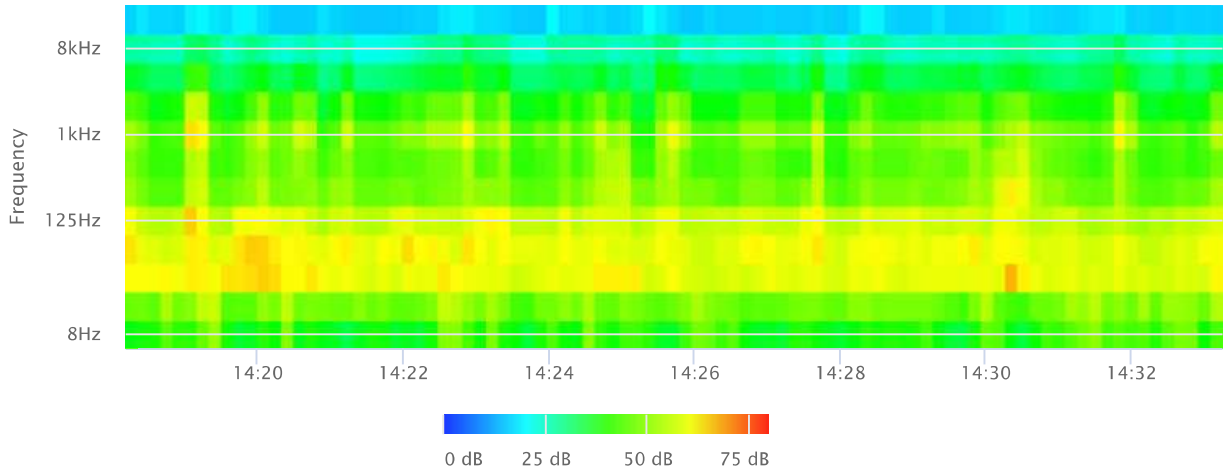
OBA 1/1 Leq



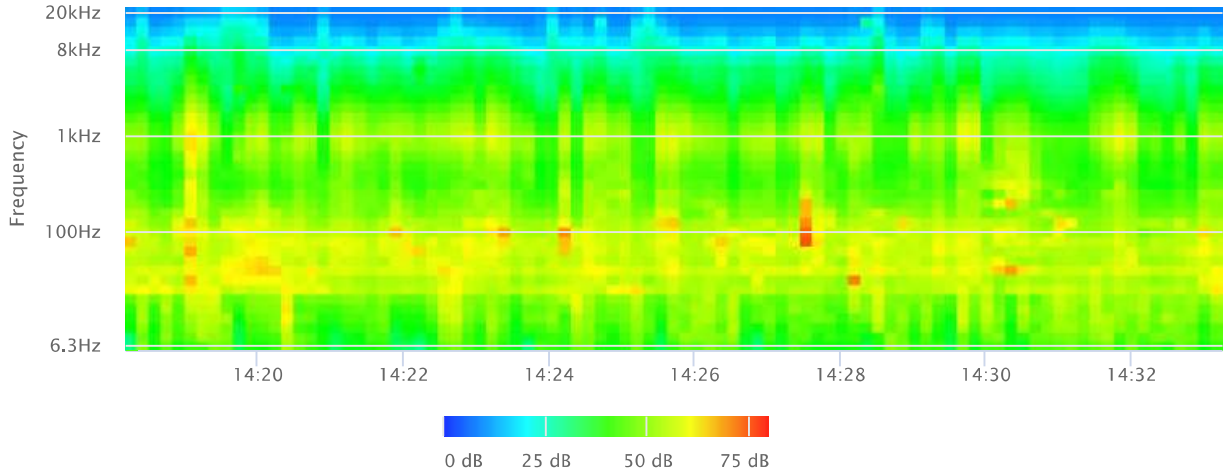
OBA 1/1 Lmax



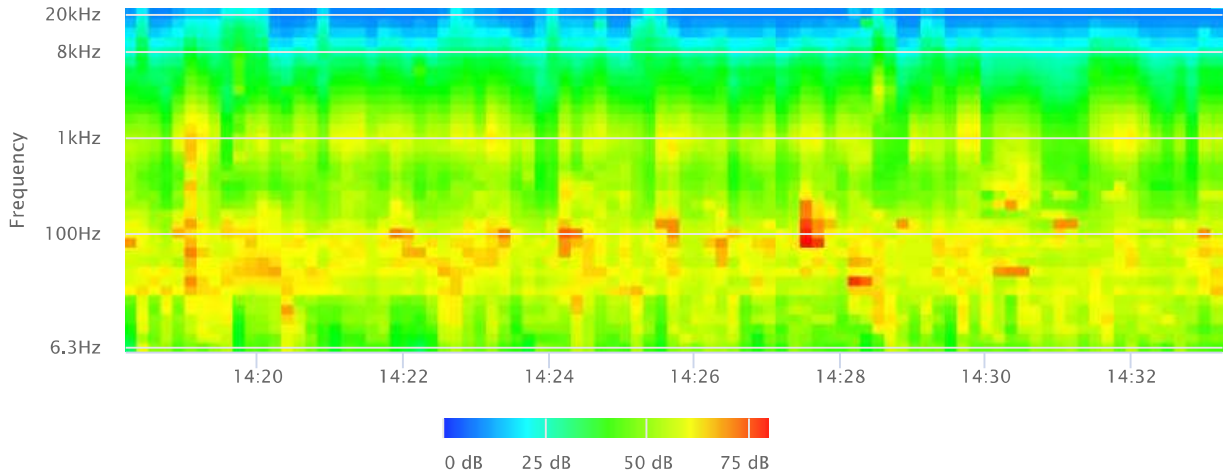
OBA 1/1 Lmin



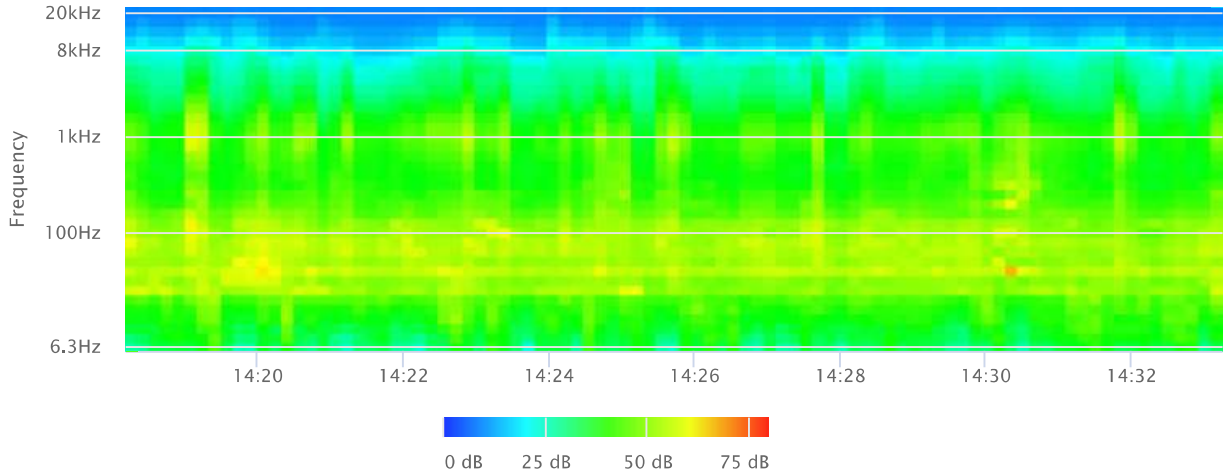
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:20
14:22
14:24
14:26
14:28
14:30
14:32
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Bushard Street Water Well Project, Fountain Valley **Date:** July 15, 2025

Project #: 19786

Noise Measurement #: STNM2 Run Time 15 minutes **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 9525 Acklay Cir, Fountain Valley, CA 92708

Site Description (Type of Existing Land Use and any other notable features): Project Site: About middle of S edge of site area just 20' N of 7' tall cinderblock wall to backyard of residence 9525 Acklay Cir. Adjacent: Bushard St running N-S, 60' W of STNM2, area mostly residential with single family homes.

Weather: No cloud, full sun. Sunset: 8:06PM **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 8 mph **Humidity:** 60% **Terrain:** Flat

Start Time: 2:41 PM **End Time:** 2:56 PM **Run Time:**

Leq:	58.6 dB	**Primary Noise Source:**	Traffic noise from the 229 vehicles passing microphone on Bushard Street
Lmax	68.3 dB		Traffic ambianc from vehicles on Talbert Ave & other roads.
L2	64.6 dB	**Secondary Noise Sources:**	Residebtial ambiance. Bird song. Occasional overhead air traffic.
L8	62.7 dB		Leaf rustle from 8 mph breeze.
L25	60.1 dB		
L50	56.8 dB		

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	7/31/2024	**FACTORY CALIBRATION DATE:**	7/10/2024
FIELD CALIBRATION DATE:	7/15/2025		

Noise Measurement
Field Data

PHOTOS:

STNM2 looking W towards Bushard Street (behind 6' tall, dark green tarp over chain-link). Residence 9525 Acklay Cir, Fountain Valley on the left behind cinderblock wall.

STNM2 looking S towards 5 to 7' high cinderblock wall to backyard of residence 9525 Acklay Cir, Fountain Valley.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.610.s	Computer's File Name	LxT_0003099-20250715 144157-LxT_Data.610.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM2 33°42'9.53"N 117°57'45.85"W
Job Description	15 minute noise measurement		
Note	Ganddini Project# 19786 Bushard Street Water Wells, Fountain Valley.		
Start Time	2025-07-15 14:41:57	Duration	0:15:00.0
End Time	2025-07-15 14:56:57	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	58.6 dB		
LAE	88.1 dB	SEA	--- dB
EA	72.3 µPa²h	LAFTM5	62.4 dB
EA8	2.3 mPa²h		
EA40	11.6 mPa²h		
LA_{peak}	86.5 dB	2025-07-15 14:53:02	
LAS_{max}	68.3 dB	2025-07-15 14:51:30	
LAS_{min}	44.7 dB	2025-07-15 14:52:39	
LA_{eq}	58.6 dB		
LC_{eq}	68.1 dB	LC_{eq} - LA_{eq}	9.5 dB
LAI_{eq}	60.1 dB	LAI_{eq} - LA_{eq}	1.5 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	4	0:00:22.2
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	58.6 dB		68.1 dB		--- dB	
$Ls_{(max)}$	68.3 dB	2025-07-15 14:51:30	--- dB		--- dB	
$LS_{(min)}$	44.7 dB	2025-07-15 14:52:39	--- dB		--- dB	
$L_{Peak(max)}$	86.5 dB	2025-07-15 14:53:02	--- dB		--- dB	

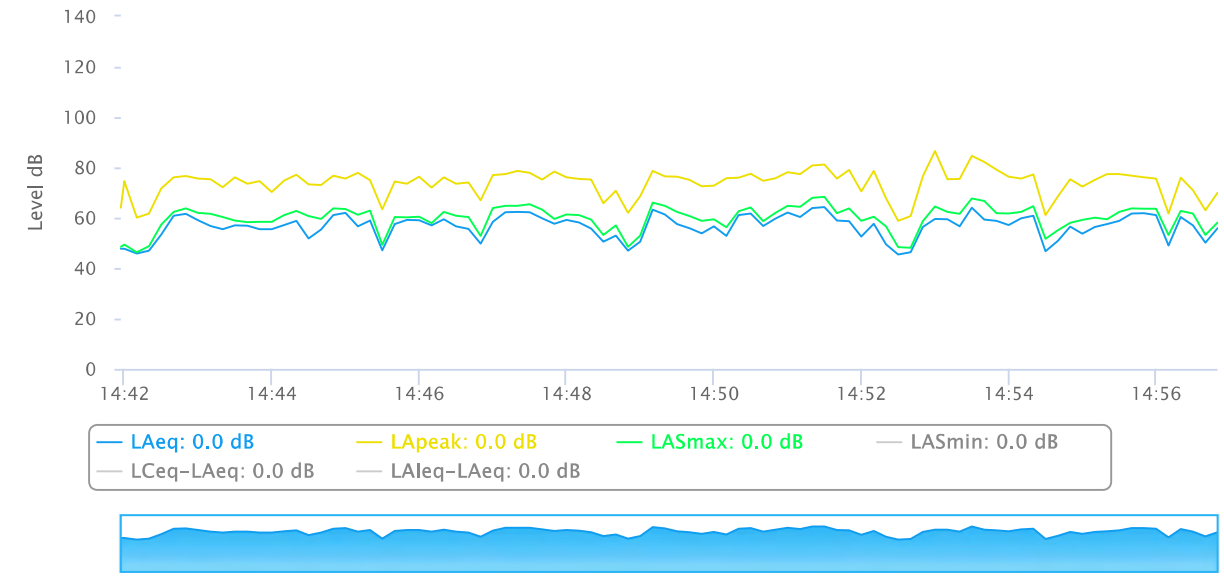
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

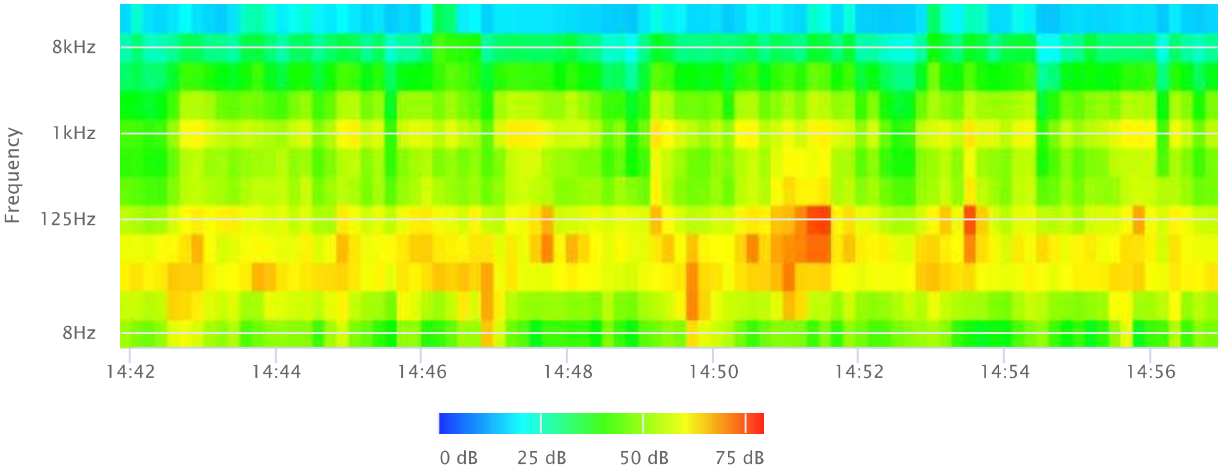
Statistics

LAS 2.0	64.6 dB
LAS 8.0	62.7 dB
LAS 25.0	60.1 dB
LAS 50.0	56.8 dB
LAS 66.6	53.9 dB
LAS 90.0	47.8 dB

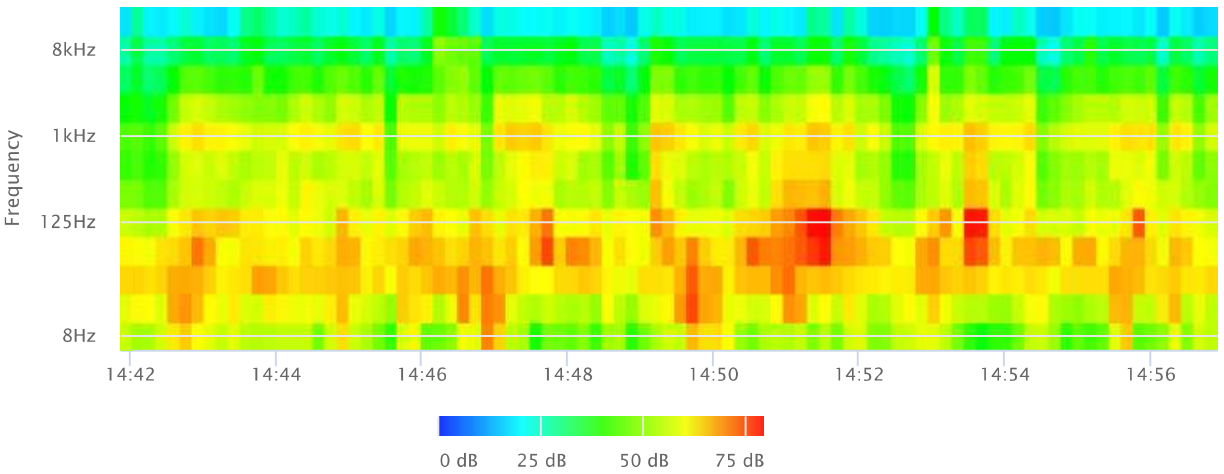
Time History



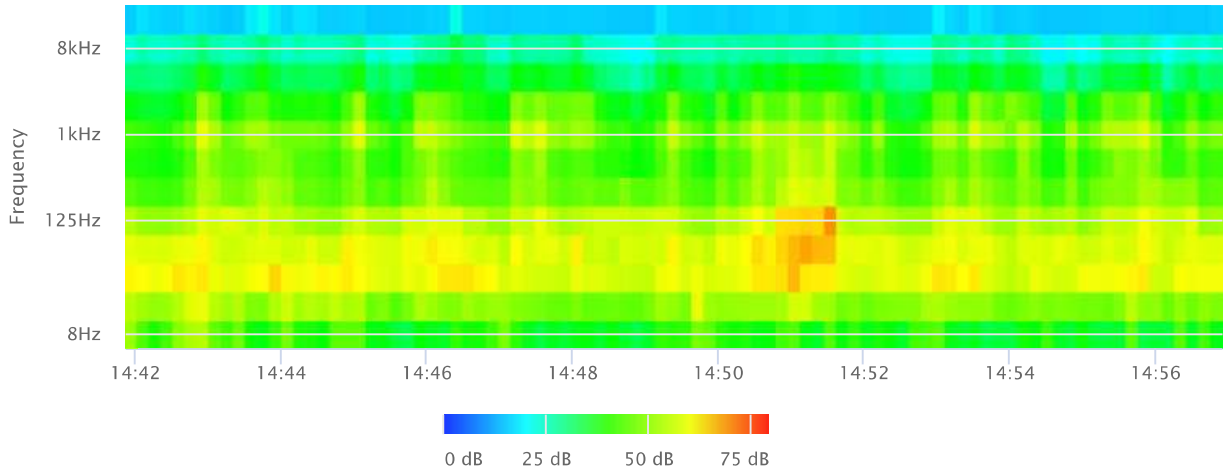
OBA 1/1 Leq



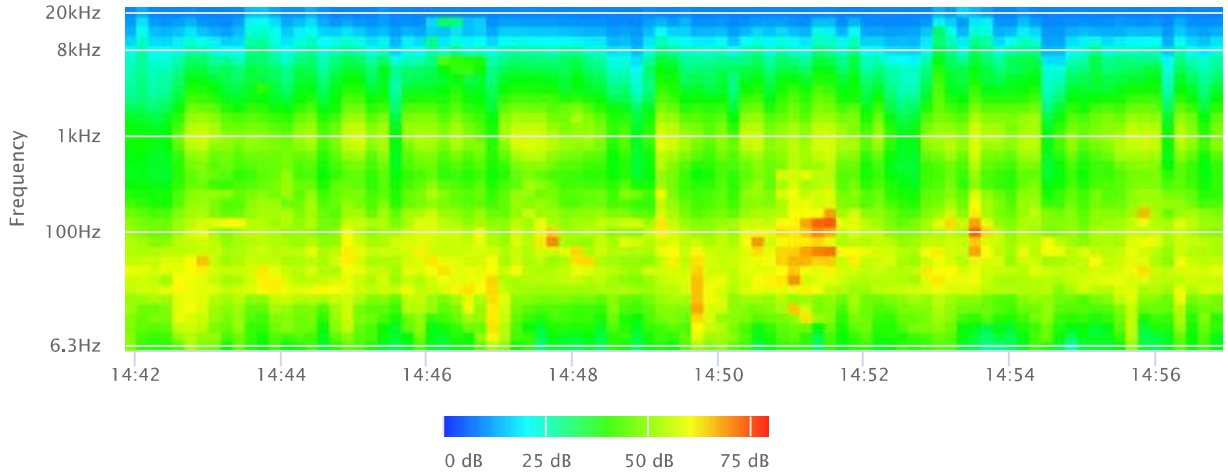
OBA 1/1 Lmax



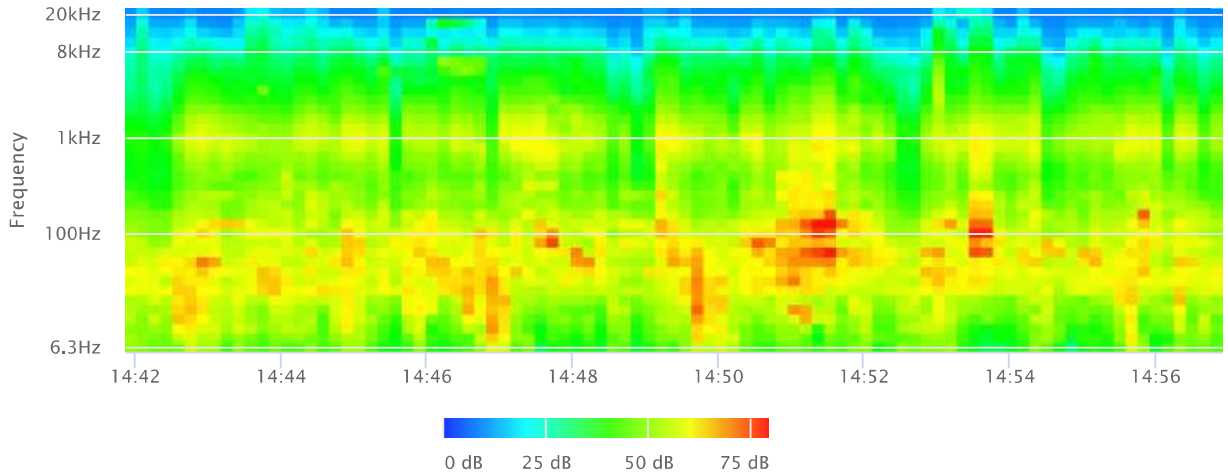
OBA 1/1 Lmin



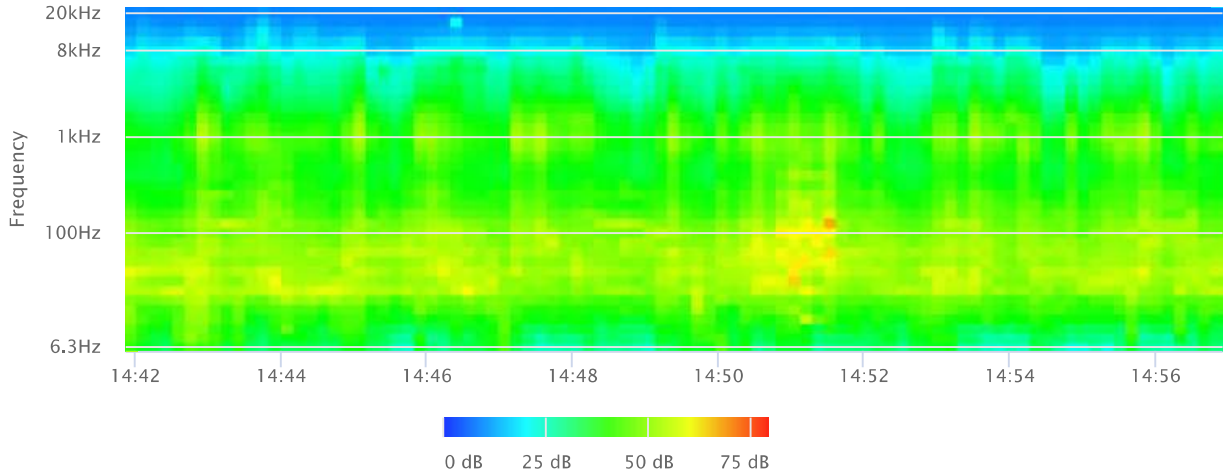
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin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8kHz
1kHz
100Hz
6.3Hz
Frequency
14:42
14:44
14:46
14:48
14:50
14:52
14:54
14:56
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Bushard Street Water Well Project, Fountain Valley **Date:** July 15, 2025

Project #: 19786

Noise Measurement #: STNM3 Run Time 15 minutes **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 9540 La Amapola Avenue, Fountain Valley, CA 92708

Site Description (Type of Existing Land Use and any other notable features): Project Site: About the middle of E edge of site area, about 10' W of driveway to residence 9540 La Amapola Ave over chainlink fence. Adjacent: Bushard St running N-S, 130' W of STNM3 microphone. High school 200' N. Area mostly residential.

Weather: No cloud, full sun. Sunset: 8:06PM **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 8 mph **Humidity:** 60% **Terrain:** Flat

Start Time: 3:06 PM **End Time:** 3:21 PM **Run Time:**

Leq: 55.1 dB **Primary Noise Source:** Traffic noise from the 228 vehicles passing microphone travelling along Bushard St.

Lmax 63.4 dB Traffic ambiance from vehicles on other roads

L2 60.9 dB **Secondary Noise Sources:** Noise from occasional overhead air traffic. Residential ambiance.

L8 59.5 dB Leaf rustle from 8mph breeze. Bird song.

L25 56.4 dB

L50 52.8 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	7/31/2024	**FACTORY CALIBRATION DATE:**	7/10/2024
FIELD CALIBRATION DATE:	7/15/2025		

Noise Measurement
Field Data

PHOTOS:

STNM1 looking E towards residence 9540 La Amapola Ave, Fountain Valley (right) & W end of La Amapola Ave behind 6' high vegetated chainlink fence (left).

STNM3 looking W across empty site ares towards Bushard Street (130' W) Senior Community Center, 17967 Bushard Street on other side of street.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.611.s	Computer's File Name	LxT_0003099-20250715 150609-LxT_Data.611.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM3 33°42'10.27"N 117°57'45.01"W
Job Description	15 minute noise measurement		
Note	Ganddini Project# 19786 Bushard Street Water Wells, Fountain Valley.		
Start Time	2025-07-15 15:06:09	Duration	0:15:00.0
End Time	2025-07-15 15:21:09	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	55.1 dB		
LAE	84.7 dB	SEA	--- dB
EA	32.5 µPa²h	LAFTM5	57.7 dB
EA8	1.0 mPa²h		
EA40	5.2 mPa²h		
LA_{peak}	81.5 dB	2025-07-15 15:17:07	
LAS_{max}	63.4 dB	2025-07-15 15:16:28	
LAS_{min}	45.0 dB	2025-07-15 15:14:29	
LA_{eq}	55.1 dB		
LC_{eq}	67.5 dB	LC_{eq} - LA_{eq}	12.4 dB
LAI_{eq}	56.0 dB	LAI_{eq} - LA_{eq}	0.9 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	55.1 dB		67.5 dB		--- dB	
$Ls_{(max)}$	63.4 dB	2025-07-15 15:16:28	--- dB		--- dB	
$LS_{(min)}$	45.0 dB	2025-07-15 15:14:29	--- dB		--- dB	
$L_{Peak(max)}$	81.5 dB	2025-07-15 15:17:07	--- dB		--- dB	

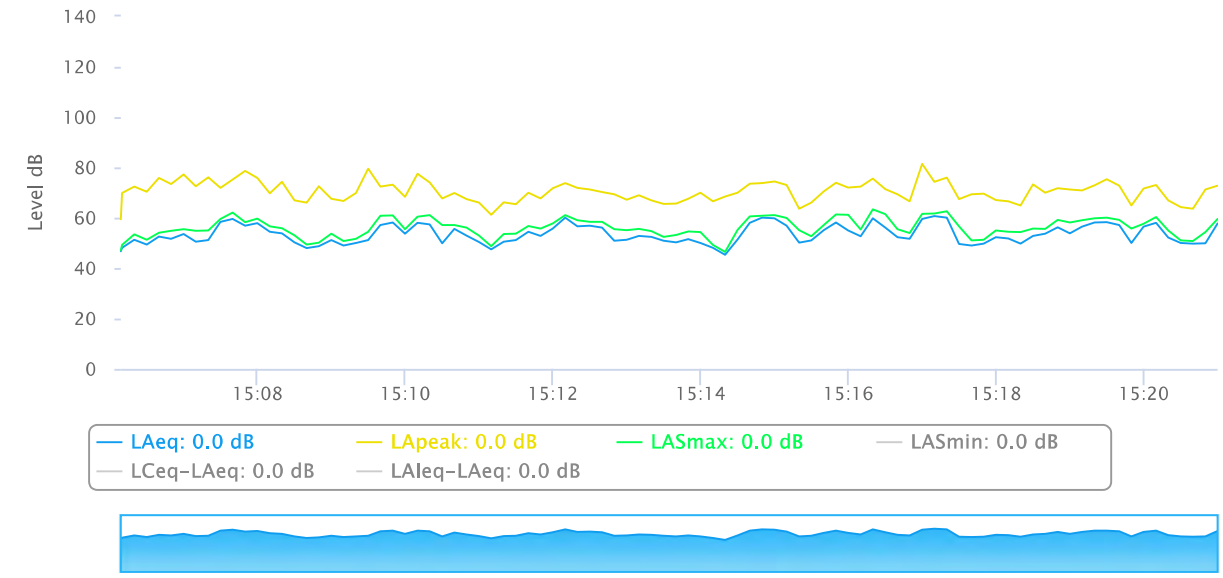
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

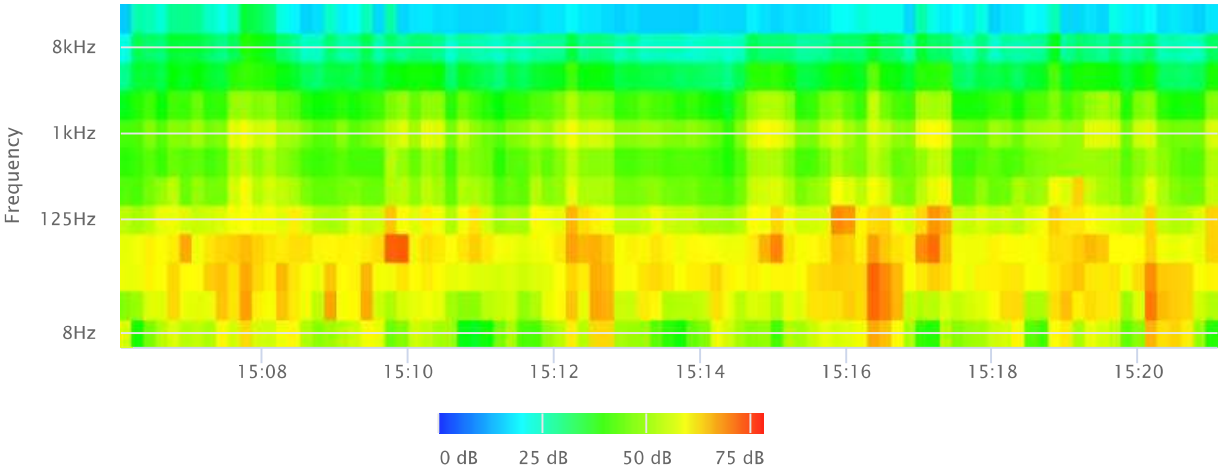
Statistics

LAS 2.0	60.9 dB
LAS 8.0	59.5 dB
LAS 25.0	56.4 dB
LAS 50.0	52.8 dB
LAS 66.6	50.5 dB
LAS 90.0	47.9 dB

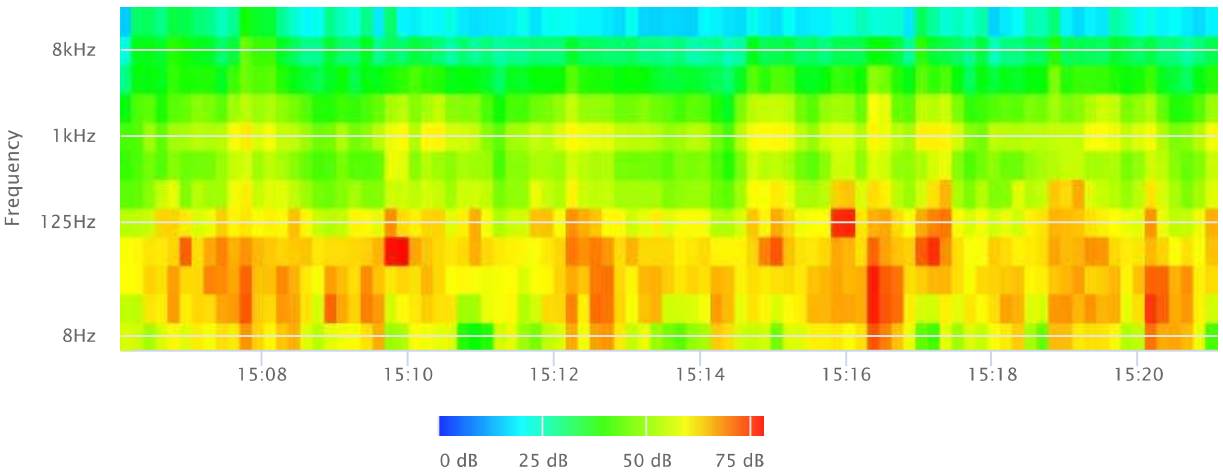
Time History



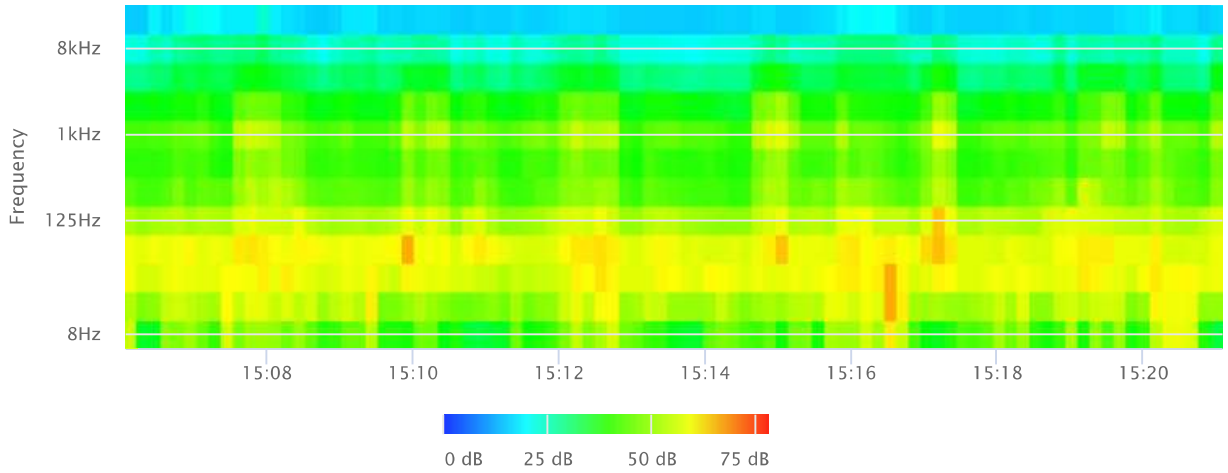
OBA 1/1 Leq



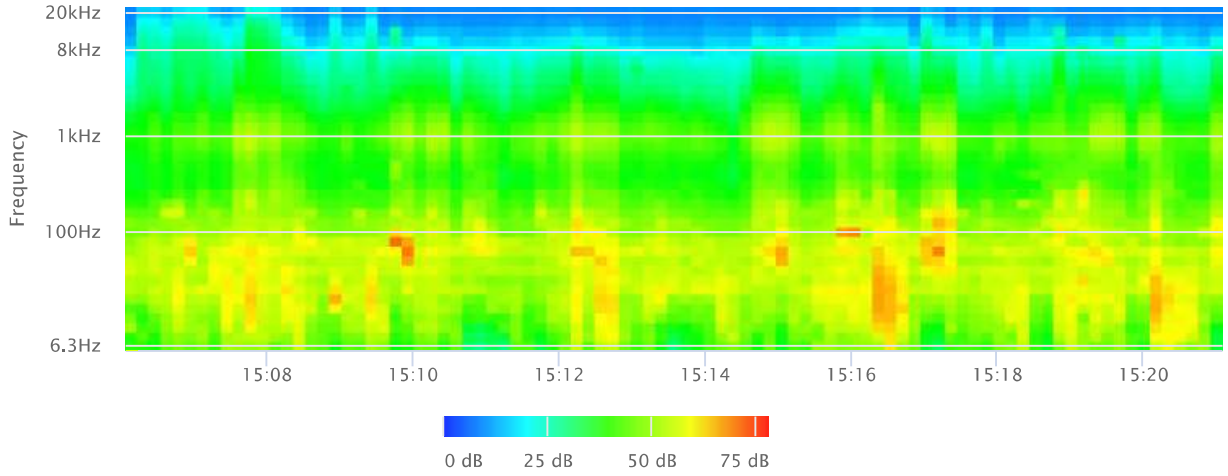
OBA 1/1 Lmax



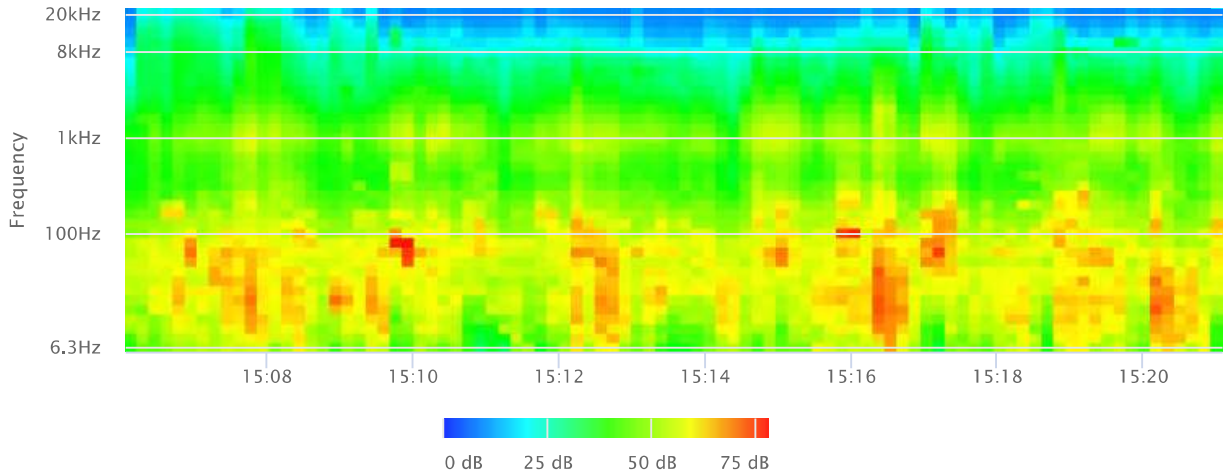
OBA 1/1 Lmin



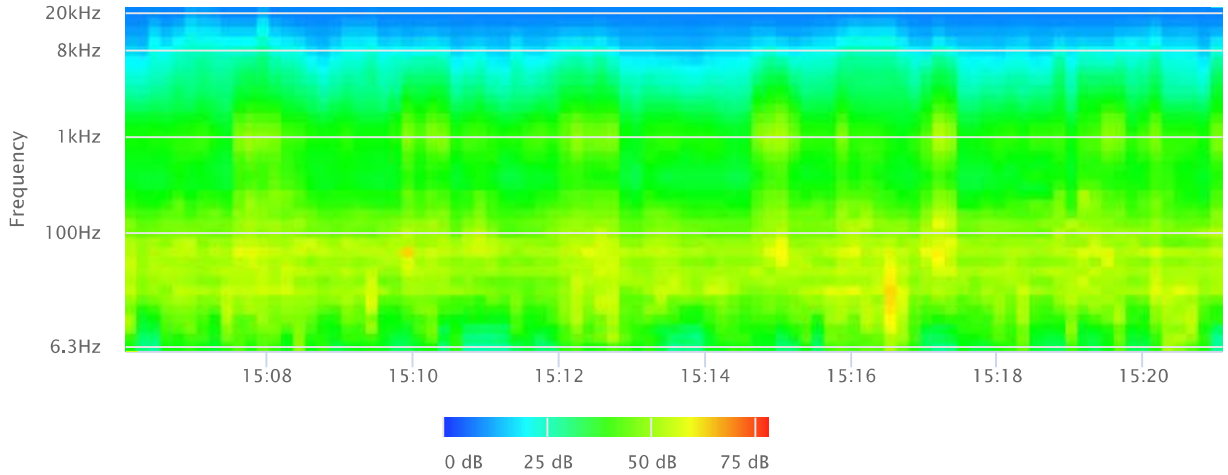
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
15:08
15:10
15:12
15:14
15:16
15:18
15:20
0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Bushard Street Water Well Project, Fountain Valley **Date:** July 15, 2025

Project #: 19786

Noise Measurement #: STNM4 Run Time 15 minutes **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 17967 Bushard Street, Fountain Valley, CA 92708

Site Description (Type of Existing Land Use and any other notable features): Project Site: W sidewalk on Bushard St outside senior center 19767 Bushard St. Adjacent: Bushard St running N-S just E of STNM4. Talbert Ave running E-W, 360' S of STNM4. Mostly residential.

Weather: No cloud, full sun. Sunset: 8:06PM **Settings:** SLOW FAST

Temperature: 72 deg F **Wind:** 8 mph **Humidity:** 60% **Terrain:** Flat

Start Time: 3:39 PM **End Time:** 3:54 PM **Run Time:**

Leq:	69.5	dB
Lmax	84.7	dB
L2	77.0	dB
L8	73.9	dB
L25	70.8	dB
L50	65.5	dB

Primary Noise Source: Traffic noise from the 242 vehicles passing microphone travelling N-S just E of STNM4. Traffic ambiance from vehicles travelling E-W on Talbert Ave & other roads.

Secondary Noise Sources: Pedestrians. Occasional overhead aircraft. Leaf rustle from 8 mph breeze. Bird song.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	7/31/2024	**FACTORY CALIBRATION DATE:**	7/10/2024
FIELD CALIBRATION DATE:	7/15/2025		

Noise Measurement
Field Data

PHOTOS:

STNM4 looking E across Bushard Street, across site area, towards residence 9540 La Amapola Avenue, Fountain Valley (190' E)

STNM4 looking S down Bushard Street towards Talbert Avenue intersection (traffic lights 360' S).

Measurement Report

Report Summary

Meter's File Name	LxT_Data.612.s	Computer's File Name	LxT_0003099-20250715 153914-LxT_Data.612.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM4 33°42'10.05"N 117°57'47.34"W
Job Description	15 minute noise measurement		
Note	Ganddini Project# 19786 Bushard Street Water Wells, Fountain Valley.		
Start Time	2025-07-15 15:39:14	Duration	0:15:00.0
End Time	2025-07-15 15:54:14	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	69.5 dB		
LAE	99.0 dB	SEA	--- dB
EA	889.9 µPa²h	LAFTM5	74.4 dB
EA8	28.5 mPa²h		
EA40	142.4 mPa²h		
LA_{peak}	105.5 dB	2025-07-15 15:47:20	
LAS_{max}	84.7 dB	2025-07-15 15:47:20	
LAS_{min}	49.6 dB	2025-07-15 15:53:58	
LA_{eq}	69.5 dB		
LC_{eq}	76.2 dB	LC_{eq} - LA_{eq}	6.7 dB
LAI_{eq}	71.7 dB	LAI_{eq} - LA_{eq}	2.2 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	42	0:08:33.9
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	69.5 dB		76.2 dB		--- dB	
$L_{S(max)}$	84.7 dB	2025-07-15 15:47:20	--- dB		--- dB	
$L_{S(min)}$	49.6 dB	2025-07-15 15:53:58	--- dB		--- dB	
$L_{Peak(max)}$	105.5 dB	2025-07-15 15:47:20	--- dB		--- dB	

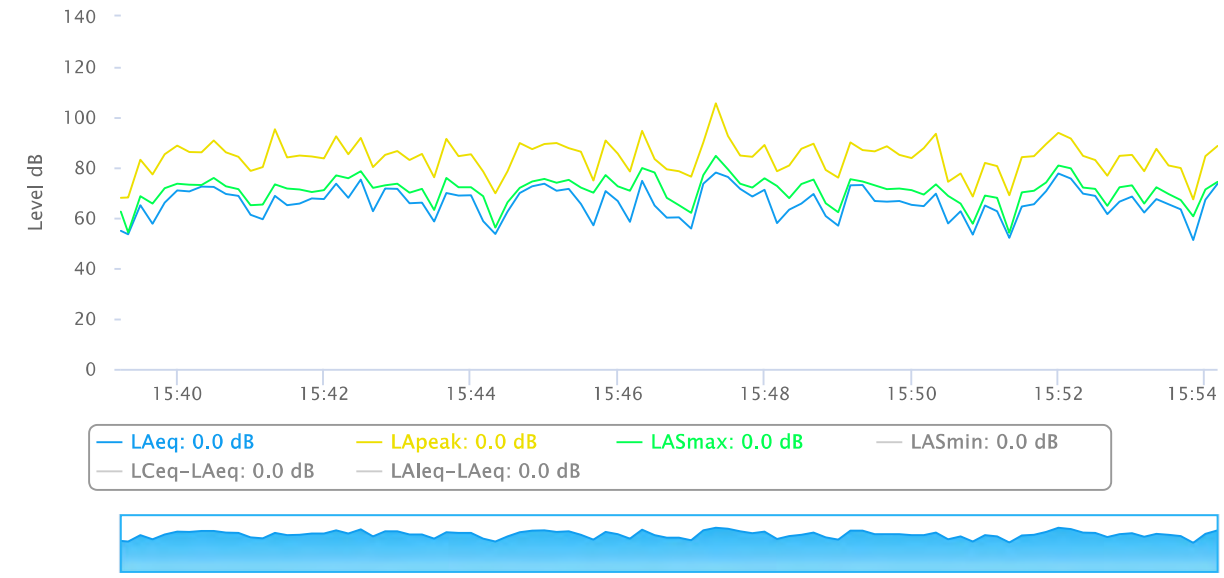
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

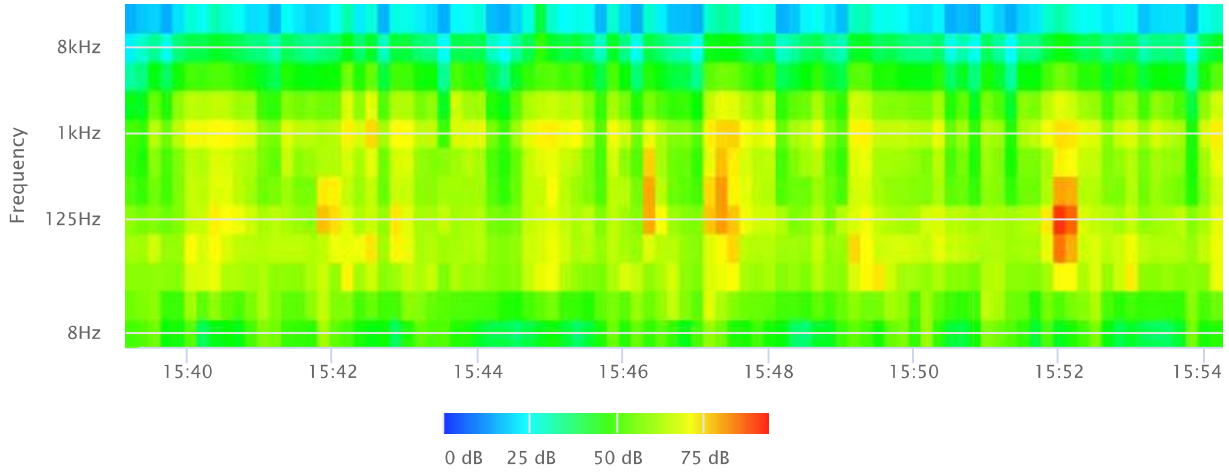
Statistics

LAS 2.0	77.0 dB
LAS 8.0	73.9 dB
LAS 25.0	70.8 dB
LAS 50.0	65.5 dB
LAS 66.6	60.7 dB
LAS 90.0	54.0 dB

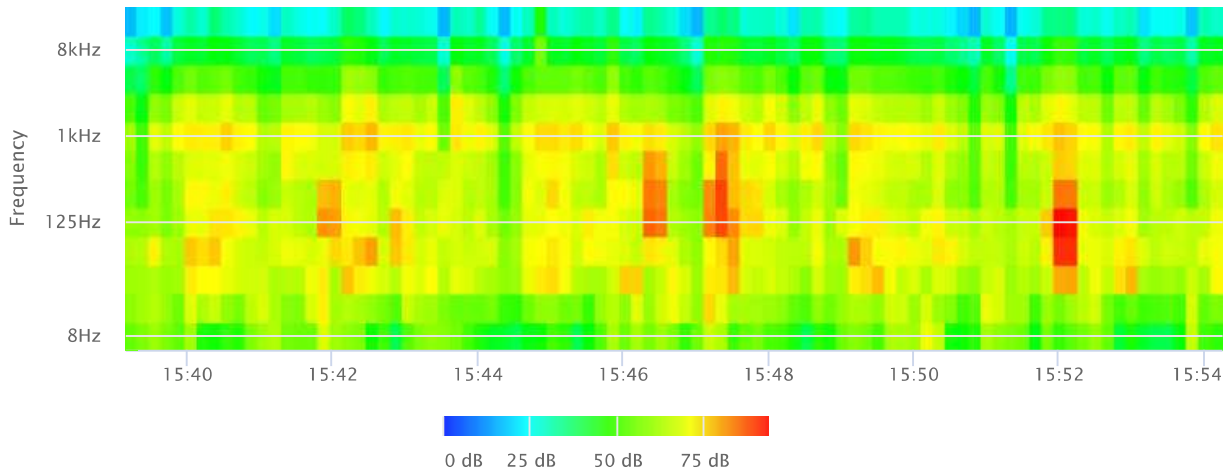
Time History



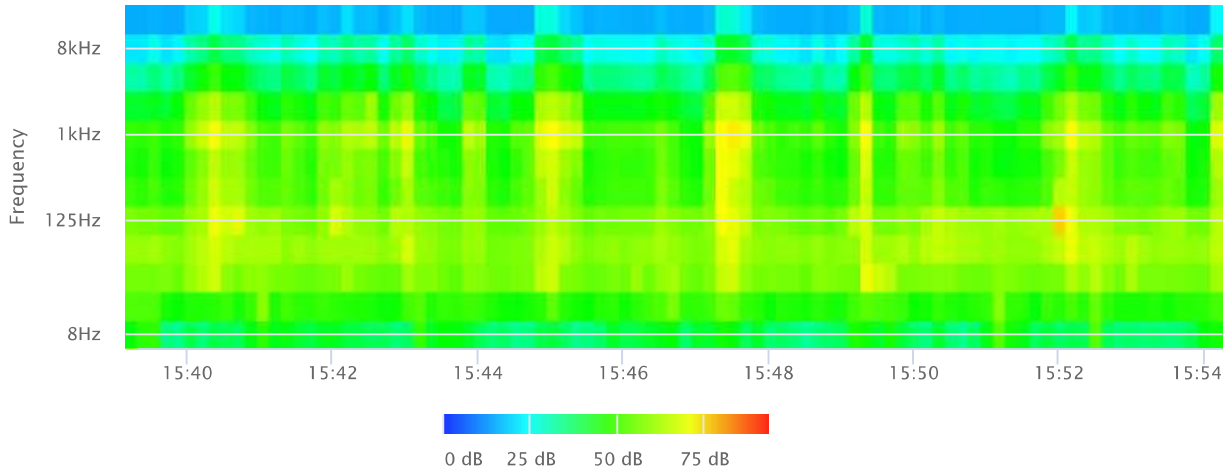
OBA 1/1 Leq



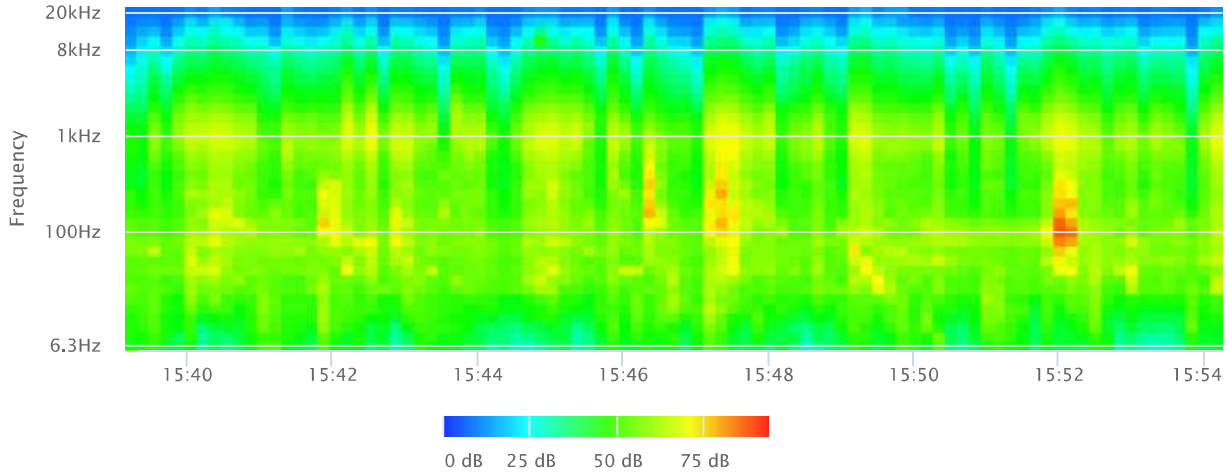
OBA 1/1 Lmax



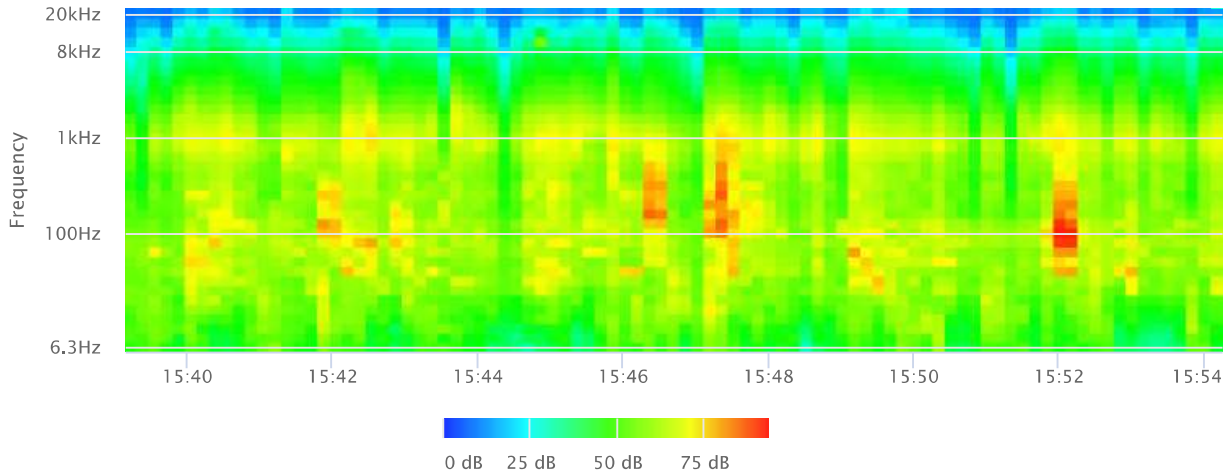
OBA 1/1 Lmin



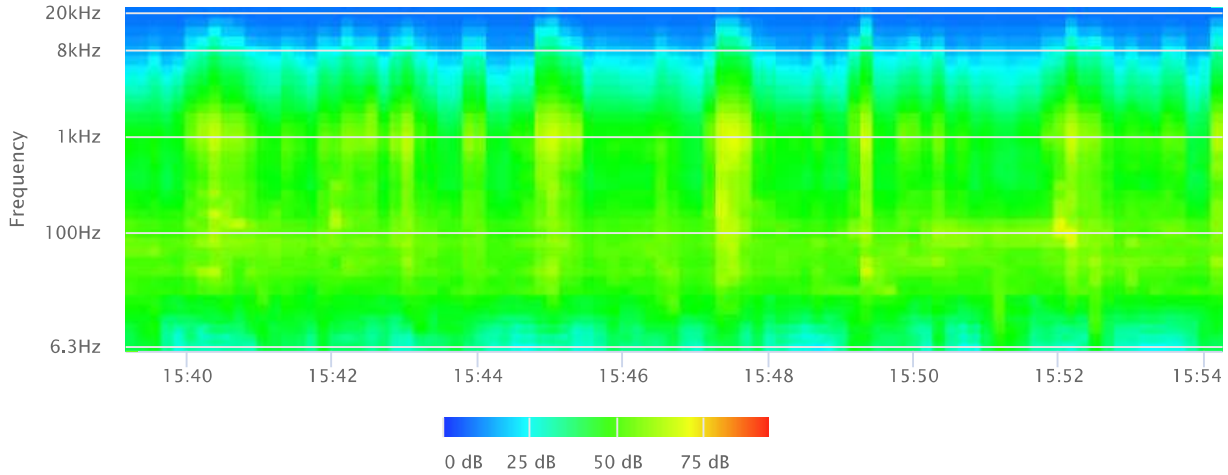
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
15:40
15:42
15:44
15:46
15:48
15:50
15:52
15:54

0 dB
25 dB
50 dB
75 dB

Noise Measurement
Field Data

Project Name: Bushard Street Water Well Project, Fountain Valley **Date:** July 15-16, 2025

Project #: 19786

Noise Measurement #: LTNM1 Run Time 24 hours (24 x 1 hours) **Technician:** Ian Edward Gallagher

Nearest Address or Cross Street: 9540 La Amapola Avenue, Fountain Valley, CA 92708

Site Description (Type of Existing Land Use and any other notable features): Project Site: Just west of driveway to residence 9540 La Amapola Ave, E edge of site area. Adjacent: Bushard St running N-S, 120' W of LTNM1. Talbert Ave running E-W, 400' S of LTNM1. High School 220' N of LTNM1. Elsewhere mostly residential.

Weather: Clear skies. Sunny by day. Sunset/rise: 8:06PM/ 5:51AM **Settings:** SLOW FAST

Temperature: 63-72 deg F **Wind:** 2-8 mph **Humidity:** 60-80% **Terrain:** Flat

Start Time: 6:00 PM **End Time:** 6:00 PM **Run Time:**

Leq: 56.4 dB

Lmax 91.5 dB

L2 61.1 dB

L8 58.0 dB

L25 54.2 dB

L50 49.9 dB

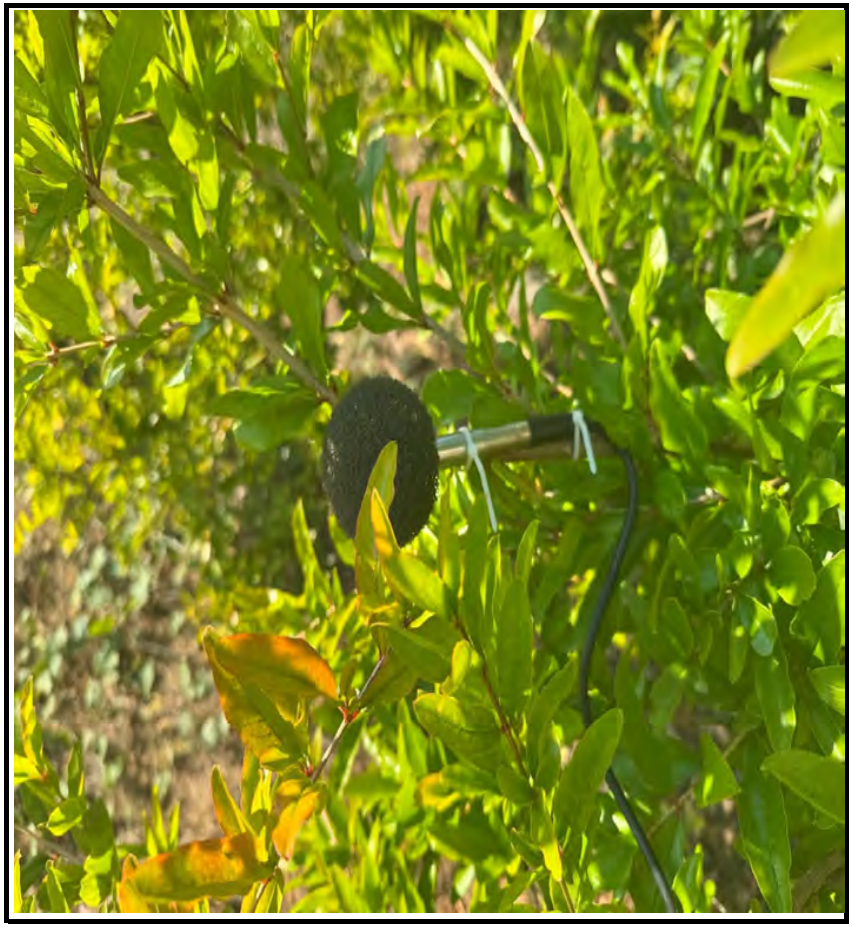
Primary Noise Source: Traffic noise from Bushard Street, traffic ambiance from Talbert Ave and other roads.

Secondary Noise Sources: Residential ambiance, noise from occasional air traffic. Leaf rustle from breeze. Bird song by day. Crickets at night. Pedestrians on Bushard St sidewalk.

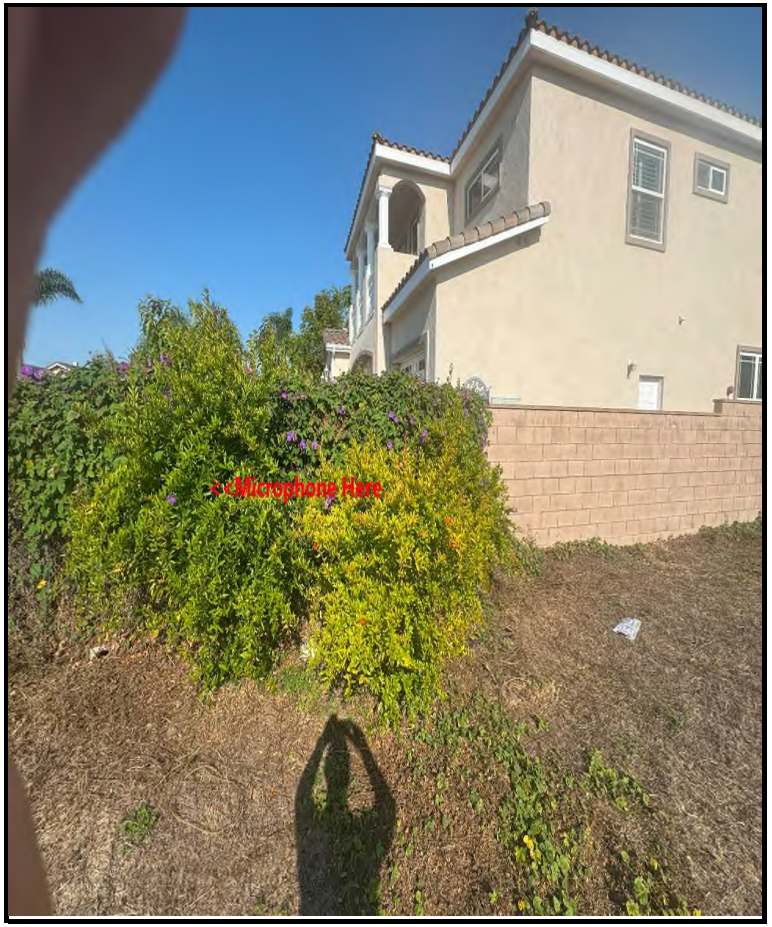
NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 250
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 250
SERIAL NUMBER:	3099	**SERIAL NUMBER:**	2723
FACTORY CALIBRATION DATE:	7/31/2024	**FACTORY CALIBRATION DATE:**	7/10/2024
FIELD CALIBRATION DATE:	7/15/2025		

Noise Measurement
Field Data

PHOTOS:



LTNM1 looking at microphone installed in bush about 5' above ground.



LTNM1 looking ESE towards microphone in bush, residence 9540 La Amapola Avenue behind vegetated chainlink fence (left), cinderblock wall (right).

Measurement Report

Report Summary

Meter's File Name	LxT_Data.613.s	Computer's File Name	LxT_0003099-20250715 180000-LxT_Data.613.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	LTNM1 33°42'10.36"N 117°57'44.99"W
Job Description	24 hour noise measurement (24 x 1 hours)		
Note	Ganddini Project# 19786 Bushard Street Water Wells, Fountain Valley.		
Start Time	2025-07-15 18:00:00	Duration	24:00:00.0
End Time	2025-07-16 18:00:00	Run Time	24:00:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	56.4 dB		
LAE	105.8 dB	SEA	--- dB
EA	4.2 mPa²h	LAFTM5	61.6 dB
EA8	1.4 mPa²h		
EA40	7.0 mPa²h		
LA_{peak}	105.3 dB	2025-07-16 10:20:03	
LAS_{max}	91.5 dB	2025-07-16 10:20:04	
LAS_{min}	28.4 dB	2025-07-16 03:17:35	
LA_{eq}	56.4 dB		
LC_{eq}	65.1 dB	LC_{eq} - LA_{eq}	8.8 dB
LAI_{eq}	59.1 dB	LAI_{eq} - LA_{eq}	2.7 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	101	0:10:37.9
LAS > 85.0 dB	5	0:00:22.9
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	56.4 dB		65.1 dB		--- dB	
$L_{S(max)}$	91.5 dB	2025-07-16 10:20:04	--- dB		--- dB	
$L_{S(min)}$	28.4 dB	2025-07-16 03:17:35	--- dB		--- dB	
$L_{Peak(max)}$	105.3 dB	2025-07-16 10:20:03	--- dB		--- dB	

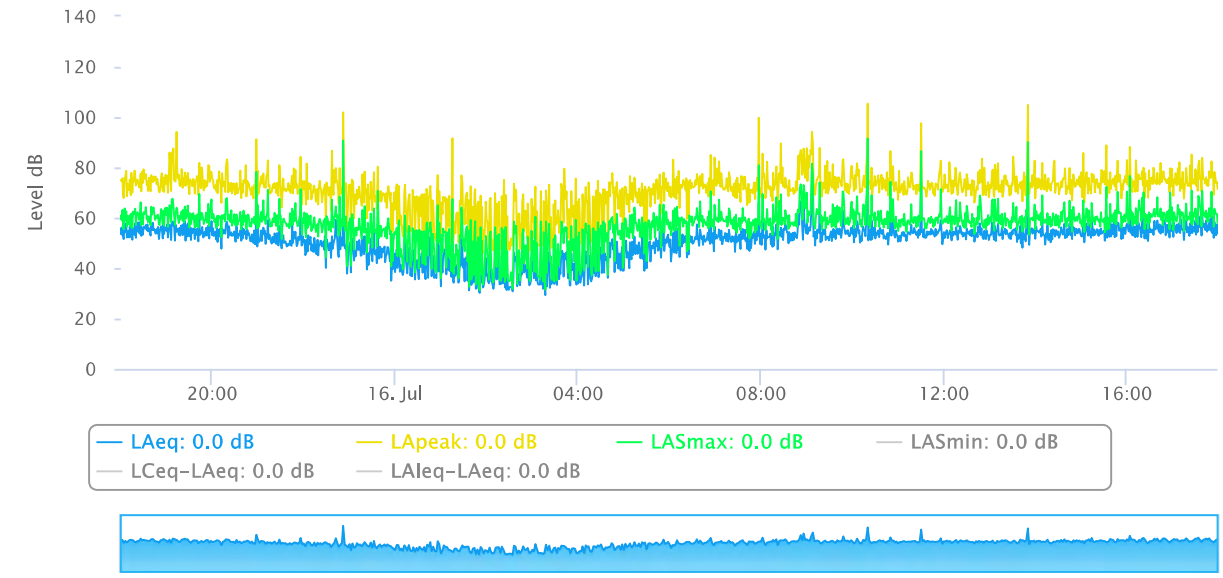
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

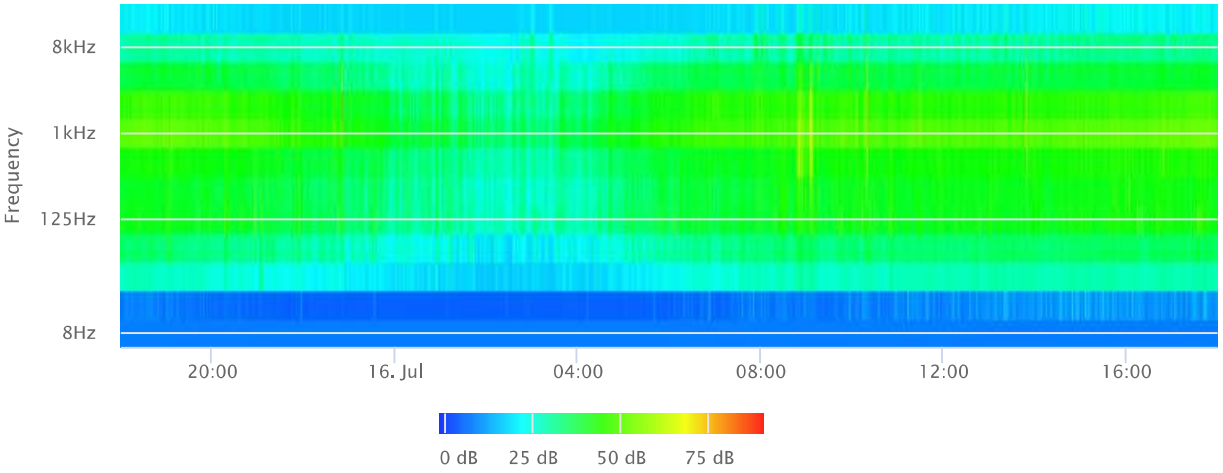
Statistics

LAS 2.0	61.1 dB
LAS 8.0	58.0 dB
LAS 25.0	54.2 dB
LAS 50.0	49.9 dB
LAS 90.0	35.8 dB
LAS 99.0	31.5 dB

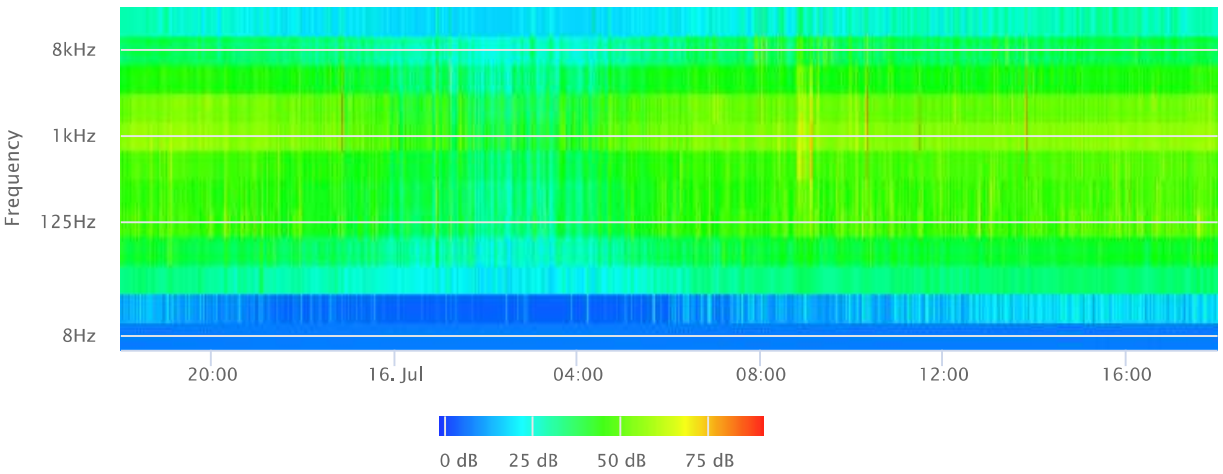
Time History



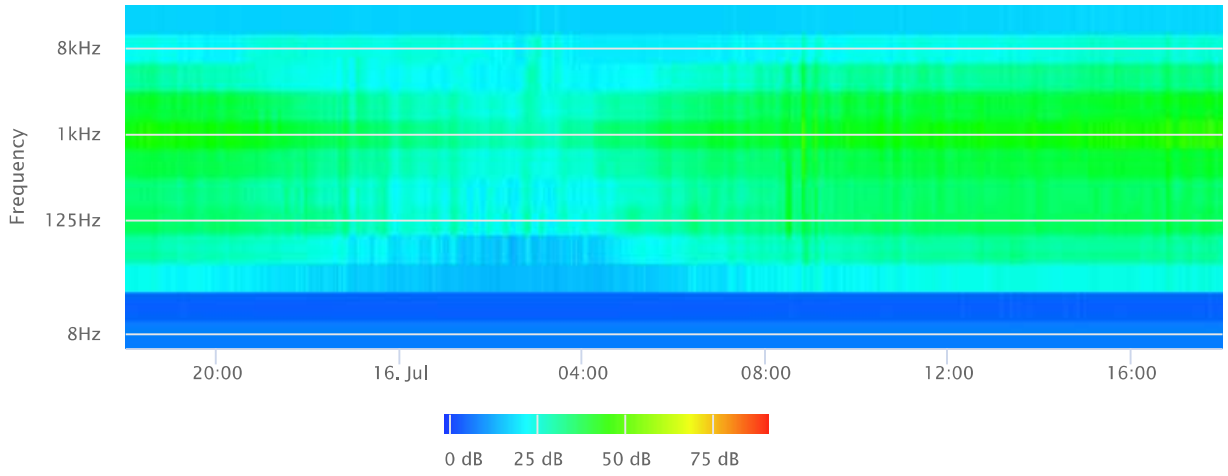
OBA 1/1 Leq



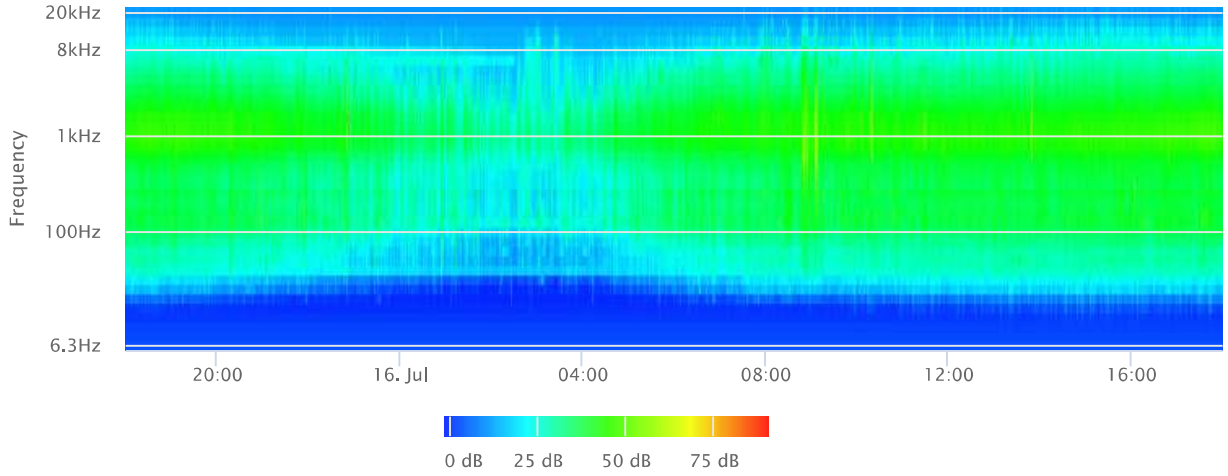
OBA 1/1 Lmax



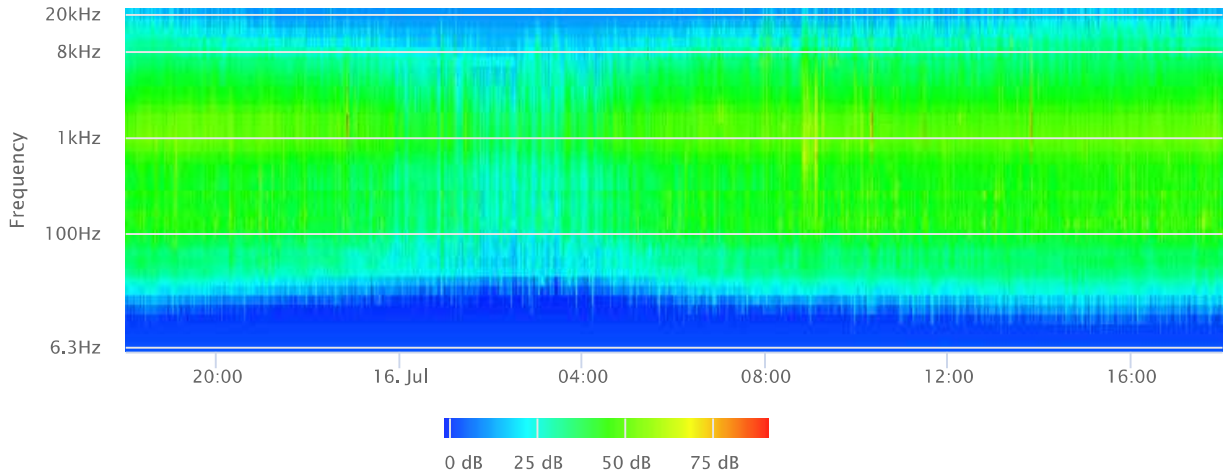
OBA 1/1 Lmin



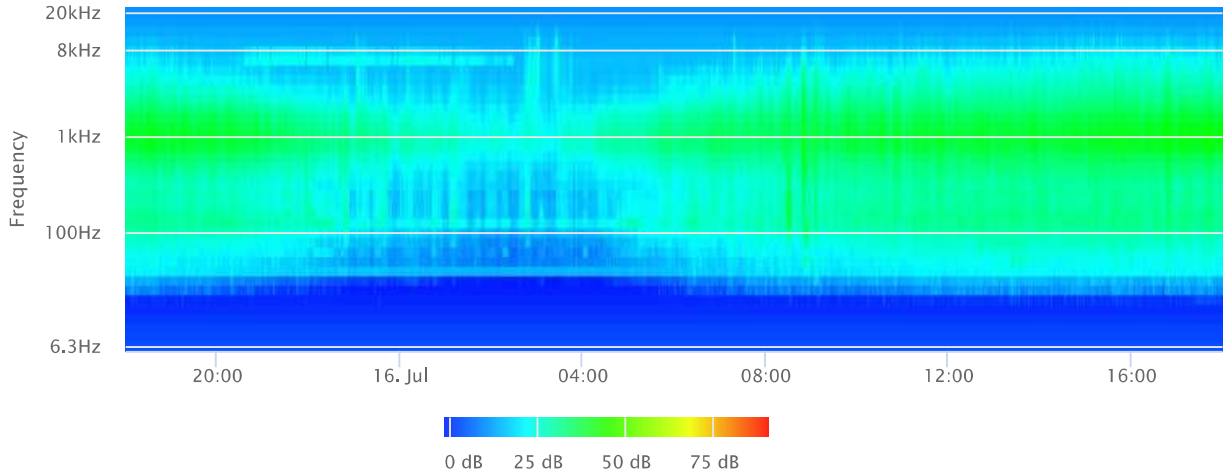
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
20:00
16. Jul
04:00
08:00
12:00
16:00

0 dB
25 dB
50 dB
75 dB

APPENDIX D

SOUNDPLAN CONSTRUCTION NOISE MODELING

Noise emissions of industry sources

Source name	Reference	Level		Frequency spectrum [dB(A)]								Corrections		
			dB(A)	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Cwall dB	CI dB	CT dB
Pump	Lw/unit	Day	92.8	67.8	78.9	81.4	87.8	87.0	86.2	81.0	71.9	-	-	-

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	1	-	EG	-	56.4	-
			1.OG	-	55.7	-
2	2	-	EG	-	53.6	-
			1.OG	-	54.0	-
3	3	-	EG	-	44.8	-
			1.OG	-	51.5	-
4	4	-	EG	-	43.7	-
			1.OG	-	50.3	-
5	5	-	EG	-	50.5	-
			1.OG	-	51.0	-

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	1	-	EG	-	50.0	-
			1.OG	-	50.1	-
2	2	-	EG	-	51.5	-
			1.OG	-	52.0	-
3	3	-	EG	-	46.9	-
			1.OG	-	53.8	-
4	4	-	EG	-	50.3	-
			1.OG	-	56.6	-
5	5	-	EG	-	49.0	-
			1.OG	-	49.5	-

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	1	-	EG	-	41.3	-
			1.OG	-	50.4	-
2	2	-	EG	-	42.9	-
			1.OG	-	45.7	-
3	3	-	EG	-	44.4	-
			1.OG	-	48.5	-
4	4	-	EG	-	43.0	-
			1.OG	-	47.5	-
5	5	-	EG	-	46.7	-
			1.OG	-	48.1	-

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	1	-	EG	-	42.1	-
			1.OG	-	48.4	-
2	2	-	EG	-	42.0	-
			1.OG	-	44.8	-
3	3	-	EG	-	39.3	-
			1.OG	-	45.9	-
4	4	-	EG	-	41.9	-
			1.OG	-	48.9	-
5	5	-	EG	-	39.1	-
			1.OG	-	42.3	-

Noise emissions of industry sources

Source name	Reference	Level		Frequency spectrum [dB(A)]								Corrections		
			dB(A)	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Cwall dB	CI dB	CT dB
Pump1	Lw/	Day	104.1	82.9	86.0	87.5	95.9	100.1	99.3	92.1	83.0	-	-	-
Pump2	Lw/unit	Day	104.1	82.9	86.0	87.5	95.9	100.1	99.3	92.1	83.0	-	-	-

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	1	-	EG	-	59.6	-
			1.OG	-	68.7	-
2	2	-	EG	-	67.2	-
			1.OG	-	67.3	-
3	3	-	EG	-	57.6	-
			1.OG	-	67.0	-
4	4	-	EG	-	59.8	-
			1.OG	-	69.2	-
5	5	-	EG	-	64.4	-
			1.OG	-	64.6	-

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