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December 22, 2022 04907.00001.001

Evan Wilson
Senior Asset Manager
Bridgewest Group
7310 Miramar Road, Suite 500
San Diego, CA, 92126

Subject: Construction Noise Control Planning for the 11011 Torreyana Road Project

Dear Mr. Wilson:

HELIX has completed a study of potential noise impacts resulting from the planned construction associated with the 11011 Torreyana Road Project (project). This construction noise impact analysis considers the potential for demolition of the existing building and construction of the proposed structure to result in indirect impacts to sensitive avian species located in nearby habitat.

PROJECT LOCATION

The approximately 10-acre project site is in the community of University in the northern portion of the City of San Diego (City), San Diego County, California (Figure 1, *Regional Location*). More specifically, the site is located at 11011 Torreyana Road (Accessor's Parcel Number 340-010-29-00) northeast of the intersection of Torreyana Road and Callan Road (Figure 2, *Aerial Photograph*). The site is within the boundary of the City's Multiple Species Conservation Program Subarea Plan and the easternmost portion lies within the Multi-Habitat Planning Area (MHPA), as shown on Figure 2. Elevations range from approximately 120 feet above mean sea level at the eastern side of the site to 365 feet above mean sea level on the western side of the site.

PROJECT DESCRIPTION

The project consists of the redevelopment of the current property, which is comprised of an existing 76,694 square foot (SF) research lab/office building and associated appurtenances (parking, mechanical yard buildings, landscaping). The current building, parking structure, and auxiliary buildings will be demolished, and a new 203,096 SF life science building will be constructed in its place. The anticipated construction impact area is provided on Figure 2.

NOISE DESCRIPTORS AND METHODOLOGY

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) used to approximate the hearing sensitivity of humans. Time-averaged noise levels of one hour are expressed by the symbol "L_{EQ}" unless a different period is specified. The highest one-second root mean square (RMS) noise level record for the measurement time period is expressed as "L_{MAX}". Data may also be presented as octave-band-filtered and/or A-octave-band-filtered data, which are a series of sound spectra centered about each stated frequency (with half of the bandwidth above and half below each stated frequency). These data are typically used for machinery noise analysis and barrier-effectiveness calculations.

Noise emission data are often supplied per the industry standard format of sound power, which is the total acoustic power radiated from a given sound source as related to a reference power level. Sound power differs from sound pressure, which measures the fluctuations in air pressure caused by the presence of sound waves and is the format that describes noise levels as heard by the receiver. Sound pressure is the actual noise experienced by a human or registered by a sound level instrument. When sound pressure is used to describe a noise source, it must specify the distance from the noise source to provide complete information. Sound power is a specialized analytical method to provide information without the distance requirement, but it may be used to calculate the sound pressure at any desired distance.

Noise Modeling

To estimate noise levels at sensitive receptors, the Computer Aided Noise Abatement (CadnaA) model version 2022 was used. CadnaA is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions and allows for the input of topography to predict outdoor noise impacts. For purposes of this analysis, the expected noise levels produced by construction activities was based on the U.S. Department of Transportation (USDOT) Roadway Construction Noise Model (RCNM; USDOT 2008). This analytical method provides a known basis for planning noise control, although it is not intended to plan for all potential construction activities that may occur in association with the project.

NOISE CONTROL REQUIREMENTS

San Diego Municipal Code

Construction noise standards for the City are codified in Section 59.5.0404 of the San Diego Municipal Code. This section states it shall be unlawful for any person to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 dBA during the 12-hour period from 7:00 a.m. to 7:00 p.m. Construction shall occur between the hours of 7:00 a.m. and 7:00 p.m. Mondays through Saturdays, excluding holidays. The project site is located approximately 1,700 feet east of the nearest residentially zoned properties, located west of North Torrey Pines Road.

Multi-Habitat Planning Area

The project site contains MHPA lands and suitable habitat for coastal California gnatcatcher (CAGN). State and federal regulations require that noise levels do not exceed an hourly limit of 60 dBA L_{EQ} at the edge of occupied habitat during the CAGN breeding season, which is defined by the City as March 1 to August 15. If the existing ambient noise level is above 60 dBA L_{EQ}, the allowable noise level increase over ambient conditions is restricted to 3 dBA or less in habitat determined/assumed to be occupied during the breeding seasons for these species.

For the purposes of this noise letter, the following discussion assumes the habitat is occupied and the 60 dBA L_{EQ} noise limit applies to the project. Preconstruction surveys for CAGN would be required to determine species presence or absence if construction were to occur during the CAGN breeding season. If surveys are not conducted, the presence of the species would be assumed, and the implementation of noise attenuation and biological monitoring would be required during the gnatcatcher breeding season if construction would generate noise levels higher than 60 dBA L_{EQ} or ambient (whichever is higher). Construction of the project would occur approximately 560 feet from the MHPA boundary at its nearest point.

EXISTING AMBIENT NOISE

A site visit was conducted on the afternoon of December 5, 2022 to measure ambient noise at the project site. The primary sources of ambient noise in the project vicinity include traffic along Interstate-5 and surrounding local roadways and operational noise from existing industrial uses surrounding the project site. Access to the MHPA boundary was not available during this visit and the noise measurement was taken at the top of the existing slope on-site, as shown on Figure 2. The measurement location is approximately 800 feet from the boundary of the MHPA. At this location, ambient noise was measured at 56.4 dBA L_{EQ}.

While access to the MHPA boundary was not available during this site visit, it is not anticipated that hourly noise levels at the MHPA boundary exceed 60 dBA L_{EQ}. Therefore, planning in this report considers the allowable noise level to be 60 dBA L_{EQ} if the habitat is determined to be occupied.

CONSTRUCTION ASSUMPTIONS

Construction of the proposed project is anticipated to include site preparation, demolition, grading, utility undergrounding, building construction, and paving. Based on information provided by the construction contractor, the highest noise levels would be generated during demolition of the existing structure. The equipment planned for demolition that would be used simultaneously is listed in Table 1, *Anticipated Demolition Construction Equipment.* The maximum and hourly noise levels at 50 feet are provided for reference.

Table 1
ANTICIPATED DEMOLITION CONSTRUCTION EQUIPMENT

Equipment	dBA L_{MAX} at 50 feet	Hourly Percent Use	dBA L_{EQ} at 50 feet	Quantity
Concrete Saw	89.6	20	82.6	1
Excavator	80.7	40	76.7	2
Hydra Break Ram	90.0	10	80.0	2

Source: USDOT 2008
dBA = A-weighted decibel; L_{MAX} = maximum noise level; L_{EQ} = hourly noise level

CONSTRUCTION OPERATIONS

Anticipated construction equipment for simultaneous use during demolition, the loudest planned construction phase, is provided in Table 1. The resulting combined noise level was modeled in RCNM based on the distance between the proposed impact area and receivers placed along the MHPA boundary. Receiver locations are shown on Figure 3, *Receiver Locations*.

The steep slopes on the eastern side of the project area and its surroundings provide substantial variations in noise levels from the flat terrain assumed in RCNM. CadnaA was used to determine the attenuation provided by the area's topography at each receiver location and the change was applied to the hourly noise level provided by RCNM. Calculated noise levels at the 11 receiver locations are provided in Table 2, *Anticipated Noise Level at MHPA Boundary*. Due to the variations in topography, which interrupt the line of sight (and therefore noise) between the project site and MHPA boundary, the provided noise levels are not wholly dependent on their distance from the noise source.

Table 2
ANTICIPATED NOISE LEVEL AT MHPA BOUNDARY

Receiver	Distance from Construction (feet)	Calculated Noise Level (dBA L_{EQ})	Exceeds 60 dBA L_{EQ}?
1	950	58.4	No
2	900	53.6	No
3	965	35.9	No
4	965	40.1	No
5	830	51.7	No
6	920	50.4	No
7	890	35.3	No
8	760	39.7	No
9	670	35.1	No
10	560	36.4	No
11	640	42.2	No

Source: USDOT 2008
MHPA = Multi-Habitat Planning Area; dBA = A-weighted decibel; L_{EQ} = hourly noise level

As shown in Table 2, the noise level at the MHPA boundary is not anticipated to exceed the 60 dBA L_{EQ} hourly noise limit for occupied habitat. Therefore, no significant impacts to CAGN would occur and no construction noise mitigation or monitoring would be required.

Further, at the nearest residentially zoned property 1,700 feet away from the project site, construction activities are anticipated to generate hourly noise levels of up to 56.1 dBA L_{EQ}. This noise level does not consider intervening structures and topography that would further decrease noise levels. Therefore, project construction would not conflict with the City's 75 dBA L_{EQ} (12-hour) construction noise standard at residentially zoned properties.

CONCLUSION

As described above, construction noise is not anticipated to exceed applicable noise limits for the MHPA or residentially zoned properties. This planning information is based on reasonable conservative equipment expectations and estimations of equipment noise levels, which have been analyzed to provide predicted noise levels. No construction noise monitoring or attenuation measures are required of the project.

Sincerely,

Charles Terry
Principal Acoustician

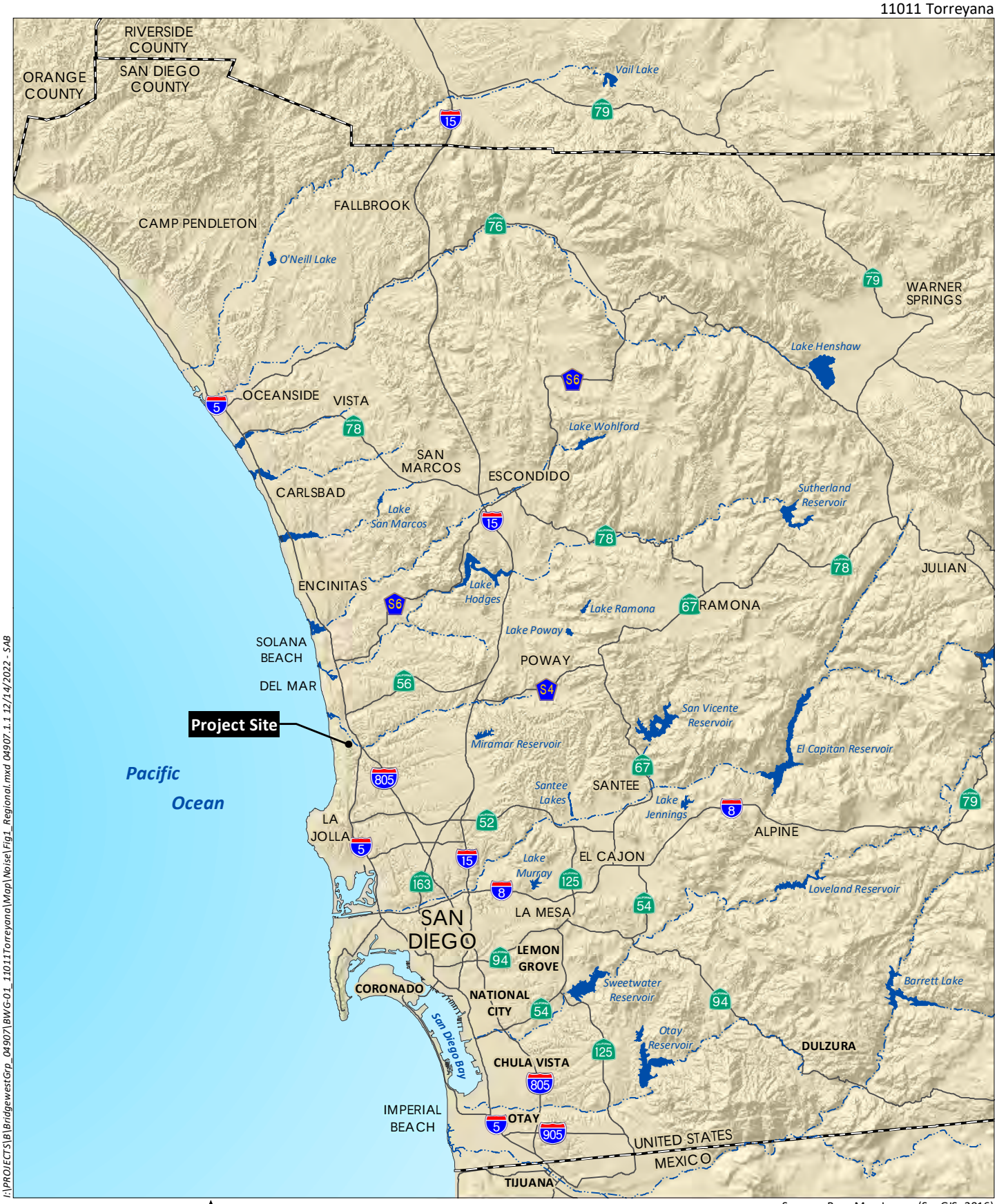
Shelby Bocks
Acoustic Analyst

Attachments:

Figure 1 Regional Location
Figure 2 Aerial Photograph
Figure 3 Receiver Locations

REFERENCES

U.S. Department of Transportation (USDOT). 2008. Roadway Construction Noise Model. Version 1.1. December 8.



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Source: Base Map Layers (SanGIS, 2016)

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Regional Location

Figure 1

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Source: Aerial (SANDAG, 2019)

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Aerial Photograph of Project Location

Figure 2

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Source: Aerial (SANDAG, 2019)

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Receiver Locations

Figure 3