



An Employee-Owned Company

September 16th, 2015

Mr. Marcus Bush
Rick Engineering Company
5620 Friars Road
San Diego, CA 92110

Reference: Lotus Ranch Baseline Noise Measurements (RECON Number 7524)

Dear Mr. Bush:

This letter describes the results of the baseline noise level measurements taken for the Lotus Ranch project on July 8, 2015, at and near the El Toro Export Company in El Centro, California.

Background

RECON conducted a site visit to observe existing conditions and measure noise levels at the proposed Lotus Ranch Project site to determine the existing noise levels occurring on-site due to existing operations at the El Toro Export company and to provide information on portions of the proposed site that would be potentially incompatible with future development including residential, community park, and potential elementary school site. The locations of the Lotus Ranch Project and the El Toro Export Company are shown on Figure 1.

Noise Measurements

Noise measurements were taken on July 8 and 9, 2015. One 24-hour noise measurement was taken beginning at 12:30 p.m. on July 8 and ending at 12:30 p.m. on July 9. Three short-term (approximately 20-minute) noise level measurements were also conducted during the long-term measurement. Noise level measurement locations are shown on Figure 1. The main purpose of the measurements was to calibrate the traffic noise model to develop a baseline noise level for determining noise and land use compatibility constraints on the proposed Lotus Ranch Project site. The short-term measurements were taken with traffic counts to allow for a correction related to potential differences in vehicle volumes and vehicle size classifications.

The noise level measurements were taken with two Larson–Davis Model LXT1, Sound Level meters. The meters were calibrated before and after each of the measurements. The meters were set to record A-weighted noise levels with “slow” response and a one-minute time interval. The 24-hour measurement was taken approximately 450 feet south of Wake Avenue and 30 feet east of La Brucherie Road. Short-term measurement 1 was located approximately 50 feet north of the El Centro Export Company, approximately 1,600 feet west of La Brucherie Road. Short-term measurement 2 was located approximately 50 feet north of the El Centro Export Company and 50 feet west of La Brucherie Road. Short-term measurement 3 was located approximately 50 feet east of La Brucherie Road near the 24-hour noise measurement location. The results of the 24-hour measurement are summarized in Table 1, and the results of the short-term measurements are summarized in Table 2.

As shown in Table 1, the loudest traffic hour is the same as the Community Noise Equivalent Level (CNEL); thus, the peak traffic hour noise levels can be used to determine the predicted CNEL noise levels at various distances to determine the compatibility of planned land uses. Based on the observed noise levels, a traffic noise model was developed to determine the existing noise levels at various distances from La Brucherie Road. Noise level contours were developed based on an existing average daily traffic volume of 3,000.

Based on the traffic noise levels, the existing 65 CNEL occurs approximately 50 feet from the centerline of La Brucherie Road, while the 60 CNEL contour occurs at approximately 125 feet from the centerline of La Brucherie Road. Noise levels beyond 330 feet from the centerline would be less than 55 CNEL. The 70 CNEL and higher contours are all located within the current right-of-way. The existing noise level contours for the 65, 60, and 55 CNEL are shown on Figure 2.

For purposes of determining future noise level compatibility, the traffic volume was increased to a theoretical maximum for a local roadway of 1,000 vehicles per lane per hour. This is considered a reasonable worst case, as more vehicles than this would result in congestion and slower traffic, which would generate less noise because of the decreased speed, and fewer vehicles than this would also generate less noise. Based on this future worst-case scenario, the 70 CNEL would occur approximately 90 feet from the centerline of the roadway, the 65 CNEL would occur approximately 240 feet from the centerline of the roadway, while the 60 CNEL contour would occur at approximately 1,270 feet from the roadway. Noise levels beyond 770 feet from the centerline would be less than 55 CNEL. The 75 CNEL and higher contours are all located within the current right of way. The future noise level contours for the 70, 65, 60, and 55 CNEL are shown on Figure 3.

Based on the City of El Centro's noise level and land use compatibility matrix, Table N-3 of the Noise Element, with the exception of auditoriums, amphitheaters, concert halls, sports areas, and outdoor spectator sports venues, all land use would be compatible with existing noise levels within 1,270 feet of the centerline of La Brucherie Road. The noise studies are required to demonstrate noise levels within interior habitable rooms would be 45 CNEL or less.

Within the 65 to 70 CNEL noise contours, other land uses would be compatible without mitigation, including parks, playgrounds, and golf courses, as well as commercial and industrial land uses. Within the 70 CNEL, development would be restricted to agricultural, industrial, and manufacturing uses, or utility easements.

The School Site Alternative proposes a K-6, 12-acre site that would include classroom buildings, a library/media center, administrative/support facilities, playground area, and asphalt play area on the block bounded by Danenberg, Drive, 23rd Street, Sophia Circle, and 24th Street. The hours of operation are expected to be 6:30 a.m. to 5:00 p.m., Monday through Friday, with occasional evening programs.

Project construction noise levels in the vicinity of the school site would fluctuate depending on the type, number, and duration of usage for the various types of equipment required to construct the school. The effects of construction noise largely depend on the type of construction activities, the distance from the construction activities to noise-sensitive receptors, and the existing ambient noise environment in the vicinity of the noise-sensitive receptors. Due to the size of the school site, typical construction activities would be 75 dB(A) Leq or less at the school site boundary, thus impacts from construction noise would be less than significant.

Noise from school operations would include noise from school bells on the classroom buildings, heating/ventilation/air conditioning (HVAC) equipment, and students using the playground areas. However, noise from school bells and students, are exempted from the City noise ordinance by Section 17.1-15 of the City Municipal Code.

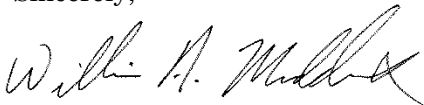
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Typical roof-mounted HVAC equipment generates noise levels of approximately 75 dB(A) Leq at 3 feet. This would attenuate to 50 dB(A) Leq or less at 55 feet or greater from the source. However as these would be roof-mounted, the roof and parapet would provide shielding. It is assumed the breaking on the line of sight would provide a minimum of 5 dB(A) reduction to locations at ground level, which would reduce to 50 dB(A) Leq or less at 30 feet. Thus, HVAC associated with the proposed school site is not anticipated to exceed the outdoor noise level limit for single-family residential land uses of 50 dB(A) Leq identified by the Noise Ordinance.

Potential exterior noise level compatibility impacts may be reduced through the incorporation of noise barriers or buffers. Based on initial evaluations, which do not incorporate topography or proposed design plans, a noise wall of 6 feet in height could reduce the 60 CNEL to a distance of 210 feet from the centerline of La Brucherie Road, while an 8-foot high wall would reduce the 60 CNEL to 150 feet from the centerline. Earthen berms of similar height would achieve even greater reductions; for example, an 8-foot high earthen berm would reduce noise levels to 60 CNEL or less behind the berm. Based on this preliminary assessment, once specific land uses are proposed and development plans are provided, feasible mitigation measures can be devised for the specific land uses.

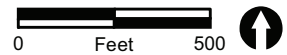
If you have any questions regarding the results of this measurement, please contact me at (619) 308-9333.

Sincerely,



William Maddux
Senior Technical Specialist

WRM:jg





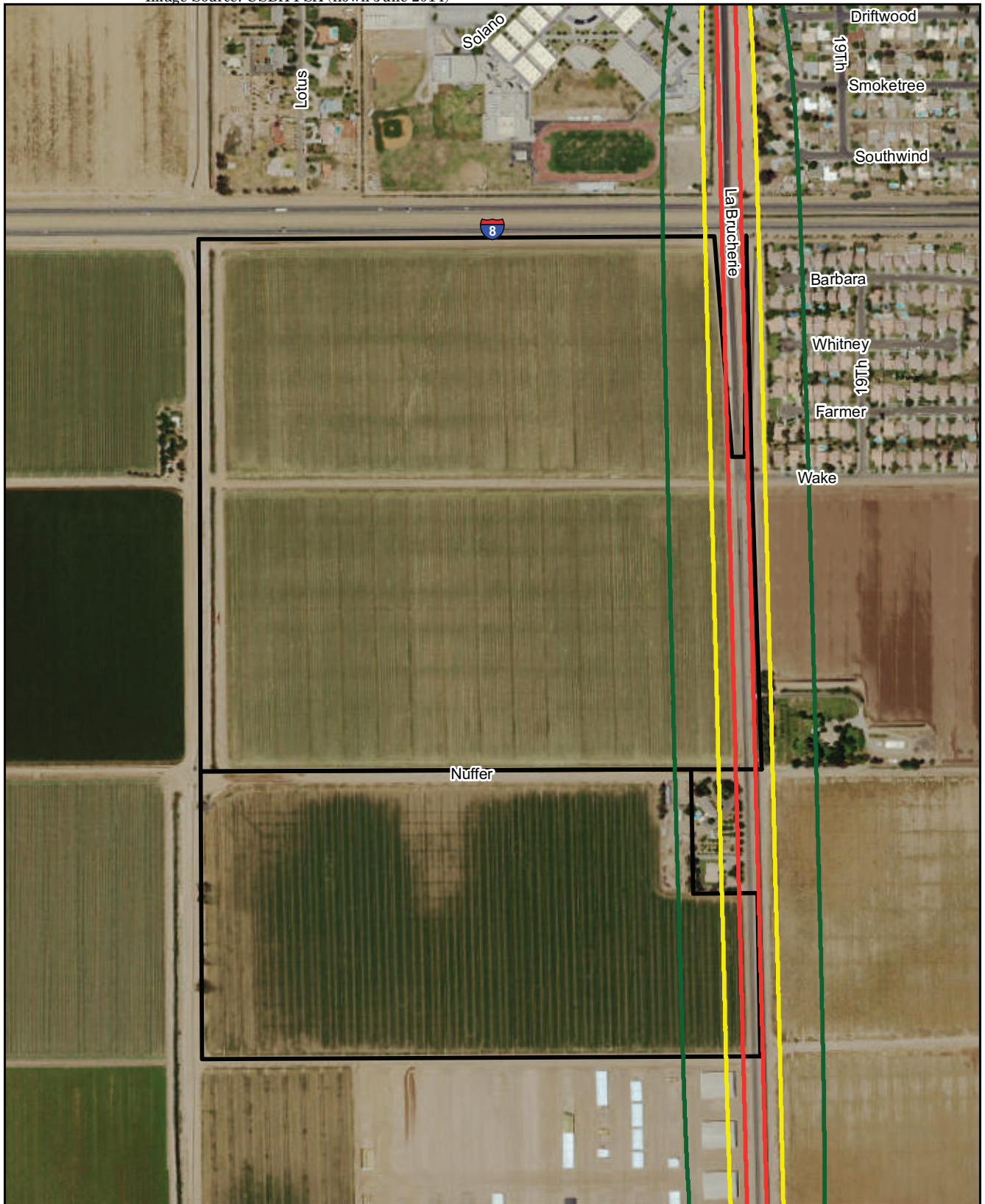

-  Project Area
-  Noise Measurement Locations


FIGURE 1


Project Location and
Noise Measurement Locations



 Project Area **Existing Noise Level Contours**

 55 CNEL

 60 CNEL

 65 CNEL

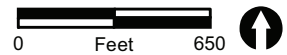
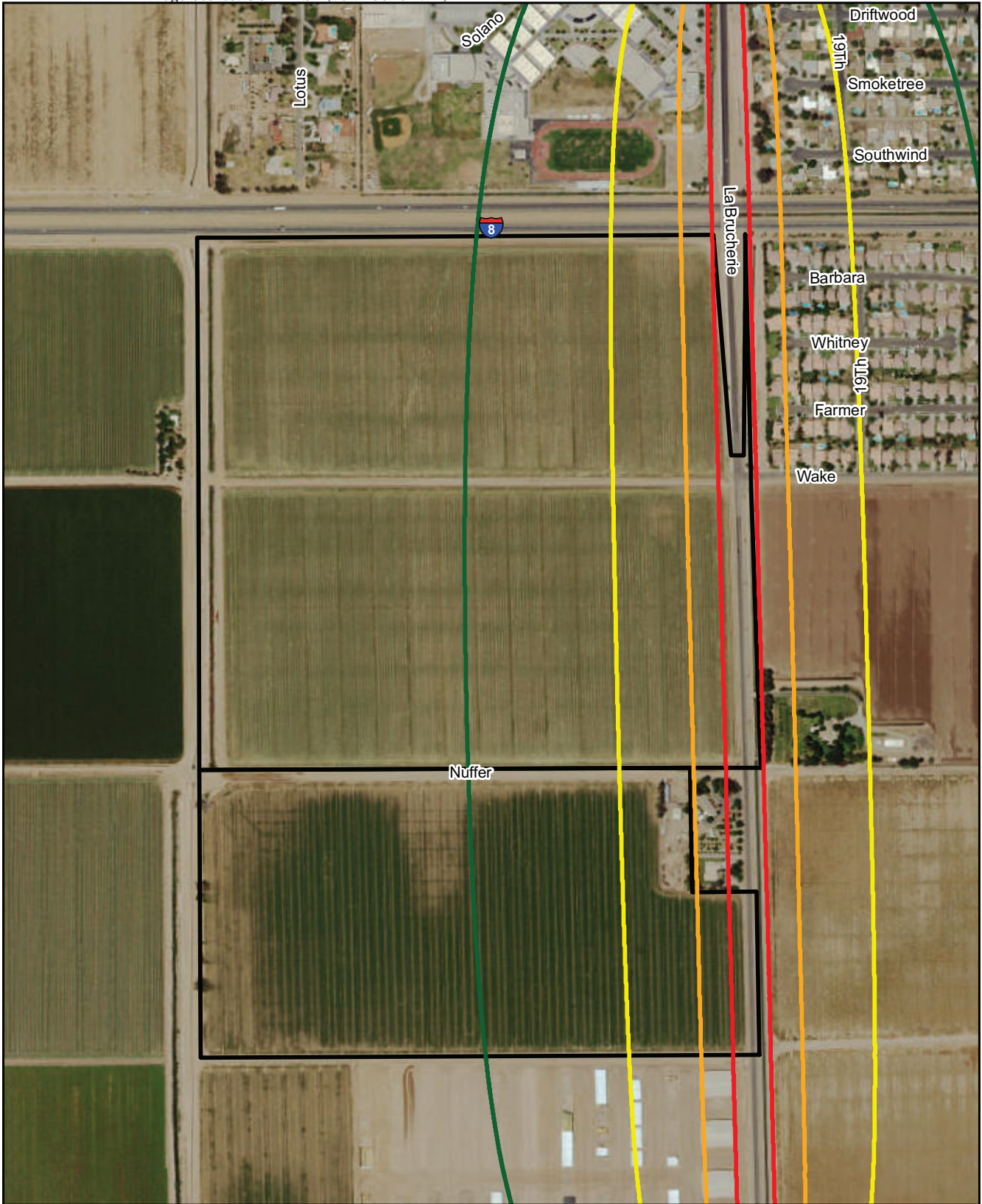
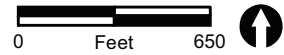


FIGURE 2
Existing Noise Level Contours



 Project Area **Potential Future Noise Level Contours**







-  55 CNEL
-  60 CNEL
-  65 CNEL
-  70 CNEL

FIGURE 3

Potential Future Noise Level Contours