

UPDATED ACOUSTICAL REPORT FOR THE PROPOSED
THE MEADOWS KENNEL, 6445 STATE ROUTE 12
SONOMA COUNTY, CALIFORNIA

UPE 11-0020

PLP 11-0042

Updated

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Lumina Technologies Technical Report 30107

REPORT ABSTRACT

This report addresses updated acoustical findings with regard to the subject expansion of Meadows Kennel, 6445 State Route 12, Sonoma County, California in association with Sonoma County UPE 11-0020. The present report updates and augments data previously supplied in regard to the subject project in the report entitled "Noise Impacts and Mitigation in Connection with the Proposed Meadows Kennel, 6445 State Route 12, Sonoma County, California", dated 24 August, 2011.

Salient findings of this updated report by Lumina Technologies are:

- Noise impacts to neighboring residential properties are projected to be negligible and generally below thresholds of human perception.
- The noise environment of the subject neighborhood is dominated by sound emanating from vehicular traffic on California State Route 12; the projected future noise environment when the Meadows Kennel expansion project is implemented will continue to be dominated by that same vehicular traffic on State Route 12. This assertion is valid for residential receptions on both sides of State Route 12 in the subject neighborhood.
- Noise impacts of the proposed project will conform to requirements of Sonoma County regulations and guidelines.
- All aspects of best available noise control technology have been incorporated into the proposed Meadows Kennel expansion as represented in the architect Ken Coker plans, dated 9 April, 2012 (Project number 21126) and further augmented by any mitigation measures set forth in the present Lumina Technologies report. (Note that current architectural oversight and coordination for this project are being conducted under architect Patrick Slayter.)

PROJECTED SOUND LEVELS

Previous sound level projections reported in that certain report entitled "Noise Impacts and Mitigation in Connection with the Proposed Meadows Kennel, 6445 Highway 12, Sonoma County, California", dated 24 August, 2011, are hereby confirmed using independent calculations of sound propagation which consider topography, microclimate, Meadows Kennel expansion, and the existing and projected dominant noise source of State Route 12.

Additional measurements and calculations were made for that residential property immediately north of the Meadows Kennel at the location of the residential property line closest to the Meadows Kennel. Existing sound levels at the subject northern residential property line have been measured to be 51 DbA L50 on a weekday mid-morning (April 25 between 10 and 11 am); at this location the weekend level was measured to be 50 dbA L50 (April 29 between 1 and 2 pm).

It has been found that resulting sound levels from the Meadows Kennel at that northern receptor site will have negligible impact (less than one decibel) for all time periods and acoustical metrics. In fact, State Route 12 is and will continue to be the audible and dominant sound source at this northerly residential receptor site, whether or not the Meadows Kennel expansion is implemented. Furthermore, future sound levels at the northern residential receptor may actually decline by a small amount (up to one decibel), due to the fact that the proposed new kennel building will partially block some fraction of the sound emanating from State Route 12.

Lumina has also conducted additional sound level measurements on the Oakmont (south) side of State Route 12 at a point at the nearest residential property line with respect to the new proposed kennel building. Measurements were made at a mid-morning and at a weekend time at this location. The results of these new measurements are as follows: Midmorning results at the nearest Oakmont residential property line were 64 dbA L50 (April 26 between 10 and 11 am); weekend results of 65 dbA L50 (April 30 between 2 and 3 pm). Projected impacts of expanded kennel operations yield identical (within a margin of one decibel) future outcome levels for the Oakmont location. This projection is due to the very high intensity of noise emanating from State Route 12 that would dominate and overshadow any marginal noise contributions from the expanded kennel.

RECOMMENDED SOUND MITIGATION MEASURES

The following mitigation measures are set forth to assure the absolute minimum emanation of noise from the Meadows Kennel site. These measures should be considered as incorporated as integral components of the Meadows Kennel project design. Some of these measures have been previously advanced by the project applicant, and all of the measures have been discussed between Lumina Technologies and the project applicant; furthermore, the project applicant has agreed to implement all of the construction and operational measures set forth herein:

- No dogs will be permitted outdoors between 8 pm and 7 am each day of the week
- No more than 20 dogs will be permitted outdoors at any time. This number of 20 outdoor dogs includes any dogs having open access to outdoor runs
- No more than 35 dogs are proposed on site at a given time
- The new kennel building proposed will not be closer to State Route 12 than the existing kennel building
- All doors and windows of existing and new kennel buildings shall be kept closed at all times except as needed for entrance and egress
- The new kennel building shall have a building shell equal or superior to the existing kennel building shell regarding sound transmission characteristics. In particular, such new shell will include (1) wood siding, (2) roofing material equal or superior in mass density to the existing kennel roof, (3) interior surfaces covered with gypsum board both for walls and ceiling, (4) total window area less than ten percent of total wall area
- Dog doors for new kennel shall have double covers including hard panel sliding members and heavy flat type members. Sliding panels shall have gaskets or seals for best practicable perimeter sealing

- Dog doors for new kennel shall be positioned only such that they face an existing building on site, such that sound emanations off site will be at an absolute minimum
- Ductwork above ceilings of new kennel shall have exterior wrap insulation
- All windows of new kennel shall be non operable and permanently sealed. Such windows shall be of superior thickness for sound insulation properties.

LINE ITEM RESPONSES TO BERND LETTER OF APRIL 19, 2012

The following responses are made to those certain comments contained in that letter authored by the Bernds of April 19, 2012. Please note that Lumina Technologies has no relation to the prior acoustical consultant, upon whose work the letter is generated.

1. Request to perform analysis on the Bernd property. Lumina Technologies came to the same conclusion at the Bernds, two days before the Bernd letter was issued. The Bernd property should be analyzed, and in fact Lumina has carried out both field measurements and calculations on the Bernd property using the property line standard. Lumina wishes to point out that the property line standard offers the Bernd property the most stringent analysis of acoustical impacts. The April 19th letter is misleading as it suggests an activity area standard is desirable. In fact, analysis at any point other than the Bernd southern property line (that line common to Meadows Kennel) would give a less stringent analysis of acoustical impacts. The full analysis of the Bernd property line impacts are presented in the foregoing body of this report. In further response to commentary of the April 19th letter, one should note that the buildings located on the Meadows Kennel site do provide highly effective noise mitigation for such dogs as may be in the dog runs attached to either kennel building.
2. Dog management assumptions. The Meadows Kennel does not plan on the use of any barking control collars. The Meadows Kennel requires registration of owner contact details as well as backup contact details. Any dog who engages in systematic barking will be immediately required to be taken off the premises by the owner or secondary contact. No more than 20 dogs will be allowed out of doors at any time. Dogs in dog runs are also counted as outdoor dogs. Thus no more than 20 dogs will be outside at any time, including dogs in dog runs. All other dogs will be fully enclosed within kennel buildings.

3. Counting of outdoor dogs. As stated above, any dog who has access to an outdoor dog run is considered an outdoor dog. The maximum number of outdoor dogs will be 20. This maximum includes all dogs that are in play areas plus any dogs that have access to outdoor runs. In no case will more than 20 dogs be outside at any given time, including any dogs that have access to dog runs.
4. Applicable standards. Due to the high intensity of traffic noise from State Route 12 throughout the study area, the dominant noise source (with or without dog contributions) is State Route 12. Furthermore, the use of a standard is totally dictated by the preponderance of State Route 12 as the basis of ambient sound levels. Thus the chief question to be answered is whether kennel operations alter the ambient level by an amount inconsistent with county standards. This approach is utilized in the analysis herein and heretofore in this report.
5. Noise sensitive receptors. As indicated above Lumina Technologies agrees with the Bernd letter that Oakmont is not the site of the most proximate receptor, and accordingly the Bernd property has been analyzed by Lumina for noise impacts.
6. Time of noise measurements. In response to the April 19th letter, additional measurements were made by Lumina at weekend mid-mornings and on weekday afternoons. In response to the query regarding best methodology of microphone placement, Lumina utilizes microphone placement at five feet above ground, simulating most likely location of the human ear.
7. Indoor versus outdoor dogs. As stated earlier, no more than 20 dogs will be allowed outside at any given time. A dog with access to an outdoor run is counted as an outdoor dog.
8. Basis for dog barking levels. The database used by Lumina was chosen from some of the highest intensity barking dogs known such as Australian shepherds, German shepherds and Border collies. Only medium and large dogs were used in the database. (As far as the prior study, Lumina understands that the dogs used were medium sized breeds such as Border collies.)