

# CUP23-0001 - Underdog Academy Dog Training and Kennel

## Exhibit F: Acoustic Study

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September 15, 2023

Kara Fike  
1200 Gold Strike Drive  
Placerville, CA 95667

Subject: Underdog Academy Dog Boarding Facility Project Noise Assessment

Dear Ms. Fike:

HELIX Environmental Planning, Inc. (HELIX) has performed a noise analysis for the operational noise impacts of the proposed Underdog Academy Dog Boarding Facility for the El Dorado County (County) Planning Division. The analysis addresses potential operational noise impacts to nearby residences, focusing on dogs barking within the dog boarding facility play area (the main source of noise associated with the project).

### PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

The approximately five-acre parcel is located at 1200 Gold Strike Drive in the unincorporated Placerville area of El Dorado County. The project proposes an in-home dog boarding and training operation for five (5) or less dogs. The dogs will reside and sleep indoors, including at night, except for supervised daytime play inside fenced yards. Excessive barking will be prevented by properly supervising the dogs. The dog boarding facility will be located on the existing property, as shown in Attachment 1. No major construction is associated with the operation.

The dog boarding facility would operate between the daytime hours of 9:00 a.m. and 6:00 p.m. The project site has a General Plan land use designation and zoning designation of RL-10 (Rural Land 10 Acres).

The nearest noise-sensitive land uses (NSLUs) are residences approximately 450 feet to the east, across Gold Strike Road, 460 feet to the southeast, 500 feet to the south, and 750 feet to the west.

### TERMINOLOGY

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels of one hour are expressed by the symbol  $L_{EQ}$ , unless a different time period is specified.

### NOISE MODELING SOFTWARE

Modeling of dog barks was accomplished using Computer Aided Noise Abatement (CadnaA) version 2019. CadnaA is a model-based computer program developed by DataKustik for predicting noise impacts

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in a wide variety of conditions. CadnaA assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project-related information, such as noise source data, barriers, structures, and topography to create a detailed model for the prediction of outdoor noise impacts.

### NOISE REGULATIONS

The County relies on the General Plan Noise Element to establish operational noise standards for land uses. The County Noise Ordinance provides noise limits for noise sensitive land uses affected by non-transportation sources. Standards from the El Dorado County General Plan Noise Element are provided below.

#### El Dorado County General Plan Noise Element

The El Dorado County General Plan Noise Element (El Dorado County 2019) establishes noise standards for land uses and allowable noise exposure. Table 1, *Performance Standards for Non-Transportation Sources*, provides standards for noise from non-transportation noise sources such as the proposed dog boarding facility. These standards apply to the noise sources as measured at the edge of the property line.

**Table 1**  
**PERFORMANCE STANDARDS FOR NON-TRANSPORTATION SOURCES<sup>1</sup>**

Noise Level Descriptor	Daytime (7 a.m. to 7 p.m.) <sup>2</sup>	Evening (7 p.m. to 10 p.m.) <sup>2</sup>	Nighttime (10 p.m. to 7 a.m.) <sup>2</sup>
Hourly $L_{EQ}$ , dBA	50	45	40
Maximum Level, dBA	60	55	50

<sup>1</sup> Performance standards are measured at the property line of source/sensitive use

<sup>2</sup> Each of the noise levels specified above shall be lowered by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

Source: El Dorado County General Plan Noise Element

### SIGNIFICANCE CRITERIA

For the purposes of this analysis, it is conservatively assumed that dog barks are considered simple tone noises, and each of the noise levels specified above is therefore lowered by 5 dBA. Based on the standards in Table 1, exterior noise generated by the project would be significant if dog barks would exceed the following noise levels: hourly average ( $L_{EQ}$ ) of 45 dBA  $L_{EQ}$  during daytime hours (7:00 a.m. to 7:00 p.m.), 40 dBA  $L_{EQ}$  during evening hours (7:00 p.m. to 10 p.m.), and 35 dBA  $L_{EQ}$  during nighttime hours (10:00 p.m. to 7:00 a.m.). Maximum exterior noise levels shall not exceed 55 dBA during daytime hours, 50 during evening hours, or 45 dBA during nighttime hours.

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### DOG BARK NOISE ANALYSIS

The loudest noise from the dog boarding facility would be from dogs barking. The noise level emanating from a dog boarding facility may vary widely depending on the dogs' temperament, activity level, breed, and number of dogs. A single dog bark would typically have a maximum noise level of approximately 85 dBA at about 5 feet and have a duration of less than 0.2 second (HELIX 2017<sup>1</sup>). A single dog bark, averaged over the duration of one hour, would be approximately 38.8 dBA  $L_{EQ}$  at 5 feet, 19.3 dBA  $L_{EQ}$  at 50 feet, and 13.0 dBA  $L_{EQ}$  at 100 feet.

Dogs would be able to move freely within their enclosed play area and would be moving across the dog boarding facility. For modeling purposes, the dog barks are assumed to be scattered around the enclosed play area, approximately 40 feet east of the western property line. At this distance, up to a total of 10 minutes per hour of continuous barking, or 3,000 barks, at the dog boarding facility would not exceed the County's 45 dBA  $L_{EQ}$  limit at the nearest property line.

The exact number of dogs and their barking patterns would vary during the day of week and hour of the day. A reasonably conservative assumption for the dog boarding facility on a given hour during a busy day would be 5 dogs in the boarding facility, each with 10 barking events per hour per dog, for a total of 50 barking events per hour. Under these assumptions, the amount of barks per hour would create 43.3 dBA  $L_{EQ}$  at the nearest property line to the west and 30 dBA  $L_{EQ}$  at the nearest property line to the east and south.

### Conclusions

The proposed dog boarding facility project would not generate noise levels exceeding the County's daytime (7:00 a.m. to 10:00 p.m.) 45 dBA  $L_{EQ}$  limits for non-transportation noise sources. This limit conservatively assumes that dog barks are considered "simple tone noises" as described in the County General Plan. The dog boarding facility project is not expected to be in operation beyond 6 p.m., and therefore was only assessed for the County's daytime noise limits. Noise from dogs barking at the project would be less than significant.

### Closing

We appreciate the opportunity to work with you on this project. Please let me know if you have any questions or require any further information.

Sincerely,



Jafar Al-Khalaf  
Senior Noise Specialist



Lesley Owing  
Environmental Planning Group Manager

<sup>1</sup> The Harmony Grove Village South project proposed a similarly-sized dog park area in the vicinity of residences. Noise levels analyzed to determine significance of barking events.

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### Attachments:

Attachment 1: Dog Boarding Space Map

### REFERENCES

El Dorado County General Plan Noise Element. 2019. August.

HELIX Environmental Planning (HELIX). 2017. Harmony Grove Village South Project Acoustical Analysis Report. March