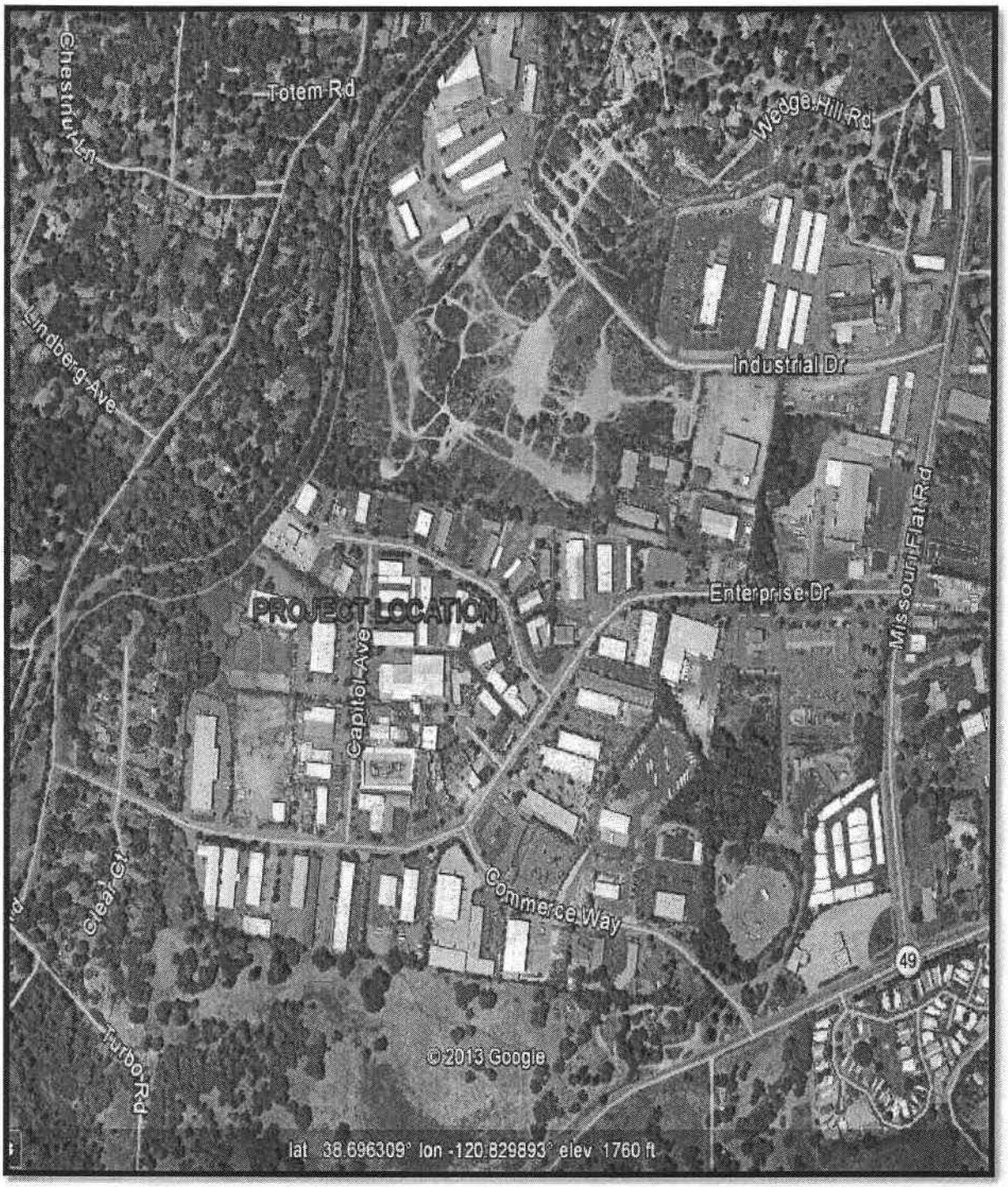
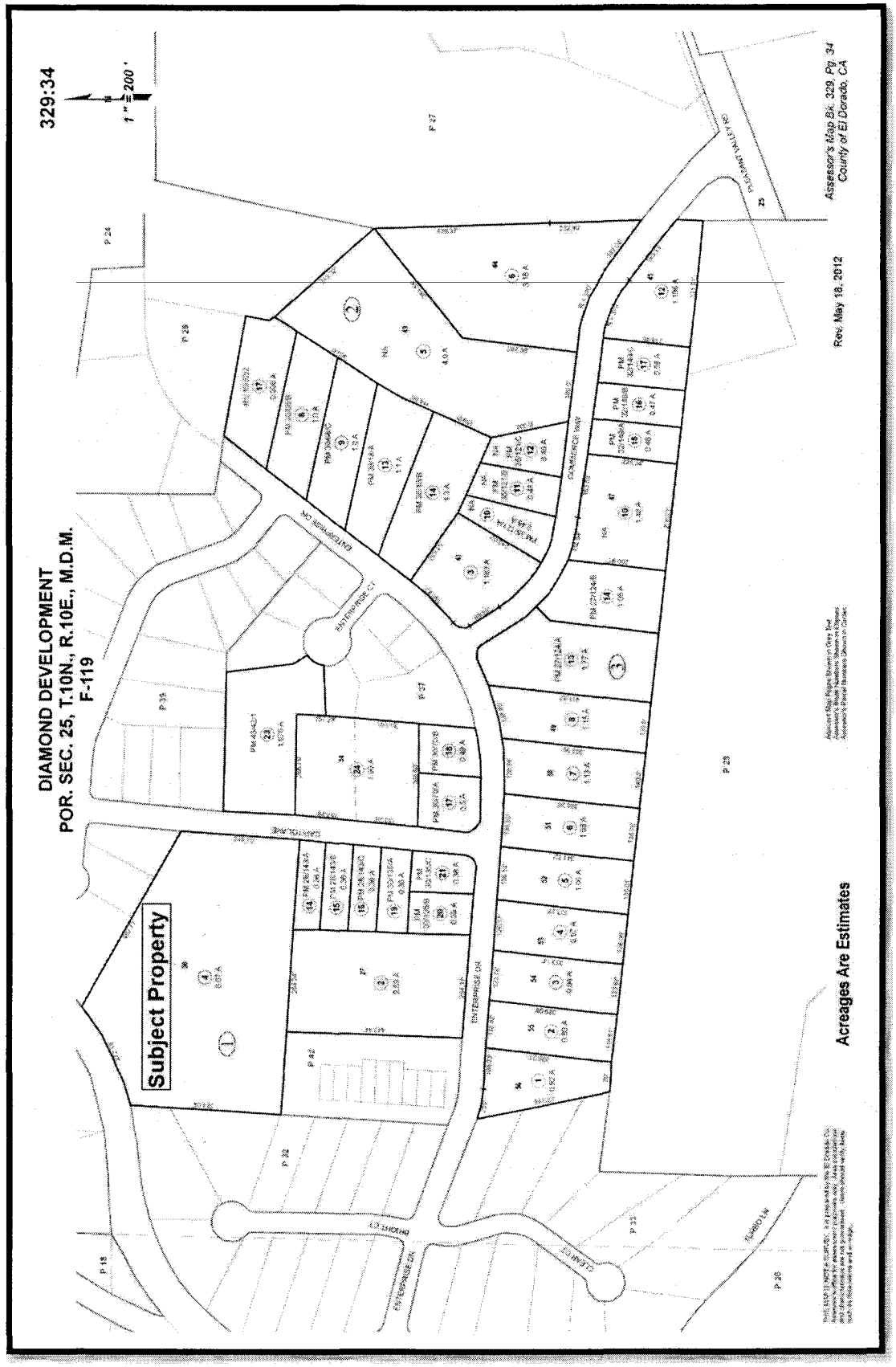
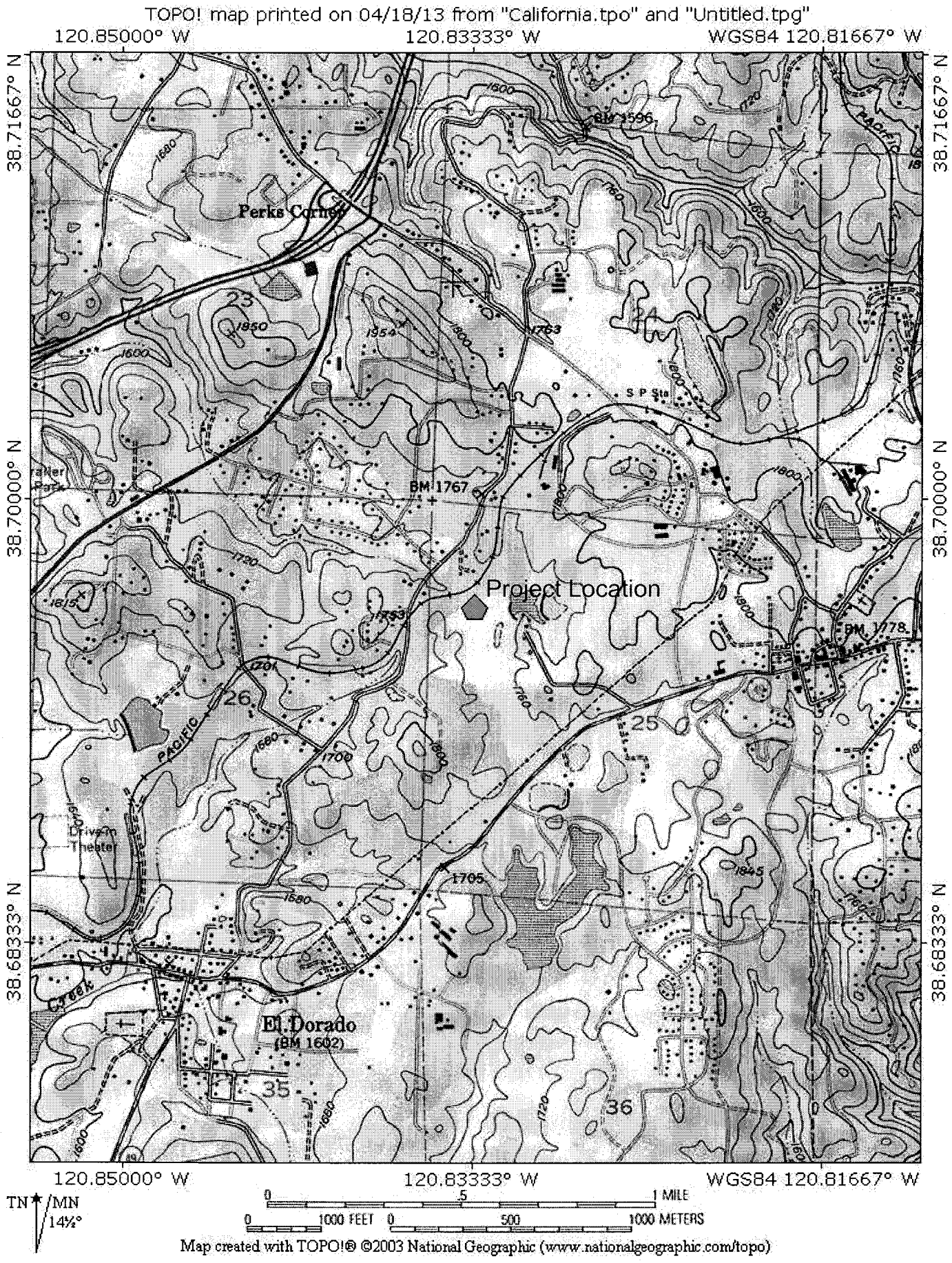
ATTACHMENT 1 – AERIAL PHOTO SHOWING PROJECT LOCATION



ATTACHMENT 2 – ASSESSOR'S PARCEL MAP

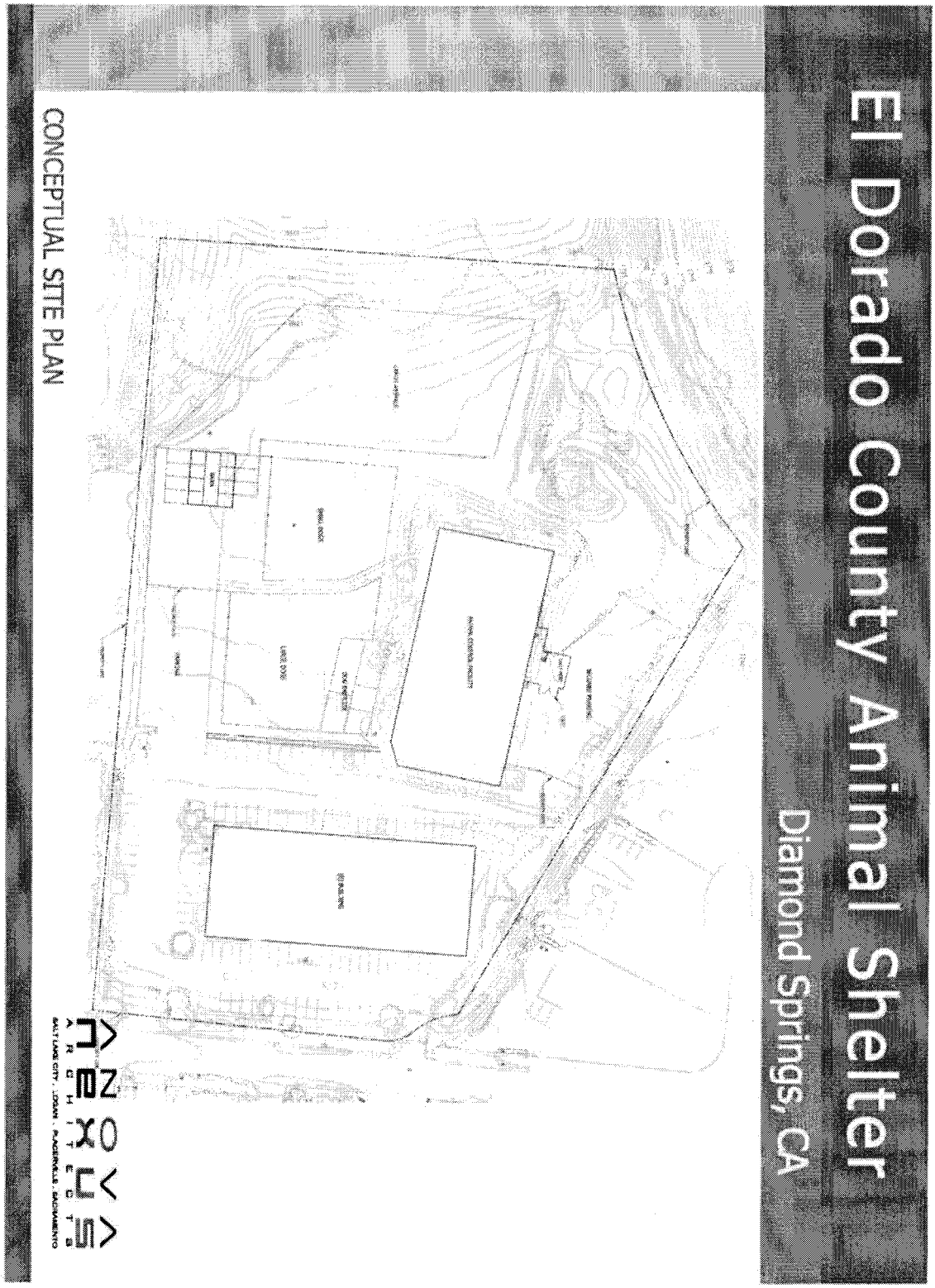


ATTACHMENT 3- USGS TOPO MAP

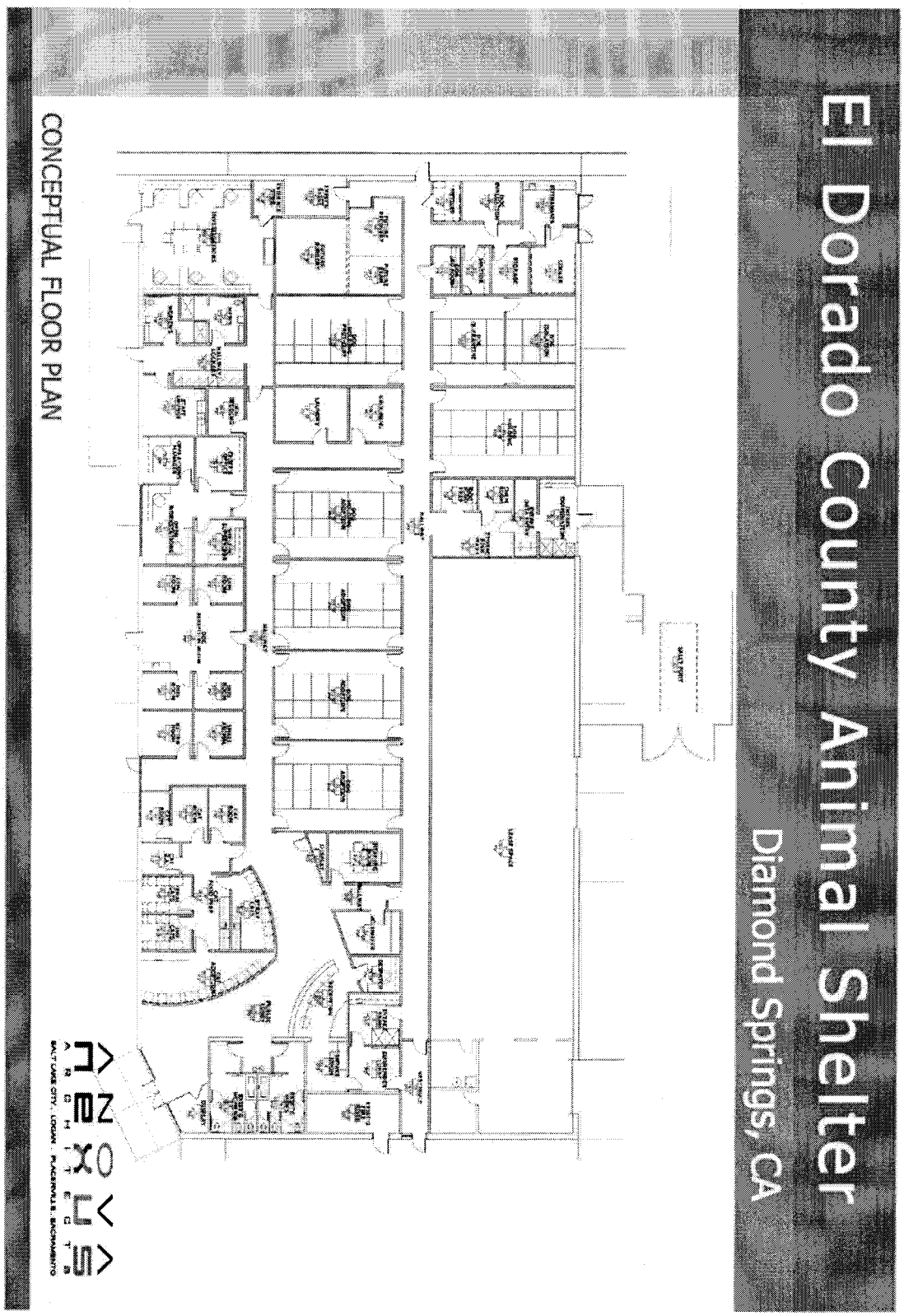


ATTACHMENT 4 – DEVELOPMENT PLAN

ATTACHMENT 5 – CONCEPTUAL SITE PLAN



ATTACHMENT 6 – CONCEPTUAL FLOOR PLAN



AEC

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ACOUSTICS • NOISE & VIBRATION CONTROL • AUDIOVISUAL SYSTEM DESIGN

Field Sound Tests and Noise Impact Analysis of El Dorado County Animal Shelter Facility in Diamond Springs, California

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Summary

Field sound tests and an acoustical analysis were performed to address potential noise impacts from the relocation of the El Dorado County Animal Shelter to an existing building near single family residences in Diamond Springs. Construction of the new facility will include improving the interior spaces within the existing concrete shell to provide rooms for dog and cat kennels, offices, adoption areas, veterinary areas, and support spaces. Site modifications will also occur with the addition of outdoor dog exercise areas, a barn, and an area for large animals such as horses and sheep. The animal shelter is expected to be open to the public from 9:30 a.m. to 4:30 p.m. Monday through Saturday. The main source of sound from an animal shelter is dogs barking. Sound tests were conducted at the future El Dorado County Animal Shelter site near the adjacent residences to assess background levels and sources. Sound level data was also collected at a similar animal shelter for Sacramento County. Interior dog kennel sound level measurements were used as the basis for noise modeling at the future site. Observations at the Sacramento County facility and research of dog behavior indicates dogs will primarily bark within the confines of the interior kennel spaces and not when taken outside for exercise. Unlike the Sacramento County facility, the El Dorado County Animal Shelter will not have interior/exterior kennels where dogs can freely roam into exterior holding areas where barking could be an issue. Sound level predictions were made at the nearest residential property line approximately 230 feet southwest of the animal shelter building and compared with El Dorado County noise regulations, primarily Table 6-2 of the El Dorado County General Plan Noise Element[1]. Noise levels from the animal shelter are predicted to be well below both the daytime and nighttime hourly L_{eq} and L_{MAX} limits at the nearest residential property line without mitigation. The containment of dog barking within the indoor kennels combined with operational procedures to prevent noise when animals are brought outside is sufficient to reduce potential impacts to less than significant levels.

Noise Regulations

El Dorado County has two sets of noise regulations for evaluating the potential noise impacts of non-transportation sound sources. Performance standards in the County's General Plan Noise Element serve as the primary judge of significance. Although no specific sound level limits are provided, the County's Noise Ordinance[2] can also be used to evaluate the significance of noise impacts.

Policy 6.5.1.7 and Policy 6.5.1.13 of the Noise Element address non-transportation sound sources. Policy 6.5.1.7 refers to hourly average L_{eq} and maximum L_{MAX} limits in Table 6-2. It applies to non-transportation sound sources and sets limits based on the time of day, type of receiving land use, and the character of the sound. The policy makes no upward adjustment of noise level limits based on existing ambient (background) sound levels, but applies a 5 dB(A) penalty for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. Displayed in Table 1 below is a summary of Table 6.2 from the El Dorado County Noise Element:

TABLE 1. Exterior Noise Level Performance Standards for Noise Sensitive Land Uses Affected by Non-Transportation Sources, Table 6.2, County of El Dorado Noise Element.

	Sound Level Limits, dB(A)					
	Daytime (7 am - 7 pm)		Evening (7 pm to 10 pm)		Night (10 pm to 7 am)	
Noise Level Descriptor	Community	Rural	Community	Rural	Community	Rural
Hourly L_{eq}	55	50	50	45	45	40
Maximum, L_{MAX}	70	60	60	55	55	50

In Community areas the exterior noise level standard applies to the property line of the receiving property and in Rural areas the exterior noise level standard applies at a point 100' away from the

residence. El Dorado County Noise Element Performance Standards are more stringent than most, if not all, of the noise element or noise ordinance standards for counties in California. El Dorado County is unique in adding an "Evening" time period and separate "Community" and "Rural" distinctions instead of the typical single set of limits for daytime (7 am to 10 pm) and nighttime (10 pm to 7 am) periods. The added categories translate into lower Rural and Evening/Nighttime limits than the general limits found in most California county noise elements.

Policy 6.5.1.13 of the County's Noise Element provides an alternative evaluation of new non-transportation noise sources. It reads:

"When determining the significance of impacts and appropriate mitigation to reduce those impacts for new development projects, the following criteria shall be taken into consideration:

A. In areas in which ambient noise levels are in accordance with the standards in Table 6-2, increases in ambient noise levels caused by new non-transportation noise sources that exceed 5 dBA shall be considered significant; and
B. In areas in which ambient noise levels are not in accordance with the standards in Table 6-2, increases in ambient noise levels caused by new non-transportation noise sources that exceed 3 dBA shall be considered significant."

This alternative policy for non-transportation sound sources creates some confusion as to which policy (6.5.1.7 or 6.5.1.13) has precedence. Ambient (background) plus 5 dB(A) or plus 3 dB(A) can produce different limits than those in Table 1.

The El Dorado County Noise Ordinance states that it is unlawful for any person to create a loud or raucous noise to such an extent that it unreasonably interferes with the peace and quiet of another's private property. Unfortunately, this type of noise regulation is highly subjective and difficult to use for noise impact assessments.

Site & Project Description

El Dorado County Animal Shelter is moving to a new facility on Capital Avenue in Diamond Springs. The shelter will mostly be contained within an existing building, renovated to suit the new owner's needs. The site plan identifies outdoor activity areas for dogs directly south of the building and large animals to the west. The large animal pen will be used mostly for horse and sheep housed in the nearby barn. Dogs will be brought out from the shelter building one or two at a time and routinely exercised in their respective outdoor activity areas.

The building will be configured such that the main dog adoption/holding areas are within the central core with mostly offices and individual animal rooms on the south side of the building. Only two dog holding rooms are located along the exterior wall. The public will park and enter the building from the east side. Typical shelter hours will be 9:30 a.m. to 4:30 p.m. Monday through Saturday while staff may be present from 8:00 a.m. to 5:00 or 6:00 p.m.

The project site and surrounding properties are mostly zoned for industrial use. The nearest noise sensitive single family residential property is to the southwest, with the property line approximately 230 feet from the southwest corner of the proposed animal shelter building. The residential property line is elevated approximately 4 feet above the building pad elevation. Residences to the southwest would be considered "Community" per the noise element due to the lot size. Remaining properties to the north, south, and east are existing commercial or industrial facilities.

Measurement Equipment & Methods

Field sound tests were used to measure the existing ambient environment at the project site and to measure sound levels at a similar animal shelter facility in Sacramento County. Standard sound measuring equipment was used during the tests. Field sound measurements were made using one CEL 593 (s/n 016672) and one Larson Davis 831 (s/n 1034) sound analyzer. Both meters employ 1/2 inch condenser microphones. A CEL Type 284/2 calibrator was used to calibrate these meters and the microphones to 114 dB at 1000 Hz before beginning measurements. The meters conform to the requirements of a Type I instrument per American National Standards Institute[3]. A windscreen covered each microphone during all sound measurements. Microphones were mounted on tripods approximately 5.5 feet above ground level. The CEL 593 meter was set to measure statistical sound levels over consecutive 5-minute intervals to identify sources and variations in sound with time at the project site. The LD 831 meter was used to capture source sound levels at the Sacramento County Animal Shelter facility using short-duration average sound level, L_{eq}, and maximum sound level, L_{MAX} statistics.

Field sound measurements were made on November 27, 2012 along the residential property line at the future El Dorado County Animal Shelter project site. Source sound levels in various locations were measured on January 15, 2013 at the similar Sacramento County facility. Measurements at the Sacramento County site included sound levels captured within dog kennel areas as well as exterior to the building.

Exterior Acoustic Environment

Existing

Various sound sources were identified near the future home of the El Dorado County Animal Shelter. Sources include vehicle traffic on local roadways, equipment and activities at nearby light industrial facilities, landscaping equipment, aircraft flying overhead, dogs barking, and residential HVAC equipment. Sound levels were measured during consecutive 5-minute intervals at one position along the common property line between the project site and adjacent residences to the west. Displayed in Figure 1 are the results of continuous measurements made along the residential property line. A ride-on lawn mower was used at the nearby residence starting around 10:35 a.m. as shown in the figure. Prior to the lawn mower, average sound levels varied from approximately 44 to 49 dB(A). Existing daytime sound levels are less than the 55 dB(A) hourly L_{eq} standard in Table I.

Existing Plus Project

The El Dorado County Animal Shelter project will add new sound sources to the region. The main source of sound from an animal shelter or animal control facility is from dogs barking. Cats and other small animals rarely generate significant noise levels and are kept indoors. Although the animal shelter facility will temporarily house large animals such as horses, pigs, and sheep in exterior pens or in the barn, these animals are typically docile and quiet. Any roosters brought into the animal shelter are expected to either be kept indoors or covered to eliminate crowing.

Dog kennels and holding areas for El Dorado County Animal Shelter are all indoors with most contained in the central core area of the building. While the Sacramento County facility has some indoor/outdoor kennels where dogs can roam between spaces, the El Dorado County facility will not. Dogs will be routinely exercised in designated areas to the south of the building typically one-on-one with a pet handler. Although dog behavior can be unpredictable, most dogs do not bark when being exercised outdoors because they are happy to be playing and are interacting with a handler. None of the dogs barked when being exercised at the Sacramento County facility during the site visit. It is much more likely that dogs left alone in backyards of nearby residents would bark before dogs outside the animal

shelter building would bark. Sound levels from animals exterior to the animal shelter building are expected to be less than significant at the nearest residential property without mitigation.

Kenneled dogs inside the animal shelter, however, will bark for a variety of reasons. Sound levels were measured in some of the holding/adoption rooms at the Sacramento County facility. Average L_{eq} sound levels inside the holding areas ranged from approximately 95 to 98 dB(A) while L_{MAX} levels reached 103 to 106 dB(A) with multiple dogs barking depending on the number of dogs, distance to the microphone, etc. Since the holding areas are either in the center of the building with no exterior wall or behind a concrete portion of exterior wall with no windows or doors leading directly to the exterior, the potential weak path for sound transmission to the exterior is through the roof/ceiling assembly. The existing roof/ceiling system is described as the following, starting at the top of the roof: single ply over fiberboard, 6" rigid insulation, 5/8" thick sheathing, joists with foil-faced batt insulation, and a T-bar ceiling system suspended below. Noise levels transmitted through the roof/ceiling assembly and across to the nearest residential property line are predicted to be well below both daytime and nighttime L_{eq} and L_{MAX} standards without mitigation. No additional noise control measures are required.

Cumulative Plus Project

Traffic volumes on local roads near the project site and adjacent residences will only increase over time. Similarly, activity at nearby industrial sites will likely increase or stay the same over time rather than decrease. This will raise background sound levels and make the non-transportation sources associated with the project less significant in comparison to existing levels.

Assumptions

Noise control measures for the animal shelter largely depend on behavioral control of the animals when outside. Animal handlers should limit the number of dogs taken out to exercise at a given time to reduce the potential for barking. Large animals in the outdoor pen near the residential property line should be routinely monitored to make sure these animals are not creating abnormal and/or loud noises, especially at night.

Acoustical performance of the roof/ceiling assembly assumes there are very few, if any, penetrations in the assembly over areas with potentially high noise levels below. No attic vents should be placed directly over dog kennel areas. If vents in these areas are unavoidable, acoustically lined ducts with multiple bends may be required to reduce interior to exterior sound transmission.

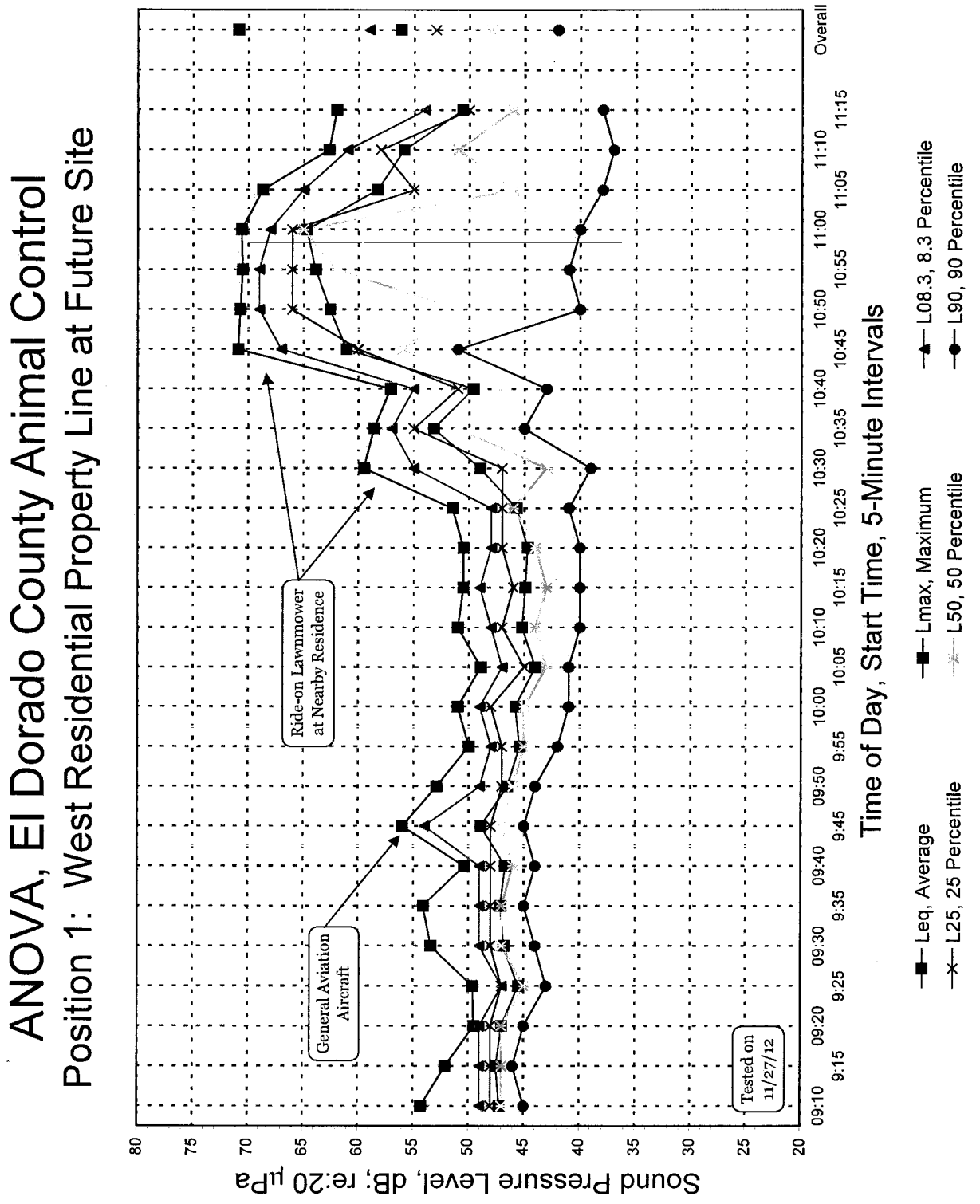

Figure 1. Results of Continuous Sound Level Measurements Made on the Adjacent Residential Property Line

[1] *El Dorado County General Plan, Public Health, Safety, and Noise Element,* El Dorado County; July 2004, Section 6.5, pp. 261-268

[2] http://library.municode.com/index.aspx?clientId=15095, *El Dorado County Code of Ordinances, Chapter 9.16 Noise,* Municipal Code Corporation 2012; Web page accessed September 19, 2012.

[3] American National Standards Institute, ANSI, Standard Specification for Sound Level Meters, S1.4-1983 (Precision)