

3.5-2 NOISE IMPACT ANALYSIS: APPENDICES

APPENDIX 4.1

City of Wildomar Noise Element



Chapter 7: Noise Element

Definitions

Following is a list of commonly used terms and abbreviations that may be found within this element or when discussing the topic of noise. This is an abbreviated glossary to be reviewed prior to reading the element. It is important to become familiar with the definitions listed in order to better understand the importance of the Noise Element within the County of Riverside General Plan. Since the disbanding of the State Office of Noise Control in the mid-1990, the State of California Office of Planning and Research General Plan Guidelines can offer further information on other noise-related resources.

Ambient Noise: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

CNEL (Community Noise Equivalent Level): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m.

dB (Decibel): The unit of measure that denotes the ratio between two quantities that are proportional to power; the number of decibels corresponding to the ratio of the two amounts of power is based on a logarithmic scale.

dB(A) (A-weighted decibel): The A-weighted decibel scale discriminates upper and lower frequencies in a manner approximating the sensitivity of the human ear. The scale is based on a reference pressure level of 20 micropascals.

Intrusive Noise: That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency and time of occurrence, and tonal or informational content as well as the prevailing noise level.

L₁₀: The A-weighted sound level exceeded ten percent of the sample time. Similarly, L₅₀, L₉₀, etc.

L_{eq} (Equivalent energy level): The average acoustic energy content of noise during the time it lasts. The L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure, no matter what time of day they occur. The County of Riverside uses a 10-minute L_{eq} measurement.

L_{dn} (Day-Night Average Level): The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. Note: CNEL and L_{dn} represent daily levels of noise exposure averaged on an annual or daily basis, while L_{eq}

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The level of sound that impacts a property varies greatly during the day. As an example, the sound near an airport may be relatively quiet when no airplane is taking off or landing, but will be extremely loud as a plane takes off. In order to deal with these variations, several noise indices have been developed, which measure how loud each sound is, how long it lasts, and how often the sound occurs. The indices express all the sound occurring during the day as a single average level, which if it occurred all day would convey the same sound energy to the site.



represents the equivalent energy noise exposure for a shorter time period, typically one hour.

Micropascal: The international unit for pressure, similar to pounds per square inch. 20 micropascals is the human hearing threshold. The scale ranges from zero for the average least perceptible sound to about 130 for the average pain level

Noise Contours: Lines drawn around a noise source indicating equal levels of noise exposure. CNEL and Ldn are the metrics used in this document to describe annoyance due to noise and to establish land use planning criteria for noise.



Introduction



It is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare.



-Noise Control Act of 1972

Before the alarm clock sounds, the lawn mower next door begins to roar. Then, while listening to the morning news on the radio, an airplane flies overhead and deadens all sound in the neighborhood. Once outside, the neighbor's stereo can be heard a block away. And during the morning commute, car horns, rumbling mufflers, and whirring motorcycles serenade motorists on the highway. Even in the most rural areas of Riverside County, the eternal battle between the efficiency of technology, and the noise it can create cannot be avoided.

As modern transportation systems continue to develop and human dependence upon machines continues to increase, the general level of noise in our day to day living environment rises. In Riverside County, residential areas near airports, freeways, and railroads are being adversely affected by annoying or hazardous noise levels. Other activities such as construction, operation of household power tools and appliances, and industry, also contribute to increasing background noise.



Sound refers to anything that is or may be perceived by the ear. Noise is defined as "unwanted sound" because of its potential to disrupt sleep, rest, work, communication, and recreation, to interfere with speech communication, to produce physiological or psychological damage, and to damage hearing.

ADDRESSING NOISE ISSUES

The Noise Element is a mandatory component of the General Plan pursuant to the California Planning and Zoning Law, Section 65302(f). The element must recognize the guidelines adopted by the Office of Planning and Research pursuant to Section 46050.1 of the Health and Safety Code. It also can be utilized as a tool for compliance with the state's noise insulation standards.

The General Plan Noise Element provides a systematic approach to identifying and appraising noise problems in the community; quantifying existing and projected noise levels; addressing excessive noise exposure; and community planning for the regulation of noise. This element includes policies, standards, criteria, programs, diagrams, a reference to action items, and maps related to protecting public health and welfare from noise.



Tinnitus: The perception of ringing, hissing, or other sound in the ears or head when no external sound is present. For some people, tinnitus is just a nuisance. For others, it is a life-altering condition. In the United States, an estimated 12 million people have tinnitus to a distressing degree.

SETTING

Riverside County is a continuously evolving group of communities that relies heavily upon the modern technological conveniences of American society to thrive and succeed as a pleasant and desirable place to live and work. Without such necessities as air-conditioning, heating, generators, and cars, living in an urban, suburban, rural, desert, or mountainous environment becomes difficult, if not impossible. Fortunately, these amenities are available to the residents of Riverside County and are used everyday, often all day long. Unfortunately, these technological advances can come at a high price to residents' and visitors' ears.

The philosophical view commonly held by Riverside County staff and residents is that noise, which may be perceived by some to be annoying, may not be noticed at all by others. It is also important to note that people who move into an area where a noise source already exists (such as near an existing highway) are often more tolerant of that noise source than when a new noise generator locates



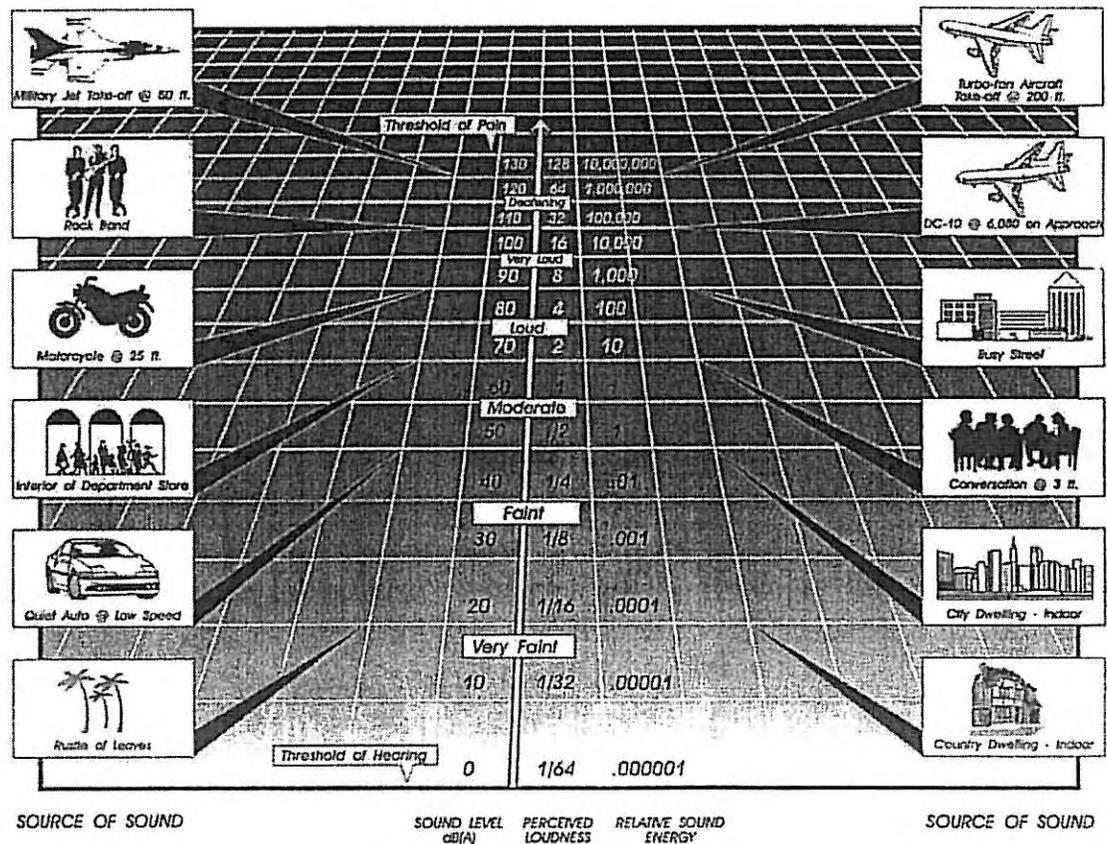
County of Riverside General Plan

Noise Element

itself in an established area that may be noise-sensitive (such as a stadium that is constructed near an established community).

Noise within Riverside County is generated by numerous sources found near places where people live and work. These sources are of particular concern when the noise they generate reaches levels above the prevailing background noise. There are many different types of noise, including mobile, stationary, and construction-related, that affect noise-sensitive receptors such as residences, schools, and hospitals. Figure 1, Common Noise Sources and Noise Levels, illustrates some noise producers that can be found within Riverside County, as well as their corresponding noise measurement. The following sections contain policies that address the issues of noise producers and their effects on noise-sensitive land uses.

Figure N-1: Common Noise Sources and Noise Levels





Noise Sensitive Land Uses

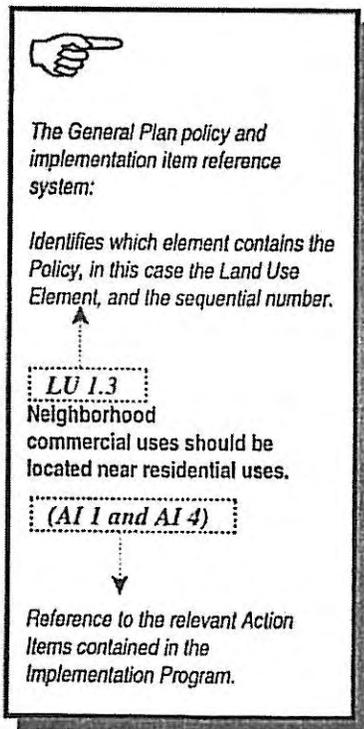
A series of land uses have been deemed sensitive by the State of California. These land uses require a serene environment as part of the overall facility or residential experience. Many of these facilities depend on low levels of sound to promote the well being of the occupants. These uses include, but are not necessarily limited to; schools, hospitals, rest homes, long term care facilities, mental care facilities, residential uses, places of worship, libraries, and passive recreation areas. Activities conducted in proximity to these facilities must consider the noise output, and ensure that they don't create unacceptable noise levels that may unduly affect the noise-sensitive uses. The following policies address issues related to noise-sensitive land uses.

NOISE COMPATIBILITY

The Noise Element of the General Plan is closely related to the Land Use Element because of the effects that noise has on sensitive land uses. Noise-producing land uses must be compatible with adjacent land uses in order for the Land Use Plan to be successful. Land uses that emit noise are measured in A-weighted decibels (dBA) or Community Noise Equivalent Level (CNEL). If existing land uses emit noise above a certain level, they are not compatible with one another, and therefore noise attenuation devices must be used to mitigate the noise to acceptable levels indoors and outdoors. In cases of new development, the placement of noise-sensitive land uses is integral to a successful community. Table 1, Land Use Compatibility for Community Noise Exposure, reveals the noise acceptability levels for different land uses. Areas around airports may have different or more restrictive noise standards than those cited in Table 1 (See Policy N 1.3 below). The following policies protect noise-sensitive land uses from noise emitted by outside sources, and prevent new projects from generating adverse noise levels on adjacent properties.

Policies:

- N 1.1 Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or blockwalls shall be used. (AI 107)
- N 1.2 Guide noise-tolerant land uses into areas irrevocably committed to land uses that are noise-producing, such as transportation corridors or within the projected noise contours of any adjacent airports. (AI 107)
- N 1.3 Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL:
 - Schools;
 - Hospitals;
 - Rest Homes;
 - Long Term Care Facilities;
 - Mental Care Facilities;
 - Residential Uses;
 - Libraries;





- Passive Recreation Uses; and
- Places of worship

According to the State of California Office of Planning and Research General Plan Guidelines, an acoustical study may be required in cases where these noise-sensitive land uses are located in an area of 60 CNEL or greater. Any land use that is exposed to levels higher than 65 CNEL will require noise attenuation measures.

Areas around airports may have different noise standards than those cited above. Each Area Plan affected by a public-use airport includes one or more Airport Influence Areas, one for each airport. The applicable noise compatibility criteria are fully set forth in Appendix L and summarized in the Policy Area section of the affected Area Plan. (AI 105)



Unregulated noise sources such as household power tools often emit more noise than regulated noise producers.

- N 1.4 Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys. (AI 106, 109)
- N 1.5 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County. (AI 105, 106, 108)
- N 1.6 Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or noise-sensitive uses. (AI 107)
- N 1.7 Require proposed land uses, affected by unacceptably high noise levels, to have an acoustical specialist prepare a study of the noise problems and recommend structural and site design features that will adequately mitigate the noise problem. (AI 106, 107)
- N 1.8 Limit the maximum permitted noise levels that cross property lines and impact adjacent land uses, except when dealing with noise emissions from wind turbines. Please see the Wind Energy Conversion Systems section for more information. (AI 108)



 Please contact the Office of Industrial Hygiene for more information on acoustical specialists.



NOISE MITIGATION STRATEGIES

Many land uses emit noise above state-mandated acceptable levels. The noise emitted from a land use must be mitigated to acceptable levels indoors and outdoors in order for other, more noise-sensitive land uses to locate in proximity to these noise producers. There are a number of ways to mitigate noise and the following policies suggest some possible solutions to noise problems.

Policies:

- N 2.1 Create a County Noise Inventory to identify major noise generators and noise-sensitive land uses, and to establish appropriate noise mitigation strategies. (AI 105)
- N 2.2 Require a qualified acoustical specialist to prepare acoustical studies for proposed noise-sensitive projects within noise impacted areas to mitigate existing noise. (AI 105, 107)
- N 2.3 Mitigate exterior and interior noises to the levels listed in the table below to the extent feasible, for stationary sources: (AI 105)

**Table N-2:
Stationary Source Land Use Noise Standards ¹**

Land Use	Interior Standards	Exterior Standards
<i>Residential</i>		
10:00 p.m. to 7:00 a.m.	40 L _{eq} (10 minute)	45 L _{eq} (10 minute)
7:00 a.m. to 10:00 p.m.	55 L _{eq} (10 minute)	65 L _{eq} (10 minute)

¹These are only preferred standards; final decision will be made by the Riverside County Planning Department and Office of Public Health.



Noise Producers

LOCATION OF NOISE PRODUCERS



Good neighbors keep their noise to themselves.



The communities of Riverside County need a variety of land uses in order to thrive and succeed. These land uses may provide jobs, clean water, ensure safety, ship goods, and ease transportation woes. But they may also emit high levels of noise throughout the day. These noise-producing land uses can complement a community when the noise they emit is properly mitigated. The following policies suggest a series of surveys and analyses to correctly identify the proper noise mitigating procedures in order to promote the continued success of the communities of Riverside County.

Agriculture

One of the major economic thrusts of Riverside County is the agricultural industry. The Riverside County Right-to-Farm Ordinance conserves, protects, and encourages the development, improvement, and continued viability of agricultural land and industries for the long-term production of food and other agricultural products, and for the economic well-being of the County's residents. The Right-to-Farm Ordinance also attempts to balance the rights of farmers to produce food and other agricultural products with the rights of non-farmers who own, occupy, or use land within or adjacent to agricultural areas. The Riverside County Right-to-Farm Ordinance also works to reduce the burden of the County's agricultural resources by limiting the circumstances under which agricultural operations may be deemed a nuisance. Policies within this section address the potential noise issues that may be raised in regards to agricultural production.

Policies:



- N 3.1 Protect Riverside County's agricultural resources from noise complaints that may result from routine farming practices, through the enforcement of the Riverside County Right-to-Farm Ordinance. (AI 105, 107)
- N 3.2 Require acoustical studies and subsequent approval by the Planning Department and the Office of Industrial Hygiene, to help determine effective noise mitigation strategies in noise-producing areas. (AI 105)
- N 3.3 Ensure compatibility between industrial development and adjacent land uses. To achieve compatibility, industrial development projects may be required to include noise mitigation measures to avoid or minimize project impacts on adjacent uses. (AI 107)
- N 3.4 Identify point-source noise producers such as manufacturing plants, truck transfer stations, and commercial development by conducting a survey of individual sites. (AI 106)



- N 3.5 Require that a noise analysis be conducted by an acoustical specialist for all proposed projects that are noise producers. Include recommendations for design mitigation if the project is to be located either within proximity of a noise-sensitive land use, or land designated for noise-sensitive land uses. (AI 109)
- N 3.6 Discourage projects that are incapable of successfully mitigating excessive noise. (AI 107)
- N 3.7 Encourage noise-tolerant land uses such as commercial or industrial, to locate in areas already committed to land uses that are noise-producing. (AI 107)

STATIONARY NOISE

A stationary noise producer is any entity in a fixed location that emits noise. Stationary noise producers are common in many noise-sensitive areas. Motors, appliances, air conditioners, lawn and garden equipment, power tools, and generators are often found in residential neighborhoods, as well as on or near the properties of schools, hospitals, and parks. These structures are often a permanent fixture and are required for the particular land use. Industrial and manufacturing facilities are also stationary noise producers that may affect sensitive land uses. Furthermore, while noise generated by the use of motor vehicles over public roads is preempted from local regulation, the County considers the use of these vehicles to be a stationary noise source when operated on private property such as at a truck terminal or warehousing facility. The emitted noise from the producer can be mitigated to acceptable levels either at the source or on the adjacent property through the use of proper planning, setbacks, blockwalls, acoustic-rated windows, dense landscaping, or by changing the location of the noise producer. The following policies identify mechanisms to measure and mitigate the noise emitted from stationary noise producers.

Community Noise Inventory



The cumulative noise created by truck transfer stations can reach excessive levels when noise sensitive uses are located nearby.

There are a series of noise producers within Riverside County that bear special recognition. These uses may be important parts of the economic health of the County, but they still emit noise from time to time. Some of the special noise producers within the County include, but are not limited to the Riverside Raceway, surface mining, truck transfer stations in the Mira Loma area, manufacturing facilities, and natural gas transmission pipelines.

Three high pressure natural gas transmission pipelines are located in the community of Cabazon (within the Pass Area Plan), and a series of valve stations are placed along the pipeline throughout the community. The pipelines supply a major portion of the non-transportation energy supply for southern California. The depressurization of mainline valves at the valve stations for emergency or maintenance reasons can result in noise levels exceeding 140 dB L_{eq} at a distance of 50 feet from the source for more than an hour at a time. The pipelines are not located in heavily populated areas; however, should higher-intensity uses be approved in the area in the future, possible relocation of one or more pipelines or valves may be necessary.



Policies:

- N 4.1 Prohibit facility-related noise, received by any sensitive use, from exceeding the following worst-case noise levels: (AI 105)
 - a. 45 dBA-10-minute L_{eq} between 10:00 p.m. and 7:00 a.m.
 - b. 65 dBA-10-minute L_{eq} between 7:00 a.m. and 10:00 p.m.
- N 4.2 Develop measures to control non-transportation noise impacts. (AI 105)
- N 4.3 Ensure any use determined to be a potential generator of significant stationary noise impacts be properly analyzed, and ensure that the recommended mitigation measures are implemented. (AI 105, 106, 109)
- N 4.4 Require that detailed and independent acoustical studies be conducted for any new or renovated land uses or structures determined to be potential major stationary noise sources. (AI 105)
- N 4.5 Encourage major stationary noise-generating sources throughout the County of Riverside to install additional noise buffering or reduction mechanisms within their facilities to reduce noise generation levels to the lowest extent practicable prior to the renewal of Conditional Use Permits or business licenses or prior to the approval and/or issuance of new Conditional Use Permits for said facilities. (AI 105, 107)
- N 4.6 Establish acceptable standards for residential noise sources such as, but not limited to, leaf blowers, mobile vendors, mobile stereos and stationary noise sources such as home appliances, air conditioners, and swimming pool equipment. (AI 105)
- N 4.7 Evaluate noise producers for the possibility of pure-tone producing noises. Mitigate any pure tones that may be emitted from a noise source. (AI 106, 107)
- N 4.8 Require that the parking structures, terminals, and loading docks of commercial or industrial land uses be designed to minimize the potential noise impacts of vehicles on the site as well as on adjacent land uses. (AI 106, 107)



A pure tone is a single frequency tone with no harmonic content (e.g. hum).

Wind Energy Conversion Systems (WECS)

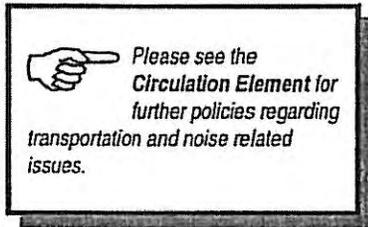
Wind energy is a unique resource found only in a portion of Riverside County. Wind Energy Conversion Systems (WECS) are used to harness the energy found in strong gusts of wind. In order to fully capitalize on this special commodity, a large number of wind turbines have been placed in a portion of the Coachella Valley and San Geronio Pass within Riverside County. There are some residential areas spread throughout the County that may also capitalize on wind-generated power. Though there is minimal residential development in the immediate areas where these windmills are located, the potential for noise and ground-borne vibration in neighboring developed areas may occur. The Wind Implementation Monitoring Program, designed and implemented by Riverside County, guides the policy direction for this area.



Policies:



- N 5.1 Enforce the Wind Implementation Monitoring Program (WIMP).
- N 5.2 Encourage the replacement of outdated technology with more efficient technology with less noise impacts. (AI 105)



MOBILE NOISE

Mobile noise sources may be one of the most annoying noise producers in a community because they are louder than background noises and more intense than many acceptable stationary noise sources. Though the noise emitted from mobile sources is temporary, it is often more disturbing because of its abruptness, especially single noise-producing events such as vehicle backfires. Common mobile noise sources include on-road vehicles, aircraft, and trains. The policies in this section identify common mobile noise sources, and suggest mitigation techniques to reduce the annoyance and burden of mobile noise sources on noise-sensitive receptors.

Policies:

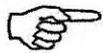
- N 6.1 Consider noise reduction as a factor in the purchase of County maintenance equipment and their use by County contractors and permittees. (AI 108)
- N 6.2 Investigate the feasibility of retrofitting current County-owned vehicles and mechanical equipment to comply with noise performance standards consistent with the best available noise reduction technology. (AI 108)
- N 6.3 Require commercial or industrial truck delivery hours be limited when adjacent to noise-sensitive land uses unless there is no feasible alternative or there are overriding transportation benefits. (AI 105, 107)
- N 6.4 Restrict the use of motorized trail bikes, mini-bikes, and other off-road vehicles in areas of the County except where designated for that purpose. Enforce strict operating hours for these vehicles in order to minimize noise impacts on sensitive land uses adjacent to public trails and parks. (AI 105, 108)



Commercial Airliners are mobile noise sources that contribute to noise pollution.

Transportation

The most common mobile noise sources in the County are transportation-related. Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create a higher sustained noise level in proximity to areas sensitive to noise exposure. Rail and aircraft operations, though less frequent, may generate extremely high noise levels that can be disruptive to daily activities. Though mass transit has not yet been developed within Riverside County, it is important to consider the noise that may be generated from transit service.



The following airports are located within or have a direct effect on Riverside County. Please see Appendix I for a map with each airport's noise contours. Also see the area plans and airport land use plans for more specific airport-related policies:

- Banning Municipal Airport
- Bermuda Dunes Airport
- Blythe Airport
- Chino Airport
- Corona Municipal Airport
- Chiriaco Summit Airport
- Desert Center Airport
- Desert Resorts Regional Airport
- Flabob Airport
- French Valley Airport
- Hemet-Ryan Airport
- March Inland Port
- Palm Springs Regional Airport
- Perris Valley Airport
- Riverside Municipal Airport
- Skylark Airport

Airports

With the dynamic growth in aviation, aircraft noise will remain a challenging environmental problem and one that will affect an increasing number of people as air traffic routes and procedures change in the future. Aircraft noise appears to produce the greatest community anti-noise response, although the duration of the noise from a single airplane is much less, for example, than that from a freight train. There is great economic benefit to gain from airports of any size, although living in proximity to an airport may bring about expected aircraft noise.

There are 15 (fifteen) airports that are located within or have a direct effect on Riverside County. The land under the flight paths of each airport was monitored to determine the amount of noise emitted by common aircraft taking-off and landing at any given airport. Noise contours were created based on the measurements from the monitoring program. The CNEL noise contour(s) for the following airports have been depicted in the applicable Area Plan's Airport Influence Area section:

- Banning Municipal Airport
- Bermuda Dunes Airport
- Blythe Airport
- Chino Airport
- Chiriaco Summit Airport
- Corona Municipal Airport
- Desert Center Airport
- Desert Resorts Regional Airport
- Flabob Airport
- French Valley Airport
- Hemet Ryan Airport
- Riverside Municipal Airport

An Airport Land Use Plan has been created for each airport within Riverside County, and it should be referenced for further information regarding airports. Helicopters and heliports are also potential sources of noise, but due to the relatively low frequency and short duration of their operation in most circumstances, these operations do not significantly affect average noise levels within the County. The following general policies address the noise that comes from airports and the aircraft they service.

Policies:



N 7.1 New land use development within Airport Influence Areas shall comply with airport land use noise compatibility criteria contained in the corresponding airport land use compatibility plan for the area. Each Area Plan affected by a public-use airport includes one or more Airport Influence Areas, one for each airport. The applicable noise compatibility criteria are fully set forth in Appendix L and summarized in the Policy Area section of the affected Area Plan.



N 7.2 Adhere to applicable noise compatibility criteria when making decisions regarding land uses adjacent to airports. Refer to the Airports section of the Land Use Element (Page LU-32) and the Airport Influence Area sections of the corresponding Area Plans.



N 7.3 Prohibit new residential land uses, except construction of a single-family dwelling on a legal residential lot of record, within the current 60 dB CNEL contours of any currently operating public-use, or military airports. The applicable noise contours are as defined by the Riverside County Airport Land Use Commission and depicted in Appendix L, as well as in the applicable Area Plan's Airport Influence Area section.



N 7.4 Check each development proposal to determine if it is located within an airport noise impact area as depicted in the applicable Area Plan's Policy Area section regarding Airport Influence Areas. Development proposals within a noise impact area shall comply with applicable airport land use noise compatibility criteria.



N 7.5 Revise the Riverside County Zoning Code to reflect aircraft noise-impacted areas around the County's major airports. (AI 109)

 Please see the Circulation Element for more in-depth information regarding Level of Service Standards, Average Daily Trips, and other information related to vehicular circulation.

Vehicular

Roadway traffic is one of the most pervasive sources of noise within Riverside County. Traffic noise varies in how it affects land uses depending upon the type of roadway, and the distance of the land use from that roadway. Some variables that affect the amount of noise emitted from a road are speed of traffic, flow of traffic, and type of traffic (e.g. tractor trailers versus cars). Another variable affecting the overall measure of noise is a perceived increase in sensitivity to vehicular noise at night. Appendix I contains tables and figures that illustrate existing and forecasted noise from roadways throughout the County. The existing noise measurements were obtained by measuring noise at different points adjacent to the roadway. The future noise contours along freeways and major highways, also located in Appendix I, were created from the results of traffic modeling to project the noise of major roadways in the future. The following policies address the issues of roadway traffic noise, and suggest methods to reduce the noise impact of roads on adjacent and nearby land uses.

Policies:



N 8.1 Enforce all noise sections of the State Motor Vehicle Code.

N 8.2 Ensure the inclusion of noise mitigation measures in the design of new roadway projects in the County. (AI 105)

N 8.3 Require development that generates increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide for appropriate mitigation measures. (AI 106)

N 8.4 Require that the loading and shipping facilities of commercial and industrial land uses, which abut residential parcels be located and designed to minimize the potential noise impacts upon residential parcels. (AI 105)

N 8.5 Employ noise mitigation practices when designing all future streets and highways, and when improvements occur along existing highway segments. These mitigation measures will emphasize the



Off-road and all-terrain vehicles must obey strict operating hours when noise-sensitive land uses are nearby or adjacent to trails and open space.



establishment of natural buffers or setbacks between the arterial roadways and adjoining noise-sensitive areas. (AI 105)

N 8.6 Require that all future exterior noise forecasts use Level of Service C, and be based on designed road capacity or 20-year projection of development (whichever is less) for future noise forecasts. (AI 106)

N 8.7 Require that field noise monitoring be performed prior to siting to any sensitive land uses along arterial roadways. Noise level measurements should be of at least 10 minutes in duration and should include simultaneous vehicle counts so that more accurate vehicle ratios may be used in modeling ambient noise levels. (AI 106)

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Calling noise a nuisance is like calling smog an inconvenience. Noise must be considered a hazard to the health of people everywhere.

”

Mass Transit

Currently, the County does not participate in or provide any rail transit services though public transportation is becoming a more desirable option for many travelers and commuters in Riverside County. Transit can be an alternative to driving a car through congested Riverside County freeways. Currently, the noise generated by public transportation within Riverside County affects only a very small percentage of the total residential population. As years pass, and the need for public transportation increases, there will be a greater number of residents affected by the noise that buses, transit oases shuttles, light rail, and trains will produce. The following policies address the issues of noise related to public transit.

Policies:

N 9.1 Encourage local and regional public transit providers to ensure that the equipment they operate and purchase is state-of-the-art and does not generate excessive noise impacts on the community. (AI 108)

N 9.2 Encourage the use of quieter electric-powered vehicles. (AI 108)

N 9.3 Encourage the development and use of alternative transportation modes including bicycle paths and pedestrian walkways to minimize vehicular noise within sensitive receptor areas.

N 9.4 Actively participate in the development of noise abatement plans for freeways and rapid transit. (AI 108)

Rail

The rail system within Riverside County criss-crosses its way through communities, industrial areas, rural areas, and urban centers. Trains carry passengers, freight, and cargo to local and regional destinations day and night. Rail transportation may become more popular in the future if a mass public transportation system is implemented within Riverside County. Currently, daily train traffic produces noise that may disrupt activities in proximity to railroad tracks. For instance, trains are required to sound their horns at all at-grade crossings, and they may also be required to slow their speed through residential areas. These types of noise disturbances can interfere with activities conducted on noise-sensitive land uses. Exhibits showing existing railroad noise contours



Please see the Circulation Element for additional policies related to transit development and rail systems.



An at-grade railroad crossing is one where the street and the rail line form an intersection, and physically cross one-another.



can be found in Appendix I. These exhibits provide purely illustrative contours along rail lines throughout the County. The following policies suggest actions that could minimize the impacts of train noise on noise-sensitive land uses.

Policies:

- N 10.1 Check all proposed projects for possible location within railroad noise contours using typical noise contour diagrams. (AI 106, 109)
- N 10.2 Minimize the noise effect of rail transit (freight and passenger) on residential uses and other sensitive land uses through the land use planning process. (AI 106, 109)
- N 10.3 Locate light rail and fixed rail routes and design rail stations in areas that are accessible to both residential and commercial areas, but also minimize noise impacts on surrounding residential and sensitive land uses. (AI 106, 109)
- N 10.4 Install noise mitigation features where rail operations impact existing adjacent residential or other noise-sensitive uses. (AI 108)
- N 10.5 Restrict the development of new sensitive land uses to beyond the 65 decibel CNEL contour along railroad rights-of-way. (AI 106, 109)



Building and Design

One of the most effective means of reducing noise in a sensitive area is to construct and design buildings in such a way that the noise is deflected in such a way that it does not affect the occupants. If the building has already been constructed, then landscaping and design techniques can be used to tastefully absorb the noise emitted from mobile or stationary sources. These building and design techniques should serve two purposes; to mitigate noise to acceptable indoor and outdoor levels, and to enhance the community character rather than detract from its surroundings. The following policies have been included in the Noise Element to ensure that the character of each community within Riverside County is preserved while minimizing noise to acceptable levels.

Natural Barriers and Landscaping

Policies:

- N 11.1 Utilize natural barriers such as hills, berms, boulders, and dense vegetation to assist in noise reduction. (AI 108)
- N 11.2 Utilize dense landscaping to effectively reduce noise. However, when there is a long initial period where the immaturity of new landscaping makes this approach only marginally effective, utilize a large number of highly dense species planted in a fairly mature state, at close intervals, in conjunction with earthen berms, setbacks, or block walls. (AI 108)

Temporary Construction

Policies:

- N 12.1 Minimize the impacts of construction noise on adjacent uses within acceptable practices. (AI 105, 108)
- N 12.2 Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas. (AI 105, 108)
- N 12.3 Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see policy N 1.3) by requiring the developer to submit a construction-related noise mitigation plan to the County for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, through the use of such methods as
 - a. Temporary noise attenuation fences;
 - b. Preferential location of equipment; and
 - c. Use of current noise suppression technology and equipment. (AI 107)



- N 12.4 Require that all construction equipment utilizes noise reduction features (e.g. mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer. (AI 105, 108)

Building and Design Techniques

Policies:



★
Non-habitable areas within a home include:

- kitchens
- bathrooms
- hallways
- garages
- closets
- utility rooms
- laundry rooms

- N 13.1 Enforce the California Building Standards that sets standards for building construction to mitigate interior noise levels to the tolerable 45 CNEL limit. These standards are utilized in conjunction with the Uniform Building Code by the County's Building Department to ensure that noise protection is provided to the public. Some design features may include extra-dense insulation, double-paned windows, and dense construction materials.
- N 13.2 Continue to develop effective strategies and mitigation measures for the abatement of noise hazards reflecting effective site design approaches and state-of-the-art building technologies. (AI 108)
- N 13.3 Incorporate acoustic site planning into the design of new development, particularly large scale, mixed-use, or master-planned development, through measures which may include:
- separation of noise-sensitive buildings from noise-generating sources;
 - use of natural topography and intervening structure to shield noise-sensitive land uses; and
 - adequate sound proofing within the receiving structure. (AI 106)
- N 13.4 Consider and, when necessary to lower noise to acceptable limits, require noise barriers and landscaped berms. (AI 108)
- N 13.5 Consider the issue of adjacent residential land uses when designing and configuring all new, non-residential development. Design and configure on-site ingress and egress points that divert traffic away from nearby noise-sensitive land uses to the greatest degree practicable. (AI 106, 107)
- N 13.6 Prevent the transmission of excessive and unacceptable noise levels between individual tenants and businesses in commercial structures and between individual dwelling units in multi-family residential structures. (AI 105, 108)
- N 13.7 Assist the efforts of local homeowners living in high noise areas to noise attenuate their homes through funding assistance and retrofitting program development, as feasible. (AI 105, 108)
- N 13.8 Review all development applications for consistency with the standards and policies of the Noise Element of the General Plan.
- N 13.9 Mitigate 600 square feet of exterior space to 65 dB CNEL when new development is proposed on residential parcels of 1 acre or greater.



Mixed Use

Policies:

- N 14.1 Minimize the potential adverse noise impacts associated with the development of mixed-use structures where residential units are located above or adjacent to commercial uses. (AI 106, 107, 108)
- N 14.2 Require that commercial and residential mixed-use structures minimize the transfer or transmission of noise and vibration from the commercial land use to the residential land use. (AI 105)
- N 14.3 Minimize the generation of excessive noise level impacts from entertainment and restaurant/bar establishments into adjacent residential or noise-sensitive uses. (AI 105, 107)

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APPENDIX 4.2

City of Wildomar Stationary Noise Source Requirements



MEMO: Requirements for Determining and Mitigating Non-transportation Noise Source Impacts to Residential Properties.

APPLICATION:

This document is intended to provide guidelines for the determination of community noise impact due to non-transportation (hereafter known as "stationary") noise sources. Noise sources covered by this standard include, but are not limited to: industrial facilities, mining activities, loading dock activities, loud speakers operation, sporting events, musical performances, well pumps, equipment, vehicles operated off the public roadways, or any noise producing activities associated with a permanent fixed base of operation (hereafter referred to as the "facility"). Temporary construction activities are not covered by the standard.

NOISE STANDARDS FOR STATIONARY NOISE SOURCES:

Facility-related noise, as projected to any portion of any surrounding property containing a "habitable dwelling, hospital, school, library or nursing home", must not exceed the following worst-case noise levels.

- A) 45 dB(A) - 10 minute noise equivalent level ("leq"), between the hours of 10:00 p.m. to 7:00 a.m. (nighttime standard).
- B) 65 dB(A) - 10 minute leq, between 7:00 a.m. and 10:00 p.m. (daytime standard).

REQUIREMENTS FOR DETERMINATION OF COMMUNITY NOISE IMPACT:

1. Noise originating from operations within the facility grounds shall be treated as "stationary" noise sources for which this standard will apply.
2. Noise Modeling Methodology: Noise predictions are to be made by an engineer, acoustical consultant, or other similar professional with experience in predicting community noise exposure using standard methods and practices of the noise consulting industry.
3. Required Modeling Parameters for Stationary Sources:
 - i. Stationary sources are to be modeled as "point" sources.
 - ii. Mobile point sources are to be modeled as emanating from the acoustical centroid of the activity, or at its closest approach to potentially impacted residential property lines, which ever yields the worst-case results.
 - iii. Noise modeling for each piece of acoustically significant equipment, process or activity must be based on Reference Noise Levels (RNL). RNL may be obtained directly from the manufacturer (in



the case of equipment) or generated from field studies. Regardless, the data must be representative of worst-case conditions. Directionality of the noise source must be taken into consideration if applicable.

iv. Predicted noise levels are to be expressed in germs of worst-case "equivalent continuous sound levels" [or, Leq] averaged over a ten minute period.

v. For modeling purposes, receivers are assumed to be positioned at the property line boundary at an elevation of five feet off the ground.

vi. Terrain conditions for modeling noise propagation: Assumptions regarding ground effects, atmospheric absorption and other forms of noise attenuation must be fully justified.

NOISE REPORT FORMAT AND REQUIRED SUBMITTALS:

The noise Consultant's findings and recommendations must be submitted for review, and receive approval from, the Office of Industrial Hygiene. The resulting report must incorporate the requirements above and, at a minimum, contain the following information:

- a) an adequate and accurate characterization of the current ambient noise environment;
- b) a clear description of the proposed facility and its activities including a step-by-step flow chart of manufacturing processes if applicable;
- c) the identity and characterization of all acoustically significant equipment and/or activities;
- d) a discussion of analytical methodology and parameters used for noise modeling;
- e) a table containing reference noise data accompanied by a detailed description of how it was obtained;
- f) the facilities hours of operation;
- g) a discussion of anticipated production volume, how it is expected to change over time and how such change will effect community noise;
- h) a discussion of worst-case unmitigated noise impact;
- i) a discussion of mitigation (if necessary);
- j) a printed copy of computer input/output (if available) or manual calculations clearly illustrating the rationale for the Consultant's conclusions.

In addition, the final noise report must contain a scaled map(s) defining the acoustical contours surrounding the facility. Minimally, this map(s) must show:

- a) The facility relative to the residential properties surrounding it. Include both unincorporated and incorporated (any adjoining Cities) area surrounding the project and potentially affected by project-related noise.
- b) The 65 dB(A) 10 minute Leq noise contour reflecting the anticipated "worst-case" conditions between the hours of 7AM - 10 PM (daytime hours).
- c) The 45 dB(A) 10 minute Leq noise contour reflecting the anticipated "worst-case" conditions between the hours of 10 PM - 7AM (nighttime hours).
- d) The location and number of residential structures located within these contours.

Office of Industrial Hygiene
4065 County Circle Drive, Suite 318,
Riverside, CA 92503 909-358-5050
FAX: 909-358-5443
TDD: 909-358-512

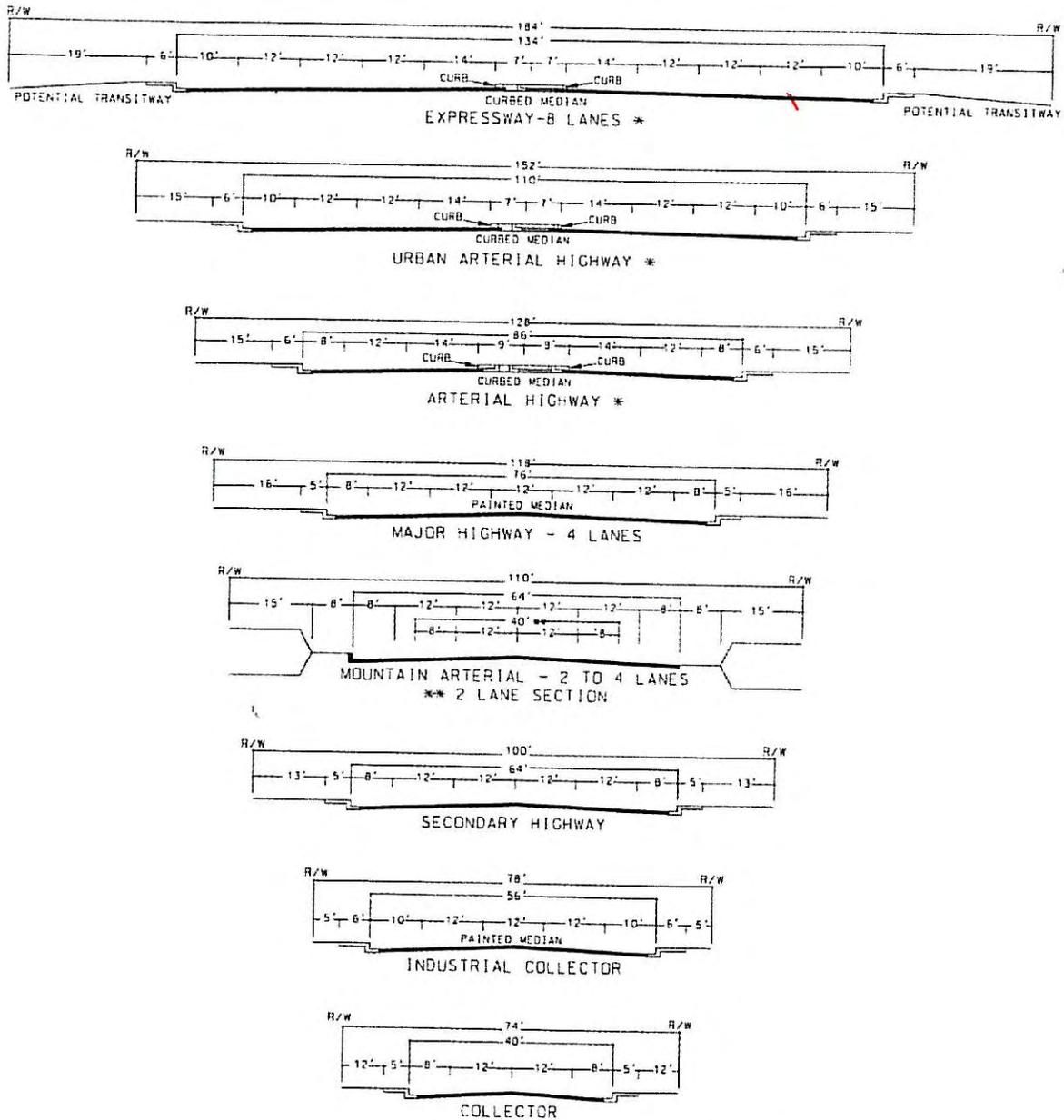


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Figure C-3 Street Classification Cross-Sections

**PROPOSED
 GENERAL PLAN ROADWAY
 CROSS SECTIONS**



* IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS. ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE.



Figure C-2 Link/Volume Capacity/Level of Service for Riverside County Roadways

Link Volume Capacities/Level of Service for Riverside County Roadways⁽¹⁾



David E. Barnhart
Director of Transportation

Roadway Classification	Number of Lanes	Maximum Two-Way Traffic Volume (ADT) ⁽²⁾		
		Service Level C	Service Level D	Service Level E
Collector	2	10,400	11,700	13,000
Secondary	4	20,700	23,300	25,900
Major	4	27,300	30,700	34,100
Arterial ⁽³⁾	2	14,400	16,200	18,000
Arterial	4	28,700	32,300	35,900
Mountain Arterial ⁽³⁾	2	12,900	14,500	16,100
Mountain Arterial	3	16,700	18,800	20,900
Mountain Arterial	4	29,800	33,500	37,200
Urban Arterial	4	28,700	32,300	35,900
Urban Arterial	6	43,100	48,500	53,900
Urban Arterial	8	57,400	64,600	71,800
Expressway	4	32,700	36,800	40,900
Expressway	6	49,000	55,200	61,300
Expressway	8	65,400	73,500	81,700
Freeway	4	61,200	68,900	76,500
Freeway	6	94,000	105,800	117,500
Freeway	8	128,400	144,500	160,500
Freeway	10	160,500	180,500	200,600
Ramp ⁽⁴⁾	1	16,000	18,000	20,000

Notes: (1) All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only.
 (2) Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables as defined in the Riverside County Congestion Management Program.
 (3) Two-lane roadways designated as future arterials that conform to arterial design standards for vertical and horizontal alignment are analyzed as arterials.
 (4) Ramp capacity is given as a one-way traffic volume.

Revised: March 2001



**Table C-1
Street Classifications as identified in the City Transportation Department
Standards and Specifications**

Classification	Definition	Minimum Right-of-Way Width Required	Number of Lanes Required (Approximate)
<i>Freeway</i>	Highway upon which the abutter's rights of access are controlled and which provides separated grades at intersecting streets.	To be determined by Caltrans	To be determined by Caltrans
<i>Expressway</i>	Multi-modal highway corridor for through traffic to which access from abutting property is restricted. Intersections with other streets or highways shall be limited to approximately one-half mile intervals.	184 feet	6 or 8 lanes, additional rights-of-way may be needed at some intersections
<i>Urban Arterial</i>	Highway primarily for through traffic where anticipated traffic volumes exceed four-lane capacity. Access from other streets or highways shall be limited to approximately one-quarter mile intervals.	152 feet	6 lanes, additional rights-of-way may be required. at intersections
<i>Arterial Highway</i>	Divided highway primarily for through traffic to which access from abutting property shall be kept at a minimum. Intersections with other streets or highways shall be limited to approximately one-quarter mile intervals.	128 feet	4 or 6 lanes
<i>Arterial Mountain Highway</i>	Highway intended to serve through traffic in mountainous areas zoned for low density residential development. Access from abutting property shall be kept at a minimum. Intersections with other streets or highways shall be limited to approximately 330-foot intervals.	110 feet	4 lanes, additional right-of-way may be required at some intersections.
<i>Major Highway</i>	Highway intended to serve property zoned for major industrial and commercial uses, or to serve through traffic. Intersections with other streets or highways may be limited to approximately 660-foot intervals.	118 feet	4 lanes, additional rights-of-way may be required at intersections
<i>Secondary Highway</i>	Highway intended to serve through traffic along longer routes between major traffic generating areas or to serve property zoned for multiple residential, secondary industrial or commercial uses. Intersections with other streets and highways may be limited to 330-foot intervals.	100 feet	4 lanes, generally no turn lanes, and additional right-of-way may be required at some intersections
<i>Collector Street</i>	Street intended to serve intensive residential land use, multiple-family dwellings, or to convey traffic through an area to roads of equal or similar classification or higher. It may also serve as a cul-de-sac in industrial or commercial use areas but shall not exceed 660 feet in length when so used.	74 feet	2 lanes
<i>Industrial Collector</i>	A circulatory street with a continuous left-turn lane with at least one end connecting to a road of equal or greater classification.	78 feet	2 lanes



MEMO: Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures.

NOISE STANDARDS:

1. The Noise Element of the General Plan indicates that to avoid future noise hazard, the maximum capacity design standard for highways and major roads will be used for determining the maximum future noise level or, in the case of freeways and airports, the estimated conditions 20 years in the future.
2. The interior noise levels in residential dwellings shall not exceed 45 Ldn/CNEL.
3. The exterior noise level shall not exceed 65 Ldn/CNEL.
4. Required Noise Prediction Model – Traffic Noise: FHWA RD 77-108 Highway Traffic Prediction Model, Sound 32 or the equivalent.

REQUIRED TRAFFIC NOISE MODELING PARAMETERS:

1. Roadway Classification: All roadways must be classified into one of the following categories as defined in the General Plan: Secondary, Major, Arterial, Urban Arterial, Expressway, Freeway, and Specific Plan Road.
2. Roadway Traffic Volume: All roadways must be modeled using Average Daily Trip (ADT) Level of Service “C” design capacities. For roadways classified by the General Plan as variable, future build-out traffic volumes must be obtained from the County’s Transportation Department or in the case of freeways, from Caltrans.
3. Required vehicle mix.
 - Freeways: Vehicle mix information must be obtained from Caltrans.
 - Roadways designated as major, arterial highways, or expressways:

VEHICLE	OVERALL %	DAY (7AM-7PM) %	EVENING (7PM-10PM) %	NIGHT (10PM-7AM) %
Auto	92	69.5	12.9	9.6
Medium Truck	3	1.44	0.06	1.5
Heavy Truck	5	2.4	0.1	2.5



- Roadways designated as secondary, collectors, or smaller:

VEHICLE	OVERALL %	DAY (7AM-7PM) %	EVENING (7PM-10PM) %	NIGHT (10PM-7AM) %
Auto	97.4	73.6	13.6	10.22
Medium Truck	1.84	0.9	0.04	0.9
Heavy Truck	0.74	0.35	0.04	0.35

5. Traffic Speed: For County roads assume an average traffic speed of 40 MPH. For freeways, contact CALTRANS and use what speed they recommend.
6. Terrain conditions for modeling noise propagation: Assume “hard site” conditions in determining noise propagation (no more than 3 dB of attenuation per doubling of distance between source and receiver).
7. Noise attenuation attributed to standard residential architecture: It is assumed that standard residential design (with windows closed) will provide no more than 20 dB (A) of attenuation. Additional mitigation must be demonstrated via modeling.
8. Receiver placement for modeling exterior noise levels (unmitigated): Noise levels must be estimated at the exterior face of the nearest residence at an elevation of five feet above the finished pad.
 - Receiver placement for noise barrier design: *Set back*: Barrier calculations shall be based on a hypothetical outdoor receiver located ten (10) feet behind the intervening noise barrier.
 - Receiver height: Initial calculations shall be based on a receiver height of five (5) feet above the ground. If these calculations result in a barrier less than or equal to six (6) feet in height, no further barrier calculations are necessary and this shall be selected as the required wall height.
9. However, if the resulting barrier height is calculated to be greater than six feet, it shall be re-calculated using a receiver height of three (3) feet. The resulting re-calculated wall height shall be then selected as the required wall height.
10. Receiver placement for architectural-based (indoor) noise mitigation – first floor: First floor interior noise level predictions are to be calculated assuming a hypothetical receiver is located in the center of the room nearest the noise source and elevated 5 feet above the pad (finished floor).



NOISE REPORT FORMAT AND REQUIRED SUBMITTALS:

The noise Consultants findings and recommendations must be submitted for review, and receive approval from, the Office of Industrial Hygiene. The resulting report must incorporate the requirements above and, at a minimum, contain the following information: a) a clear description of the proposed project; b) the identity and characterization of all acoustically significant roadways; c) a discussion of analytical methodology and parameters used for noise modeling; d) information obtained from applying requirements 6-10 (above); e) a discussion of mitigation (if necessary) including a clear diagram illustrating noise barrier placement; f) a printed copy of computer input/output (if available).

In addition to the report, Industrial Hygiene must be provided with the following depending on the design stage of the project. The first item that must be provided is a scaled map (blue-line) of the project. This map must clearly illustrate lot boundaries and the relative location of all acoustically significant roadways. Topographical elevations for lots and roadway centerlines must be included. Second, if architectural-based mitigation is necessary, and if the project has progressed to the point where plans for the homes have been drawn, copies must be provided (floor plans and exterior elevation drawings). Additionally, an updated blue-line showing exact pad location and finished floor elevation must be included.



MEMO: Potential Studies Requiring Input from Department of Public Health

I. STUDIES

Except for WECS (Wind Energy Conversion Systems) Noise, Department of Public Health input is discretionary as determined by the Planning Department. Regularly, the Planning Department requests Department of Public Health reviews concerning the acoustical issues associated with a project. Less frequently, the Department may be requested to comment on ground vibration from trains (may apply to noise sensitive receptor within 1,000 feet of a rail corridor) and release of silica dust from sand and gravel pit operations. In addition, in response to community and planning commissioners comments, the Planning Department may request Department reviews of projects having the following associated issues: nuisance dust, cement dust, electromagnetic fields from power lines, and asbestos dust.

A. Noise Appraisals

Noise appraisals fall into three groups each with distinct criteria; Transportation noise receptors, e.g. tracts receiving noise from highways and airports; stationary noise sources, e.g. projects emitting significant noise impacting neighboring communities; and Wind Energy Conversion Systems noise (WECS or Windturbine Farms). An applicant should be aware that a given project may fall into more than one group. The following outlines the minimum criteria associated with each group.

1. Transportation noise receptors:

- (a) Interior noise levels in residential dwellings shall not exceed 45 Ldn (or CNEL).
- (b) Exterior noise levels shall not exceed 65 Ldn (or CNEL).
- (c) Acoustical parameters are outlined in the memo of Dec. 21, 1990 (contact the Office of Industrial Hygiene).

2. Stationary noise sources:

During hours of 7 A.M. to 10 P.M. and 10 P.M. to 7 A.M., the noise levels shall not exceed 65 and 45 dB, A weighted ten minute Leq, respectively, as projected to any portion of a lot with occupied residence.

3. WECS Noise.:

WECS shall comply with criteria established by Ordinance No. 348.258 and Resolution No. 93-378.

4. Consultants Expertise:

The acoustical study demonstrating compliance with these categories shall be performed by a noise consultant with at least two years experience in acoustical design and mitigation. The consultant shall be able to utilize FHWA Highway Traffic Noise Prediction Model and Sound 32. Preferably the consultant shall be a member of the Institute of Noise Control Engineering or a Certified Industrial Hygienist.

B. Other Studies

For other studies requiring our input, the applicant shall contact Industrial Hygiene for guidelines in providing a study prior to conducting the assessment or study.



II. FEES

Our current man-hour fee (subject to change by ordinance) is \$95 per hour devoted to the project including review and comment, verbally and in writing. Any time consumed by traveling to and attending meetings (including public hearings) on behalf of the project is also included. In addition, incidental expenses such as mileage at .29/mile, meals, lodging, and miscellaneous transportation expenses may be incurred. Note, the incidental expenses other than mileage are rarely utilized.

III. DEPOSITS

For WECS, a \$500 deposit is required. Frequently, expenses exceed this deposit and additional deposits are requested prior to completion of reviews and participation at public hearings. For all others, a \$1,500 deposit is requested. This is generally sufficient, unless the project is complex and/or controversial, involving many revisions, and/or attendance at meetings.

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APPENDIX 6.1

Off-Site FHWA Traffic Noise Model Contours

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Bundy Canyon Road
 Road Segment: w/o I-15 Fwy.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	15,600 vehicles	Autos:		15		
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):		15		
Peak Hour Volume:	1,560 vehicles	Heavy Trucks (3+ Axles):		15		
Vehicle Speed:	50 mph	Vehicle Mix				
Near/Far Lane Distance:	78 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height:	0.0 feet	Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos:		0.000		
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297		
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006		
Pad Elevation:	0.0 feet					Grade Adjustment: 0.0
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:		92.217		
Left View:	-90.0 degrees	Medium Trucks:		92.121		
Right View:	90.0 degrees	Heavy Trucks:		92.131		

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.73	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-15.59	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-13.37	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	62.3	60.9	54.9	63.3	63.9
Medium Trucks:	60.1	56.1	48.4	57.6	63.7	63.8
Heavy Trucks:	66.7	62.7	55.0	64.2	70.3	70.4
Vehicle Noise:	69.2	66.0	62.1	65.4	71.8	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	133	286	616	1,326
CNEL:	135	291	627	1,351

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Bundy Canyon Road
 Road Segment: I-15 Fwy. to Sellers Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 18,400 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,840 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.01	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-14.88	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-12.66	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.9	63.0	61.6	55.6	64.0	64.7
Medium Trucks:	60.8	56.9	49.1	58.3	64.4	64.5
Heavy Trucks:	67.4	63.5	55.7	64.9	71.0	71.1
Vehicle Noise:	69.9	66.7	62.8	66.1	72.6	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	148	319	687	1,480
CNEL:	151	325	700	1,508

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Bundy Canyon Road
 Road Segment: Sellers Rd. to Monte Vista Dr.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	17,100 vehicles	Autos:		15		
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):		15		
Peak Hour Volume:	1,710 vehicles	Heavy Trucks (3+ Axles):		15		
Vehicle Speed:	50 mph	Vehicle Mix				
Near/Far Lane Distance:	78 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height:	0.0 feet	Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos:		0.000		
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297		
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006		
Pad Elevation:	0.0 feet					Grade Adjustment: 0.0
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:		92.217		
Left View:	-90.0 degrees	Medium Trucks:		92.121		
Right View:	90.0 degrees	Heavy Trucks:		92.131		

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.33	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-15.19	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-12.98	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	62.7	61.3	55.3	63.7	64.3
Medium Trucks:	60.5	56.5	48.8	58.0	64.1	64.2
Heavy Trucks:	67.1	63.1	55.4	64.6	70.7	70.8
Vehicle Noise:	69.6	66.4	62.5	65.8	72.2	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	141	304	654	1,410
CNEL:	144	309	667	1,436

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Bundy Canyon Road
 Road Segment: Monte Vista Dr. to Harvest Way

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	17,600 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	1,760 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	50 mph	Vehicle Mix				
Near/Far Lane Distance:	78 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height:	0.0 feet	Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 92.217				
Road Grade:	0.0%	Medium Trucks: 92.121				
Left View:	-90.0 degrees	Heavy Trucks: 92.131				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.20	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-15.07	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-12.85	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.8	61.4	55.4	63.8	64.5
Medium Trucks:	60.6	56.7	48.9	58.1	64.2	64.3
Heavy Trucks:	67.2	63.3	55.5	64.7	70.8	70.9
Vehicle Noise:	69.7	66.5	62.6	65.9	72.4	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	144	310	667	1,437
CNEL:	146	315	680	1,464

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Bundy Canyon Road
 Road Segment: Harvest Way West to Harvest Wa

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 13,500 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,350 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.35	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.22	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-14.00	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.7	60.2	54.2	62.7	63.3
Medium Trucks:	59.5	55.5	47.7	56.9	63.1	63.1
Heavy Trucks:	66.1	62.1	54.3	63.5	69.7	69.7
Vehicle Noise:	68.6	65.4	61.4	64.8	71.2	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	120	259	559	1,204
CNEL:	123	264	570	1,227

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Bundy Canyon Road
 Road Segment: Harvest Way East to Sunset Ave.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 13,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,370 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.29	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.16	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-13.94	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.7	60.3	54.3	62.8	63.4
Medium Trucks:	59.6	55.6	47.8	57.0	63.2	63.2
Heavy Trucks:	66.2	62.2	54.4	63.6	69.8	69.8
Vehicle Noise:	68.7	65.4	61.5	64.9	71.3	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	122	262	564	1,216
CNEL:	124	267	575	1,239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Bundy Canyon Road
 Road Segment: Sunset Ave. to Murrieta Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 13,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,370 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.29	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-16.16	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-13.94	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	61.7	60.3	54.3	62.8	63.4
Medium Trucks:	59.6	55.6	47.8	57.0	63.2	63.2
Heavy Trucks:	66.2	62.2	54.4	63.6	69.8	69.8
Vehicle Noise:	68.7	65.4	61.5	64.9	71.3	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	122	262	564	1,216
CNEL:	124	267	575	1,239

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Bundy Canyon Road
 Road Segment: Murrieta Rd. to Sweetwater Cany

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,090 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.28	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-17.15	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-14.93	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.6	60.7	59.3	53.3	61.8	62.4
Medium Trucks:	58.6	54.6	46.8	56.0	62.2	62.2
Heavy Trucks:	65.2	61.2	53.4	62.6	68.8	68.8
Vehicle Noise:	67.7	64.4	60.5	63.9	70.3	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	104	225	485	1,044
CNEL:	106	229	494	1,064

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Bundy Canyon Road
 Road Segment: Sweetwater Canyon Rd. to I-215

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	18,300 vehicles	Autos:		15		
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):		15		
Peak Hour Volume:	1,830 vehicles	Heavy Trucks (3+ Axles):		15		
Vehicle Speed:	50 mph	Vehicle Mix				
Near/Far Lane Distance:	78 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height:	0.0 feet	Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos:		0.000		
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297		
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006		
Pad Elevation:	0.0 feet					Grade Adjustment: 0.0
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:		92.217		
Left View:	-90.0 degrees	Medium Trucks:		92.121		
Right View:	90.0 degrees	Heavy Trucks:		92.131		

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.03	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-14.90	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-12.68	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.9	63.0	61.6	55.5	64.0	64.6
Medium Trucks:	60.8	56.8	49.1	58.3	64.4	64.5
Heavy Trucks:	67.4	63.4	55.7	64.9	71.0	71.0
Vehicle Noise:	69.9	66.7	62.7	66.1	72.5	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	148	318	685	1,475
CNEL:	150	324	698	1,503

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Bundy Canyon Road
 Road Segment: e/o I-215 Fwy.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,800 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,980 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.08	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.78	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.56	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.7	57.7	66.1	66.8
Medium Trucks:	62.9	59.0	51.2	60.4	66.5	66.6
Heavy Trucks:	69.5	65.6	57.8	67.0	73.1	73.2
Vehicle Noise:	72.0	68.8	64.9	68.2	74.6	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	204	440	948	2,042
CNEL:	208	448	966	2,080

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Sunset Avenue
 Road Segment: n/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	600 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	60 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 99.945				
Road Grade:	0.0%	Medium Trucks: 99.856				
Left View:	-90.0 degrees	Heavy Trucks: 99.865				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-13.66	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-30.90	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-34.85	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.0	45.1	43.4	37.3	45.9	46.5
Medium Trucks:	41.0	39.5	33.1	31.6	40.1	40.3
Heavy Trucks:	42.3	40.9	31.9	33.1	41.5	41.6
Vehicle Noise:	49.0	47.3	44.0	39.5	48.0	48.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	3	7	16	34
CNEL:	4	8	17	37

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Sunset Avenue
 Road Segment: s/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	100 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	10 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 99.945				
Road Grade:	0.0%	Medium Trucks: 99.856				
Left View:	-90.0 degrees	Heavy Trucks: 99.865				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-21.44	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-38.68	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-42.63	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.3	37.4	35.6	29.5	38.2	38.8
Medium Trucks:	33.2	31.7	25.4	23.8	32.3	32.5
Heavy Trucks:	34.6	33.1	24.1	25.3	33.7	33.8
Vehicle Noise:	41.3	39.5	36.3	31.7	40.2	40.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	1	2	5	10
CNEL:	1	2	5	11

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions
 Road Name: Murrieta Road
 Road Segment: n/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	5,800 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	580 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	45 mph	Vehicle Mix				
Near/Far Lane Distance:	58 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height:	0.0 feet	Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 95.833				
Road Grade:	0.0%	Medium Trucks: 95.741				
Left View:	-90.0 degrees	Heavy Trucks: 95.750				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.57	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-19.43	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.21	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.4	56.5	55.0	49.0	57.5	58.1
Medium Trucks:	54.5	50.5	42.7	51.9	58.1	58.1
Heavy Trucks:	61.5	57.5	49.7	59.0	65.1	65.1
Vehicle Noise:	63.8	60.5	56.4	60.1	66.5	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	125	270	582
CNEL:	59	128	275	592

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Bundy Canyon Road
 Road Segment: w/o I-15 Fwy.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 23,800 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,380 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.11	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-13.76	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-11.54	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	64.1	62.7	56.7	65.2	65.8
Medium Trucks:	62.0	58.0	50.2	59.4	65.6	65.6
Heavy Trucks:	68.6	64.6	56.8	66.0	72.2	72.2
Vehicle Noise:	71.1	67.8	63.9	67.3	73.7	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	176	379	816	1,757
CNEL:	179	386	831	1,791

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Bundy Canyon Road
 Road Segment: I-15 Fwy. to Sellers Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,500 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,950 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.04	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.83	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.61	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.6	57.6	66.1	66.7
Medium Trucks:	62.9	58.9	51.1	60.3	66.5	66.5
Heavy Trucks:	69.5	65.5	57.7	66.9	73.1	73.1
Vehicle Noise:	72.0	68.8	64.8	68.2	74.6	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	203	437	941	2,028
CNEL:	207	445	959	2,066

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Bundy Canyon Road
 Road Segment: Sellers Rd. to Monte Vista Dr.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,800 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,880 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.94	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.93	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.71	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	65.0	63.5	57.5	66.0	66.6
Medium Trucks:	62.8	58.8	51.0	60.2	66.4	66.4
Heavy Trucks:	69.4	65.4	57.6	66.8	73.0	73.0
Vehicle Noise:	71.9	68.7	64.7	68.1	74.5	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	200	430	926	1,996
CNEL:	203	438	944	2,033

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Bundy Canyon Road
 Road Segment: Monte Vista Dr. to Harvest Way

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,870 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.92	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.95	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.73	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.5	57.5	66.0	66.6
Medium Trucks:	62.8	58.8	51.0	60.2	66.4	66.4
Heavy Trucks:	69.4	65.4	57.6	66.8	73.0	73.0
Vehicle Noise:	71.9	68.7	64.7	68.1	74.5	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	199	429	924	1,991
CNEL:	203	437	942	2,029

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Bundy Canyon Road
 Road Segment: Harvest Way West to Harvest Wa

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 25,300 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,530 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.37	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-13.49	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-11.27	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	64.4	63.0	57.0	65.4	66.0
Medium Trucks:	62.2	58.2	50.5	59.7	65.8	65.9
Heavy Trucks:	68.8	64.8	57.1	66.3	72.4	72.5
Vehicle Noise:	71.3	68.1	64.2	67.5	73.9	74.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	183	394	850	1,831
CNEL:	187	402	866	1,865

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Bundy Canyon Road
 Road Segment: Harvest Way East to Sunset Ave.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 25,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,590 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.48	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-13.39	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-11.17	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	64.5	63.1	57.1	65.5	66.1
Medium Trucks:	62.3	58.3	50.6	59.8	65.9	66.0
Heavy Trucks:	68.9	64.9	57.2	66.4	72.5	72.6
Vehicle Noise:	71.4	68.2	64.3	67.6	74.0	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	186	401	863	1,859
CNEL:	189	408	879	1,894

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Bundy Canyon Road
 Road Segment: Sunset Ave. to Murrieta Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,500 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,750 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.74	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-13.13	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.91	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	64.8	63.3	57.3	65.8	66.4
Medium Trucks:	62.6	58.6	50.8	60.0	66.2	66.2
Heavy Trucks:	69.2	65.2	57.4	66.6	72.8	72.8
Vehicle Noise:	71.7	68.5	64.5	67.9	74.3	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	194	417	898	1,935
CNEL:	197	425	915	1,972

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Bundy Canyon Road
 Road Segment: Murrieta Rd. to Sweetwater Cany

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 33,100 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,310 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.54	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.33	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.11	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	64.1	58.1	66.6	67.2
Medium Trucks:	63.4	59.4	51.6	60.8	67.0	67.0
Heavy Trucks:	70.0	66.0	58.2	67.4	73.6	73.6
Vehicle Noise:	72.5	69.3	65.3	68.7	75.1	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	219	472	1,016	2,190
CNEL:	223	481	1,036	2,231

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Bundy Canyon Road
 Road Segment: Sweetwater Canyon Rd. to I-215

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 62,800 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 6,280 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	5.32	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-9.54	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-7.33	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.2	68.3	66.9	60.9	69.4	70.0
Medium Trucks:	66.2	62.2	54.4	63.6	69.8	69.8
Heavy Trucks:	72.8	68.8	61.0	70.2	76.4	76.4
Vehicle Noise:	75.3	72.1	68.1	71.5	77.9	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	336	723	1,558	3,356
CNEL:	342	737	1,587	3,419

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Bundy Canyon Road
 Road Segment: e/o I-215 Fwy.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 61,800 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 6,180 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	5.25	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-9.61	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-7.40	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.2	68.3	66.9	60.8	69.3	69.9
Medium Trucks:	66.1	62.1	54.3	63.5	69.7	69.7
Heavy Trucks:	72.7	68.7	60.9	70.1	76.3	76.3
Vehicle Noise:	75.2	72.0	68.0	71.4	77.8	77.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	332	715	1,541	3,320
CNEL:	338	729	1,570	3,383

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Sunset Avenue
 Road Segment: n/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	700 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	70 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 99.945				
Road Grade:	0.0%	Medium Trucks: 99.856				
Left View:	-90.0 degrees	Heavy Trucks: 99.865				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-12.99	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-30.23	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-34.18	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.7	45.8	44.0	38.0	46.6	47.2
Medium Trucks:	41.7	40.2	33.8	32.3	40.7	41.0
Heavy Trucks:	43.0	41.6	32.5	33.8	42.1	42.3
Vehicle Noise:	49.7	48.0	44.7	40.2	48.7	49.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	4	8	18	38
CNEL:	4	9	19	41

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Sunset Avenue
 Road Segment: s/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	7,700 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	770 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 99.945				
Road Grade:	0.0%	Medium Trucks: 99.856				
Left View:	-90.0 degrees	Heavy Trucks: 99.865				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.57	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.81	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.77	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.1	56.2	54.5	48.4	57.0	57.6
Medium Trucks:	52.1	50.6	44.2	42.7	51.1	51.4
Heavy Trucks:	53.4	52.0	43.0	44.2	52.6	52.7
Vehicle Noise:	60.1	58.4	55.1	50.6	59.1	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	40	87	188
CNEL:	20	43	93	201

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 No Proj
 Road Name: Murrieta Road
 Road Segment: n/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 16,100 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,610 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph		Vehicle Mix				
Near/Far Lane Distance: 58 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 95.833				
Road Grade: 0.0%		Medium Trucks: 95.741				
Left View: -90.0 degrees		Heavy Trucks: 95.750				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.13	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-15.00	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.78	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.9	59.5	53.5	61.9	62.5
Medium Trucks:	58.9	54.9	47.2	56.4	62.5	62.6
Heavy Trucks:	65.9	62.0	54.2	63.4	69.5	69.6
Vehicle Noise:	68.2	64.9	60.8	64.5	70.9	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	115	248	534	1,150
CNEL:	117	252	543	1,170

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Bundy Canyon Road
 Road Segment: w/o I-15 Fwy.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 24,200 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,420 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.18	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-13.69	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-11.47	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.1	64.2	62.8	56.8	65.2	65.8
Medium Trucks:	62.0	58.1	50.3	59.5	65.6	65.7
Heavy Trucks:	68.6	64.6	56.9	66.1	72.2	72.3
Vehicle Noise:	71.1	67.9	64.0	67.3	73.7	73.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	178	383	825	1,777
CNEL:	181	390	840	1,811

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Bundy Canyon Road
 Road Segment: I-15 Fwy. to Sellers Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,400 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,140 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.31	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.55	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.34	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.9	57.9	66.4	67.0
Medium Trucks:	63.2	59.2	51.4	60.6	66.8	66.8
Heavy Trucks:	69.8	65.8	58.0	67.2	73.4	73.4
Vehicle Noise:	72.3	69.0	65.1	68.5	74.9	75.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	211	455	981	2,114
CNEL:	215	464	1,000	2,154

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Bundy Canyon Road
 Road Segment: Sellers Rd. to Monte Vista Dr.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,090 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.24	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.62	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.41	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.8	57.8	66.3	66.9
Medium Trucks:	63.1	59.1	51.3	60.5	66.7	66.7
Heavy Trucks:	69.7	65.7	57.9	67.1	73.3	73.3
Vehicle Noise:	72.2	69.0	65.0	68.4	74.8	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	209	451	971	2,092
CNEL:	213	459	989	2,131

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Bundy Canyon Road
 Road Segment: Monte Vista Dr. to Harvest Way

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,600 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,060 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.20	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.67	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.45	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.2	63.8	57.8	66.2	66.9
Medium Trucks:	63.0	59.1	51.3	60.5	66.7	66.7
Heavy Trucks:	69.6	65.7	57.9	67.1	73.2	73.3
Vehicle Noise:	72.1	68.9	65.0	68.4	74.8	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	208	448	965	2,078
CNEL:	212	456	983	2,117

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Bundy Canyon Road
 Road Segment: Harvest Way West to Harvest Wa

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 27,100 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,710 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.67	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-13.19	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.98	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	64.7	63.3	57.3	65.7	66.3
Medium Trucks:	62.5	58.5	50.8	60.0	66.1	66.2
Heavy Trucks:	69.1	65.1	57.4	66.6	72.7	72.8
Vehicle Noise:	71.6	68.4	64.5	67.8	74.2	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	192	413	890	1,916
CNEL:	195	421	906	1,953

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Bundy Canyon Road
 Road Segment: Harvest Way East to Sunset Ave.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,100 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,810 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.83	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-13.04	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.82	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	64.8	63.4	57.4	65.9	66.5
Medium Trucks:	62.7	58.7	50.9	60.1	66.3	66.3
Heavy Trucks:	69.3	65.3	57.5	66.7	72.9	72.9
Vehicle Noise:	71.8	68.6	64.6	68.0	74.4	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	196	423	911	1,963
CNEL:	200	431	928	2,000

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Bundy Canyon Road
 Road Segment: Sunset Ave. to Murrieta Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,100 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,010 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.13	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.74	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.52	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.7	57.7	66.2	66.8
Medium Trucks:	63.0	59.0	51.2	60.4	66.6	66.6
Heavy Trucks:	69.6	65.6	57.8	67.0	73.2	73.2
Vehicle Noise:	72.1	68.9	64.9	68.3	74.7	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	206	443	954	2,055
CNEL:	209	451	972	2,094

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Bundy Canyon Road
 Road Segment: Murrieta Rd. to Sweetwater Cany

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 34,600 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,460 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.73	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.13	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.91	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.7	64.3	58.3	66.8	67.4
Medium Trucks:	63.6	59.6	51.8	61.0	67.2	67.2
Heavy Trucks:	70.2	66.2	58.4	67.6	73.8	73.8
Vehicle Noise:	72.7	69.5	65.5	68.9	75.3	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	226	486	1,047	2,255
CNEL:	230	495	1,067	2,298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Bundy Canyon Road
 Road Segment: Sweetwater Canyon Rd. to I-215

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 64,100 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 6,410 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	5.41	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-9.46	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-7.24	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	68.4	67.0	61.0	69.5	70.1
Medium Trucks:	66.3	62.3	54.5	63.7	69.9	69.9
Heavy Trucks:	72.9	68.9	61.1	70.3	76.5	76.5
Vehicle Noise:	75.4	72.1	68.2	71.6	78.0	78.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	340	733	1,579	3,402
CNEL:	347	747	1,609	3,466

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Bundy Canyon Road
 Road Segment: e/o I-215 Fwy.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 62,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 6,200 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	5.27	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-9.60	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-7.38	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.2	68.3	66.9	60.8	69.3	69.9
Medium Trucks:	66.1	62.1	54.4	63.6	69.7	69.8
Heavy Trucks:	72.7	68.7	61.0	70.2	76.3	76.3
Vehicle Noise:	75.2	72.0	68.0	71.4	77.8	78.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	333	717	1,544	3,327
CNEL:	339	730	1,574	3,390

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Sunset Avenue
 Road Segment: n/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	1,100 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	110 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 99.945				
Road Grade:	0.0%	Medium Trucks: 99.856				
Left View:	-90.0 degrees	Heavy Trucks: 99.865				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-11.03	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-28.26	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-32.22	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.7	47.8	46.0	40.0	48.6	49.2
Medium Trucks:	43.6	42.1	35.8	34.2	42.7	42.9
Heavy Trucks:	45.0	43.5	34.5	35.8	44.1	44.2
Vehicle Noise:	51.7	49.9	46.7	42.1	50.7	51.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	5	11	24	51
CNEL:	5	12	26	55

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Sunset Avenue
 Road Segment: s/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	9,800 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	980 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 99.945				
Road Grade:	0.0%	Medium Trucks: 99.856				
Left View:	-90.0 degrees	Heavy Trucks: 99.865				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.53	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.77	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.72	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.2	57.3	55.5	49.4	58.1	58.7
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.5	53.0	44.0	45.3	53.6	53.7
Vehicle Noise:	61.2	59.4	56.2	51.6	60.2	60.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	22	48	102	221
CNEL:	24	51	110	236

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2015 With Proj
 Road Name: Murrieta Road
 Road Segment: n/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 16,500 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,650 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph		Vehicle Mix				
Near/Far Lane Distance: 58 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	95.833			
Road Grade: 0.0%		Medium Trucks:	95.741			
Left View: -90.0 degrees		Heavy Trucks:	95.750			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.02	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-14.89	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.67	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	61.0	59.6	53.6	62.0	62.6
Medium Trucks:	59.0	55.0	47.3	56.5	62.6	62.7
Heavy Trucks:	66.0	62.1	54.3	63.5	69.6	69.7
Vehicle Noise:	68.3	65.0	60.9	64.6	71.0	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	117	252	543	1,169
CNEL:	119	256	552	1,189

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Bundy Canyon Road
 Road Segment: w/o I-15 Fwy.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,200 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,920 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.00	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.87	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.65	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	65.0	63.6	57.6	66.0	66.7
Medium Trucks:	62.8	58.9	51.1	60.3	66.4	66.5
Heavy Trucks:	69.4	65.5	57.7	66.9	73.0	73.1
Vehicle Noise:	71.9	68.7	64.8	68.1	74.6	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	201	434	935	2,014
CNEL:	205	442	953	2,052

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Bundy Canyon Road
 Road Segment: I-15 Fwy. to Sellers Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,270 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height:	0.0 feet	Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos:	92.217			
Road Grade:	0.0%	Medium Trucks:	92.121			
Left View:	-90.0 degrees	Heavy Trucks:	92.131			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.49	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.38	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.16	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.5	64.1	58.1	66.5	67.2
Medium Trucks:	63.3	59.4	51.6	60.8	66.9	67.0
Heavy Trucks:	69.9	66.0	58.2	67.4	73.5	73.6
Vehicle Noise:	72.4	69.2	65.3	68.6	75.1	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	217	468	1,008	2,172
CNEL:	221	477	1,027	2,213

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Bundy Canyon Road
 Road Segment: Sellers Rd. to Monte Vista Dr.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,190 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.38	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.49	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.27	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.4	64.0	58.0	66.4	67.0
Medium Trucks:	63.2	59.3	51.5	60.7	66.8	66.9
Heavy Trucks:	69.8	65.8	58.1	67.3	73.4	73.5
Vehicle Noise:	72.3	69.1	65.2	68.5	74.9	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	214	460	992	2,136
CNEL:	218	469	1,010	2,177

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Bundy Canyon Road
 Road Segment: Monte Vista Dr. to Harvest Way

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 31,800 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,180 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.37	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.50	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.28	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.4	64.0	57.9	66.4	67.0
Medium Trucks:	63.2	59.2	51.5	60.7	66.8	66.9
Heavy Trucks:	69.8	65.8	58.1	67.3	73.4	73.4
Vehicle Noise:	72.3	69.1	65.1	68.5	74.9	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	213	459	990	2,132
CNEL:	217	468	1,008	2,172

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Bundy Canyon Road
 Road Segment: Harvest Way West to Harvest Wa

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,800 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.81	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-13.05	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.83	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	64.8	63.4	57.4	65.9	66.5
Medium Trucks:	62.7	58.7	50.9	60.1	66.3	66.3
Heavy Trucks:	69.3	65.3	57.5	66.7	72.9	72.9
Vehicle Noise:	71.8	68.5	64.6	68.0	74.4	74.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	196	422	909	1,959
CNEL:	200	430	926	1,996

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Bundy Canyon Road
 Road Segment: Harvest Way East to Sunset Ave.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 28,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,870 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	1.92	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.95	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.73	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	64.9	63.5	57.5	66.0	66.6
Medium Trucks:	62.8	58.8	51.0	60.2	66.4	66.4
Heavy Trucks:	69.4	65.4	57.6	66.8	73.0	73.0
Vehicle Noise:	71.9	68.7	64.7	68.1	74.5	74.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	199	429	924	1,991
CNEL:	203	437	942	2,029

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Bundy Canyon Road
 Road Segment: Sunset Ave. to Murrieta Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	30,500 vehicles	Autos:		15		
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):		15		
Peak Hour Volume:	3,050 vehicles	Heavy Trucks (3+ Axles):		15		
Vehicle Speed:	50 mph	Vehicle Mix				
Near/Far Lane Distance:	78 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height:	0.0 feet	Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos:		0.000		
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297		
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006 Grade Adjustment: 0.0		
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos:		92.217		
Road Grade:	0.0%	Medium Trucks:		92.121		
Left View:	-90.0 degrees	Heavy Trucks:		92.131		
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.19	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.68	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.46	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.2	63.8	57.8	66.2	66.9
Medium Trucks:	63.0	59.1	51.3	60.5	66.6	66.7
Heavy Trucks:	69.6	65.7	57.9	67.1	73.2	73.3
Vehicle Noise:	72.1	68.9	65.0	68.3	74.8	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	207	447	962	2,073
CNEL:	211	455	981	2,113

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Bundy Canyon Road
 Road Segment: Murrieta Rd. to Sweetwater Cany

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 36,600 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,660 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.98	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-11.89	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.67	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	66.0	64.6	58.6	67.0	67.6
Medium Trucks:	63.8	59.8	52.1	61.3	67.4	67.5
Heavy Trucks:	70.4	66.4	58.7	67.9	74.0	74.1
Vehicle Noise:	72.9	69.7	65.8	69.1	75.5	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	234	504	1,087	2,341
CNEL:	239	514	1,107	2,386

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Bundy Canyon Road
 Road Segment: Sweetwater Canyon Rd. to I-215

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 69,300 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 6,930 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	5.75	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-9.12	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.90	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	68.8	67.4	61.3	69.8	70.4
Medium Trucks:	66.6	62.6	54.8	64.0	70.2	70.2
Heavy Trucks:	73.2	69.2	61.4	70.6	76.8	76.8
Vehicle Noise:	75.7	72.5	68.5	71.9	78.3	78.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	358	772	1,663	3,584
CNEL:	365	787	1,695	3,651

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Bundy Canyon Road
 Road Segment: e/o I-215 Fwy.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 68,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 6,800 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	5.67	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-9.20	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.98	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.6	68.7	67.3	61.3	69.7	70.3
Medium Trucks:	66.5	62.5	54.8	64.0	70.1	70.2
Heavy Trucks:	73.1	69.1	61.4	70.6	76.7	76.7
Vehicle Noise:	75.6	72.4	68.5	71.8	78.2	78.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	354	762	1,643	3,539
CNEL:	361	777	1,673	3,605

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Sunset Avenue
 Road Segment: n/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	4,300 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	430 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 99.945				
Road Grade:	0.0%	Medium Trucks: 99.856				
Left View:	-90.0 degrees	Heavy Trucks: 99.865				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-5.10	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-22.34	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-26.30	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.6	53.7	51.9	45.9	54.5	55.1
Medium Trucks:	49.6	48.1	41.7	40.1	48.6	48.8
Heavy Trucks:	50.9	49.5	40.4	41.7	50.0	50.2
Vehicle Noise:	57.6	55.9	52.6	48.0	56.6	57.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	13	27	59	127
CNEL:	14	29	63	136

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Sunset Avenue
 Road Segment: s/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	8,600 vehicles	Autos:		15		
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):		15		
Peak Hour Volume:	860 vehicles	Heavy Trucks (3+ Axles):		15		
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos:		0.000		
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297		
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006		
Pad Elevation:	0.0 feet					Grade Adjustment: 0.0
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:		99.945		
Left View:	-90.0 degrees	Medium Trucks:		99.856		
Right View:	90.0 degrees	Heavy Trucks:		99.865		

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-2.09	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-19.33	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-23.29	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.6	56.7	54.9	48.9	57.5	58.1
Medium Trucks:	52.6	51.1	44.7	43.2	51.6	51.9
Heavy Trucks:	53.9	52.5	43.4	44.7	53.0	53.2
Vehicle Noise:	60.6	58.9	55.6	51.1	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	44	94	202
CNEL:	22	47	101	217

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout No Project
 Road Name: Murrieta Road
 Road Segment: n/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 17,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,770 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 45 mph		Vehicle Mix				
Near/Far Lane Distance: 58 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 95.833				
Road Grade: 0.0%		Medium Trucks: 95.741				
Left View: -90.0 degrees		Heavy Trucks: 95.750				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.28	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-14.59	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.37	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.2	61.3	59.9	53.9	62.3	63.0
Medium Trucks:	59.3	55.3	47.6	56.8	62.9	63.0
Heavy Trucks:	66.3	62.4	54.6	63.8	70.0	70.0
Vehicle Noise:	68.6	65.3	61.2	64.9	71.3	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	123	264	569	1,225
CNEL:	125	269	579	1,246

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Bundy Canyon Road
 Road Segment: w/o I-15 Fwy.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,500 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,950 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.04	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.83	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.61	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.6	57.6	66.1	66.7
Medium Trucks:	62.9	58.9	51.1	60.3	66.5	66.5
Heavy Trucks:	69.5	65.5	57.7	66.9	73.1	73.1
Vehicle Noise:	72.0	68.8	64.8	68.2	74.6	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	203	437	941	2,028
CNEL:	207	445	959	2,066

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Bundy Canyon Road
 Road Segment: I-15 Fwy. to Sellers Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 34,600 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,460 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.73	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.13	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.91	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.7	64.3	58.3	66.8	67.4
Medium Trucks:	63.6	59.6	51.8	61.0	67.2	67.2
Heavy Trucks:	70.2	66.2	58.4	67.6	73.8	73.8
Vehicle Noise:	72.7	69.5	65.5	68.9	75.3	75.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	226	486	1,047	2,255
CNEL:	230	495	1,067	2,298

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Bundy Canyon Road
 Road Segment: Sellers Rd. to Monte Vista Dr.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 34,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,400 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.66	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.21	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.99	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.7	64.3	58.2	66.7	67.3
Medium Trucks:	63.5	59.5	51.7	61.0	67.1	67.1
Heavy Trucks:	70.1	66.1	58.3	67.6	73.7	73.7
Vehicle Noise:	72.6	69.4	65.4	68.8	75.2	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	223	480	1,035	2,229
CNEL:	227	489	1,054	2,271

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Bundy Canyon Road
 Road Segment: Monte Vista Dr. to Harvest Way

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 33,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,370 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height:	0.0 feet	Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos:	92.217			
Road Grade:	0.0%	Medium Trucks:	92.121			
Left View:	-90.0 degrees	Heavy Trucks:	92.131			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.62	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.25	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.03	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	64.2	58.2	66.7	67.3
Medium Trucks:	63.5	59.5	51.7	60.9	67.1	67.1
Heavy Trucks:	70.1	66.1	58.3	67.5	73.7	73.7
Vehicle Noise:	72.6	69.3	65.4	68.8	75.2	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	222	477	1,029	2,216
CNEL:	226	486	1,048	2,258

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Bundy Canyon Road
 Road Segment: Harvest Way West to Harvest Wa

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,800 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,980 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.08	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.78	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.56	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	65.1	63.7	57.7	66.1	66.8
Medium Trucks:	62.9	59.0	51.2	60.4	66.5	66.6
Heavy Trucks:	69.5	65.6	57.8	67.0	73.1	73.2
Vehicle Noise:	72.0	68.8	64.9	68.2	74.6	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	204	440	948	2,042
CNEL:	208	448	966	2,080

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Bundy Canyon Road
 Road Segment: Harvest Way East to Sunset Ave.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	30,900 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	3,090 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	50 mph	Vehicle Mix				
Near/Far Lane Distance:	78 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height:	0.0 feet	Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 92.217				
Road Grade:	0.0%	Medium Trucks: 92.121				
Left View:	-90.0 degrees	Heavy Trucks: 92.131				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.24	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.62	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.41	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	65.3	63.8	57.8	66.3	66.9
Medium Trucks:	63.1	59.1	51.3	60.5	66.7	66.7
Heavy Trucks:	69.7	65.7	57.9	67.1	73.3	73.3
Vehicle Noise:	72.2	69.0	65.0	68.4	74.8	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	209	451	971	2,092
CNEL:	213	459	989	2,131

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Bundy Canyon Road
 Road Segment: Sunset Ave. to Murrieta Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 33,200 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,320 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height:	0.0 feet	Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos:	92.217			
Road Grade:	0.0%	Medium Trucks:	92.121			
Left View:	-90.0 degrees	Heavy Trucks:	92.131			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	2.55	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-12.31	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-10.09	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.6	64.2	58.1	66.6	67.2
Medium Trucks:	63.4	59.4	51.6	60.9	67.0	67.0
Heavy Trucks:	70.0	66.0	58.2	67.4	73.6	73.6
Vehicle Noise:	72.5	69.3	65.3	68.7	75.1	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	219	473	1,018	2,194
CNEL:	224	482	1,038	2,235

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Bundy Canyon Road
 Road Segment: Murrieta Rd. to Sweetwater Cany

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 38,100 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,810 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height:	0.0 feet	Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos:	0.000			
Barrier Distance to Observer:	0.0 feet	Medium Trucks:	2.297			
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos:	92.217			
Road Grade:	0.0%	Medium Trucks:	92.121			
Left View:	-90.0 degrees	Heavy Trucks:	92.131			
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.15	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-11.71	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-9.50	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.2	64.8	58.7	67.2	67.8
Medium Trucks:	64.0	60.0	52.2	61.4	67.6	67.6
Heavy Trucks:	70.6	66.6	58.8	68.0	74.2	74.2
Vehicle Noise:	73.1	69.9	65.9	69.3	75.7	75.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	241	518	1,116	2,405
CNEL:	245	528	1,137	2,450

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Bundy Canyon Road
 Road Segment: Sweetwater Canyon Rd. to I-215

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 70,600 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 7,060 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Height: 0.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	92.217			
Road Grade: 0.0%		Medium Trucks:	92.121			
Left View: -90.0 degrees		Heavy Trucks:	92.131			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	5.83	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-9.04	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.82	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	68.8	67.4	61.4	69.9	70.5
Medium Trucks:	66.7	62.7	54.9	64.1	70.3	70.3
Heavy Trucks:	73.3	69.3	61.5	70.7	76.9	76.9
Vehicle Noise:	75.8	72.6	68.6	72.0	78.4	78.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	363	782	1,684	3,628
CNEL:	370	796	1,716	3,697

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Bundy Canyon Road
 Road Segment: e/o I-215 Fwy.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 68,200 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 6,820 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 50 mph		Vehicle Mix				
Near/Far Lane Distance: 78 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height: 0.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 0.000				
Barrier Distance to Observer: 0.0 feet		Medium Trucks: 2.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos: 92.217				
Road Grade: 0.0%		Medium Trucks: 92.121				
Left View: -90.0 degrees		Heavy Trucks: 92.131				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	5.68	-4.09	-1.20	-4.77	0.000	0.000
Medium Trucks:	81.00	-9.19	-4.08	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-6.97	-4.08	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.6	68.7	67.3	61.3	69.7	70.3
Medium Trucks:	66.5	62.6	54.8	64.0	70.1	70.2
Heavy Trucks:	73.1	69.1	61.4	70.6	76.7	76.8
Vehicle Noise:	75.6	72.4	68.5	71.8	78.2	78.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	355	764	1,646	3,546
CNEL:	361	778	1,677	3,612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Sunset Avenue
 Road Segment: n/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	4,700 vehicles	Autos: 15				
Peak Hour Percentage:	10%	Medium Trucks (2 Axles): 15				
Peak Hour Volume:	470 vehicles	Heavy Trucks (3+ Axles): 15				
Vehicle Speed:	40 mph	Vehicle Mix				
Near/Far Lane Distance:	12 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 12.9% 9.6% 97.42%				
Barrier Height:	0.0 feet	Medium Trucks: 84.8% 4.9% 10.3% 1.84%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 86.5% 2.7% 10.8% 0.74%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos: 0.000				
Barrier Distance to Observer:	0.0 feet	Medium Trucks: 2.297				
Observer Height (Above Pad):	5.0 feet	Heavy Trucks: 8.006 Grade Adjustment: 0.0				
Pad Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Elevation:	0.0 feet	Autos: 99.945				
Road Grade:	0.0%	Medium Trucks: 99.856				
Left View:	-90.0 degrees	Heavy Trucks: 99.865				
Right View:	90.0 degrees					

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.72	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-21.96	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-25.91	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.0	54.1	52.3	46.3	54.9	55.5
Medium Trucks:	49.9	48.4	42.1	40.5	49.0	49.2
Heavy Trucks:	51.3	49.8	40.8	42.1	50.4	50.5
Vehicle Noise:	58.0	56.3	53.0	48.4	57.0	57.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	14	29	63	135
CNEL:	14	31	67	145

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Sunset Avenue
 Road Segment: s/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 10,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 1,070 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 40 mph		Vehicle Mix				
Near/Far Lane Distance: 12 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	77.5%	12.9%	9.6%	97.42%
Barrier Height: 0.0 feet		Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrier: 100.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Medium Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heavy Trucks:	8.006	Grade Adjustment: 0.0		
Pad Elevation: 0.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 0.0 feet		Autos:	99.945			
Road Grade: 0.0%		Medium Trucks:	99.856			
Left View: -90.0 degrees		Heavy Trucks:	99.865			
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.15	-4.62	-1.20	-4.77	0.000	0.000
Medium Trucks:	77.72	-18.38	-4.61	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.99	-22.34	-4.61	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.6	57.7	55.9	49.8	58.5	59.1
Medium Trucks:	53.5	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.8	53.4	44.4	45.6	54.0	54.1
Vehicle Noise:	61.6	59.8	56.6	52.0	60.5	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	23	50	109	234
CNEL:	25	54	116	251

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Buildout With Project
 Road Name: Murrieta Road
 Road Segment: n/o Bundy Canyon Rd.

Project Name: Oak Creek (TTM 36388)
 Job Number: 7531
 Analyst: B. Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt):	18,000 vehicles	Autos:		15		
Peak Hour Percentage:	10%	Medium Trucks (2 Axles):		15		
Peak Hour Volume:	1,800 vehicles	Heavy Trucks (3+ Axles):		15		
Vehicle Speed:	45 mph	Vehicle Mix				
Near/Far Lane Distance:	58 feet	VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 77.5% 14.0% 10.5% 92.00%				
Barrier Height:	0.0 feet	Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm):	0.0	Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier:	100.0 feet	Noise Source Elevations (in feet)				
Centerline Dist. to Observer:	100.0 feet	Autos:		0.000		
Barrier Distance to Observer:	0.0 feet	Medium Trucks:		2.297		
Observer Height (Above Pad):	5.0 feet	Heavy Trucks:		8.006		
Pad Elevation:	0.0 feet					Grade Adjustment: 0.0
Road Elevation:	0.0 feet	Lane Equivalent Distance (in feet)				
Road Grade:	0.0%	Autos:		95.833		
Left View:	-90.0 degrees	Medium Trucks:		95.741		
Right View:	90.0 degrees	Heavy Trucks:		95.750		

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.35	-4.34	-1.20	-4.77	0.000	0.000
Medium Trucks:	79.45	-14.51	-4.34	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-12.30	-4.34	-1.20	-5.16	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.4	60.0	53.9	62.4	63.0
Medium Trucks:	59.4	55.4	47.6	56.8	63.0	63.0
Heavy Trucks:	66.4	62.4	54.7	63.9	70.0	70.1
Vehicle Noise:	68.7	65.4	61.3	65.0	71.4	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	124	267	575	1,239
CNEL:	126	272	585	1,260

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APPENDIX 7.1

On-Site FHWA Traffic Noise Model Printouts

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Backyard With Wall
 Road Name: Bundy Canyon Rd. (1)
 Lot Number: 46

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,200 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.5 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 76.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 86.0 feet		Autos: 1,762.880				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 1,765.177				
Observer Height (Above Pad): 3.0 feet		Heavy Trucks: 1,770.886 Grade Adjustment: 0.0				
Pad Elevation: 1,756.7 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,762.9 feet		Autos: 80.620				
Road Grade: 0.0%		Medium Trucks: 80.436				
Left View: -90.0 degrees		Heavy Trucks: 80.320				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.98	-3.22	-1.20	4.05	-14.635	-17.635
Medium Trucks:	79.85	-12.89	-3.20	-1.20	3.78	-14.380	-17.380
Heavy Trucks:	83.81	-10.67	-3.19	-1.20	3.14	-13.740	-16.740

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	68.3	67.0	61.0	69.4	70.0
Medium Trucks:	62.6	58.6	50.8	60.0	66.2	66.2
Heavy Trucks:	68.8	64.8	57.0	66.2	72.4	72.4
Vehicle Noise:	73.0	70.2	67.5	68.1	74.8	75.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.7	53.6	52.3	46.3	54.7	55.4
Medium Trucks:	48.2	44.2	36.4	45.6	51.8	51.8
Heavy Trucks:	55.0	51.0	43.3	52.5	58.6	58.7
Vehicle Noise:	58.8	55.9	52.9	54.1	60.7	60.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Second Floor Impacts
 Road Name: Bundy Canyon Rd. (1)
 Lot Number: 46

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,200 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.5 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 76.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 96.0 feet		Autos: 1,762.880				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,765.177				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 1,770.886 Grade Adjustment: 0.0				
Pad Elevation: 1,757.2 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,762.9 feet		Autos: 88.973				
Road Grade: 0.0%		Medium Trucks: 88.788				
Left View: -90.0 degrees		Heavy Trucks: 88.584				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.98	-3.86	-1.20	0.00	0.000	0.000
Medium Trucks:	79.85	-12.89	-3.84	-1.20	-0.01	0.000	0.000
Heavy Trucks:	83.81	-10.67	-3.83	-1.20	-0.09	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	67.6	66.3	60.3	68.7	69.4
Medium Trucks:	61.9	57.9	50.2	59.4	65.5	65.6
Heavy Trucks:	68.1	64.1	56.4	65.6	71.7	71.8
Vehicle Noise:	72.4	69.6	66.8	67.4	74.1	74.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	67.6	66.3	60.3	68.7	69.4
Medium Trucks:	61.9	57.9	50.2	59.4	65.5	65.6
Heavy Trucks:	68.1	64.1	56.4	65.6	71.7	71.8
Vehicle Noise:	72.4	69.6	66.8	67.4	74.1	74.3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Second Floor Impacts
 Road Name: Bundy Canyon Rd. (1)
 Lot Number: 38

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,200 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.5 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 86.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 106.0 feet		Autos: 1,750.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,752.297				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 1,758.006 Grade Adjustment: 0.0				
Pad Elevation: 1,755.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,750.0 feet		Autos: 101.134				
Road Grade: 0.0%		Medium Trucks: 100.727				
Left View: -90.0 degrees		Heavy Trucks: 99.939				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.98	-4.69	-1.20	-0.43	0.000	0.000
Medium Trucks:	79.85	-12.89	-4.67	-1.20	-0.53	0.000	0.000
Heavy Trucks:	83.81	-10.67	-4.61	-1.20	-0.84	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	66.8	65.5	59.5	67.9	68.5
Medium Trucks:	61.1	57.1	49.3	58.5	64.7	64.7
Heavy Trucks:	67.3	63.4	55.6	64.8	70.9	71.0
Vehicle Noise:	71.6	68.7	66.0	66.6	73.3	73.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	66.8	65.5	59.5	67.9	68.5
Medium Trucks:	61.1	57.1	49.3	58.5	64.7	64.7
Heavy Trucks:	67.3	63.4	55.6	64.8	70.9	71.0
Vehicle Noise:	71.6	68.7	66.0	66.6	73.3	73.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Second Floor Impacts
 Road Name: Bundy Canyon Rd. (1)
 Lot Number: 213

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,200 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 75.5% 14.0% 10.5% 92.00%				
Barrier Height: 6.0 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 93.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 123.0 feet		Autos: 1,745.000				
Barrier Distance to Observer: 30.0 feet		Medium Trucks: 1,747.297				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 1,753.006 Grade Adjustment: 0.0				
Pad Elevation: 1,756.5 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,745.0 feet		Autos: 120.043				
Road Grade: 0.0%		Medium Trucks: 119.576				
Left View: -90.0 degrees		Heavy Trucks: 118.600				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.98	-5.81	-1.20	-0.06	0.000	0.000
Medium Trucks:	79.85	-12.89	-5.78	-1.20	-0.11	0.000	0.000
Heavy Trucks:	83.81	-10.67	-5.73	-1.20	-0.29	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.7	64.4	58.4	66.8	67.4
Medium Trucks:	60.0	56.0	48.2	57.4	63.6	63.6
Heavy Trucks:	66.2	62.2	54.5	63.7	69.8	69.9
Vehicle Noise:	70.4	67.6	64.9	65.5	72.2	72.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.7	64.4	58.4	66.8	67.4
Medium Trucks:	60.0	56.0	48.2	57.4	63.6	63.6
Heavy Trucks:	66.2	62.2	54.5	63.7	69.8	69.9
Vehicle Noise:	70.4	67.6	64.9	65.5	72.2	72.4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Second Floor Impacts
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 207

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 94.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 114.0 feet		Autos: 1,730.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,732.297				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 1,738.006 Grade Adjustment: 0.0				
Pad Elevation: 1,742.5 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,730.0 feet		Autos: 111.037				
Road Grade: 0.0%		Medium Trucks: 110.511				
Left View: -90.0 degrees		Heavy Trucks: 109.403				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-5.30	-1.20	-0.30	0.000	0.000
Medium Trucks:	79.85	-13.18	-5.27	-1.20	-0.38	0.000	0.000
Heavy Trucks:	83.81	-10.96	-5.20	-1.20	-0.62	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	65.9	64.6	58.6	67.0	67.6
Medium Trucks:	60.2	56.2	48.4	57.6	63.8	63.8
Heavy Trucks:	66.4	62.5	54.7	63.9	70.0	70.1
Vehicle Noise:	70.7	67.8	65.1	65.7	72.4	72.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	65.9	64.6	58.6	67.0	67.6
Medium Trucks:	60.2	56.2	48.4	57.6	63.8	63.8
Heavy Trucks:	66.4	62.5	54.7	63.9	70.0	70.1
Vehicle Noise:	70.7	67.8	65.1	65.7	72.4	72.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Second Floor Impacts
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 91

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 92.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 112.0 feet		Autos: 1,725.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,727.297				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 1,733.006 Grade Adjustment: 0.0				
Pad Elevation: 1,734.4 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,725.0 feet		Autos: 108.271				
Road Grade: 0.0%		Medium Trucks: 107.798				
Left View: -90.0 degrees		Heavy Trucks: 106.827				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-5.14	-1.20	-0.39	0.000	0.000
Medium Trucks:	79.85	-13.18	-5.11	-1.20	-0.49	0.000	0.000
Heavy Trucks:	83.81	-10.96	-5.05	-1.20	-0.77	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.1	64.8	58.7	67.2	67.8
Medium Trucks:	60.4	56.4	48.6	57.8	64.0	64.0
Heavy Trucks:	66.6	62.6	54.8	64.1	70.2	70.2
Vehicle Noise:	70.8	68.0	65.3	65.9	72.6	72.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.1	64.8	58.7	67.2	67.8
Medium Trucks:	60.4	56.4	48.6	57.8	64.0	64.0
Heavy Trucks:	66.6	62.6	54.8	64.1	70.2	70.2
Vehicle Noise:	70.8	68.0	65.3	65.9	72.6	72.8

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Second Floor Impacts
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 203

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 96.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 116.0 feet		Autos: 1,725.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,727.297				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 1,733.006 Grade Adjustment: 0.0				
Pad Elevation: 1,737.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,725.0 feet		Autos: 112.973				
Road Grade: 0.0%		Medium Trucks: 112.467				
Left View: -90.0 degrees		Heavy Trucks: 111.404				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-5.41	-1.20	-0.33	0.000	0.000
Medium Trucks:	79.85	-13.18	-5.38	-1.20	-0.41	0.000	0.000
Heavy Trucks:	83.81	-10.96	-5.32	-1.20	-0.66	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.8	64.5	58.5	66.9	67.5
Medium Trucks:	60.1	56.1	48.3	57.5	63.7	63.7
Heavy Trucks:	66.3	62.4	54.6	63.8	69.9	70.0
Vehicle Noise:	70.5	67.7	65.0	65.6	72.3	72.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.8	65.8	64.5	58.5	66.9	67.5
Medium Trucks:	60.1	56.1	48.3	57.5	63.7	63.7
Heavy Trucks:	66.3	62.4	54.6	63.8	69.9	70.0
Vehicle Noise:	70.5	67.7	65.0	65.6	72.3	72.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Second Floor Impacts
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 94

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 90.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 110.0 feet		Autos: 1,722.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,724.297				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 1,730.006 Grade Adjustment: 0.0				
Pad Elevation: 1,728.3 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,722.0 feet		Autos: 105.561				
Road Grade: 0.0%		Medium Trucks: 105.143				
Left View: -90.0 degrees		Heavy Trucks: 104.318				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-4.97	-1.20	-0.51	0.000	0.000
Medium Trucks:	79.85	-13.18	-4.95	-1.20	-0.62	0.000	0.000
Heavy Trucks:	83.81	-10.96	-4.89	-1.20	-0.94	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.2	64.9	58.9	67.3	68.0
Medium Trucks:	60.5	56.5	48.8	58.0	64.1	64.2
Heavy Trucks:	66.8	62.8	55.0	64.2	70.4	70.4
Vehicle Noise:	71.0	68.2	65.4	66.1	72.8	73.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.2	64.9	58.9	67.3	68.0
Medium Trucks:	60.5	56.5	48.8	58.0	64.1	64.2
Heavy Trucks:	66.8	62.8	55.0	64.2	70.4	70.4
Vehicle Noise:	71.0	68.2	65.4	66.1	72.8	73.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Second Floor Impacts
 Road Name: Bundy Canyon Rd. (3)
 Lot Number: 137

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,070 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 102.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 122.0 feet		Autos: 1,703.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,705.297				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 1,711.006 Grade Adjustment: 0.0				
Pad Elevation: 1,719.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,703.0 feet		Autos: 120.062				
Road Grade: 0.0%		Medium Trucks: 119.509				
Left View: -90.0 degrees		Heavy Trucks: 118.316				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.80	-5.81	-1.20	-0.25	0.000	0.000
Medium Trucks:	79.85	-13.07	-5.78	-1.20	-0.31	0.000	0.000
Heavy Trucks:	83.81	-10.85	-5.71	-1.20	-0.52	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.5	64.2	58.2	66.6	67.2
Medium Trucks:	59.8	55.8	48.0	57.3	63.4	63.4
Heavy Trucks:	66.1	62.1	54.3	63.5	69.7	69.7
Vehicle Noise:	70.3	67.4	64.7	65.4	72.0	72.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.5	64.2	58.2	66.6	67.2
Medium Trucks:	59.8	55.8	48.0	57.3	63.4	63.4
Heavy Trucks:	66.1	62.1	54.3	63.5	69.7	69.7
Vehicle Noise:	70.3	67.4	64.7	65.4	72.0	72.3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Second Floor Impacts
 Road Name: Bundy Canyon Rd. (3)
 Lot Number: 161

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,070 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 103.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 123.0 feet		Autos: 1,702.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,704.297				
Observer Height (Above Pad): 14.0 feet		Heavy Trucks: 1,710.006 Grade Adjustment: 0.0				
Pad Elevation: 1,723.5 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,702.0 feet		Autos: 122.557				
Road Grade: 0.0%		Medium Trucks: 121.912				
Left View: -90.0 degrees		Heavy Trucks: 120.482				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.80	-5.94	-1.20	-0.13	0.000	0.000
Medium Trucks:	79.85	-13.07	-5.91	-1.20	-0.17	0.000	0.000
Heavy Trucks:	83.81	-10.85	-5.83	-1.20	-0.33	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.4	64.1	58.1	66.5	67.1
Medium Trucks:	59.7	55.7	47.9	57.1	63.3	63.3
Heavy Trucks:	65.9	62.0	54.2	63.4	69.5	69.6
Vehicle Noise:	70.1	67.3	64.6	65.2	71.9	72.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.4	64.1	58.1	66.5	67.1
Medium Trucks:	59.7	55.7	47.9	57.1	63.3	63.3
Heavy Trucks:	65.9	62.0	54.2	63.4	69.5	69.6
Vehicle Noise:	70.1	67.3	64.6	65.2	71.9	72.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Backyard With Wall
 Road Name: Bundy Canyon Rd. (1)
 Lot Number: 38

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,200 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.5 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 86.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 96.0 feet		Autos: 1,750.000				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 1,752.297				
Observer Height (Above Pad): 3.0 feet		Heavy Trucks: 1,758.006 Grade Adjustment: 0.0				
Pad Elevation: 1,754.5 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,750.0 feet		Autos: 89.004				
Road Grade: 0.0%		Medium Trucks: 88.715				
Left View: -90.0 degrees		Heavy Trucks: 88.286				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.98	-3.86	-1.20	0.98	-10.240	-13.240
Medium Trucks:	79.85	-12.89	-3.84	-1.20	0.87	-9.910	-12.910
Heavy Trucks:	83.81	-10.67	-3.81	-1.20	0.63	-9.090	-12.090

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	67.6	66.3	60.3	68.7	69.4
Medium Trucks:	61.9	57.9	50.2	59.4	65.5	65.6
Heavy Trucks:	68.1	64.2	56.4	65.6	71.7	71.8
Vehicle Noise:	72.4	69.6	66.8	67.5	74.1	74.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.4	57.4	56.1	50.1	58.5	59.1
Medium Trucks:	52.0	48.0	40.3	49.5	55.6	55.7
Heavy Trucks:	59.0	55.1	47.3	56.5	62.7	62.7
Vehicle Noise:	62.6	59.7	56.7	58.0	64.6	64.8

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Backyard With Wall
 Road Name: Bundy Canyon Rd. (1)
 Lot Number: 213

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,200 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 93.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 103.0 feet		Autos: 1,745.000				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 1,747.297				
Observer Height (Above Pad): 3.0 feet		Heavy Trucks: 1,753.006 Grade Adjustment: 0.0				
Pad Elevation: 1,756.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,745.0 feet		Autos: 97.440				
Road Grade: 0.0%		Medium Trucks: 97.021				
Left View: -90.0 degrees		Heavy Trucks: 96.236				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.98	-4.45	-1.20	1.01	-10.320	-13.320
Medium Trucks:	79.85	-12.89	-4.42	-1.20	0.91	-10.030	-13.030
Heavy Trucks:	83.81	-10.67	-4.37	-1.20	0.68	-9.240	-12.240

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	67.0	65.7	59.7	68.1	68.8
Medium Trucks:	61.3	57.4	49.6	58.8	64.9	65.0
Heavy Trucks:	67.6	63.6	55.8	65.0	71.2	71.2
Vehicle Noise:	71.8	69.0	66.3	66.9	73.6	73.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.7	56.7	55.4	49.4	57.8	58.5
Medium Trucks:	51.3	47.3	39.6	48.8	54.9	55.0
Heavy Trucks:	58.3	54.4	46.6	55.8	61.9	62.0
Vehicle Noise:	61.9	59.0	56.1	57.3	63.9	64.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Backyard With Wall
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 207

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 94.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 104.0 feet		Autos: 1,730.000				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 1,732.297				
Observer Height (Above Pad): 3.0 feet		Heavy Trucks: 1,738.006 Grade Adjustment: 0.0				
Pad Elevation: 1,742.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,730.0 feet		Autos: 98.707				
Road Grade: 0.0%		Medium Trucks: 98.267				
Left View: -90.0 degrees		Heavy Trucks: 97.428				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-4.53	-1.20	1.05	-10.400	-13.400
Medium Trucks:	79.85	-13.18	-4.50	-1.20	0.95	-10.150	-13.150
Heavy Trucks:	83.81	-10.96	-4.45	-1.20	0.72	-9.380	-12.380

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	66.7	65.4	59.3	67.8	68.4
Medium Trucks:	61.0	57.0	49.2	58.4	64.6	64.6
Heavy Trucks:	67.2	63.2	55.4	64.7	70.8	70.8
Vehicle Noise:	71.4	68.6	65.9	66.5	73.2	73.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.3	56.3	55.0	48.9	57.4	58.0
Medium Trucks:	50.8	46.8	39.1	48.3	54.4	54.5
Heavy Trucks:	57.8	53.8	46.1	55.3	61.4	61.5
Vehicle Noise:	61.5	58.5	55.6	56.8	63.4	63.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Backyard With Wall
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 91

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 92.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 102.0 feet		Autos: 1,725.000				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 1,727.297				
Observer Height (Above Pad): 3.0 feet		Heavy Trucks: 1,733.006 Grade Adjustment: 0.0				
Pad Elevation: 1,733.9 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,725.0 feet		Autos: 95.980				
Road Grade: 0.0%		Medium Trucks: 95.610				
Left View: -90.0 degrees		Heavy Trucks: 94.954				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-4.35	-1.20	0.93	-10.090	-13.090
Medium Trucks:	79.85	-13.18	-4.33	-1.20	0.83	-9.790	-12.790
Heavy Trucks:	83.81	-10.96	-4.28	-1.20	0.61	-9.030	-12.030

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	66.8	65.6	59.5	67.9	68.6
Medium Trucks:	61.1	57.2	49.4	58.6	64.7	64.8
Heavy Trucks:	67.4	63.4	55.6	64.8	71.0	71.0
Vehicle Noise:	71.6	68.8	66.1	66.7	73.4	73.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.8	56.8	55.5	49.4	57.9	58.5
Medium Trucks:	51.4	47.4	39.6	48.8	55.0	55.0
Heavy Trucks:	58.3	54.4	46.6	55.8	61.9	62.0
Vehicle Noise:	62.0	59.0	56.1	57.3	64.0	64.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Backyard With Wall
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 203

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 96.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 106.0 feet		Autos: 1,725.000				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 1,727.297				
Observer Height (Above Pad): 3.0 feet		Heavy Trucks: 1,733.006 Grade Adjustment: 0.0				
Pad Elevation: 1,736.5 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,725.0 feet		Autos: 100.736				
Road Grade: 0.0%		Medium Trucks: 100.319				
Left View: -90.0 degrees		Heavy Trucks: 99.531				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-4.67	-1.20	1.01	-10.320	-13.320
Medium Trucks:	79.85	-13.18	-4.64	-1.20	0.92	-10.060	-13.060
Heavy Trucks:	83.81	-10.96	-4.59	-1.20	0.69	-9.270	-12.270

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	66.5	65.2	59.2	67.6	68.3
Medium Trucks:	60.8	56.9	49.1	58.3	64.4	64.5
Heavy Trucks:	67.1	63.1	55.3	64.5	70.7	70.7
Vehicle Noise:	71.3	68.5	65.7	66.4	73.1	73.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.2	56.2	54.9	48.9	57.3	57.9
Medium Trucks:	50.8	46.8	39.0	48.2	54.4	54.4
Heavy Trucks:	57.8	53.8	46.0	55.2	61.4	61.4
Vehicle Noise:	61.4	58.5	55.5	56.8	63.4	63.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Backyard With Wall
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 94

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 90.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 100.0 feet		Autos: 1,722.000				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 1,724.297				
Observer Height (Above Pad): 3.0 feet		Heavy Trucks: 1,730.006 Grade Adjustment: 0.0				
Pad Elevation: 1,727.8 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,722.0 feet		Autos: 93.327				
Road Grade: 0.0%		Medium Trucks: 93.032				
Left View: -90.0 degrees		Heavy Trucks: 92.571				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-4.17	-1.20	0.81	-9.730	-12.730
Medium Trucks:	79.85	-13.18	-4.15	-1.20	0.71	-9.340	-12.340
Heavy Trucks:	83.81	-10.96	-4.12	-1.20	0.51	-8.550	-11.550

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.0	65.7	59.7	68.1	68.8
Medium Trucks:	61.3	57.3	49.6	58.8	64.9	65.0
Heavy Trucks:	67.5	63.6	55.8	65.0	71.1	71.2
Vehicle Noise:	71.8	69.0	66.2	66.8	73.5	73.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.3	57.3	56.0	50.0	58.4	59.0
Medium Trucks:	52.0	48.0	40.2	49.4	55.6	55.6
Heavy Trucks:	59.0	55.0	47.2	56.4	62.6	62.6
Vehicle Noise:	62.6	59.6	56.6	58.0	64.6	64.8

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Backyard With Wall
 Road Name: Bundy Canyon Rd. (3)
 Lot Number: 137

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,070 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 102.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 112.0 feet		Autos: 1,703.000				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 1,705.297				
Observer Height (Above Pad): 3.0 feet		Heavy Trucks: 1,711.006 Grade Adjustment: 0.0				
Pad Elevation: 1,718.5 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,703.0 feet		Autos: 107.894				
Road Grade: 0.0%		Medium Trucks: 107.413				
Left View: -90.0 degrees		Heavy Trucks: 106.446				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.80	-5.11	-1.20	1.14	-10.580	-13.580
Medium Trucks:	79.85	-13.07	-5.08	-1.20	1.04	-10.380	-13.380
Heavy Trucks:	83.81	-10.85	-5.03	-1.20	0.82	-9.760	-12.760

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.2	64.9	58.9	67.3	67.9
Medium Trucks:	60.5	56.5	48.7	57.9	64.1	64.1
Heavy Trucks:	66.7	62.8	55.0	64.2	70.3	70.4
Vehicle Noise:	71.0	68.1	65.4	66.0	72.7	72.9

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.6	55.6	54.3	48.3	56.7	57.3
Medium Trucks:	50.1	46.1	38.4	47.6	53.7	53.8
Heavy Trucks:	57.0	53.0	45.2	54.4	60.6	60.6
Vehicle Noise:	60.7	57.8	54.9	56.0	62.7	62.9

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: Backyard With Wall
 Road Name: Bundy Canyon Rd. (3)
 Lot Number: 161

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,070 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 103.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 113.0 feet		Autos: 1,702.000				
Barrier Distance to Observer: 10.0 feet		Medium Trucks: 1,704.297				
Observer Height (Above Pad): 3.0 feet		Heavy Trucks: 1,710.006 Grade Adjustment: 0.0				
Pad Elevation: 1,723.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,702.0 feet		Autos: 110.285				
Road Grade: 0.0%		Medium Trucks: 109.689				
Left View: -90.0 degrees		Heavy Trucks: 108.424				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.80	-5.26	-1.20	1.37	-11.040	-14.040
Medium Trucks:	79.85	-13.07	-5.22	-1.20	1.27	-10.840	-13.840
Heavy Trucks:	83.81	-10.85	-5.15	-1.20	1.03	-10.360	-13.360

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.1	64.8	58.7	67.2	67.8
Medium Trucks:	60.4	56.4	48.6	57.8	64.0	64.0
Heavy Trucks:	66.6	62.6	54.9	64.1	70.2	70.3
Vehicle Noise:	70.8	68.0	65.3	65.9	72.6	72.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.0	55.0	53.7	47.7	56.1	56.7
Medium Trucks:	49.5	45.5	37.8	47.0	53.1	53.2
Heavy Trucks:	56.3	52.3	44.5	53.7	59.9	59.9
Vehicle Noise:	60.1	57.2	54.3	55.4	62.0	62.2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: First Floor Impacts
 Road Name: Bundy Canyon Rd. (1)
 Lot Number: 46

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,200 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos: 75.5% 14.0% 10.5% 92.00%				
Barrier Height: 6.5 feet		Medium Trucks: 48.0% 2.0% 50.0% 3.00%				
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 48.0% 2.0% 50.0% 5.00%				
Centerline Dist. to Barrier: 76.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 96.0 feet		Autos: 1,762.880				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,765.177				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 1,770.886 Grade Adjustment: 0.0				
Pad Elevation: 1,757.2 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,762.9 feet		Autos: 87.952				
Road Grade: 0.0%		Medium Trucks: 87.768				
Left View: -90.0 degrees		Heavy Trucks: 87.652				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.98	-3.78	-1.20	1.49	-11.280	-14.280
Medium Trucks:	79.85	-12.89	-3.77	-1.20	1.29	-10.880	-13.880
Heavy Trucks:	83.81	-10.67	-3.76	-1.20	0.85	-9.850	-12.850

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.7	67.7	66.4	60.4	68.8	69.4
Medium Trucks:	62.0	58.0	50.2	59.4	65.6	65.6
Heavy Trucks:	68.2	64.2	56.4	65.6	71.8	71.8
Vehicle Noise:	72.4	69.6	66.9	67.5	74.2	74.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.4	56.4	55.1	49.1	57.5	58.2
Medium Trucks:	51.1	47.1	39.4	48.6	54.7	54.8
Heavy Trucks:	58.3	54.4	46.6	55.8	61.9	62.0
Vehicle Noise:	61.8	58.8	55.8	57.3	63.8	64.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: First Floor Impacts
 Road Name: Bundy Canyon Rd. (1)
 Lot Number: 38

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,200 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.5 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 86.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 106.0 feet		Autos: 1,750.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,752.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 1,758.006 Grade Adjustment: 0.0				
Pad Elevation: 1,755.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,750.0 feet		Autos: 98.537				
Road Grade: 0.0%		Medium Trucks: 98.234				
Left View: -90.0 degrees		Heavy Trucks: 97.769				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.98	-4.52	-1.20	0.34	-7.700	-10.700
Medium Trucks:	79.85	-12.89	-4.50	-1.20	0.26	-7.220	-10.220
Heavy Trucks:	83.81	-10.67	-4.47	-1.20	0.11	-6.080	-9.080

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	67.0	65.7	59.7	68.1	68.7
Medium Trucks:	61.3	57.3	49.5	58.7	64.9	64.9
Heavy Trucks:	67.5	63.5	55.7	64.9	71.1	71.1
Vehicle Noise:	71.7	68.9	66.2	66.8	73.5	73.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.3	59.3	58.0	52.0	60.4	61.0
Medium Trucks:	54.0	50.1	42.3	51.5	57.6	57.7
Heavy Trucks:	61.4	57.4	49.6	58.8	65.0	65.0
Vehicle Noise:	64.7	61.8	58.7	60.3	66.8	67.0

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: First Floor Impacts
 Road Name: Bundy Canyon Rd. (1)
 Lot Number: 213

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 32,000 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,200 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 93.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 123.0 feet		Autos: 1,745.000				
Barrier Distance to Observer: 30.0 feet		Medium Trucks: 1,747.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 1,753.006 Grade Adjustment: 0.0				
Pad Elevation: 1,756.5 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,745.0 feet		Autos: 117.116				
Road Grade: 0.0%		Medium Trucks: 116.683				
Left View: -90.0 degrees		Heavy Trucks: 115.866				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.98	-5.65	-1.20	0.54	-8.700	-11.700
Medium Trucks:	79.85	-12.89	-5.62	-1.20	0.42	-8.100	-11.100
Heavy Trucks:	83.81	-10.67	-5.58	-1.20	0.20	-6.800	-9.800

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	65.8	64.5	58.5	66.9	67.6
Medium Trucks:	60.1	56.2	48.4	57.6	63.7	63.8
Heavy Trucks:	66.4	62.4	54.6	63.8	70.0	70.0
Vehicle Noise:	70.6	67.8	65.1	65.7	72.4	72.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.2	57.1	55.8	49.8	58.2	58.9
Medium Trucks:	52.0	48.1	40.3	49.5	55.6	55.7
Heavy Trucks:	59.6	55.6	47.8	57.0	63.2	63.2
Vehicle Noise:	62.8	59.8	56.6	58.4	64.9	65.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: First Floor Impacts
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 207

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 94.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 114.0 feet		Autos: 1,730.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,732.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 1,738.006 Grade Adjustment: 0.0				
Pad Elevation: 1,742.5 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,730.0 feet		Autos: 108.395				
Road Grade: 0.0%		Medium Trucks: 107.943				
Left View: -90.0 degrees		Heavy Trucks: 107.072				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-5.14	-1.20	0.48	-8.400	-11.400
Medium Trucks:	79.85	-13.18	-5.12	-1.20	0.39	-7.950	-10.950
Heavy Trucks:	83.81	-10.96	-5.06	-1.20	0.21	-6.870	-9.870

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.1	64.8	58.7	67.2	67.8
Medium Trucks:	60.4	56.4	48.6	57.8	64.0	64.0
Heavy Trucks:	66.6	62.6	54.8	64.0	70.2	70.2
Vehicle Noise:	70.8	68.0	65.3	65.9	72.6	72.8

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.7	57.7	56.4	50.3	58.8	59.4
Medium Trucks:	52.4	48.4	40.6	49.9	56.0	56.0
Heavy Trucks:	59.7	55.7	48.0	57.2	63.3	63.4
Vehicle Noise:	63.1	60.1	57.0	58.6	65.2	65.4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: First Floor Impacts
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 91

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 92.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 112.0 feet		Autos: 1,725.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,727.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 1,733.006 Grade Adjustment: 0.0				
Pad Elevation: 1,734.4 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,725.0 feet		Autos: 105.653				
Road Grade: 0.0%		Medium Trucks: 105.270				
Left View: -90.0 degrees		Heavy Trucks: 104.581				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-4.98	-1.20	0.37	-7.850	-10.850
Medium Trucks:	79.85	-13.18	-4.95	-1.20	0.29	-7.430	-10.430
Heavy Trucks:	83.81	-10.96	-4.91	-1.20	0.14	-6.320	-9.320

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	66.2	64.9	58.9	67.3	67.9
Medium Trucks:	60.5	56.5	48.8	58.0	64.1	64.2
Heavy Trucks:	66.7	62.8	55.0	64.2	70.3	70.4
Vehicle Noise:	71.0	68.1	65.4	66.0	72.7	73.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.4	58.4	57.1	51.1	59.5	60.1
Medium Trucks:	53.1	49.1	41.3	50.5	56.7	56.7
Heavy Trucks:	60.4	56.4	48.7	57.9	64.0	64.1
Vehicle Noise:	63.8	60.8	57.8	59.3	65.9	66.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: First Floor Impacts
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 203

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 96.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 116.0 feet		Autos: 1,725.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,727.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 1,733.006 Grade Adjustment: 0.0				
Pad Elevation: 1,737.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,725.0 feet		Autos: 110.419				
Road Grade: 0.0%		Medium Trucks: 109.989				
Left View: -90.0 degrees		Heavy Trucks: 109.170				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-5.26	-1.20	0.45	-8.250	-11.250
Medium Trucks:	79.85	-13.18	-5.24	-1.20	0.36	-7.800	-10.800
Heavy Trucks:	83.81	-10.96	-5.19	-1.20	0.19	-6.720	-9.720

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	65.9	64.6	58.6	67.0	67.7
Medium Trucks:	60.2	56.3	48.5	57.7	63.8	63.9
Heavy Trucks:	66.5	62.5	54.7	63.9	70.1	70.1
Vehicle Noise:	70.7	67.9	65.2	65.8	72.5	72.7

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.7	57.7	56.4	50.4	58.8	59.4
Medium Trucks:	52.4	48.5	40.7	49.9	56.0	56.1
Heavy Trucks:	59.7	55.8	48.0	57.2	63.3	63.4
Vehicle Noise:	63.1	60.1	57.1	58.6	65.2	65.4

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: First Floor Impacts
 Road Name: Bundy Canyon Rd. (2)
 Lot Number: 94

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 29,900 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 2,990 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 90.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 110.0 feet		Autos: 1,722.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,724.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 1,730.006 Grade Adjustment: 0.0				
Pad Elevation: 1,728.3 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,722.0 feet		Autos: 102.985				
Road Grade: 0.0%		Medium Trucks: 102.675				
Left View: -90.0 degrees		Heavy Trucks: 102.180				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.69	-4.81	-1.20	0.28	-7.360	-10.360
Medium Trucks:	79.85	-13.18	-4.79	-1.20	0.21	-6.870	-9.870
Heavy Trucks:	83.81	-10.96	-4.76	-1.20	0.08	-5.800	-8.800

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	66.4	65.1	59.1	67.5	68.1
Medium Trucks:	60.7	56.7	48.9	58.1	64.3	64.3
Heavy Trucks:	66.9	62.9	55.1	64.3	70.5	70.5
Vehicle Noise:	71.1	68.3	65.6	66.2	72.9	73.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.0	59.0	57.7	51.7	60.1	60.8
Medium Trucks:	53.8	49.8	42.1	51.3	57.4	57.4
Heavy Trucks:	61.1	57.1	49.3	58.5	64.7	64.7
Vehicle Noise:	64.5	61.5	58.4	60.0	66.6	66.7

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: First Floor Impacts
 Road Name: Bundy Canyon Rd. (3)
 Lot Number: 137

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,070 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 102.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 122.0 feet		Autos: 1,703.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,705.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 1,711.006 Grade Adjustment: 0.0				
Pad Elevation: 1,719.0 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,703.0 feet		Autos: 117.590				
Road Grade: 0.0%		Medium Trucks: 117.098				
Left View: -90.0 degrees		Heavy Trucks: 116.102				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.80	-5.67	-1.20	0.56	-8.800	-11.800
Medium Trucks:	79.85	-13.07	-5.65	-1.20	0.47	-8.350	-11.350
Heavy Trucks:	83.81	-10.85	-5.59	-1.20	0.28	-7.360	-10.360

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.6	64.3	58.3	66.7	67.4
Medium Trucks:	59.9	56.0	48.2	57.4	63.5	63.6
Heavy Trucks:	66.2	62.2	54.4	63.6	69.8	69.8
Vehicle Noise:	70.4	67.6	64.9	65.5	72.2	72.4

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.9	56.8	55.5	49.5	57.9	58.6
Medium Trucks:	51.6	47.6	39.8	49.0	55.2	55.2
Heavy Trucks:	58.8	54.8	47.1	56.3	62.4	62.5
Vehicle Noise:	62.2	59.3	56.2	57.7	64.3	64.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

Scenario: First Floor Impacts
 Road Name: Bundy Canyon Rd. (3)
 Lot Number: 161

Project Name: TTM 36388
 Job Number: 7531
 Analyst: B Lawson

SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS				
Highway Data		Site Conditions (Hard = 10, Soft = 15)				
Average Daily Traffic (Adt): 30,700 vehicles		Autos: 15				
Peak Hour Percentage: 10%		Medium Trucks (2 Axles): 15				
Peak Hour Volume: 3,070 vehicles		Heavy Trucks (3+ Axles): 15				
Vehicle Speed: 55 mph		Vehicle Mix				
Near/Far Lane Distance: 74 feet		VehicleType	Day	Evening	Night	Daily
Site Data		Autos:	75.5%	14.0%	10.5%	92.00%
Barrier Height: 6.0 feet		Medium Trucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Barrier: 103.0 feet		Noise Source Elevations (in feet)				
Centerline Dist. to Observer: 123.0 feet		Autos: 1,702.000				
Barrier Distance to Observer: 20.0 feet		Medium Trucks: 1,704.297				
Observer Height (Above Pad): 5.0 feet		Heavy Trucks: 1,710.006 Grade Adjustment: 0.0				
Pad Elevation: 1,723.5 feet		Lane Equivalent Distance (in feet)				
Road Elevation: 1,702.0 feet		Autos: 120.006				
Road Grade: 0.0%		Medium Trucks: 119.399				
Left View: -90.0 degrees		Heavy Trucks: 118.107				
Right View: 90.0 degrees						

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	72.73	1.80	-5.81	-1.20	0.79	-9.660	-12.660
Medium Trucks:	79.85	-13.07	-5.77	-1.20	0.69	-9.270	-12.270
Heavy Trucks:	83.81	-10.85	-5.70	-1.20	0.46	-8.300	-11.300

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.5	64.2	58.2	66.6	67.2
Medium Trucks:	59.8	55.8	48.1	57.3	63.4	63.4
Heavy Trucks:	66.1	62.1	54.3	63.5	69.7	69.7
Vehicle Noise:	70.3	67.4	64.7	65.4	72.0	72.3

Mitigated Noise Levels (with Topo and barrier attenuation)

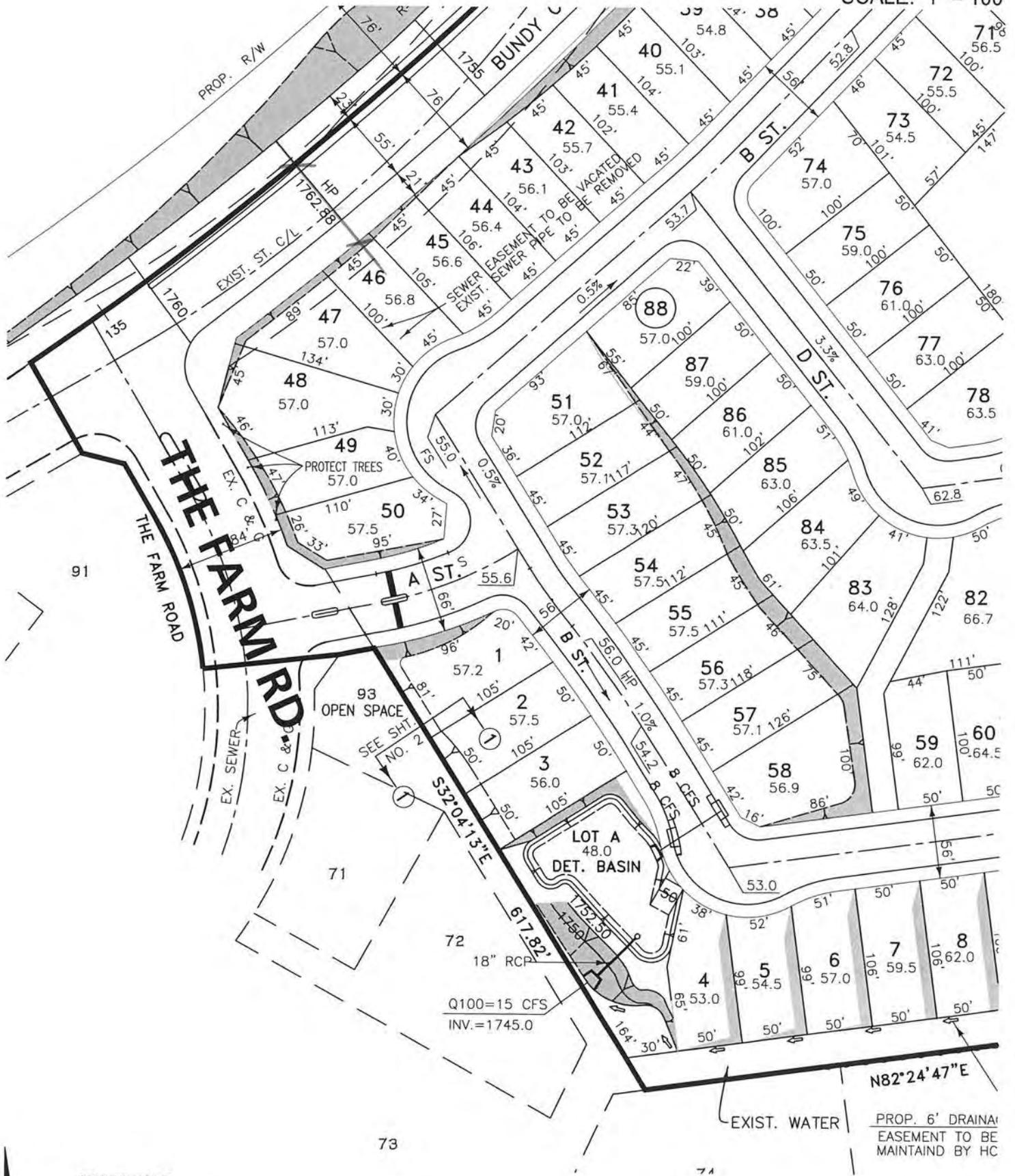
VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.9	55.8	54.5	48.5	56.9	57.6
Medium Trucks:	50.5	46.6	38.8	48.0	54.1	54.2
Heavy Trucks:	57.8	53.8	46.0	55.2	61.4	61.4
Vehicle Noise:	61.2	58.3	55.2	56.7	63.3	63.5

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APPENDIX 7.2

Grading Plans

SCALE: 1" = 100'



THE FARM ROAD

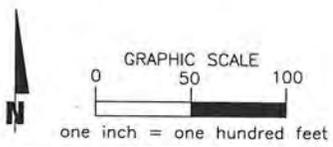
THE FARM RD

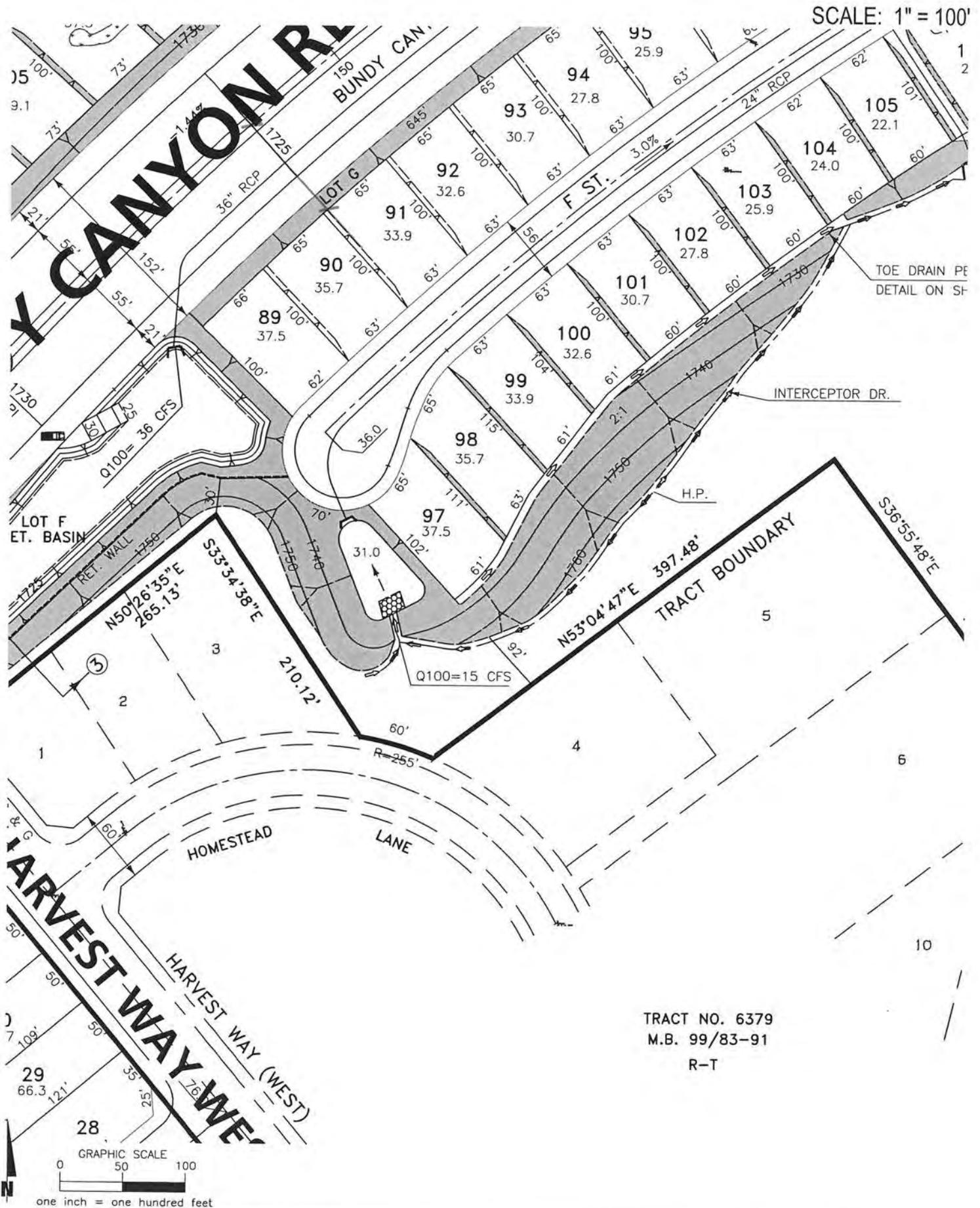
PROTECT TREES

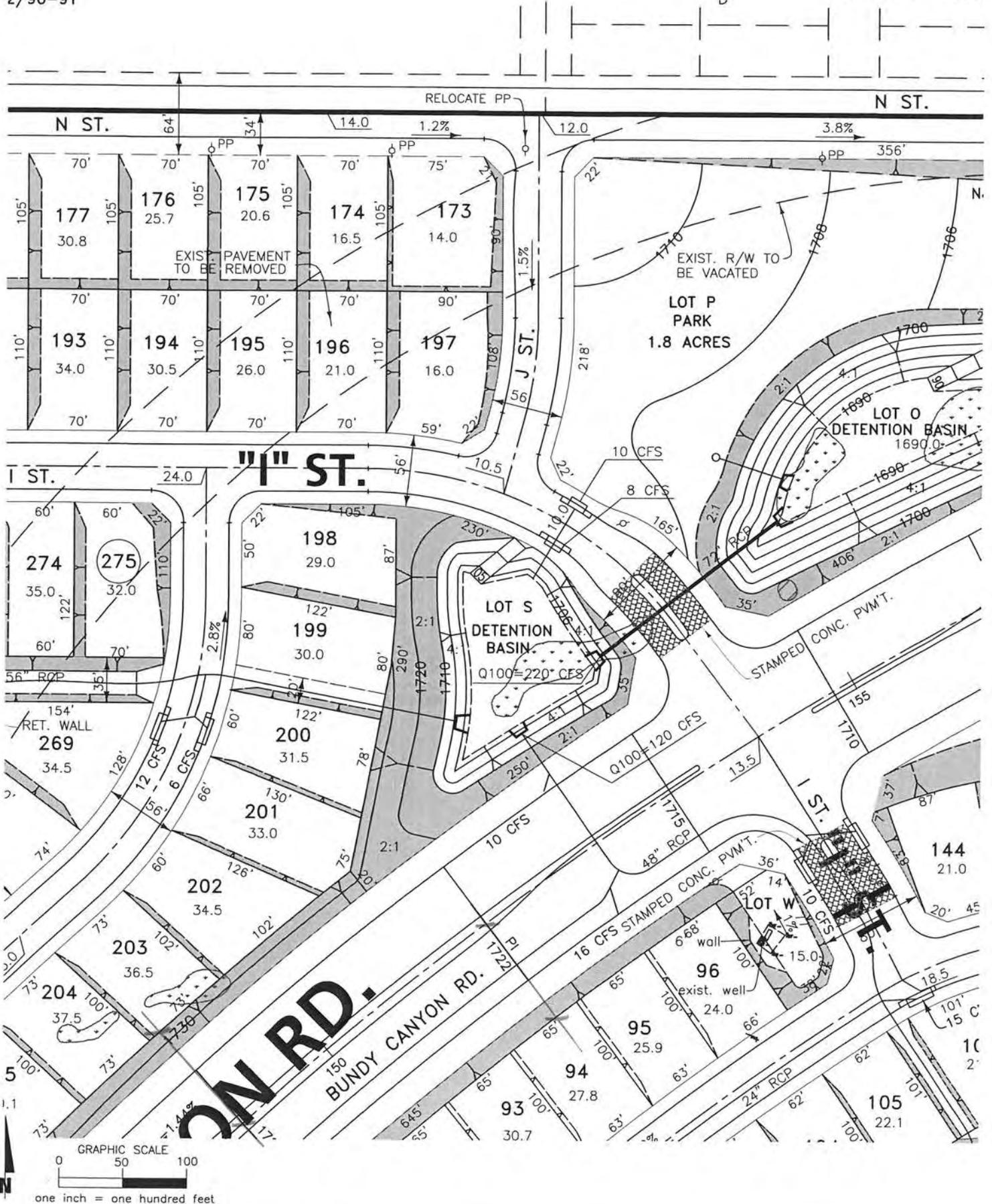
LOT A
48.0
DET. BASIN

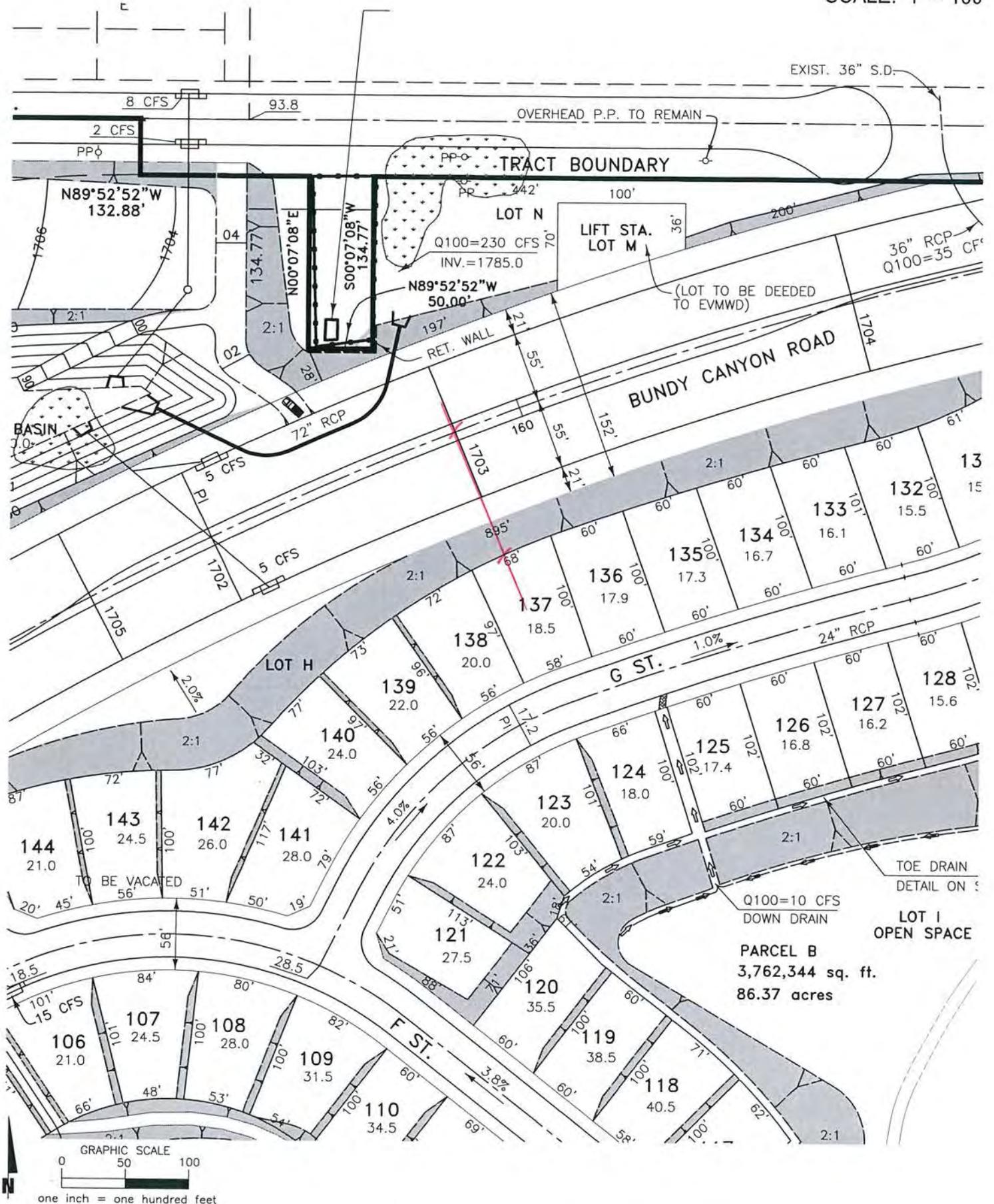
Q100=15 CFS
INV.=1745.0

EXIST. WATER
PROP. 6' DRAINAGE
EASEMENT TO BE
MAINTAINED BY HC









SCALE: 1" = 100'

