Appendix I
Noise Analysis

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HACIENDA AT FAIRVIEW VALLEY
NOISE ANALYSIS (REVISED)
COUNTY OF SAN BERNARDINO, CALIFORNIA

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HACIENDA AT FAIRVIEW VALLEY
NOISE ANALYSIS
COUNTY OF SAN BERNARDINO, CALIFORNIA

1.0 EXECUTIVE SUMMARY

This noise study has been completed to determine the potential noise impacts associated with the development of the proposed Hacienda At Fairview Valley Development. The proposed project consists of a maximum of 299 single family homes, 2,815 units of senior (active) housing 200,000 square feet of retail development and 336 acres of parks, equestrian and open space. The 1,557-acre project site is presented on Exhibit 2-B. The proposed development is located in unincorporated San Bernardino County within the Town of Apple Valley Sphere of Influence, east of Laguna Seca Drive and bisected by Cahuilla Road.

The purpose of this noise assessment is to evaluate the potential noise impacts for the project study area and to recommend noise mitigation measures to minimize potential project impacts.

1.1 Off-Site Transportation Noise Impacts

This analysis evaluates the project-related traffic noise impacts to the study area roadways near the project site. For 2020 conditions, the areas adjacent to Cahuilla Road between Central Road and the project site will experience "readily perceptible" noise increases of up to 16.6 dBA Ldn. While the impacts exceed the 3.0 dBA noise level increase with project, the resulting noise level will remain below 65.0 dBA Ldn.

For 2030 conditions, the project will increase traffic noise by 5.6 dBA Ldn on Cahuilla Road between Central Road and Joshua Road resulting in a traffic noise level at 100 feet from the road centerline of 63.6 dBA Ldn. On Cahuilla Road between Joshua Road and the project site the project will increase traffic noise by 7.0 dBA Ldn resulting in a noise level at 100 feet from the centerline of 65.2 dBA Ldn. On Laguna Seca Drive, the project site the project will increase traffic noise by 13.9 dBA Ldn resulting in a noise level at 100 feet from the centerline of 56.0 dBA Ldn. According to the thresholds of significance described in Section 4.3 of this report, an increase over

3 dBA resulting in a noise level over 65 dBA Ldn will result in a significant noise impact. Currently, the uses adjacent to this segment are single-family homes with front yards facing Cahuilla Road. It is expected that the front yards of those homes may experience a significant impact, however, due to distance and the shielding by the house structures the rear yards of those homes should remain below 65.0 dBA Ldn.

Based on the criteria for cumulative noise impacts described in Section 4.3 of this report, all noise sensitive uses adjacent to Cahuilla Road between Joshua Road and Laguna Seca Drive will experience cumulative noise impacts. A review of aerial photography shows that approximately 40 single-family homes have their front yards facing Cahuilla Road on that segment. It is expected that the front yards of those homes may experience a significant impact, however, due to distance and the shielding by the house structures the rear yards of those homes should remain below 65.0 dBA Ldn.

1.2 Stationary Noise Impacts

On the southwestern portion of the project site, a 15-acre neighborhood commercial site will be developed with a maximum of 200,000 square feet of retail uses. Typical noise impacts associated with retail uses are truck deliveries, air conditioning units, trash compactors and drive through speakerphones. Currently there are scattered single-family homes west of the proposed project site.

A noise analysis will be required prior to obtaining building permits when grading plans are available. The grading plan will include the location of loading docks, air conditioning units, trash compactors and drive-thru lanes. The noise analysis will evaluate the potential noise impacts to the existing and proposed noise sensitive homes near the retail areas of the project.

1.3 On-Site Traffic Noise Impacts

Currently the primary source of noise to the project site is traffic noise from Cahuilla Road, but the majority of the project site experiences noise impacts that are well below the County of San Bernardino Noise standards based on existing noise measurements. Based on the FHWA traffic

noise prediction model, the future unmitigated exterior noise levels contours are 65 dBA Ldn at a distance of 47 to 86 feet from centerline, 60 dBA Ldn at a distance of 102 to 186 feet from centerline, and 55 dBA Ldn at a distance of 219 to 401 feet from centerline. The conceptual site plan shows that the planned residential areas will be located adjacent to Cahuilla Road. At these distances given above, the 70 dBA Ldn contour is located within the right-of-way of the roadway, however, portions of the residential land uses adjacent to Cahuilla Road may experience noise impacts above 65 dBA Ldn.

The County's Noise Element requires that in residential uses, noise impacts shall be mitigated below 65 dBA Ldn for single-family homes at the noise sensitive exterior areas as well as ensure that interior noise levels remain below the County's required standard of 45 dBA Ldn. A noise barrier may be required for residential areas adjacent to Cahuilla Road. Once specific plans are available, a final noise study shall be completed to determine specific noise mitigation measures to ensure the proposed project meets the County of San Bernardino exterior and interior noise standards.

1.4 Construction Noise Analysis

Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators can reach high levels.

The project site is located in a relatively undeveloped area with scattered single family homes near the site. Even though construction activities are exempt from the County's noise ordinance if the construction occurs within the allowable hours, a complete review of the potential constructed related impacts has been performed as part of this study. For the purpose of this analysis, the potential short-term construction impacts were described in terms of construction impacts associated with grading activities, utilities construction, paving, and building construction during each project phase, when applicable.

Most construction equipment moves around the site and is characterized by variations in power and location, resulting in significant variations in noise levels over time. The predicted noise level during construction at phase 1 at the nearest noise sensitive uses ranges from 46.6 to 64.8 dBA Leq; from 50.7 to 66.1 dBA Leq during phase 2; from 46.0 to 62.2 dBA Leq during phase 3; and from 43.0 to 56.5 dBA Leq during phase 4.

The County of San Bernardino exempts construction noise from their standards when construction, maintenance, repair, or demolition activities occur between 7 a.m. and 7 p.m., except Sundays and Federal holidays. Construction noise is of short-term duration and will not present any long-term impacts on the project site or the surrounding area. The most effective method of controlling construction noise is by limiting the hours of construction to normal weekday working hours. Several mitigation measures are recommended in Section 1.6 to be employed as applicable and will serve to reduce short-term construction noise impacts.

1.5 Construction Vibration Analysis

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction at the project site will typically require at least one piece of large equipment to be operating at fairly regular intervals, especially during the earlier stages when excavation, grading, and earth moving activities will occur. Large construction equipment such as a large bulldozer or a loaded truck, can create ground vibration levels of approximately 87 VdB at 25 feet from the vibration source.

Like noise, vibration levels attenuate with distance. The estimated 68.9 VdB received at the nearest residential property is below the FTA 75 VdB annoyance impact criteria level, and would therefore not be considered an annoyance or an interference at proximate residential land uses. Further, impacts at the site of the closest sensitive receptor are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating proximate to the Project site perimeter. Moreover, construction at the Project site will be restricted to daylight hours consistent with County requirements thereby eliminating potential vibration impact during evening hours. On this basis the potential for the Project to result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise is determined to be less-than-significant.

1.6 Conclusion and Mitigation Measures

This analysis evaluated the potential long-term operational and short-term construction noise impacts associated with the development of the proposed Hacienda at Fairview project.

The major noise source in the study area is traffic from Cahuilla Road. A noise barrier may be required for the proposed project's residential areas adjacent to Cahuilla Road. Once specific plans are available, a final noise study shall be completed to determine specific noise mitigation measures to ensure the proposed project meets the County of San Bernardino exterior and interior noise standards. The project may also result in potential stationary noise impacts from truck deliveries and air conditioning units to existing and proposed nearby homes. A final noise study shall be completed when precise grading plans are available to determine specific noise mitigation measures.

The County of San Bernardino exempts construction noise when it occurs between 7 a.m. and 7 p.m., except Sundays and Federal holidays. The following mitigation measures are recommended to reduce the noise impacts during construction:

- During all project site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.

- The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by County staff.

- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

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2.0 INTRODUCTION

This noise study has been completed to determine the potential noise impacts associated with the development of the proposed Hacienda at Fairview Valley Development.

2.1 Purpose of Report

This noise study briefly describes the proposed project, provides information regarding noise fundamentals, describes the local noise guidelines, provides the study methods and procedures for traffic noise analysis, and evaluates the future off-site and on-site exterior noise environment. Included in this study is an analysis of the potential off-site and on-site project-related noise impacts during construction activities and the predicted future noise environment that can be expected within the noise sensitive residential community. This study has been prepared to satisfy the County of San Bernardino noise standards.

2.2 Site Location

The proposed development is located in unincorporated San Bernardino County within the Town of Apple Valley Sphere of Influence, east of Laguna Seca Drive and bisected by Cahuilla Road. Exhibit 2-A illustrates the location of the project site within the study area.

2.3 Existing On-Site and Surrounding Land Use

The project site is currently subject to noise from Cahuilla Road. The land uses adjacent to the proposed site are single-family residential to the south, west and north, and primarily vacant land to the east.

2.4 Proposed Project

The proposed project consists of a maximum of 299 single family homes, 2,815 units of senior (active) housing, 200,000 square feet of retail development and 336 acres of parks, equestrian and open space. The 1,557-acre project site is presented on Exhibit 2-B.

EXHIBIT 2-A

LOCATION MAP

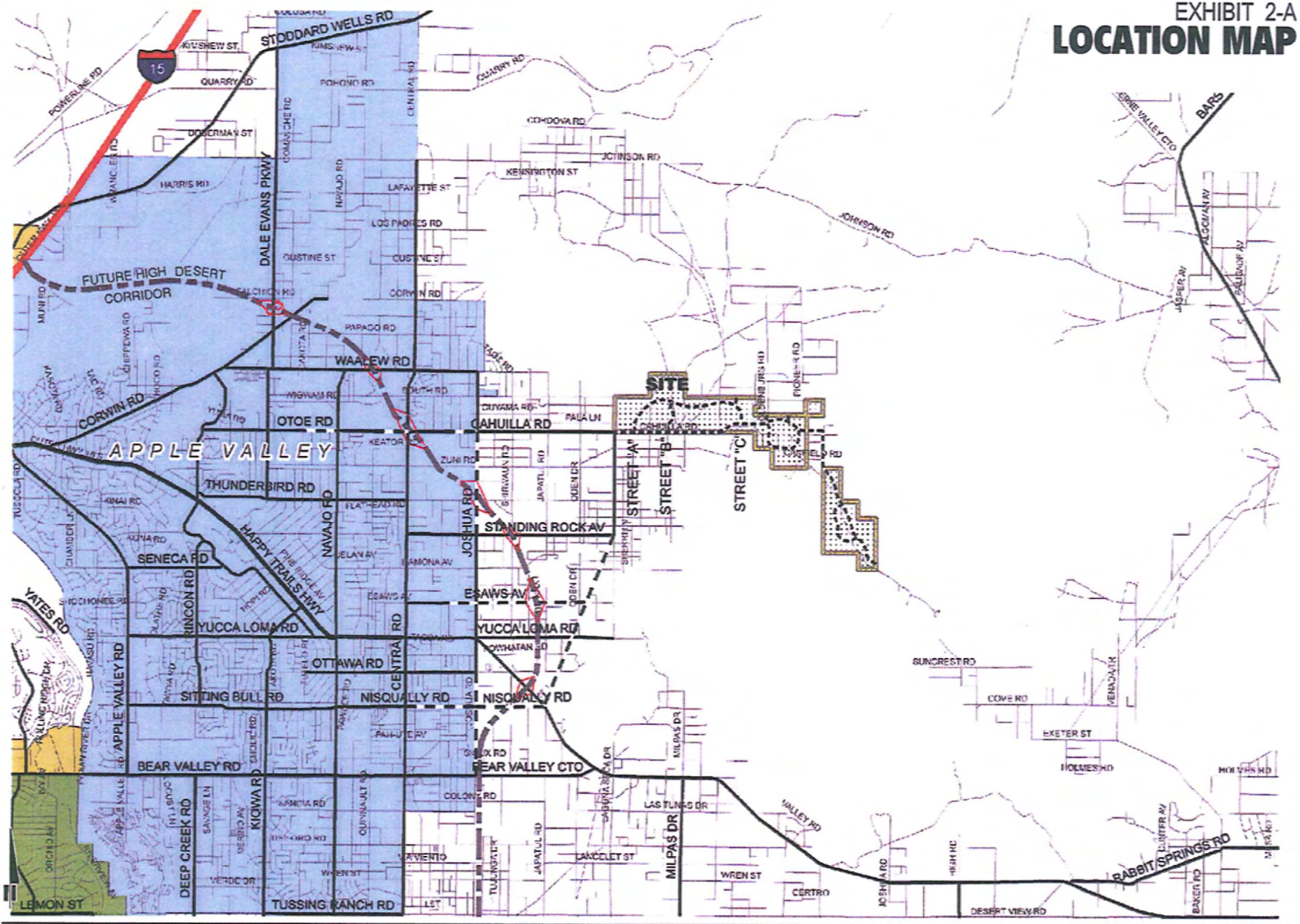

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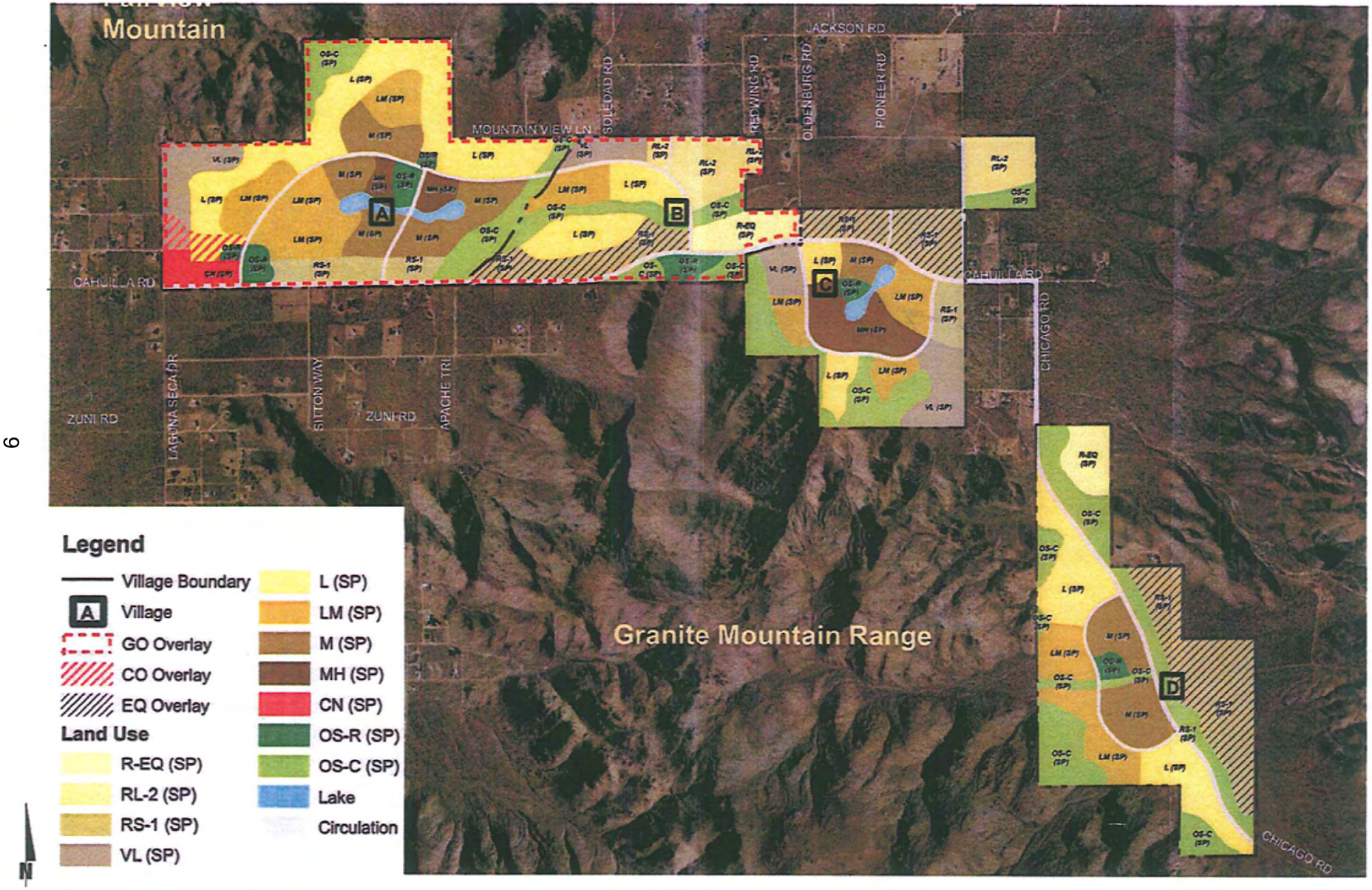
EXHIBIT 2-B

SITE PLAN



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3.0 NOISE FUNDAMENTALS

The purpose of this section is to provide basic information about noise and present some of the terms used in this report.

3.1 Introduction

Noise has been simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise sources by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear.

3.2 Noise Descriptors

Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The peak hour Leq is the noise metric used to collect short-term noise level measurement samples and to calculate the Day-Light Noise Level (Ldn). This descriptor is listed here for reference only; the County of San Bernardino relies on the Ldn to assess transportation related impacts on noise sensitive land uses.

The Day-Night Level (Ldn) is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 10 decibels to dBA Leq sound levels at night between 10 p.m. and 7 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. Ldn does not represent the actual sound level heard at any particular time, but rather represents the total sound exposure. As identified in the County of San Bernardino General Plan Noise Element, the County relies on the Ldn noise level standard to assess transportation related impacts on noise sensitive land uses.

3.3 Traffic Noise Prediction

The level of traffic noise depends on three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks. A doubling of the traffic volume (assuming that the speed and truck mix do not change) results in a noise level increase of 3 dBA. The truck mix on a given roadway also has a significant effect on community noise levels. As the number of heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise levels increase. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires.

Because of the logarithmic nature of traffic noise levels, a doubling of the traffic noise (acoustic energy) results in a noise level increase of 3 dBA. Based on the Federal Highway Administration (FHWA) community noise assessment criteria, this change is considered "barely perceptible."

3.4 Noise Control

Noise control is the process of obtaining an acceptable noise environment for a particular observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to any and all of these three elements.

3.5 Ground Absorption

To account for the ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft site and hard site conditions. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. A drop-off rate of 4.5 dBA per doubling of distance is typically observed over soft ground with landscaping, as compared with a 3.0 dBA drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. Based on our experience, soft site conditions better reflect the predicted noise levels. In addition, Caltrans' research has shown that the use of soft site conditions is more appropriate for the application of the FHWA traffic noise prediction model used in this analysis.

3.6 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the view of a road. Noise barriers do little good for homes on a hillside overlooking a road or for buildings which rise above the barrier. A noise barrier can achieve a 5 dBA noise level reduction when it is tall enough to break the line-of-sight.

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4.0 NOISE STANDARDS

The County of San Bernardino has identified two separate types of noise sources: (1) mobile, and (2) stationary. To control mobile or transportation related noise sources such as freeways, airport and railroads, the County of San Bernardino has established guidelines for acceptable community noise levels in the Noise Element of the General Plan and the San Bernardino County Development Code. The methods used to control community noise impacts from non-transportation noise sources (such as speakerphones, trash compactors, air-conditioning units, etc.) is also presented in the San Bernardino County Development Code.

4.1 Noise Element Criteria

Policy N 1.4 requires the County to enforce the State noise insulation standards (California Administrative Code, Title 24) and Chapter 35 of California Building Code (CBC). Title 24 requires that an acoustical analysis be prepared for all new development of multi-family dwellings, condominiums, hotels, and motels proposed for areas within the 60 dB Ldn contour of a major noise source for the purpose of documenting that an acceptable interior noise level of 45 dB Ldn will be achieved with windows closed.

4.2 Development Code

Chapter 82.18 of the San Bernardino County Development Code includes noise standards for transportation related sources. Exterior noise levels in all single-family residential land use areas and multi-family residential land use areas should not exceed 65 dBA Ldn. Exterior noise levels shall not exceed 70 dBA Ldn for any residential use areas. Ability to mitigate exterior noises to the levels of 65 dBA Ldn and 70 dBA Ldn shall be considered by the review authority when determining the actual Ldn level with which the land uses must comply. Transportation noise shall be mitigated for any new development to a level that shall not exceed the standards described in the following Table 83-3 (Noise Standards for Adjacent Mobile Noise Sources).

Table 83-3 Noise Standards for Adjacent Mobile Noise Sources			
Land Use		Ldn (or CNEL dB(A)	
Categories	Uses	Interior[1]	Exterior[2]
Residential	Single and multi-family, duplex, mobile homes	45	60[3]
Residential	Hotel, motel, transient housing	45	60
	Commercial retail, bank, restaurant	50	N/A
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	N/A
Institutional/Public	Housing, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	N/A	65

Notes:

[1] The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.

[2] The outdoor environment shall be limited to:

- Hospital/office building patios
- Hotel and motel recreation areas
- Mobile home parks
- Multi-family private patios or balconies
- Park picnic areas
- Private yard of single-family dwellings
- School playgrounds

[3] An exterior noise level of up to 65 dB(A) (or CNEL) shall be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.

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

Interior noise levels in all single-family and multi-family residences and educational institutions shall not exceed 45 dBA Ldn emanating from sources outside the residential building.

The County of San Bernardino had developed a set of requirements for determining and mitigating non-transportation/stationary noise source impacts to residential properties. Noise sources

covered by this standard include, but are not limited to: industrial facilities, mining activities, loading dock activities, loud speakers, 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. Table 83-4 of the Development Code includes noise standards for stationary-related sources:

Table 83-4
Noise Standards for Other Sources

Typical Uses	12-Hour Equivalent Sound Level (Interior) in dBA Ldn
Educational, institutions, libraries, meeting facilities, etc.	45
General office, reception, etc.	50
Retail stores, restaurants, etc.	55
Other areas for manufacturing, assembly, testing, warehousing, etc.	65

According to the stationary source noise standards, included in Appendix "B", industrial facility related noise must not exceed 70 dBA for a cumulative period of more than 30 minutes in any hour (for the daytime and nighttime hours) to any portion of any surrounding property containing a habitable dwelling, hospital, school, library, or nursing home. It should not exceed the 70 dBA plus 5 dBA for a cumulative period of more than 15 minutes in any hour, or plus 10 dBA for a cumulative period of more than five minutes in any hour, or plus 15 dBA for a cumulative period of more than 1 minute in any hour or the standard plus 20 dBA for any period of time.

4.3 Levels of Significance

In community noise assessment, changes in noise levels greater than 3 dBA are often identified as "barely perceptible," while changes of 5 dBA are "readily perceptible." In the range of 1 dBA to 3 dBA, people who are very sensitive to noise may perceive a slight change in noise level. In

laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dBA. In a community situation, the noise exposure is extended over a long time period, and changes in noise levels occur over years rather than the immediate comparison made in a laboratory situation. The level at which changes in community noise levels become discernible is likely to be some value greater than 1 dBA, and 3 dBA appears to be appropriate for most people.

For purposes of this study, project-related traffic noise impacts would be considered significant if the project increases noise levels for a noise sensitive land use by 3 dBA Ldn and if: (1) the existing noise levels already exceed the 65 dBA Ldn residential standard, or (2) the project increases noise levels from below the 65 dBA Ldn standard to above 65 dBA Ldn.

Off-site cumulative noise impacts describes how much noise levels are projected to increase over existing conditions with the development of the proposed project and all other traffic growth projected with buildout of the Comprehensive General Plan. Long-term cumulative off-site impacts from traffic noise are also measured against two criteria. Both criteria must be met for a significant impact to be identified:

- Future traffic noise levels must create a “readily perceptible” increase of 5 dBA or more compared to existing conditions on a roadway segment adjacent to a noise sensitive land use.

- The resulting future with project noise level must exceed the criteria level for the noise sensitive land use. In this case, the criteria level is 65 dBA Ldn for residential land uses. The project would considerably contribute to this increase if it contributes a “barely perceptible” 3 dBA or more to the increase.

The identified County noise levels of significance criteria generally subsume the CEQA thresholds of significance insofar as the County’s identified performance criteria were adopted as a part of its update to the County’s general plan and are the County’s official planning policies by which an impact is deemed to be significant.

5.0 EXISTING NOISE LEVEL MEASUREMENTS

To determine the existing noise level environment, noise measurements were taken at five (5) locations in the project study area. Exhibit 5-A provides the boundaries of the project study area and the noise measurement locations. The noise measurements were recorded by Urban Crossroads, Inc. between the hours of 9:00 a.m. to 12:00 p.m. on June 10, 2008. Appendix "C" includes study area photos.

5.1 Measurement Procedure and Criteria

Noise measurements were taken using a Larson-Davis Model 824 Type 1 precision sound level meter, programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meter and microphone were mounted on a tripod, five feet above the ground and equipped with a windscreen during all measurements. The sound level meter was calibrated before and after the monitoring using a Larson-Davis calibrator, Model CAL 150. All noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (S1.4-1983 identified in Chapter 19.68.020.AA).

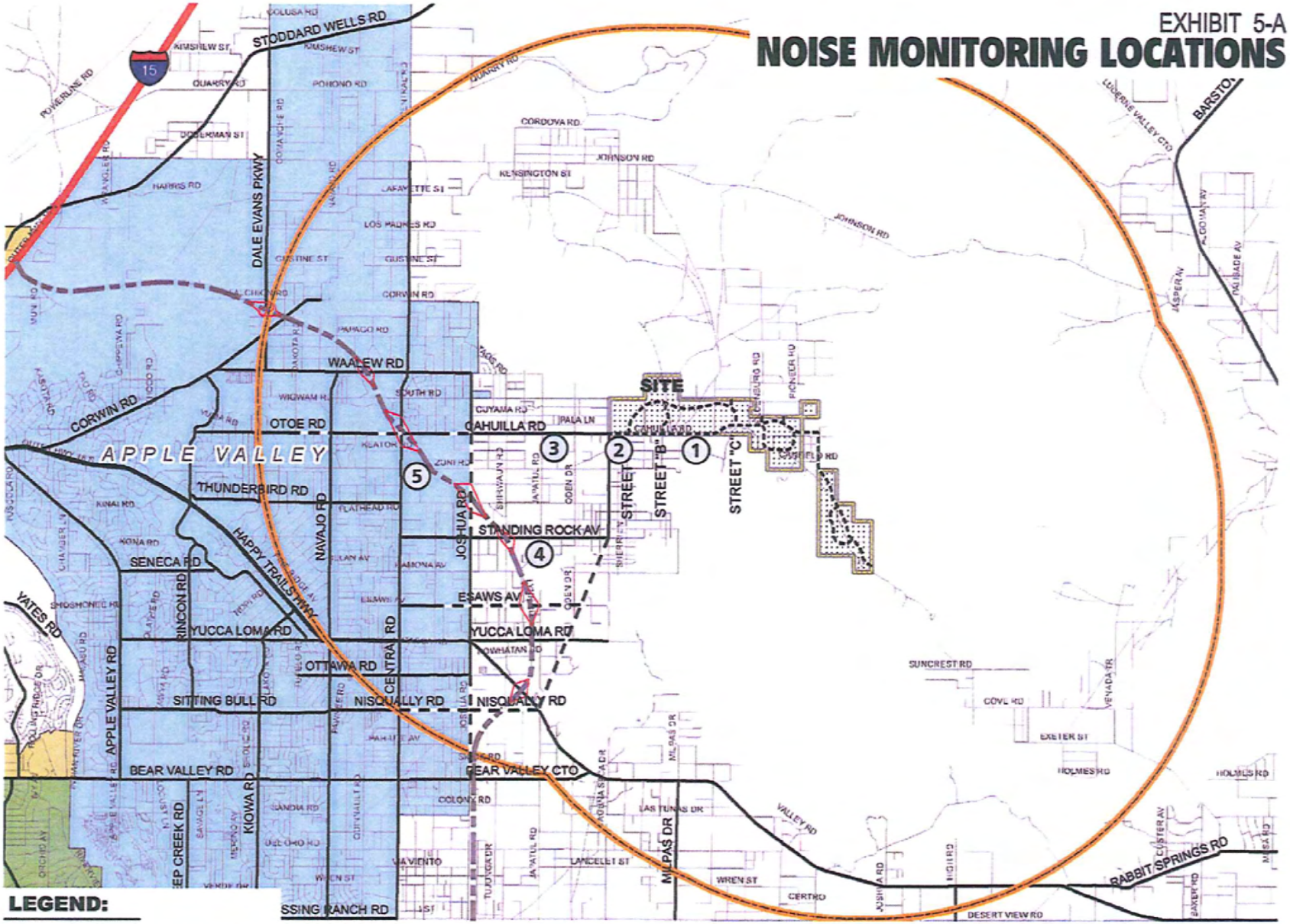
5.2 Noise Measurement Locations

The project site currently contains single-family residences that are spread sporadically over the area. The project site is subject to noise from Cahuilla Road. Adjacent land uses include scattered single-family homes and vacant land.

Noise monitoring locations were selected by Urban Crossroads based on the impact potential. Site 1 is located near the existing intersection of Cahuilla Road and Apache Trail. Site 2 is located approximately 100 feet from the roadway centerline near the existing intersection of Cahuilla Road and Laguna Seca Drive. Site 3 is located 100 feet south of the existing Cahuilla Road centerline at 23875 Cahuilla Road. Site 4 is located 100 feet south of the existing Standing Rock Avenue centerline east of Joshua Road. Site 5 is located 100 feet east of the existing Central road centerline south of Cahuilla Road. Exhibit 5-A shows the noise monitoring locations.

EXHIBIT 5-A

NOISE MONITORING LOCATIONS



LEGEND:

(1) = NOISE MONITORING LOCATION

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San Bernardino County, CA (JN - 05930:nml.dwg)

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5.3 Noise Measurement Results

The results of the noise level measurements are presented in Table 5-1. All noise measurements were monitored for a minimum time period of 10 minutes. The ambient noise measured within the project site exposed to traffic noise ranges from 41.8 to 60.0 dBA Leq. The noise levels measured were then converted to Ldn levels and ranged from 41.9 to 60.0 dBA Ldn. The noise monitoring results printouts are included in Appendix "D" and the calculations to convert Leq to Ldn are included in Appendix "E".

TABLE 5-1

EXISTING (AMBIENT) NOISE LEVEL MEASUREMENTS[1]

OBSERVER LOCATION[2]	DESCRIPTION	TIME OF MEASUREMENT[3]	PRIMARY NOISE SOURCE	NOISE LEVELS (Leq dBA)	NOISE LEVELS (Leq Ldn)
1	Located near the existing intersection of Cahuilla Road and Apache Trail.	9:49 AM	Traffic on Cahuilla Road / Ambient Noise	47.4	47.5
2	Located 100 feet from the roadway centerline near the existing intersection of Cahuilla Road and Laguna Seca Drive.	10:07 AM	Traffic on Laguna Seca Road / Cahuilla Road / Ambient Noise	41.8	41.9
3	Located 100 feet south of the existing Cahuilla Road centerline at 23875 Cahuilla Road.	10:29 AM	Traffic on Cahuilla Road / Ambient Noise	48.6	48.7
4	Located 100 feet south of the existing Standing Rock Avenue centerline and approximately 1,930 feet east of the existing Joshua Road centerline.	10:55 AM	Traffic on Standing Rock Avenue / Ambient Noise	55.5	55.6
5	Located 100 feet east of the existing Central Road centerline at the future Zuni Road intersection.	11:16 AM	Traffic on Central Road	60.0	60.0

[1] Noise measurements taken by Urban Crossroads, Inc. on June 10, 2008.

[2] See Exhibit 5-A for the location of the monitoring sites, and Appendix "C" for Study Area Photos.

[3] All locations were monitored for a period of 10 minutes.

[4] Leq to Ldn conversions are included in Appendix "E".

6.0 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future traffic noise environment.

6.1 FHWA Traffic Noise Prediction Model

The projected roadway noise impacts from vehicular traffic were projected using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model - FHWA-RD-77-108 (the "FHWA Model"). The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. For this particular project, hard-site conditions are used and are solely based on the calibration with the noise measurements.

6.2 Traffic Noise Prediction Model Inputs

Table 6-1 presents the FHWA Traffic Noise Prediction Model roadway parameters used in this analysis. Soft site conditions were used to develop noise contours. The average daily traffic volumes used for this study presented in Table 6-2 were provided by the Hacienda at Fairview Valley Traffic Impact Analysis prepared by Urban Crossroads, Inc on March 7, 2008.

Table 6-3 presents the hourly traffic flow distribution (vehicle mix) for a typical Southern California vehicle mix. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA Model.

TABLE 6-1

OFF-SITE ROADWAY PARAMETERS

ROADWAY	SEGMENT	ROADWAY CLASSIFICATION[1]	VEHICLE SPEED (MPH)	SITE CONDITIONS
Cahuilla Road	e/o Central Rd.	Secondary Highway	45	Soft
Cahuilla Road	e/o Joshua Rd.	Major Highway	45	Soft
Cahuilla Road	w/o Central Rd.	Secondary Highway	45	Soft
Central Road	n/o Cahuilla Rd.	Major Highway	45	Soft
Central Road	n/o Esaws Ave.	Major Highway	45	Soft
Central Road	n/o Ottawa Rd.	Major Highway	45	Soft
Central Road	n/o Standing Rock Ave.	Major Highway	45	Soft
Central Road	n/o Thunderbird Rd.	Major Highway	45	Soft
Central Road	n/o Waalew Rd.	Major Highway	45	Soft
Central Road	n/o Yucca Loma Rd.	Major Highway	45	Soft
Central Road	s/o Ottawa Rd.	Major Highway	45	Soft
Dale Evans Parkway	s/o Thunderbird Rd.	Major Highway	45	Soft
Happy Trails Highway	e/o Bear Valley Rd.	Major Highway	45	Soft
Happy Trails Highway	e/o Milpas Dr.	Major Highway	45	Soft
Happy Trails Highway	w/o Bear Valley Rd.	Major Arterial Highway	50	Soft
Joshua Road	n/o Cahuilla Rd.	Major Highway	45	Soft
Joshua Road	n/o Esaws Rd.	Major Highway	45	Soft
Joshua Road	s/o Esaws Rd.	Major Highway	45	Soft
Laguna Seca Dr.	s/o Cahuilla Rd.	Secondary Highway	45	Soft
Navajo Road	n/o Ottawa Rd.	Major Highway	45	Soft
Standing Rock Avenue	e/o High Desert Corridor	Secondary Highway	45	Soft
Standing Rock Avenue	w/o High Desert Corridor	Secondary Highway	45	Soft
Thunderbird Road	e/o Navajo Rd.	Major Highway	45	Soft
Thunderbird Road	w/o Navajo Rd.	Major Highway	45	Soft
Waalew Road	e/o Central Rd.	Major Highway	45	Soft
Waalew Road	e/o Dale Evans Pkwy.	Major Highway	45	Soft
Waalew Road	e/o High Desert Corridor	Major Highway	45	Soft
Waalew Road	e/o Navajo Rd.	Major Highway	45	Soft
Waalew Road	w/o Dale Evans Pkwy.	Major Highway	45	Soft
Yucca Loma Road	e/o Central Rd.	Major Arterial Highway	50	Soft
Yucca Loma Road	w/o Central Rd.	Major Arterial Highway	50	Soft

[1] According to the County of San Bernardino General Plan Circulation Element.

TABLE 6-2

AVERAGE DAILY TRAFFIC (1000's)[1]

ROADWAY	SEGMENT	AVERAGE DAILY TRAFFIC (IN 1000's)				
		EXISTING	YEAR 2020		YEAR 2030	
			NO PROJECT	WITH PROJECT	NO PROJECT	WITH PROJECT
Cahuilla Road	e/o Central Rd.	0.5	0.8	7.8	4.0	14.4
Cahuilla Road	e/o Joshua Rd.	0.6	0.9	9.4	4.0	20.1
Cahuilla Road	w/o Central Rd.	0.0	0.1	0.1	1.3	1.9
Central Road	n/o Cahuilla Rd.	3.9	7.1	7.9	11.0	11.0
Central Road	n/o Esaws Ave.	6.6	14.4	16.8	15.9	16.8
Central Road	n/o Ottawa Rd.	8.7	17.5	19.4	19.9	20.2
Central Road	n/o Standing Rock Ave.	6.6	12.0	13.8	13.2	14.1
Central Road	n/o Thunderbird Rd.	5.0	8.7	14.9	8.8	11.7
Central Road	n/o Waalew Rd.	1.4	2.9	3.4	12.4	14.1
Central Road	n/o Yucca Loma Rd.	9.4	19.7	22.0	21.6	22.5
Central Road	s/o Ottawa Rd.	8.1	16.0	17.5	17.6	18.2
Dale Evans Parkway	s/o Thunderbird Rd.	4.9	9.0	9.0	15.0	15.9
Happy Trails Highway	e/o Bear Valley Rd.	12.3	25.6	26.9	27.0	27.9
Happy Trails Highway	e/o Milpas Dr.	9.7	21.7	23.0	23.8	24.7
Happy Trails Highway	w/o Bear Valley Rd.	5.4	10.2	11.6	20.0	20.9
Joshua Road	n/o Cahuilla Rd.	1.3	2.3	3.9	5.4	10.6
Joshua Road	n/o Esaws Rd.	2.8	6.0	9.9	7.8	8.5
Joshua Road	s/o Esaws Rd.	0.0	7.1	10.7	7.8	8.5
Laguna Seca Dr.	s/o Cahuilla Rd.	0.1	0.1	4.6	0.1	2.5
Navajo Road	n/o Ottawa Rd.	10.9	24.2	25.5	26.6	27.3
Standing Rock Ave.	e/o High Desert Corridor	1.7	4.8	9.5	14.9	16.7
Standing Rock Ave.	w/o High Desert Corridor	1.7	4.8	9.5	11.9	12.6
Thunderbird Road	e/o Navajo Rd.	3.9	8.4	12.6	9.1	11.0
Thunderbird Road	w/o Navajo Rd.	6.6	12.8	16.2	13.9	14.7
Waalew Road	e/o Central Rd.	3.0	4.9	6.2	5.3	10.2
Waalew Road	e/o Dale Evans Pkwy.	4.6	8.1	9.4	11.9	14.4
Waalew Road	e/o High Desert Corridor	3.1	5.8	7.3	15.8	18.9
Waalew Road	e/o Navajo Rd.	3.1	5.8	7.3	11.7	14.7
Waalew Road	w/o Dale Evans Pkwy.	3.9	9.2	9.8	12.4	13.1
Yucca Loma Road	e/o Central Rd.	8.6	18.8	20.0	19.9	20.7
Yucca Loma Road	w/o Central Rd.	13.7	31.0	33.3	33.9	34.6

[1] According to the Hacienda at Fariview Traffic Impact Analysis by Urban Crossroads, Inc. in May 2008.

TABLE 6-3

HOURLY TRAFFIC FLOW DISTRIBUTION[1]

MOTOR-VEHICLE TYPE	DAYTIME (7 AM TO 7 PM)	EVENING (7 PM TO 10 PM)	NIGHT (10 PM TO 7 AM)	TOTAL % TRAFFIC FLOW
Automobiles	77.5%	12.9%	9.6%	97.42%
Medium Trucks	84.8%	4.9%	10.3%	1.84%
Heavy Trucks	86.5%	2.7%	10.8%	0.74%

[1] Typical Southern California vehicle mix.

7.0 OFF-SITE NOISE ANALYSIS

To assess the potential off-site noise levels impact associated with development of the proposed Hacienda at Fairview Valley development, noise contours were developed for the following traffic scenarios:

Existing: This scenario refers to the existing noise conditions, without construction of the proposed project.

Year (2020) With / Without Project: This scenario refers to the background noise conditions at year 2020 with and without the proposed project. This corresponds to the completion of Phase 1 of the proposed project.

Year (2030) With / Without Project: This scenario refers to the background noise conditions at year 2030 with and without the proposed project. This corresponds to the completion of Phase 2 of the proposed project, thus finishing the proposed project.

7.1 Traffic Noise Contours

Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway. Ldn noise contours are determined below for the 55, 60, 65 and 70 dBA noise levels.

The distance from the centerline of the roadway to the Ldn contours for roadways in the proposed project's vicinity are presented in Tables 7-1 to 7-5. *The noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels.*

7.2 Existing Roadway Noise Levels

Table 7-1 presents the existing noise contours. The project area currently contains single-family homes in a relatively undeveloped area. The existing noise levels near the project area consist primarily of traffic noise from Cahuilla Road and is currently below 50 dBA Ldn at 100 feet from the road centerline.

TABLE 7-1

EXISTING CONDITIONS NOISE CONTOURS

ROAD	SEGMENT	Ldn AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA Ldn	65 dBA Ldn	60 dBA Ldn	55 dBA Ldn
Cahuilla Road	e/o Central Rd.	49.0	RW	RW	RW	RW
Cahuilla Road	e/o Joshua Rd.	49.9	RW	RW	RW	RW
Cahuilla Road	w/o Central Rd.	-	-	-	-	-
Central Road	n/o Cahuilla Rd.	58.1	RW	RW	74	160
Central Road	n/o Esaws Ave.	60.3	RW	RW	105	227
Central Road	n/o Ottawa Rd.	61.5	RW	59	127	273
Central Road	n/o Standing Rock Ave.	60.3	RW	RW	105	227
Central Road	n/o Thunderbird Rd.	59.1	RW	RW	88	189
Central Road	n/o Waalew Rd.	53.6	RW	RW	RW	81
Central Road	n/o Yucca Loma Rd.	61.9	RW	62	133	287
Central Road	s/o Ottawa Rd.	61.2	RW	56	121	260
Dale Evans Parkway	s/o Thunderbird Rd.	59.0	RW	RW	86	186
Happy Trails Highway	e/o Bear Valley Rd.	63.0	RW	74	159	344
Happy Trails Highway	e/o Milpas Dr.	62.0	RW	63	136	293
Happy Trails Highway	w/o Bear Valley Rd.	60.9	RW	RW	114	246
Joshua Road	n/o Cahuilla Rd.	53.3	RW	RW	RW	77
Joshua Road	n/o Esaws Rd.	56.6	RW	RW	59	128
Joshua Road	s/o Esaws Rd.	-	-	-	-	-
Laguna Seca Dr.	s/o Cahuilla Rd.	42.1	RW	RW	RW	RW
Navajo Road	n/o Ottawa Rd.	62.5	RW	68	147	317
Standing Rock Avenue	e/o High Desert Corridor	54.4	RW	RW	RW	91
Standing Rock Avenue	w/o High Desert Corridor	54.4	RW	RW	RW	91
Thunderbird Road	e/o Navajo Rd.	58.1	RW	RW	74	160
Thunderbird Road	w/o Navajo Rd.	60.3	RW	RW	105	227
Waalew Road	e/o Central Rd.	56.9	RW	RW	62	134
Waalew Road	e/o Dale Evans Pkwy.	58.8	RW	RW	83	178
Waalew Road	e/o High Desert Corridor	57.1	RW	RW	64	137
Waalew Road	e/o Navajo Rd.	57.1	RW	RW	64	137
Waalew Road	w/o Dale Evans Pkwy.	58.1	RW	RW	74	160
Yucca Loma Road	e/o Central Rd.	62.9	RW	72	156	336
Yucca Loma Road	w/o Central Rd.	64.9	RW	99	213	458

[1] RW: Noise contour located within the right-of-way of the roadway.

7.3 Year 2020 Project Traffic Noise Level Contributions

Table 7-6 presents a comparison of the Year (2020) without and with project noise levels shown respectively in Tables 7-2 and 7-3. For reference purposes, the Ldn noise level at a distance of 100 feet from the roadway centerline is also included in the tables mentioned above. For all analyzed roadway segments the project related traffic will result in noise increases ranging from 0.0 to 16.6 dBA Ldn.

The areas adjacent to Laguna Seca Drive and Cahuilla Road between Central Road and the project site will experience "readily perceptible" noise increases ranging from 0.0 to 16.6 dBA Ldn. While the impacts exceed the 3.0 dBA noise level increase with project, the resulting noise level will remain below 65.0 dBA Ldn.

7.4 Year 2030 Project Traffic Noise Level Contributions

Table 7-7 presents a comparison of the Year (2030) without and with project noise levels shown respectively in Tables 7-4 and 7-5. For reference purposes, the Ldn noise level at a distance of 100 feet from the roadway centerline is also included in the tables mentioned above. For all roadway segments the project related traffic will result in noise increases of up to 7.0 dBA Ldn.

For Year 2030, the project will increase traffic noise by 5.6 dBA Ldn on Cahuilla Road between Central Road and Joshua Road resulting in a traffic noise level at 100 feet from the road centerline of 63.6 dBA Ldn. On Cahuilla Road between Joshua Road and the project site the project will increase traffic noise by 7.0 dBA Ldn resulting in a noise level at 100 feet from the centerline of 65.2 dBA Ldn. On Laguna Seca Drive, the project site the project will increase traffic noise by 13.9 dBA Ldn resulting in a noise level at 100 feet from the centerline of 56.0 dBA Ldn. According to the thresholds of significance described in Section 4.3 of this report, an increase over 3 dBA resulting in a noise level over 65 dBA Ldn will result in a significant noise impact. Currently, the uses adjacent to this segment are single-family homes with front yards facing Cahuilla Road. It is expected that the front yards of those homes may experience a significant impact, however, due to distance and the shielding by the house structures the rear yards of those homes should remain below 65.0 dBA Ldn.

TABLE 7-2

YEAR 2020 WITHOUT PROJECT NOISE CONTOURS

ROAD	SEGMENT	Ldn AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA Ldn	65 dBA Ldn	60 dBA Ldn	55 dBA Ldn
Cahuilla Road	e/o Central Rd.	51.1	RW	RW	RW	55
Cahuilla Road	e/o Joshua Rd.	51.7	RW	RW	RW	60
Cahuilla Road	w/o Central Rd.	42.1	RW	RW	RW	RW
Central Road	n/o Cahuilla Rd.	60.7	RW	RW	111	238
Central Road	n/o Esaws Ave.	63.7	RW	82	177	382
Central Road	n/o Ottawa Rd.	64.6	RW	94	202	435
Central Road	n/o Standing Rock Ave.	62.9	RW	73	157	338
Central Road	n/o Thunderbird Rd.	61.5	RW	59	127	273
Central Road	n/o Waalew Rd.	56.8	RW	RW	61	131
Central Road	n/o Yucca Loma Rd.	65.1	RW	101	218	470
Central Road	s/o Ottawa Rd.	64.2	RW	88	190	409
Dale Evans Parkway	s/o Thunderbird Rd.	61.7	RW	60	129	279
Happy Trails Highway	e/o Bear Valley Rd.	66.2	56	121	260	560
Happy Trails Highway	e/o Milpas Dr.	65.5	RW	108	233	502
Happy Trails Highway	w/o Bear Valley Rd.	63.6	RW	81	175	376
Joshua Road	n/o Cahuilla Rd.	55.8	RW	RW	RW	112
Joshua Road	n/o Esaws Rd.	59.9	RW	RW	99	213
Joshua Road	s/o Esaws Rd.	60.7	RW	RW	111	238
Laguna Seca Dr.	s/o Cahuilla Rd.	42.1	RW	RW	RW	RW
Navajo Road	n/o Ottawa Rd.	66.0	54	116	250	539
Standing Rock Avenue	e/o High Desert Corridor	58.9	RW	RW	84	181
Standing Rock Avenue	w/o High Desert Corridor	58.9	RW	RW	84	181
Thunderbird Road	e/o Navajo Rd.	61.4	RW	57	124	266
Thunderbird Road	w/o Navajo Rd.	63.2	RW	76	164	353
Waalew Road	e/o Central Rd.	59.0	RW	RW	86	186
Waalew Road	e/o Dale Evans Pkwy.	61.2	RW	56	121	260
Waalew Road	e/o High Desert Corridor	59.8	RW	RW	97	208
Waalew Road	e/o Navajo Rd.	59.8	RW	RW	97	208
Waalew Road	w/o Dale Evans Pkwy.	61.8	RW	61	131	283
Yucca Loma Road	e/o Central Rd.	66.3	RW	122	263	566
Yucca Loma Road	w/o Central Rd.	68.5	79	170	367	790

[1] RW: Noise contour located within the right-of-way of the roadway.

TABLE 7-3

YEAR 2020 WITH PROJECT NOISE CONTOURS

ROAD	SEGMENT	Ldn AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA Ldn	65 dBA Ldn	60 dBA Ldn	55 dBA Ldn
Cahuilla Road	e/o Central Rd.	61.0	RW	54	116	250
Cahuilla Road	e/o Joshua Rd.	61.9	RW	62	133	287
Cahuilla Road	w/o Central Rd.	42.1	RW	RW	RW	RW
Central Road	n/o Cahuilla Rd.	61.1	RW	55	119	256
Central Road	n/o Esaws Ave.	64.4	RW	91	196	423
Central Road	n/o Ottawa Rd.	65.0	RW	100	216	465
Central Road	n/o Standing Rock Ave.	63.5	RW	80	172	371
Central Road	n/o Thunderbird Rd.	63.9	RW	84	181	390
Central Road	n/o Waalew Rd.	57.5	RW	RW	68	146
Central Road	n/o Yucca Loma Rd.	65.6	RW	109	235	506
Central Road	s/o Ottawa Rd.	64.6	RW	94	202	435
Dale Evans Parkway	s/o Thunderbird Rd.	61.7	RW	60	129	279
Happy Trails Highway	e/o Bear Valley Rd.	66.4	58	125	269	579
Happy Trails Highway	e/o Milpas Dr.	65.8	RW	112	242	521
Happy Trails Highway	w/o Bear Valley Rd.	64.2	RW	88	190	410
Joshua Road	n/o Cahuilla Rd.	58.1	RW	RW	74	160
Joshua Road	n/o Esaws Rd.	62.1	RW	64	138	297
Joshua Road	s/o Esaws Rd.	62.4	RW	67	145	313
Laguna Seca Dr.	s/o Cahuilla Rd.	58.7	RW	RW	82	176
Navajo Road	n/o Ottawa Rd.	66.2	56	120	259	559
Standing Rock Avenue	e/o High Desert Corridor	61.8	RW	61	132	285
Standing Rock Avenue	w/o High Desert Corridor	61.8	RW	61	132	285
Thunderbird Road	e/o Navajo Rd.	63.1	RW	75	162	349
Thunderbird Road	w/o Navajo Rd.	64.2	RW	89	192	413
Waalew Road	e/o Central Rd.	60.1	RW	RW	101	218
Waalew Road	e/o Dale Evans Pkwy.	61.9	RW	62	133	287
Waalew Road	e/o High Desert Corridor	60.8	RW	RW	113	243
Waalew Road	e/o Navajo Rd.	60.8	RW	RW	113	243
Waalew Road	w/o Dale Evans Pkwy.	62.1	RW	64	137	295
Yucca Loma Road	e/o Central Rd.	66.6	RW	127	274	590
Yucca Loma Road	w/o Central Rd.	68.8	83	178	385	828

[1] RW: Noise contour located within the right-of-way of the roadway.

TABLE 7-4

YEAR 2030 WITHOUT PROJECT NOISE CONTOURS

ROAD	SEGMENT	Ldn AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA Ldn	65 dBA Ldn	60 dBA Ldn	55 dBA Ldn
Cahuilla Road	e/o Central Rd.	58.1	RW	RW	74	160
Cahuilla Road	e/o Joshua Rd.	58.2	RW	RW	75	162
Cahuilla Road	w/o Central Rd.	53.2	RW	RW	RW	76
Central Road	n/o Cahuilla Rd.	62.6	RW	69	148	319
Central Road	n/o Esaws Ave.	64.2	RW	88	189	408
Central Road	n/o Ottawa Rd.	65.1	RW	102	220	473
Central Road	n/o Standing Rock Ave.	63.3	RW	78	167	360
Central Road	n/o Thunderbird Rd.	61.6	RW	59	128	275
Central Road	n/o Waalew Rd.	63.1	RW	74	160	345
Central Road	n/o Yucca Loma Rd.	65.5	RW	108	232	500
Central Road	s/o Ottawa Rd.	64.6	RW	94	202	436
Dale Evans Parkway	s/o Thunderbird Rd.	63.9	RW	84	182	392
Happy Trails Highway	e/o Bear Valley Rd.	66.5	58	125	269	580
Happy Trails Highway	e/o Milpas Dr.	65.9	53	115	248	533
Happy Trails Highway	w/o Bear Valley Rd.	66.6	RW	127	274	590
Joshua Road	n/o Cahuilla Rd.	59.5	RW	RW	92	198
Joshua Road	n/o Esaws Rd.	61.1	RW	55	118	254
Joshua Road	s/o Esaws Rd.	61.1	RW	55	118	254
Laguna Seca Dr.	s/o Cahuilla Rd.	42.1	RW	RW	RW	RW
Navajo Road	n/o Ottawa Rd.	66.4	57	124	267	575
Standing Rock Avenue	e/o High Desert Corridor	63.8	RW	83	179	385
Standing Rock Avenue	w/o High Desert Corridor	62.8	RW	71	154	332
Thunderbird Road	e/o Navajo Rd.	61.7	RW	61	130	281
Thunderbird Road	w/o Navajo Rd.	63.6	RW	80	173	373
Waalew Road	e/o Central Rd.	59.4	RW	RW	91	196
Waalew Road	e/o Dale Evans Pkwy.	62.9	RW	72	156	336
Waalew Road	e/o High Desert Corridor	64.1	RW	87	188	406
Waalew Road	e/o Navajo Rd.	62.8	RW	72	154	332
Waalew Road	w/o Dale Evans Pkwy.	63.1	RW	74	160	345
Yucca Loma Road	e/o Central Rd.	66.5	RW	127	273	588
Yucca Loma Road	w/o Central Rd.	68.9	84	181	389	838

[1] RW: Noise contour located within the right-of-way of the roadway.

TABLE 7-5

YEAR 2030 WITH PROJECT NOISE CONTOURS

ROAD	SEGMENT	Ldn AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA Ldn	65 dBA Ldn	60 dBA Ldn	55 dBA Ldn
Cahuilla Road	e/o Central Rd.	63.6	RW	81	175	377
Cahuilla Road	e/o Joshua Rd.	65.2	RW	103	221	477
Cahuilla Road	w/o Central Rd.	54.8	RW	RW	45	98
Central Road	n/o Cahuilla Rd.	62.6	RW	69	148	319
Central Road	n/o Esaws Ave.	64.4	RW	91	196	423
Central Road	n/o Ottawa Rd.	65.2	RW	103	222	478
Central Road	n/o Standing Rock Ave.	63.6	RW	81	175	376
Central Road	n/o Thunderbird Rd.	62.8	RW	72	154	332
Central Road	n/o Waalew Rd.	63.6	RW	81	175	376
Central Road	n/o Yucca Loma Rd.	65.7	RW	111	239	514
Central Road	s/o Ottawa Rd.	64.7	RW	96	207	446
Dale Evans Parkway	s/o Thunderbird Rd.	64.2	RW	88	189	408
Happy Trails Highway	e/o Bear Valley Rd.	66.6	59	128	275	593
Happy Trails Highway	e/o Milpas Dr.	66.1	55	118	254	547
Happy Trails Highway	w/o Bear Valley Rd.	66.8	61	131	282	607
Joshua Road	n/o Cahuilla Rd.	62.4	RW	67	144	311
Joshua Road	n/o Esaws Rd.	61.4	RW	58	125	269
Joshua Road	s/o Esaws Rd.	61.4	RW	58	125	269
Laguna Seca Dr.	s/o Cahuilla Rd.	56.0	RW	RW	54	117
Navajo Road	n/o Ottawa Rd.	66.5	58	126	271	585
Standing Rock Avenue	e/o High Desert Corridor	64.3	RW	90	193	416
Standing Rock Avenue	w/o High Desert Corridor	63.1	RW	74	160	345
Thunderbird Road	e/o Navajo Rd.	62.6	RW	69	148	319
Thunderbird Road	w/o Navajo Rd.	63.8	RW	83	180	387
Waalew Road	e/o Central Rd.	62.2	RW	65	141	303
Waalew Road	e/o Dale Evans Pkwy.	63.7	RW	82	177	382
Waalew Road	e/o High Desert Corridor	64.9	RW	99	212	457
Waalew Road	e/o Navajo Rd.	63.8	RW	83	180	387
Waalew Road	w/o Dale Evans Pkwy.	63.3	RW	77	166	358
Yucca Loma Road	e/o Central Rd.	66.7	RW	130	280	603
Yucca Loma Road	w/o Central Rd.	68.9	85	183	394	850

[1] RW: Noise contour located within the right-of-way of the roadway.

TABLE 7-6

YEAR 2020 OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

ROAD	SEGMENT	Ldn AT 100 FEET (dBA)		INCREASE	SIGNIFICANT IMPACT?[1]
		WITHOUT PROJECT	WITH PROJECT		
Cahuilla Road	e/o Central Rd.	51.1	61.0	9.9	NO
Cahuilla Road	e/o Joshua Rd.	51.7	61.9	10.2	NO
Cahuilla Road	w/o Central Rd.	42.1	42.1	0.0	NO
Central Road	n/o Cahuilla Rd.	60.7	61.1	0.5	NO
Central Road	n/o Esaws Ave.	63.7	64.4	0.7	NO
Central Road	n/o Ottawa Rd.	64.6	65.0	0.4	NO
Central Road	n/o Standing Rock Ave.	62.9	63.5	0.6	NO
Central Road	n/o Thunderbird Rd.	61.5	63.9	2.3	NO
Central Road	n/o Waalew Rd.	56.8	57.5	0.7	NO
Central Road	n/o Yucca Loma Rd.	65.1	65.6	0.5	NO
Central Road	s/o Ottawa Rd.	64.2	64.6	0.4	NO
Dale Evans Parkway	s/o Thunderbird Rd.	61.7	61.7	0.0	NO
Happy Trails Highway	e/o Bear Valley Rd.	66.2	66.4	0.2	NO
Happy Trails Highway	e/o Milpas Dr.	65.5	65.8	0.3	NO
Happy Trails Highway	w/o Bear Valley Rd.	63.6	64.2	0.6	NO
Joshua Road	n/o Cahuilla Rd.	55.8	58.1	2.3	NO
Joshua Road	n/o Esaws Rd.	59.9	62.1	2.2	NO
Joshua Road	s/o Esaws Rd.	60.7	62.4	1.8	NO
Laguna Seca Dr.	s/o Cahuilla Rd.	42.1	58.7	16.6	NO
Navajo Road	n/o Ottawa Rd.	66.0	66.2	0.2	NO
Standing Rock Avenue	e/o High Desert Corridor	58.9	61.8	3.0	NO
Standing Rock Avenue	w/o High Desert Corridor	58.9	61.8	3.0	NO
Thunderbird Road	e/o Navajo Rd.	61.4	63.1	1.8	NO
Thunderbird Road	w/o Navajo Rd.	63.2	64.2	1.0	NO
Waalew Road	e/o Central Rd.	59.0	60.1	1.0	NO
Waalew Road	e/o Dale Evans Pkwy.	61.2	61.9	0.6	NO
Waalew Road	e/o High Desert Corridor	59.8	60.8	1.0	NO
Waalew Road	e/o Navajo Rd.	59.8	60.8	1.0	NO
Waalew Road	w/o Dale Evans Pkwy.	61.8	62.1	0.3	NO
Yucca Loma Road	e/o Central Rd.	66.3	66.6	0.3	NO
Yucca Loma Road	w/o Central Rd.	68.5	68.8	0.3	NO

[1] A significant impact is considered both a level above 65 dBA and an increase of 3.0 dBA or greater.

TABLE 7-7

YEAR 2030 OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

ROAD	SEGMENT	Ldn AT 100 FEET (dBA)		INCREASE	SIGNIFICANT IMPACT?[1]
		WITHOUT PROJECT	WITH PROJECT		
Cahuilla Road	e/o Central Rd.	58.1	63.6	5.6	NO
Cahuilla Road	e/o Joshua Rd.	58.2	65.2	7.0	YES
Cahuilla Road	w/o Central Rd.	53.2	54.8	1.6	NO
Central Road	n/o Cahuilla Rd.	62.6	62.6	0.0	NO
Central Road	n/o Esaws Ave.	64.2	64.4	0.2	NO
Central Road	n/o Ottawa Rd.	65.1	65.2	0.1	NO
Central Road	n/o Standing Rock Ave.	63.3	63.6	0.3	NO
Central Road	n/o Thunderbird Rd.	61.6	62.8	1.2	NO
Central Road	n/o Waalew Rd.	63.1	63.6	0.6	NO
Central Road	n/o Yucca Loma Rd.	65.5	65.7	0.2	NO
Central Road	s/o Ottawa Rd.	64.6	64.7	0.1	NO
Dale Evans Parkway	s/o Thunderbird Rd.	63.9	64.2	0.3	NO
Happy Trails Highway	e/o Bear Valley Rd.	66.5	66.6	0.1	NO
Happy Trails Highway	e/o Milpas Dr.	65.9	66.1	0.2	NO
Happy Trails Highway	w/o Bear Valley Rd.	66.6	66.8	0.2	NO
Joshua Road	n/o Cahuilla Rd.	59.5	62.4	2.9	NO
Joshua Road	n/o Esaws Rd.	61.1	61.4	0.4	NO
Joshua Road	s/o Esaws Rd.	61.1	61.4	0.4	NO
Laguna Seca Dr.	s/o Cahuilla Rd.	42.1	56.0	13.9	NO
Navajo Road	n/o Ottawa Rd.	66.4	66.5	0.1	NO
Standing Rock Avenue	e/o High Desert Corridor	63.8	64.3	0.5	NO
Standing Rock Avenue	w/o High Desert Corridor	62.8	63.1	0.2	NO
Thunderbird Road	e/o Navajo Rd.	61.7	62.6	0.8	NO
Thunderbird Road	w/o Navajo Rd.	63.6	63.8	0.2	NO
Waalew Road	e/o Central Rd.	59.4	62.2	2.8	NO
Waalew Road	e/o Dale Evans Pkwy.	62.9	63.7	0.8	NO
Waalew Road	e/o High Desert Corridor	64.1	64.9	0.8	NO
Waalew Road	e/o Navajo Rd.	62.8	63.8	1.0	NO
Waalew Road	w/o Dale Evans Pkwy.	63.1	63.3	0.2	NO
Yucca Loma Road	e/o Central Rd.	66.5	66.7	0.2	NO
Yucca Loma Road	w/o Central Rd.	68.9	68.9	0.1	NO

[1] A significant impact is considered both a level above 65 dBA and an increase of 3.0 dBA or greater.

For all other roadway segments the project related traffic will result in barely perceptible noise increases of less than 3.0 dBA Ldn or will remain below the 65 dBA Ldn noise standard. The computer printouts of the off-site noise contours are provided in Appendix "E".

7.5 Cumulative Impacts

Off-site cumulative noise impacts describes how much noise levels are projected to increase over existing conditions with the development of the proposed project and all other traffic growth projected .

Cumulative increases in traffic noise levels along roadways in the vicinity were estimated by comparing the Comprehensive General Plan buildout scenario to existing conditions. Table 7-8 describes how much noise levels are projected to increase over existing conditions with the development of the proposed project and all other traffic growth projected with buildout of the Comprehensive General Plan.

As described in Section 4.3 of this report, Long-term cumulative off-site impacts from traffic noise are also measured against two criteria. Both criteria must be met for a significant impact to be identified:

- Future traffic noise levels must create a "readily perceptible" increase of 5 dBA or more compared to existing conditions on a roadway segment adjacent to a noise sensitive land use.

- The resulting future with project noise level must exceed the criteria level for the noise sensitive land use. In this case, the criteria level is 65 dBA Ldn for residential land uses. The project would considerably contribute to this increase if it contributes a "barely perceptible" 3 dBA or more to the increase.

Based on the criteria above, all noise sensitive uses adjacent to Cahuilla Road between Joshua Road and Laguna Seca Drive will meet the criteria for significant cumulative noise impacts. A review of aerial photography shows that approximately 40 single-family homes have their front yards facing Cahuilla Road on that segment. It is expected that the front yards of those homes may experience a significant impact, however, due to distance and the shielding by the house structures the rear yards of those homes should remain below 65.0 dBA Ldn.

TABLE 7-8

CUMULATIVE TRAFFIC NOISE IMPACTS

ROAD	SEGMENT	Ldn AT 100 FEET (dBA)		CUMULATIVE INCREASE	PROJECT CONTRIBUTION	SIGNIFICANT IMPACT?[1]
		EXISTING	2030 WITH PROJECT			
Cahuilla Road	e/o Central Rd.	49.0	63.6	14.6	5.6	NO
Cahuilla Road	e/o Joshua Rd.	49.9	65.2	15.3	7.0	YES
Cahuilla Road	w/o Central Rd.	-	54.8	-	1.6	-
Central Road	n/o Cahuilla Rd.	58.1	62.6	4.5	0.0	NO
Central Road	n/o Esaws Ave.	60.3	64.4	4.1	0.2	NO
Central Road	n/o Ottawa Rd.	61.5	65.2	3.7	0.1	NO
Central Road	n/o Standing Rock Ave.	60.3	63.6	3.3	0.3	NO
Central Road	n/o Thunderbird Rd.	59.1	62.8	3.7	1.2	NO
Central Road	n/o Waalew Rd.	53.6	63.6	10.0	0.6	NO
Central Road	n/o Yucca Loma Rd.	61.9	65.7	3.8	0.2	NO
Central Road	s/o Ottawa Rd.	61.2	64.7	3.5	0.1	NO
Dale Evans Parkway	s/o Thunderbird Rd.	59.0	64.2	5.1	0.3	NO
Happy Trails Highway	e/o Bear Valley Rd.	63.0	66.6	3.6	0.1	NO
Happy Trails Highway	e/o Milpas Dr.	62.0	66.1	4.1	0.2	NO
Happy Trails Highway	w/o Bear Valley Rd.	60.9	66.8	5.9	0.2	NO
Joshua Road	n/o Cahuilla Rd.	53.3	62.4	9.1	2.9	NO
Joshua Road	n/o Esaws Rd.	56.6	61.4	4.8	0.4	NO
Joshua Road	s/o Esaws Rd.	-	61.4	-	0.4	-
Laguna Seca Dr.	s/o Cahuilla Rd.	42.1	56.0	13.9	13.9	NO
Navajo Road	n/o Ottawa Rd.	62.5	66.5	4.0	0.1	NO
Standing Rock Avenue	e/o High Desert Corridor	54.4	64.3	9.9	0.5	NO
Standing Rock Avenue	w/o High Desert Corridor	54.4	63.1	8.7	0.2	NO
Thunderbird Road	e/o Navajo Rd.	58.1	62.6	4.5	0.8	NO
Thunderbird Road	w/o Navajo Rd.	60.3	63.8	3.5	0.2	NO
Waalew Road	e/o Central Rd.	56.9	62.2	5.3	2.8	NO
Waalew Road	e/o Dale Evans Pkwy.	58.8	63.7	5.0	0.8	NO
Waalew Road	e/o High Desert Corridor	57.1	64.9	7.9	0.8	NO
Waalew Road	e/o Navajo Rd.	57.1	63.8	6.8	1.0	NO
Waalew Road	w/o Dale Evans Pkwy.	58.1	63.3	5.3	0.2	NO
Yucca Loma Road	e/o Central Rd.	62.9	66.7	3.8	0.2	NO
Yucca Loma Road	w/o Central Rd.	64.9	68.9	4.0	0.1	NO

[1] A potentially significant noise impact occurs when the cumulative increase is greater than 5 dBA and the project contribution is greater than 3 dBA, resulting in an exterior noise level greater than 65 dBA Ldn.

7.6 Non-Transportation Project Noise Impacts

On the southwestern portion of the project site, a 15-acre area will be developed with a maximum of 200,000 square feet of retail uses. Typical noise impacts associated with retail uses are truck deliveries, air conditioning units, trash compactors and drive through speakerphones. Currently there are scattered single-family homes west of the proposed project site.

A noise analysis will be required prior to obtaining building permits when grading plans are available. The grading plan will include the location of loading docks, air conditioning units, trash compactors and drive-thru lanes. The noise analysis will evaluate the potential noise impacts to the existing and proposed noise sensitive homes near the retail areas of the project.

8.0 ON-SITE EXTERIOR NOISE ANALYSIS

The project site will be subjected to transportation and non-transportation related noise impacts. Section 7.5 discussed the stationary noise impacts associated with the operation of the proposed retail uses. This section discusses the potential traffic noise impacts to the site.

Currently the primary source of noise to the project site is traffic noise from Cahuilla Road, but the majority of the project site experiences noise impacts that are well below the County of San Bernardino Noise standards based on existing noise measurements. Using the FHWA traffic noise prediction model and the parameters outlined in Tables 6-1, 6-2 and 6-3, calculations of the expected future noise impacts were completed. Table 8-1 presents the expected noise impacts at a distance of 100 feet from the roadway centerline and a summary of future on-site noise contours from Cahuilla Road. *Since the grading information is not yet available, for the purpose of this preliminary analysis, the site and its surrounding roadways were considered flat.* Based on the FHWA traffic noise prediction model, the future unmitigated exterior noise levels contours are 65 dBA LDN at a distance of 47 to 86 feet from centerline, 60 dBA Ldn at a distance of 102 to 186 feet from centerline, and 55 dBA Ldn at a distance of 219 to 401 feet from centerline.

The conceptual site plan shows that the planned residential areas will be located adjacent to Cahuilla Road. At these distances given above, the 70 dBA Ldn contour is located within the road right-of-way, however, portions of the residential land uses adjacent to Cahuilla Road may experience noise impacts above 65 dBA Ldn. The County's Noise Element requires that in residential uses, noise impacts shall be mitigated below 65 dBA Ldn for single-family homes at the noise sensitive exterior areas as well as ensure that interior noise levels remain below the County's required standard of 45 dBA Ldn. A noise barrier may be required for residential areas adjacent to Cahuilla Road. Once specific plans are available, a final noise study shall be completed to determine specific noise mitigation measures to ensure the proposed project meets the County of San Bernardino exterior and interior noise standards.

TABLE 8-1

LOCATION OF EXTERIOR NOISE LEVEL CONTOURS (dBA Ldn)[1]

ROADWAY	SEGMENT	Ldn AT 100 FEET	DISTANCE FROM CENTERLINE TO NOISE CONTOUR			
			70 dBA Ldn	65 dBA Ldn	60 dBA Ldn	55 dBA Ldn
Cahuilla Road	w/o Driveway A	64.0	RW	86	186	401
Cahuilla Road	w/o Driveway B	61.5	RW	58	126	271
Cahuilla Road	w/o Driveway C	60.4	RW	50	107	231
Cahuilla Road	e/o Driveway C	60.1	RW	47	102	219

[1] RW: Noise contour located within the right-of-way of the roadway.

9.0 SHORT-TERM CONSTRUCTION NOISE AND VIBRATION IMPACTS

Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment, including scrapers, dozers, graders, water trucks, excavators, tractors, sweepers, pavers, and rollers can reach high levels. Grading activities typically represent one of the highest potential sources for noise impacts.

The project site is located in a relatively undeveloped area with scattered single family homes near the site. Even though construction activities are exempt from the County's noise ordinance if the construction occurs within the allowable hours, a complete review of the potential constructed related impacts has been performed as part of this study. To assess the noise impacts during construction, a total of 14 unique receiver locations were created. Each receiver location shown on Exhibit 9-A, and listed in Table 9-1 represents a cluster representing a number of homes in the study area that may be impacted by construction-related noise.

9.1 Expected On-Site Construction Related Noise

For the purpose of this analysis, the potential short-term construction impacts were described in terms of construction impacts associated with grading activities, utilities construction, paving, and building construction during each project phase, when applicable.

The U.S. Environmental Protection Agency (U.S. EPA) had compiled data regarding the noise generating characteristics of specific types of construction equipment. These data are shown on Exhibit 9-B. As shown, noise levels generated by heavy construction equipment can range from approximately 68 dBA to noise levels in excess of 100 dBA when measured at 50 feet. However, these noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 68 dBA measured at 50 feet from the noise source to the receptor would be reduced to 62 dBA at 100 feet from the source to the receptor, and would be further reduced by another 6 dBA to 56 dBA at 200 feet from the source to the receptor. Field measurements show that construction noise levels generated by commonly used grading equipment (i.e. loaders, graders and trucks) generate noise levels that typically do not exceed the middle of the ranges shown on Exhibit 9-B.

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EXHIBIT 9-A

NOISE SENSITIVE CLUSTERS FOR CONSTRUCTION-RELATED NOISE IMPACT ANALYSIS

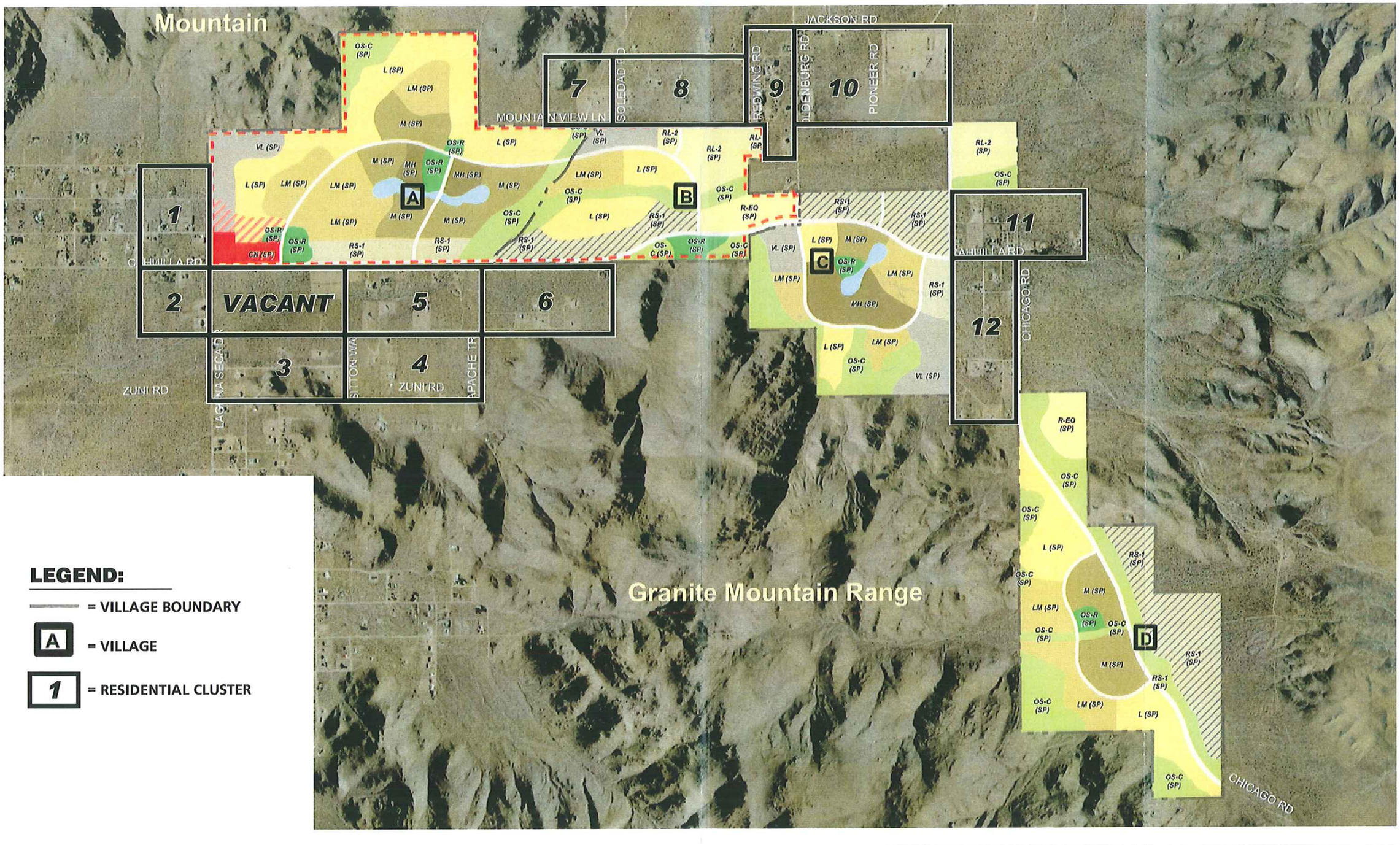

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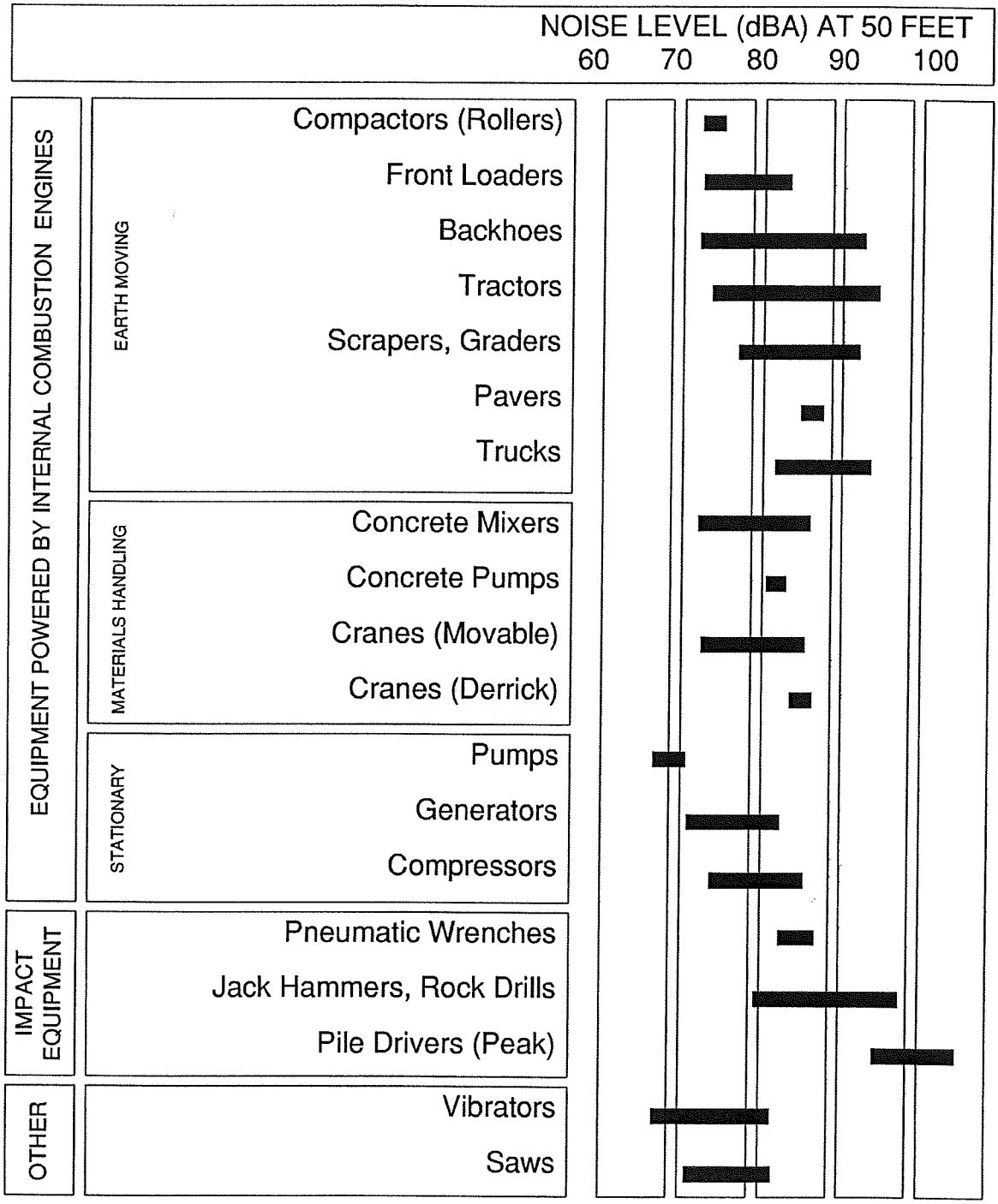
EXHIBIT 9-B

TYPICAL CONSTRUCTION NOISE LEVELS



NOTE: Based on limited available data samples.

SOURCE: United States Environmental Protection Agency, 1971, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," NTID 300-1.

9.2 Grading Activities

Grading activities typically represent the highest potential sources for noise impacts. Site preparation and grading will include hauling and spoiling soil on site which is required to build the pads created for new buildings.

It is estimated that grading activities during each phase will last approximately 3 months. Construction equipment will likely include the following:

Grading Equipment	
Description	**Qty**
Scrapers	5
Dozers	2
Graders	2
Water Trucks	4
Excavators	1

9.3 Underground Utility Construction

The types of activities that generally take place may include general trench-work, pipe laying with associated base material and cover, ancillary earthwork, manholes, etc. Underground utility construction is expected to take approximately six months during each respective phase of construction. Utility construction equipment will likely include the following:

Underground Utility Construction Equipment	
Description	**Qty**
Excavators	1
Tractors/Loaders/Backhoes	3
Water Trucks	3
Scrapers	1
Graders	1

9.4 Paving

Paving activities include the movement of any existing material, curb and gutter work, road base material placement and blacktop. Paving equipment will likely include the following:

Paving Equipment	
Description	**Qty**
Pavers	2
Rollers	2
Water Trucks	1

9.5 Building Construction

Building construction activity will result in emissions from heavy equipment that will be operational during physical building construction. Construction equipment will likely include the following:

Building Construction Equipment	
Description	**Qty**
Forklifts	5
Tractors/Loaders/Backhoes	5
Water Trucks	5
Sweepers/Scrubbers	3

9.6 Noise Impacts Per Construction Phase

Project construction is expected to occur in four independent phases, roughly corresponding to each of the four villages that comprise the project. It should be noted that the four phases discussed in the analysis of construction impacts are considered to be consistent with market absorption of each village within the Specific Plan Land Use Plan, and do not correlate to the two operational phases (interim and buildout) as analyzed in the project traffic study. The project site is currently vacant, and thus no demolition activity will be required.

In the first phase of project construction, Village A, located on the western portion of the project site, will be graded. As a worst-case scenario, it is assumed that underground utility construction, paving, building construction, and architectural coating will take place concurrent with grading at the Village A portion of the project site. During this phase of project construction, it is assumed that grading activity will last approximately three months, underground utility construction approximately six months, paving approximately one and a half months, and building construction approximately one year.

In order to represent a worst case scenario, it was assumed that grading, underground utility construction, paving, and building construction on the Village B portion of the project site would begin prior to the completion of building construction and architectural coatings on the Village A site, and thus these activities would overlap. In this second phase of project construction it is assumed that for the Village B area grading activity will last approximately three months, underground utility construction approximately six months, paving approximately one and a half months, and building construction approximately one year.

Phase 3 of project construction includes the completion of building construction and architectural coatings on the Village B portion of the project site, as well as the commencement of grading, underground utility construction, paving, and building construction on the Village C portion of the project site. It is assumed that grading, underground utility construction, paving, and building construction on the Village C portion of the site will last approximately three months, six months, one and a half months, and one year, respectively.

The fourth and final phase of project construction includes the completion of building construction and architectural coating activities on the Village C portion of the site, as well as grading, underground utility construction, paving, and building construction for Village D, the easternmost portion of the project site. The tables below summarize the phasing and overlap of construction activities:

Phase 1 (2010)	
Village	**Construction Activity**
A	Grading, Underground Utility Construction, Paving, Building Construction

Phase 2 (2017)	
Village	**Construction Activity**
A	Building Construction
B	Grading, Underground Utility Construction, Paving, Building Construction

Phase 3 (2019)	
Village	**Construction Activity**
B	Building Construction
C	Grading, Underground Utility Construction, Paving, Building Construction

Phase 4 (2023)	
Village	**Construction Activity**
C	Building Construction
D	Grading, Underground Utility Construction, Paving, Building Construction

The noise impacts during grading, utilities construction, paving, and building construction were estimated using the Roadway Construction Noise Model (RCNM), developed by the Federal Highway Administration. For the purpose of this analysis it is assumed that activities will occur simultaneously during each construction phase, as listed above. These activities were combined and Appendix "H" presents the construction noise impacts calculated utilizing the RCNM model.

Most construction equipment moves around the site and is characterized by variations in power and location, resulting in significant variations in noise levels over time. For the purpose of this

analysis, all construction equipment is assumed to take place in the center of the area. Table 9-2 shows the noise impacts for each construction activity at 50 feet of the center of activity when all construction equipment is combined.

Utilizing a 6 dBA reduction per doubling of distance, the construction noise levels were projected according to the distances to the nearest noise sensitive locations identified in Table 9-1. The resulting construction noise levels during construction for phases 1, 2, 3, and 4 are shown in Tables 9-3, 9-4, 9-5, and 9-6. The predicted noise level during construction at phase 1 at the nearest noise sensitive uses ranges from 46.6 to 64.8 dBA Leq; from 50.7 to 66.1 dBA Leq during phase 2; from 46.0 to 62.2 dBA Leq during phase 3; and from 43.0 to 56.5 dBA Leq during phase 4.

9.7 Noise Mitigation Measures

The County of San Bernardino exempts construction noise from their standards when construction, maintenance, repair, or demolition activities occur between 7 a.m. and 7 p.m., except Sundays and Federal holidays. Construction noise is of short-term duration and will not present any long-term impacts on the project site or the surrounding area. The most effective method of controlling construction noise is by limiting the hours of construction to normal weekday working hours. The following recommended mitigation measures will be employed as applicable and will serve to reduce short-term construction noise impacts:

- During all project site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.

TABLE 9-1

NOISE RECEIVER LOCATIONS

CLUSTER	APPROXIMATE NUMBER OF RESIDENCES	LOCATION
1	40	Located North of Cahuilla Road, Between Oden Drive and Laguna Seca Drive
2	4	Located South of Cahuilla Road, Between Oden Drive and Laguna Seca Drive
3	8	Located North of Zuni Road, Between Laguna Seca Drive and Sitton Way
4	10	Located North of Zuni Road, Between Sitton Way and Apache Trail
5	8	Located North of Keator Road, Between Sitton Way and Apache Trail
6	7	Located North of Keator Road, East of Apache Trail
7	3	Located North of Mountain View Lane, Between Pacer Road and Soledad Drive
8	5	Located North of Mountain View Lane, Between Soledad Drive and Redwing Road
9	10	Located North of Mountain View Lane, Between Redwing Road and Oldenburg Road
10	6	Located North of Mountain View Lane, East of Oldenburg Road
11	12	Located North of Cahuilla Road, East of Village C
12	15	Located South of Cahuilla Road, East of Village C
Village A	1,404	Village A, Phases 1 and 2
Village B	298	Village B, Phases 2 and 3

[1] See Exhibit 9A for the receiver locations

TABLE 9-2

RESIDENTIAL USES IMPACTED BY CONSTRUCTION RELATED NOISE

CONSTRUCTION ACTIVITY	Equipment Type	REFERENCE LEVEL @ 50 FEET (dBA Leq)	Quantity	TOTAL NOISE LEVEL @ 50 FEET (dBA Leq)	OVERALL NOISE LEVEL @ 50 FEET (dBA Leq)
GRADING	Scraper	79.6	5	86.6	89.7
	Dozer	77.7	2	80.7	
	Grader	81.0	2	84.0	
	Water Truck	71.0	4	77.0	
	Excavator	76.7	1	76.7	
BUILDING CONSTRUCTION	Tractor	80.0	5	87.0	87.8
	Water Truck	71.0	5	78.0	
	Sweeper	71.6	3	76.4	
UNDERGROUND UTILITY CONSTRUCTION	Excavator	76.7	1	76.7	87.8
	Tractor	80.0	3	84.8	
	Water Truck	71.0	3	75.8	
	Scraper	79.6	1	79.6	
	Grader	81.0	1	81.0	
PAVING	Paver	74.2	2	77.2	80.2
	Roller	73.0	2	76.0	
	Water Truck	71.0	1	71.0	

TABLE 9-3

PHASE 1 CONSTRUCTION RELATED NOISE IMPACT LEVELS

CLUSTER	DISTANCE FROM GRADING ACTIVITY TO RECEIVER	GRADING RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM BUILDING CONSTRUCTION ACTIVITY TO RECEIVER	BUILDING CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM UNDERGROUND UTILITY CONSTRUCTION ACTIVITY TO RECEIVER	UNDERGROUND UTILITY CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM PAVING ACTIVITY TO RECEIVER	PAVING RELATED NOISE IMPACT LEVEL (dBA)	OVERALL CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)
1	4,303	51.0	4,303	49.1	4,303	49.1	4,303	41.5	54.8
2	4,475	50.7	4,475	48.8	4,475	48.8	4,475	41.2	54.5
3	3,104	53.8	3,104	51.9	3,104	51.9	3,104	44.3	57.6
4	2,683	55.1	2,683	53.2	2,683	53.2	2,683	45.6	58.9
5	1,360	61.0	1,360	59.1	1,360	59.1	1,360	51.5	64.8
6	2,545	55.6	2,545	53.7	2,545	53.7	2,545	46.1	59.4
7	3,767	52.2	3,767	50.3	3,767	50.3	3,767	42.7	56.0
8	5,403	49.0	5,403	47.1	5,403	47.1	5,403	39.5	52.8
9	6,609	47.3	6,609	45.4	6,609	45.4	6,609	37.8	51.1
10	7,643	46.0	7,643	44.1	7,643	44.1	7,643	36.5	49.8
11	11,108	42.8	11,108	40.9	11,108	40.9	11,108	33.3	46.6
12	11,002	42.8	11,002	40.9	11,002	40.9	11,002	33.3	46.7

[1] See Exhibit 9A for the receiver locations

TABLE 9-4

PHASE 2 CONSTRUCTION RELATED NOISE IMPACT LEVELS

CLUSTER	DISTANCE FROM GRADING ACTIVITY TO RECEIVER	GRADING RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM BUILDING CONSTRUCTION ACTIVITY TO RECEIVER	BUILDING CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM UNDERGROUND UTILITY CONSTRUCTION ACTIVITY TO RECEIVER	UNDERGROUND UTILITY CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM PAVING ACTIVITY TO RECEIVER	PAVING RELATED NOISE IMPACT LEVEL (dBA)	OVERALL CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)
1	9,581	44.1	4,303	49.1	9,581	42.2	9,581	34.6	51.0
2	9,610	44.0	4,475	48.8	9,610	42.1	9,610	34.5	50.8
3	7,406	46.3	3,104	51.9	7,406	44.4	7,406	36.8	53.6
4	6,233	47.8	2,683	53.2	6,233	45.9	6,233	38.3	55.0
5	5,398	49.0	1,360	59.1	5,398	47.1	5,398	39.5	59.8
6	3,470	52.9	2,545	53.7	3,470	51.0	3,470	43.4	57.6
7	2,060	57.4	3,767	50.3	2,060	55.5	2,060	47.9	60.3
8	1,014	63.6	5,403	47.1	1,014	61.7	1,014	54.1	66.1
9	1,619	59.5	6,609	45.4	1,619	57.6	1,619	50.0	62.0
10	2,514	55.7	7,643	44.1	2,514	53.8	2,514	46.2	58.3
11	6,048	48.0	11,108	40.9	6,048	46.1	6,048	38.5	50.9
12	6,209	47.8	11,002	40.9	6,209	45.9	6,209	38.3	50.7

[1] See Exhibit 9A for the receiver locations

TABLE 9-5

PHASE 3 CONSTRUCTION RELATED NOISE IMPACT LEVELS

CLUSTER	DISTANCE FROM GRADING ACTIVITY TO RECEIVER	GRADING RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM BUILDING CONSTRUCTION ACTIVITY TO RECEIVER	BUILDING CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM UNDERGROUND UTILITY CONSTRUCTION ACTIVITY TO RECEIVER	UNDERGROUND UTILITY CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM PAVING ACTIVITY TO RECEIVER	PAVING RELATED NOISE IMPACT LEVEL (dBA)	OVERALL CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)
1	13,277	41.2	9,581	42.2	13,277	39.3	13,277	31.7	46.0
2	13,221	41.3	9,610	42.1	13,221	39.4	13,221	31.8	46.0
3	10,615	43.2	7,406	44.4	10,615	41.3	10,615	33.7	48.1
4	9,280	44.3	6,233	45.9	9,280	42.4	9,280	34.8	49.4
5	8,886	44.7	5,398	47.1	8,886	42.8	8,886	35.2	50.2
6	6,805	47.0	3,470	51.0	6,805	45.1	6,805	37.5	53.3
7	6,091	48.0	2,060	55.5	6,091	46.1	6,091	38.5	56.7
8	4,596	50.4	1,014	61.7	4,596	48.5	4,596	40.9	62.2
9	3,673	52.4	1,619	57.6	3,673	50.5	3,673	42.9	59.4
10	3,063	54.0	2,514	53.8	3,063	52.1	3,063	44.5	58.3
11	2,039	57.5	6,048	46.1	2,039	55.6	2,039	48.0	60.1
12	2,077	57.3	6,209	45.9	2,077	55.4	2,077	47.8	60.0
Village A	9,090	44.5	2,688	53.2	9,090	42.6	9,090	35.0	54.1

[1] See Exhibit 9A for the receiver locations

TABLE 9-6

PHASE 4 CONSTRUCTION RELATED NOISE IMPACT LEVELS

CLUSTER	DISTANCE FROM GRADING ACTIVITY TO RECEIVER	GRADING RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM BUILDING CONSTRUCTION ACTIVITY TO RECEIVER	BUILDING CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM UNDERGROUND UTILITY CONSTRUCTION ACTIVITY TO RECEIVER	UNDERGROUND UTILITY CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)	DISTANCE FROM PAVING ACTIVITY TO RECEIVER	PAVING RELATED NOISE IMPACT LEVEL (dBA)	OVERALL CONSTRUCTON RELATED NOISE IMPACT LEVEL (dBA)
1	19,105	38.1	13,277	39.3	19,105	36.2	19,105	28.6	43.0
2	18,841	38.2	13,221	39.4	18,841	36.3	18,841	28.7	43.0
3	15,827	39.7	10,615	41.3	15,827	37.8	15,827	30.2	44.7
4	14,607	40.4	9,280	42.4	14,607	38.5	14,607	30.9	45.6
5	14,884	40.2	8,886	42.8	14,884	38.3	14,884	30.7	45.8
6	13,128	41.3	6,805	45.1	13,128	39.4	13,128	31.8	47.5
7	13,818	40.9	6,091	46.1	13,818	39.0	13,818	31.4	47.9
8	12,669	41.6	4,596	48.5	12,669	39.7	12,669	32.1	49.9
9	11,936	42.1	3,673	50.5	11,936	40.2	11,936	32.6	51.5
10	11,302	42.6	3,063	52.1	11,302	40.7	11,302	33.1	52.8
11	7,586	46.1	2,039	55.6	7,586	44.2	7,586	36.6	56.4
12	6,477	47.5	2,077	55.4	6,477	45.6	6,477	38.0	56.5
Village A	15,676	39.8	9,090	42.6	15,676	37.9	15,676	30.3	45.4
Village B	11,955	42.1	4,147	49.4	11,955	40.2	11,955	32.6	50.7

[1] See Exhibit 9A for the receiver locations

- The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by County staff.

- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

9.8 Vibration Impacts During Construction

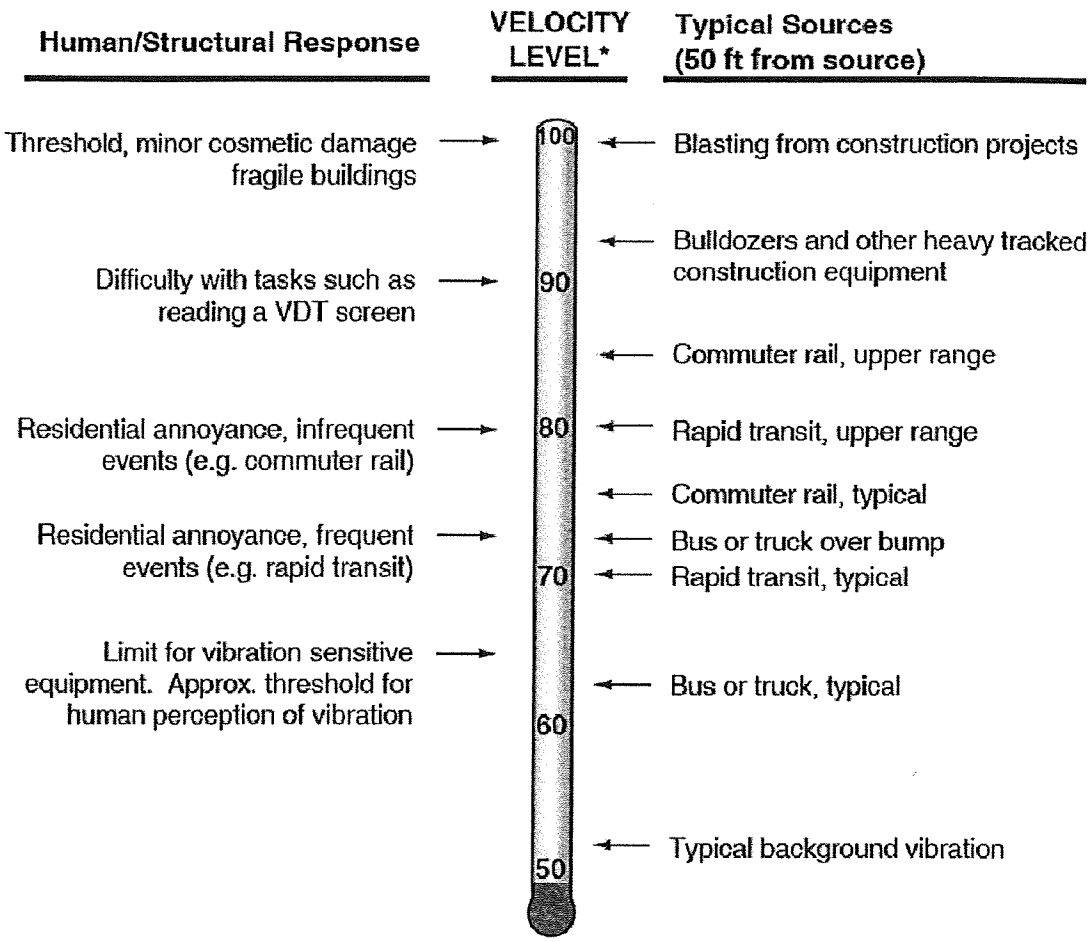
Vibration is the periodic movement of mass over time. It is described in terms of frequency, amplitude and unlike sound; there is no standard way of measuring and reporting amplitude. Vibration is described in units of velocity (inches per second), and discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration.

Construction equipment such as compactors, heavy trucks and pile drivers can generate perceptible vibration levels during the development of a project. Although the human threshold of perception for vibration is around 65 Vdb (or 0.018 inches/second), human response to vibration is not usually significant unless the vibration exceeds 70 Vdb (or 0.031 inches/second). Depending on the intensity and frequency of the vibration, architectural and structural damage can occur, but such damage rarely occurs when associated with construction equipment/activities. Generally the effects of groundborne vibration are limited to movement of building floors, rattling of windows and objects, and rumbling sounds, resulting in annoyance. Exhibit 9-C shows common vibration sources the human and structural response to ground-borne vibration.

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction at the project site will typically require at least one piece of large equipment to be operating at fairly regular intervals, especially during the earlier stages when excavation, grading, and earth moving activities will occur. Large construction equipment such as a large bulldozer or a loaded truck, can create ground vibration levels of approximately 87 VdB at 25 feet from the vibration source.

EXHIBIT 9-C

TYPICAL LEVELS OF GROUND VIBRATION



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Like noise, vibration levels attenuate with distance. Groundbourne vibration levels experienced at a given distance can be estimated using the equation Lv(D) = Lv(25ft) – 30log(D/25) where "Lv" equals the vibration level, and "D" equals the distance between the vibration source and the receptor (*FTA Transit Noise and Impact Assessment Manual*, May 2006, Page 12-11). For the Project, the worst-case construction source vibration levels received at the closest residential land uses (approximately 100 feet distant) are therefore estimated at:

87VdB – 30log (100/25) VdB, or approximately 68.9 VdB.

The estimated 68.9 VdB received at the nearest residential property is below the FTA 75 VdB annoyance impact criteria level, and would therefore not be considered an annoyance or an interference at proximate residential land uses. Further, impacts at the site of the closest sensitive receptor are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating proximate to the Project site perimeter. Moreover, construction at the Project site will be restricted to daylight hours consistent with County requirements thereby eliminating potential vibration impact during evening hours. On this basis the potential for the Project to result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise is determined to be less-than-significant.

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10.0 CONCLUSION AND MITIGATION MEASURES

This analysis evaluated the potential long-term operational and short-term construction noise impacts associated with the development of the proposed Hacienda at Fairview project. The major noise source in the study area is traffic from Cahuilla Road. A noise barrier may be required for the proposed project's residential areas adjacent to Cahuilla Road. Once specific plans are available, a final noise study shall be completed to determine specific noise mitigation measures to ensure the proposed project meets the County of San Bernardino exterior and interior noise standards. The project may also result in potential stationary noise impacts from truck deliveries and air conditioning units to existing and proposed nearby homes. A final noise study shall be completed when precise grading plans are available to determine specific noise mitigation measures.

The County of San Bernardino exempts construction noise when it occurs between 7 a.m. and 7 p.m., except Sundays and Federal holidays. The following mitigation measures are recommended to reduce the noise impacts during construction:

- During all project site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.

- The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by County staff.

- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

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APPENDIX A

County of San Bernardino Noise Element

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VII. NOISE ELEMENT

Noise has long been accepted as a byproduct of urbanization and is considered a potential environmental hazard. Excessive and/or sustained noise can contribute to both temporary and permanent hearing loss, and may be associated with increased fatigue, stress, annoyance, anxiety, and other psychological reactions in humans. For the various elements of the society to coexist, noise levels need to be controlled and minimized to limit exposure to residential communities and noise-sensitive land uses. The control of noise, therefore, is an essential component in creating a safe, compatible, and productive environment.

A. PURPOSE OF THE NOISE ELEMENT

The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. Local governments must "analyze and quantify" noise levels and the extent of noise exposure through actual measurement or the use of noise modeling. Technical data relating to mobile and point sources must be collected and synthesized into a set of noise control policies and programs that "minimizes the exposure of community residents to excessive noise." Noise-level contours must be mapped, and the conclusions of the element used as a basis for land use decisions. The Noise Element must be used to guide decisions concerning land use and the location of new roads and transit facilities because these are common sources of excessive noise levels. The Noise Background Report provides much of these technical data, and includes generalized estimates of distances to noise contours for typical traffic volumes on County roadways.

The most common sources of environmental noise in San Bernardino County are associated with roads, airports, railroad operations, and industrial activities. The facilities are used to transport residents, consumer products and provide basic infrastructure for the community by creating jobs and economic stability. In many areas of the County, noise-sensitive land uses such as residences, schools, churches and parks exist in proximity to these major noise sources.

1. RELATIONSHIP TO OTHER ELEMENTS OF THE GENERAL PLAN

The Noise Element is closely related to the Circulation and Land Use Elements. Transit thoroughfares, such as freeways, arterial highways, and railways, generate the majority of noise within the County and influence the type and intensity of development within a given area. Likewise, land uses sensitive to noise are to be considered when determining land use patterns and planned mitigation measures

related to noise impacts. The location and amount of such noise generators and receptors are also important considerations in the Open Space Element, which addresses such issues as public parks and open space buffers.

2. INPUT FROM PUBLIC PARTICIPATION PROGRAM

As part of the County's General Plan Update process, community meetings were held at several locations within the County to gather informative data and input from residents. Questions were posed to the attendees regarding the growth and development in their community, to inquire about their concerns and about what could be done to address their concerns. Noise was mentioned in several of the community meetings as being an issue of concern. Additionally, concern was expressed by citizens and staff regarding the efficacy of the noise complaint process and enforcement of noise regulations.

3. SUMMARY OF EXISTING CONDITIONS

The Noise Background Report describes the existing noise environment in the subareas of San Bernardino County. It also reviews the roles of the state and federal governments in regulating noise from specific sources. The County regulates noise from sources that are not pre-empted by state or federal jurisdiction. Such sources include project construction activities; stationary sources, such as fans, pumps, compressors or other mechanical equipment; or mobile sources operating on private property. Section 83.01.080 of the County's Development Code sets forth performance standards for affected (receiving) land uses from stationary and mobile sources, during daytime (7 AM to 10 PM) and nighttime (10 PM to 7 AM) periods. Exemptions from these standards include motor vehicles not under the control of the industrial use, emergency equipment, vehicles and devices, and temporary construction and repair or demolition activities taking place between the hours of 7 AM and 7 PM Monday through Saturday, excluding federal holidays.

4. SOURCES OF NOISE IN SAN BERNARDINO COUNTY

The County has promulgated and implemented noise policies and requirements for land development and construction projects by requiring these projects to provide specific noise analyses and implement any necessary measures to reduce noise to an acceptable level.

Circulation and transportation systems (roadways, airports and railroads) are the most significant noise-producing activities within the County, and subject some areas to unacceptable levels. Point sources, such as industrial, mining and

recreational sites, also produce noise levels of concern. Some key problem areas are wrecking yards, rock crushing, racetracks, snow and water ski areas, outdoor concerts, shooting facilities, and similar recreation facilities. Additional problems are off-road vehicles, snowmobiles, and the operation of specialized equipment.

Traffic Noise: The level of noise associated with roadways will vary with total traffic volume, vehicular speed, the relative numbers of trucks and cars in the traffic volumes, the roadway cross-section and geometric design, and the local topography. Typically, the greater the vehicle speed and truck percentage, the greater the level of noise emission from the transportation facility. Refer to the Noise Background Report for more information on traffic noise in San Bernardino County.

Rail Noise*:* Railroad activity, including heavy rail locomotives and railcars, also constitutes a major but less widespread element of the noise environment in the County. The passage of trains results in considerable noise impacts on adjacent lands, although the elevated noise levels are periodic and of relatively short duration. Railroad tracks within the County are used for passenger transportation and delivery of freight. Refer to the Noise Background Report for more information on rail noise in San Bernardino County.

Aircraft Noise: Aircraft noise generates occasional, but intrusive noise levels for the occupants of property adjacent to airports and/or under the flight patterns of aircraft using airports. The federal and state governments regulate aircraft noise. Refer to the Noise Background Report for more information on aircraft noise in San Bernardino County.

Industrial Noise: Industrial noise sources exist but do not materially affect noise-sensitive land uses within the unincorporated areas of the County. Refer to the Noise Background Report for more information on industrial noise in San Bernardino County.

5. CONCLUSION

The unincorporated portions of the County represent the full range of community noise environments from very quiet rural to moderately noisy suburban to noisy urban. Noise patterns in the County are generally consistent with published data regarding the intensity of development/type of land use and the expected levels of environmental noise.

B. COUNTYWIDE GOALS AND POLICIES OF THE NOISE ELEMENT

GOAL N 1.	**The County will abate and avoid excessive noise exposures through noise mitigation measures incorporated into the design of new noise-generating and new noise-sensitive land uses, while protecting areas within the County where the present noise environment is within acceptable limits.**

POLICIES

N 1.1 Designate areas within San Bernardino County as "noise impacted" if exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Chapter 83.01 of the Development Code.

N 1.2 Ensure that new development of residential or other noise-sensitive land uses is not permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to the standards of Noise-sensitive land uses include residential uses, schools, hospitals, nursing homes, places of worship and libraries.

N 1.3 When industrial, commercial, or other land uses, including locally regulated noise sources, are proposed for areas containing noise-sensitive land uses, noise levels generated by the proposed use will not exceed the performance standards of Table N-2 within outdoor activity areas. If outdoor activity areas have not yet been determined, noise levels shall not exceed the performance standards listed in Chapter 83.01 of the Development Code at the boundary of areas planned or zoned for residential or other noise-sensitive land uses.

Programs

1. Require an acoustical analysis prior to approval of proposed development of new residential or other noise-sensitive land uses in a noise-impacted area or a new noise generating use in an area that could affect existing noise-sensitive land uses. The appropriate time for requiring an acoustical analysis is during the environmental review process so that noise mitigation may be an integral part of the project design. The acoustical analysis shall:

    a. Be the responsibility of the applicant.

b. Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.

c. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions;

d. Include estimated noise levels in terms of the descriptors shown in Figures II-8 and II-9 of the Noise Background Report for existing and projected future (20 years hence) conditions, with a comparison made to the adopted policies of the Noise Element.

e. Include recommendations for appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element. Where the noise source in question consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.

f. Include estimates of noise exposure after the prescribed mitigation measures have been implemented. If compliance with the adopted standards and policies of the Noise Element will not be achieved, acoustical information to support a statement of overriding considerations for the project must be provided.

2. Develop and employ procedures to ensure that requirements imposed pursuant to the finding of an acoustical analysis are implemented as part of the project review and building permit processes.

N 1.4 Enforce the state noise insulation standards (California Administrative Code, Title 24) and Chapter 35 of the California Building Code (CBC)6.

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[6] Title 24 requires that an acoustical analysis be prepared for all new developments of multi-family dwellings, condominiums, hotels, and motels proposed for areas within the 60 dB Ldn (or CNEL) contour of a major noise source for the purpose of documenting that an acceptable interior noise level of 45 dB Ldn (or CNEL) or below will be achieved with the windows and doors closed. UBC Chapter 35 requires that common wall and floor/ceiling assemblies within multi-family dwellings comply with minimum standards for the transmission of airborne sound and structure-borne impact noise.

N 1.5 Limit truck traffic in residential and commercial areas to designated truck routes; limit construction, delivery, and through-truck traffic to designated routes; and distribute maps of approved truck routes to County traffic officers.

N 1.6 Enforce the hourly noise-level performance standards for stationary and other locally regulated sources, such as industrial, recreational, and construction activities as well as mechanical and electrical equipment.

Programs

1. Develop and implement a noise ordinance that will:

    a. Be consistent with this element of the General Plan.

    b. Include the development standards provided in this element in the Development Code.

N 1.7 Prevent incompatible land uses, by reason of excessive noise levels, from occurring in the future.

Programs

1. Examine the existing and projected future noise environment when considering amendments to the circulation system.

2. Periodically review and update the Noise Element to ensure that noise exposure information and specific policies are consistent with changing conditions within the County and with noise control regulations enacted after the adoption of this element.

3. Provide sufficient noise exposure information so that existing and potential noise impacts will be identified and addressed in the project review processes.

4. Compile and publish a list of standardized noise mitigation measures.

GOAL N 2.	**The County will strive to preserve and maintain the quiet environment of mountain, desert and other rural areas.**

POLICIES

N 2.1 The County will require appropriate and feasible on-site noise attenuating measures that may include noise walls, enclosure of noise-generating equipment, site planning to locate noise sources away from sensitive receptors, and other comparable features.

N 2.2 The County will continue to work aggressively with federal agencies, including the branches of the military, the U.S. Forest Service, BLM, and other agencies to identify and work cooperatively to reduce potential conflicts arising from noise generated on federal lands and facilities affecting nearby land uses in unincorporated County areas.

C. VALLEY REGION GOALS AND POLICIES OF THE NOISE ELEMENT

NONE SPECIFIC TO THE VALLEY REGION.

D. MOUNTAIN REGION GOALS AND POLICIES OF THE NOISE ELEMENT

GOAL M/N 1.	**The County will strive to preserve and maintain the quiet environment of the Mountain Region.**

POLICIES

M/N 1.1 Encourage and support strict enforcement of vehicle code regulations to reduce vehicular noise in the mountain communities.

M/N 1.2 Encourage responsible agencies to post signs near forest access roads which explain the acceptable vehicular noise levels for vehicles using those roads.

E. DESERT REGION GOALS AND POLICIES OF THE NOISE ELEMENT

NONE SPECIFIC TO THE DESERT REGION.

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APPENDIX B

County of San Bernardino Development Code

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83.01.080 Noise

This Section establishes standards concerning acceptable noise levels for both noise-sensitive land uses and for noise-generating land uses.

(a) Noise measurement. Noise shall be measured:

(1) At the property line of the nearest site that is occupied by, and/or zoned or designated to allow the development of noise-sensitive land uses;

(2) With a sound level meter that meets the standards of the American National Standards Institute (ANSI Section SI4 1979, Type 1 or Type 2);

(3) Using the "A" weighted sound pressure level scale in decibels (ref. pressure = 20 micronewtons per meter squared). The unit of measure shall be designated as dB(A).

(b) Noise impacted areas. Areas within the County shall be designated as "noise-impacted" if exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Subsection (d) (Noise standards for stationary noise sources) and Subsection (e) (Noise standards for adjacent mobile noise sources), below. New development of residential or other noise-sensitive land uses shall not be allowed in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to these standards. Noise-sensitive land uses shall include residential uses, schools, hospitals, nursing homes, religious institutions, libraries, and similar uses.

(c) Noise standards for stationary noise sources.

(1) Noise standards. Table 83-2 (Noise Standards for Stationary Noise Sources) describes the noise standard for emanations from a stationary noise source, as it affects adjacent properties:

Table 83-2 Noise Standards for Stationary Noise Sources		
Affected Land Uses (Receiving Noise)	7 am-10 pm Leq	10 pm-7 am Leq
Residential	55 dB(A)	45 dB(A)
Professional Services	55 dB(A)	55 dB(A)
Other Commercial	60 dB(A)	60 dB(A)
Industrial	70 dB(A)	70 dB(A)
Leq = (Equivalent Energy Level). The sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period, typically 1, 8 or 24 hours.		
dB(A) = (A-weighted Sound Pressure Level). The sound pressure level, in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound, placing greater emphasis on those frequencies within the sensitivity range of the human ear.		
Ldn = (Day-Night Noise Level). The average equivalent A-weighted sound level during a 24-hour day obtained by adding 10 decibels to the hourly noise levels measured during the night (from 10 pm to 7 am). In this way Ldn takes into account the lower tolerance of people for noise during nighttime periods.		

(2) Noise limit categories. No person shall operate or cause to be operated a source of sound at a location or allow the creation of noise on property owned, leased, occupied, or otherwise controlled by the person, which causes the noise level, when measured on another property, either incorporated or unincorporated, to exceed any one of the following:

(A) The noise standard for the receiving land use as specified in Subsection B (Noise-impacted areas), above, for a cumulative period of more than 30 minutes in any hour.

(B) The noise standard plus 5 dB(A) for a cumulative period of more than 15 minutes in any hour.

(C) The noise standard plus 10 dB(A) for a cumulative period of more than five minutes in any hour.

(D) The noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour.

(E) The noise standard plus 20 dB(A) for any period of time.

(d) Noise standards for adjacent mobile noise sources. Noise from mobile sources may affect adjacent properties adversely. When it does, the noise shall be mitigated for any new development to a level that shall not exceed the standards described in the following Table 83-3 (Noise Standards for Adjacent Mobile Noise Sources).

Table 83-3
Noise Standards for Adjacent Mobile Noise Sources

Land Use		Ldn (or CNEL) dB(A)	
Categories	Uses	Interior (1)	Exterior (2)
Residential	Single and multi-family, duplex, mobile homes	45	60 (3)
Commercial	Hotel, motel, transient housing	45	60 (3)
	Commercial retail, bank, restaurant	50	N/A
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	N/A
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	N/A	65

Notes:
(1) The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.
(2) The outdoor environment shall be limited to:
- Hospital/office building patios
- Hotel and motel recreation areas
- Mobile home parks
- Multi-family private patios or balconies
- Park picnic areas
- Private yard of single-family dwellings
- School playgrounds

(3) An exterior noise level of up to 65 dB(A) (or CNEL) shall be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.

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

(e) Increases in allowable noise levels. If the measured ambient level exceeds any of the first four noise limit categories in Subsection (d)(2), above, the allowable noise exposure standard shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category in Subsection (d)(2), above, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

(f) Reductions in allowable noise levels. If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels in Table 83-2 (Noise Standards for Stationary Noise Sources) shall be reduced by 5 dB(A).

(g) Exempt noise. The following sources of noise shall be exempt from the regulations of this Section:

(1) Motor vehicles not under the control of the commercial or industrial use.

(2) Emergency equipment, vehicles, and devices.

(3) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

(h) Noise standards for other structures. All other structures shall be sound attenuated against the combined input of all present and projected exterior noise to not exceed the criteria.

Table 83-4
Noise Standards for Other Structures

Typical Uses	12-Hour Equivalent Sound Level (Interior) in dBA Ldn
Educational, institutions, libraries, meeting facilities, etc.	45
General office, reception, etc.	50
Retail stores, restaurants, etc.	55
Other areas for manufacturing, assembly, testing, warehousing, etc.	65

In addition, the average of the maximum levels on the loudest of intrusive sounds occurring during a 24-hour period shall not exceed 65 dBA interior.

Adopted Ordinance 4011 (2007)

83.01.090 Vibration

(a) Vibration standard. No ground vibration shall be allowed that can be felt without the aid of instruments at or beyond the lot line, nor shall any vibration be allowed which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second measured at or beyond the lot line.

(b) Vibration measurement. Vibration velocity shall be measured with a seismograph or other instrument capable of measuring and recording displacement and frequency, particle velocity, or acceleration. Readings shall be made at points of maximum vibration along any lot line next to a parcel within a residential, commercial and industrial land use zoning district.

(c) Exempt vibrations. The following sources of vibration shall be exempt from the regulations of this Section.

(1) Motor vehicles not under the control of the subject use.

(2) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

Adopted Ordinance 4011 (2007)

83.01.100 Waste Disposal

(a) Liquid waste disposal and runoff control. No liquids of any kind shall be discharged into a public or private sewage or drainage system, watercourse, body of water, or into the ground, except in compliance with applicable regulations of the County Code, Title 23 (Waters) of the California Code of Regulations, the California Water Code, and related Federal regulations.

(b) Hazardous waste. Refer to Chapter 84.11 (Hazardous Waste Facilities) for regulations relative to hazardous waste facilities.

(c) Solid waste disposal. Refer to Chapter 84.24 (Solid Waste/Recyclable Materials Storage) for regulations relative to solid waste disposal.

Adopted Ordinance 4011 (2007)

CHAPTER 82.18 NOISE HAZARD (NH) OVERLAY

Sections:

82.18.010 Purpose
82.18.020 Location Requirements
82.18.030 Development Standards

82.18.010 Purpose

The Noise Hazard (NH) Overlay established by Sections 82.01.020 (Land Use Plan and Land Use Zoning Districts) and 82.01.030 (Overlays) is created to provide greater public safety by establishing land use review procedures and requirements for land uses in areas with identified high noise levels.

Adopted Ordinance 4011 (2007)

82.18.020 Location Requirements

The NH Overlay may be applied to those areas where the Average Day-Night Sound Level (Ldn) is 65 decibels, 65 dBA or greater..

Adopted Ordinance 4011 (2007)

82.18.030 Development Standards

When a land use application or development permit is proposed within the NH Overlay, the following standards shall apply with respect to residential uses:

(a) Acoustical report required. Noise levels shall be identified. An acoustical report shall be performed to identify noise impact. Any recommendation for noise attenuation or other mitigation measures shall be incorporated into the design standards or conditions of approval as applicable.

(b) Interior noise levels. Interior noise levels in all single-family and multi-family residences and educational institutions shall not exceed 45 dBA Ldn emanating from sources outside of the residential building.

(c) Exterior noise levels. Exterior noise levels in all single-family residential land use areas and multi-family residential land use areas should not exceed 65 dBA Ldn. Exterior noise levels shall not exceed 70 dBA Ldn for any residential use areas. Ability to mitigate exterior noises to the levels of 65 dBA Ldn and 70 dBA Ldn shall be considered by the review authority when determining the actual Ldn level with which the land uses must comply.

(d) Noise mitigation measures. In areas where noise exceeds the noise standard, measures shall be taken to mitigate noise levels. An acoustical report identifying these mitigation measures shall be required and reviewed by the Environmental Health Services Division before issuance of any required development permits or approval of land use applications.

Adopted Ordinance 4011 (2007)

1. Noise

Graphic

The Noise Element is a State-mandated component of the General Plan. The purpose of this element is to establish uniformity of policy and direction concerning actions to minimize or eliminate excessive noise. It includes objectives, policies, standards, criteria, programs, diagrams and maps which are to be considered when decisions are made affecting the noise environment. A complete noise element with technical appendices, adopted by the Board as an independent document, is under separate cover. A summary of the Element and its policies are included here for the reader's convenience.

Noise is simply defined as unwanted sound. Physical health, psychological stability, social cohesion, property values and economic productivity are affected by excessive amounts of noise. A more extensive discussion on the effects of noise is found in the Noise Background Report (under separate cover which is not adopted as part of the General Plan).

In addressing the regulation of noise to mitigate its negative effects, some quantification of noise intensity is required. Noise measurements are expressed in several ways. In this report the following are utilized:

dB(A) (A-Weighted Sound Pressure Level) - The sound pressure level, in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound, placing greater emphasis on those frequencies within the sensitivity range of the human ear.

Ldn (Day-Night Noise Level) - The average equivalent A-weighted sound level during a 24-hour day obtained by adding ten decibels to the hourly noise levels measured during the night (from 10 pm to 7 am). In this way Ldn takes into account the lower tolerance of people for noise during nighttime periods.

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

SEL (Energy Equivalent Noise Level) (Sound Exposure Level) - The noise exposure level accumulated during a given event, with reference to a duration of one second. More specifically, SEL, in decibels, is the level of the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on the reference pressure of 20 micronewtons per square meter and reference duration of one second. SEL is commonly used to calculate Ldn when the noise source consists of

APPENDIX C

Study Area Photos

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Noise Measurement Location #1

Noise Measurement Location #1

Noise Measurement Location #1

Noise Measurement Location #2

Noise Measurement Location #2

Noise Measurement Location #2

Noise Measurement Location #3

Noise Measurement Location #3

Noise Measurement Location #3

Noise Measurement Location #4

Noise Measurement Location #4

Noise Measurement Location #4

Noise Measurement Location #5

Noise Measurement Location #5

Noise Measurement Location #5

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APPENDIX D

Noise Monitoring Data Printouts

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File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun09l_009.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Revs: 4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Overall Measurement		Current Measurement	
Start Time:	10-Jun-2008 09:52:28	Start Time:	10-Jun-2008 09:52:28
Elapsed Time:	00:10:00.4	Elapsed Time:	00:10:00.4
Leq:	47.4 dBA	Leq:	47.4 dBA
SEL:	75.2 dBA	SEL:	75.2 dBA
Dose: (8 hr)	0.0 %	Dose: (8 hr)	0.0 %
Proj. Dose:	0.0 %	Proj. Dose:	0.0 %
Threshold:	0 dB	Threshold:	0 dB
Criterion:	90 dB	Criterion:	90 dB
Exchange Rate:	3 dB	Exchange Rate:	3 dB

Min:	31.3 dBA	10-Jun-2008 10:01:44	Min:	31.3 dBA	10-Jun-2008 10:01:44
Max:	64.5 dBA	10-Jun-2008 09:55:25	Max:	64.5 dBA	10-Jun-2008 09:55:25
Peak-1:	107.3 dBF	10-Jun-2008 09:55:55	Peak-1:	107.3 dBF	10-Jun-2008 09:55:55
Peak-2:	90.4 dBA	10-Jun-2008 10:01:31	Peak-2:	90.4 dBA	10-Jun-2008 10:01:31

Ln Start Level: 15 dB

L1.00	59.0 dBA	L90.00	37.0 dBA	LDN:	47.4 dBA
L5.00	51.1 dBA	L95.00	35.9 dBA	CNEL:	47.4 dBA
L50.00	43.0 dBA	L99.00	34.8 dBA	Overall Leq:	47.4 dBA

Detector: Slow
Weighting: A

SPL Exceedance Level 1:	115.0	Exceeded:	0 times
SPL Exceedance level 2:	120	Exceeded:	0 times
Peak-1 Exceedance Level:	140	Exceeded:	0 times
Peak-2 Exceedance Level:	140	Exceeded:	0 times

Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated:	09-Jun-2008 12:13:19	Offset:	-45.2 dB
Checked:	10-Jun-2008 14:02:08	Level:	113.9 dB
Calibrator	not set	Level:	114.0 dB
Cal Records Count:	0		

Interval Records:	Enabled	Number Interval Records:	1
History Records:	Enabled	Number History Records:	13
Exceedance Records:	Disabled	Number Exceedance Records:	0
Daily Records:	Disabled	Number Daily Records:	0
Run/Stop Records:		Number Run/Stop Records:	2

824 Memory: 2097152 bytes

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun09l_009.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Rev4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Overall Any Data
Start Time: 10-Jun-2008 09:52:28
Elapsed Time: 00:10:00.4

	A Weight		C Weight		Flat
Leq:	47.4 dBA		73.8 dBC		79.7 dBF
SEL:	75.2 dBA		101.6 dBC		107.5 dBF
Peak:	90.4 dBA		100.9 dBC		107.3 dBF
	10-Jun-2008 10:01:31	10-Jun-2008 09:55:55		10-Jun-2008 09:55:55	
Lmax (slow):	64.5 dBA		83.7 dBC		91.0 dBF
	10-Jun-2008 09:55:25	10-Jun-2008 09:55:55		10-Jun-2008 09:55:55	
Lmin (slow):	31.3 dBA		56.4 dBC		63.5 dBF
	10-Jun-2008 10:01:44	10-Jun-2008 10:01:44		10-Jun-2008 10:01:44	
Lmax (fast):	65.7 dBA		91.1 dBC		98.4 dBF
	10-Jun-2008 09:55:23	10-Jun-2008 09:55:55		10-Jun-2008 09:55:55	
Lmin (fast):	30.4 dBA		52.8 dBC		59.0 dBF
	10-Jun-2008 10:01:42	10-Jun-2008 10:01:44		10-Jun-2008 10:01:44	
Lmax (impulse):	67.2 dBA		95.5 dBC		102.7 dBF
	10-Jun-2008 10:01:31	10-Jun-2008 09:55:55		10-Jun-2008 09:55:55	
Lmin (impulse):	30.9 dBA		60.6 dBC		66.8 dBF
	10-Jun-2008 10:01:43	10-Jun-2008 10:01:44		10-Jun-2008 09:52:28	

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun09l_009.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Rev4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Current Any Data
Start Time: 10-Jun-2008 09:52:28
Elapsed Time: 00:10:00.4

	A Weight		C Weight		Flat	
Leq:	47.4 dBA		73.8 dBC		79.7 dBF	
SEL:	75.2 dBA		101.6 dBC		107.5 dBF	
Peak:	90.4 dBA		100.9 dBC		107.3 dBF	
	10-Jun-2008	10:01:31	10-Jun-2008	09:55:55	10-Jun-2008	09:55:55
Lmax (slow):	64.5 dBA		83.7 dBC		91.0 dBF	
	10-Jun-2008	09:55:25	10-Jun-2008	09:55:55	10-Jun-2008	09:55:55
Lmin (slow):	31.3 dBA		56.4 dBC		63.5 dBF	
	10-Jun-2008	10:01:44	10-Jun-2008	10:01:44	10-Jun-2008	10:01:44
Lmax (fast):	65.7 dBA		91.1 dBC		98.4 dBF	
	10-Jun-2008	09:55:23	10-Jun-2008	09:55:55	10-Jun-2008	09:55:55
Lmin (fast):	30.4 dBA		52.8 dBC		59.0 dBF	
	10-Jun-2008	10:01:42	10-Jun-2008	10:01:44	10-Jun-2008	10:01:44
Lmax (impulse):	67.2 dBA		95.5 dBC		102.7 dBF	
	10-Jun-2008	10:01:31	10-Jun-2008	09:55:55	10-Jun-2008	09:55:55
Lmin (impulse):	30.9 dBA		60.6 dBC		66.8 dBF	
	10-Jun-2008	10:01:43	10-Jun-2008	10:01:44	10-Jun-2008	09:52:28

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun10l_010.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Revs: 4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Overall Measurement		Current Measurement	
Start Time:	10-Jun-2008 10:10:17	Start Time:	10-Jun-2008 10:10:17
Elapsed Time:	00:10:00.2	Elapsed Time:	00:10:00.2
Leq:	41.8 dBA	Leq:	41.8 dBA
SEL:	69.6 dBA	SEL:	69.6 dBA
Dose: (8 hr)	0.0 %	Dose: (8 hr)	0.0 %
Proj. Dose:	0.0 %	Proj. Dose:	0.0 %
Threshold:	0 dB	Threshold:	0 dB
Criterion:	90 dB	Criterion:	90 dB
Exchange Rate:	3 dB	Exchange Rate:	3 dB

Min:	32.6 dBA	10-Jun-2008 10:13:35	Min:	32.6 dBA	10-Jun-2008 10:13:35
Max:	51.7 dBA	10-Jun-2008 10:10:48	Max:	51.7 dBA	10-Jun-2008 10:10:48
Peak-1:	96.1 dBF	10-Jun-2008 10:11:29	Peak-1:	96.1 dBF	10-Jun-2008 10:11:29
Peak-2:	88.3 dBA	10-Jun-2008 10:10:48	Peak-2:	88.3 dBA	10-Jun-2008 10:10:48

Ln Start Level: 15 dB

L1.00	48.9 dBA	L90.00	35.2 dBA	LDN:	41.8 dBA
L5.00	46.7 dBA	L95.00	34.4 dBA	CNEL:	41.8 dBA
L50.00	39.8 dBA	L99.00	33.4 dBA	Overall Leq:	41.8 dBA

Detector: Slow
Weighting: A

SPL Exceedance Level 1:	115.0	Exceeded:	0 times
SPL Exceedance level 2:	120	Exceeded:	0 times
Peak-1 Exceedance Level:	140	Exceeded:	0 times
Peak-2 Exceedance Level:	140	Exceeded:	0 times

Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated:	09-Jun-2008 12:13:19	Offset:	-45.2 dB
Checked:	10-Jun-2008 14:02:08	Level:	113.9 dB
Calibrator	not set	Level:	114.0 dB
Cal Records Count:	0		

Interval Records:	Enabled	Number Interval Records:	1
History Records:	Enabled	Number History Records:	13
Exceedance Records:	Disabled	Number Exceedance Records:	0
Daily Records:	Disabled	Number Daily Records:	0
Run/Stop Records:		Number Run/Stop Records:	2

824 Memory: 2097152 bytes

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun10l_010.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Rev4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Overall Any Data
Start Time: 10-Jun-2008 10:10:17
Elapsed Time: 00:10:00.2

	A Weight		C Weight		Flat
Leq:	41.8 dBA		69.6 dBC		75.5 dBF
SEL:	69.6 dBA		97.4 dBC		103.3 dBF
Peak:	88.3 dBA		91.5 dBC		96.1 dBF
10-Jun-2008	10:10:48	10-Jun-2008	10:10:43	10-Jun-2008	10:11:29
Lmax (slow):	51.7 dBA		77.9 dBC		84.5 dBF
10-Jun-2008	10:10:48	10-Jun-2008	10:11:11	10-Jun-2008	10:11:10
Lmin (slow):	32.6 dBA		59.0 dBC		64.3 dBF
10-Jun-2008	10:13:35	10-Jun-2008	10:17:28	10-Jun-2008	10:18:03
Lmax (fast):	59.3 dBA		82.0 dBC		89.9 dBF
10-Jun-2008	10:10:48	10-Jun-2008	10:15:07	10-Jun-2008	10:11:10
Lmin (fast):	30.9 dBA		52.9 dBC		57.4 dBF
10-Jun-2008	10:13:35	10-Jun-2008	10:15:42	10-Jun-2008	10:20:13
Lmax (impulse):	64.4 dBA		84.7 dBC		92.5 dBF
10-Jun-2008	10:10:48	10-Jun-2008	10:10:43	10-Jun-2008	10:11:29
Lmin (impulse):	32.1 dBA		60.7 dBC		66.7 dBF
10-Jun-2008	10:12:02	10-Jun-2008	10:17:28	10-Jun-2008	10:18:03

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun10l_010.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Rev4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Current Any Data
Start Time: 10-Jun-2008 10:10:17
Elapsed Time: 00:10:00.2

	A Weight		C Weight		Flat	
Leq:	41.8 dBA		69.6 dBC		75.5 dBF	
SEL:	69.6 dBA		97.4 dBC		103.3 dBF	
Peak:	88.3 dBA		91.5 dBC		96.1 dBF	
10-Jun-2008	10:10:48	10-Jun-2008	10:10:43	10-Jun-2008	10:11:29	
Lmax (slow):	51.7 dBA		77.9 dBC		84.5 dBF	
10-Jun-2008	10:10:48	10-Jun-2008	10:11:11	10-Jun-2008	10:11:10	
Lmin (slow):	32.6 dBA		59.0 dBC		64.3 dBF	
10-Jun-2008	10:13:35	10-Jun-2008	10:17:28	10-Jun-2008	10:18:03	
Lmax (fast):	59.3 dBA		82.0 dBC		89.9 dBF	
10-Jun-2008	10:10:48	10-Jun-2008	10:15:07	10-Jun-2008	10:11:10	
Lmin (fast):	30.9 dBA		52.9 dBC		57.4 dBF	
10-Jun-2008	10:13:35	10-Jun-2008	10:15:42	10-Jun-2008	10:20:13	
Lmax (impulse):	64.4 dBA		84.7 dBC		92.5 dBF	
10-Jun-2008	10:10:48	10-Jun-2008	10:10:43	10-Jun-2008	10:11:29	
Lmin (impulse):	32.1 dBA		60.7 dBC		66.7 dBF	
10-Jun-2008	10:12:02	10-Jun-2008	10:17:28	10-Jun-2008	10:18:03	

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun10l_011.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Revs: 4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Overall Measurement		Current Measurement	
Start Time:	10-Jun-2008 10:32:49	Start Time:	10-Jun-2008 10:32:49
Elapsed Time:	00:10:00.2	Elapsed Time:	00:10:00.2
Leq:	48.6 dBA	Leq:	48.6 dBA
SEL:	76.4 dBA	SEL:	76.4 dBA
Dose: (8 hr)	0.0 %	Dose: (8 hr)	0.0 %
Proj. Dose:	0.0 %	Proj. Dose:	0.0 %
Threshold:	0 dB	Threshold:	0 dB
Criterion:	90 dB	Criterion:	90 dB
Exchange Rate:	3 dB	Exchange Rate:	3 dB

Min:	32.1 dBA	10-Jun-2008 10:40:17	Min:	32.1 dBA	10-Jun-2008 10:40:17
Max:	66.0 dBA	10-Jun-2008 10:35:01	Max:	66.0 dBA	10-Jun-2008 10:35:01
Peak-1:	101.8 dBF	10-Jun-2008 10:40:50	Peak-1:	101.8 dBF	10-Jun-2008 10:40:50
Peak-2:	88.1 dBA	10-Jun-2008 10:42:19	Peak-2:	88.1 dBA	10-Jun-2008 10:42:19

Ln Start Level: 15 dB

L1.00	60.7 dBA	L90.00	34.8 dBA	LDN:	48.6 dBA
L5.00	56.5 dBA	L95.00	33.9 dBA	CNEL:	48.6 dBA
L50.00	39.6 dBA	L99.00	32.9 dBA	Overall Leq:	48.6 dBA

Detector: Slow
Weighting: A

SPL Exceedance Level 1:	115.0	Exceeded:	0 times
SPL Exceedance level 2:	120	Exceeded:	0 times
Peak-1 Exceedance Level:	140	Exceeded:	0 times
Peak-2 Exceedance Level:	140	Exceeded:	0 times

Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated:	09-Jun-2008 12:13:19	Offset:	-45.2 dB
Checked:	10-Jun-2008 14:02:08	Level:	113.9 dB
Calibrator	not set	Level:	114.0 dB
Cal Records Count:	0		

Interval Records:	Enabled	Number Interval Records:	1
History Records:	Enabled	Number History Records:	13
Exceedance Records:	Disabled	Number Exceedance Records:	0
Daily Records:	Disabled	Number Daily Records:	0
Run/Stop Records:		Number Run/Stop Records:	2

824 Memory: 2097152 bytes

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun10l_011.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Rev4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Overall Any Data
Start Time: 10-Jun-2008 10:32:49
Elapsed Time: 00:10:00.2

	A Weight		C Weight		Flat	
Leq:	48.6 dBA		70.5 dBC		76.9 dBF	
SEL:	76.4 dBA		98.3 dBC		104.7 dBF	
Peak:	88.1 dBA		96.9 dBC		101.8 dBF	
	10-Jun-2008	10:42:19	10-Jun-2008	10:40:51	10-Jun-2008	10:40:50
Lmax (slow):	66.0 dBA		82.9 dBC		88.6 dBF	
	10-Jun-2008	10:35:01	10-Jun-2008	10:40:52	10-Jun-2008	10:40:51
Lmin (slow):	32.1 dBA		48.2 dBC		52.5 dBF	
	10-Jun-2008	10:40:17	10-Jun-2008	10:38:03	10-Jun-2008	10:38:03
Lmax (fast):	68.3 dBA		87.7 dBC		94.5 dBF	
	10-Jun-2008	10:35:00	10-Jun-2008	10:41:50	10-Jun-2008	10:41:50
Lmin (fast):	30.5 dBA		45.9 dBC		47.5 dBF	
	10-Jun-2008	10:40:13	10-Jun-2008	10:38:01	10-Jun-2008	10:38:01
Lmax (impulse):	69.2 dBA		91.0 dBC		97.9 dBF	
	10-Jun-2008	10:35:00	10-Jun-2008	10:40:51	10-Jun-2008	10:40:39
Lmin (impulse):	30.4 dBA		50.3 dBC		57.2 dBF	
	10-Jun-2008	10:32:49	10-Jun-2008	10:38:07	10-Jun-2008	10:38:07

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun10l_011.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Rev4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Current Any Data
Start Time: 10-Jun-2008 10:32:49
Elapsed Time: 00:10:00.2

	A Weight		C Weight		Flat	
Leq:	48.6 dBA		70.5 dBC		76.9 dBF	
SEL:	76.4 dBA		98.3 dBC		104.7 dBF	
Peak:	88.1 dBA		96.9 dBC		101.8 dBF	
	10-Jun-2008	10:42:19	10-Jun-2008	10:40:51	10-Jun-2008	10:40:50
Lmax (slow):	66.0 dBA		82.9 dBC		88.6 dBF	
	10-Jun-2008	10:35:01	10-Jun-2008	10:40:52	10-Jun-2008	10:40:51
Lmin (slow):	32.1 dBA		48.2 dBC		52.5 dBF	
	10-Jun-2008	10:40:17	10-Jun-2008	10:38:03	10-Jun-2008	10:38:03
Lmax (fast):	68.3 dBA		87.7 dBC		94.5 dBF	
	10-Jun-2008	10:35:00	10-Jun-2008	10:41:50	10-Jun-2008	10:41:50
Lmin (fast):	30.5 dBA		45.9 dBC		47.5 dBF	
	10-Jun-2008	10:40:13	10-Jun-2008	10:38:01	10-Jun-2008	10:38:01
Lmax (impulse):	69.2 dBA		91.0 dBC		97.9 dBF	
	10-Jun-2008	10:35:00	10-Jun-2008	10:40:51	10-Jun-2008	10:40:39
Lmin (impulse):	30.4 dBA		50.3 dBC		57.2 dBF	
	10-Jun-2008	10:32:49	10-Jun-2008	10:38:07	10-Jun-2008	10:38:07

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun10l_012.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Revs: 4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Overall Measurement		Current Measurement	
Start Time:	10-Jun-2008 10:58:45	Start Time:	10-Jun-2008 10:58:45
Elapsed Time:	00:10:00.2	Elapsed Time:	00:10:00.2
Leq:	55.5 dBA	Leq:	55.5 dBA
SEL:	83.3 dBA	SEL:	83.3 dBA
Dose: (8 hr)	0.0 %	Dose: (8 hr)	0.0 %
Proj. Dose:	0.0 %	Proj. Dose:	0.0 %
Threshold:	0 dB	Threshold:	0 dB
Criterion:	90 dB	Criterion:	90 dB
Exchange Rate:	3 dB	Exchange Rate:	3 dB

Min:	30.8 dBA	10-Jun-2008 11:04:05	Min:	30.8 dBA	10-Jun-2008 11:04:05
Max:	70.0 dBA	10-Jun-2008 11:03:26	Max:	70.0 dBA	10-Jun-2008 11:03:26
Peak-1:	100.4 dBF	10-Jun-2008 11:06:00	Peak-1:	100.4 dBF	10-Jun-2008 11:06:00
Peak-2:	91.7 dBA	10-Jun-2008 10:59:23	Peak-2:	91.7 dBA	10-Jun-2008 10:59:23

Ln Start Level: 15 dB

L1.00	67.0 dBA	L90.00	36.9 dBA	LDN:	55.5 dBA
L5.00	62.9 dBA	L95.00	34.5 dBA	CNEL:	55.5 dBA
L50.00	45.8 dBA	L99.00	31.5 dBA	Overall Leq:	55.5 dBA

Detector: Slow
Weighting: A

SPL Exceedance Level 1:	115.0	Exceeded:	0 times
SPL Exceedance level 2:	120	Exceeded:	0 times
Peak-1 Exceedance Level:	140	Exceeded:	0 times
Peak-2 Exceedance Level:	140	Exceeded:	0 times

Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated:	09-Jun-2008 12:13:19	Offset:	-45.2 dB
Checked:	10-Jun-2008 14:02:08	Level:	113.9 dB
Calibrator	not set	Level:	114.0 dB
Cal Records Count:	0		

Interval Records:	Enabled	Number Interval Records:	1
History Records:	Enabled	Number History Records:	13
Exceedance Records:	Disabled	Number Exceedance Records:	0
Daily Records:	Disabled	Number Daily Records:	0
Run/Stop Records:		Number Run/Stop Records:	2

824 Memory: 2097152 bytes

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun10l_012.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Rev4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Overall Any Data
Start Time: 10-Jun-2008 10:58:45
Elapsed Time: 00:10:00.2

	A Weight		C Weight		Flat
Leq:	55.5 dBA		73.1 dBC		78.3 dBF
SEL:	83.3 dBA		100.9 dBC		106.1 dBF
Peak:	91.7 dBA		95.6 dBC		100.4 dBF
	10-Jun-2008 10:59:23	10-Jun-2008 10:59:54		10-Jun-2008 11:06:00	
Lmax (slow):	70.0 dBA		83.9 dBC		89.3 dBF
	10-Jun-2008 11:03:26	10-Jun-2008 11:06:01		10-Jun-2008 11:06:01	
Lmin (slow):	30.8 dBA		59.5 dBC		61.4 dBF
	10-Jun-2008 11:04:05	10-Jun-2008 11:04:05		10-Jun-2008 10:58:45	
Lmax (fast):	72.2 dBA		87.5 dBC		92.8 dBF
	10-Jun-2008 11:03:26	10-Jun-2008 11:06:01		10-Jun-2008 11:06:01	
Lmin (fast):	29.3 dBA		54.4 dBC		60.0 dBF
	10-Jun-2008 11:04:05	10-Jun-2008 11:04:01		10-Jun-2008 11:04:01	
Lmax (impulse):	73.4 dBA		90.0 dBC		95.5 dBF
	10-Jun-2008 10:59:23	10-Jun-2008 11:06:01		10-Jun-2008 11:06:01	
Lmin (impulse):	31.0 dBA		58.3 dBC		59.6 dBF
	10-Jun-2008 11:04:01	10-Jun-2008 10:58:45		10-Jun-2008 10:58:45	

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun10l_012.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Rev4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Current Any Data
Start Time: 10-Jun-2008 10:58:45
Elapsed Time: 00:10:00.2

	A Weight		C Weight		Flat	
Leq:	55.5 dBA		73.1 dBC		78.3 dBF	
SEL:	83.3 dBA		100.9 dBC		106.1 dBF	
Peak:	91.7 dBA		95.6 dBC		100.4 dBF	
	10-Jun-2008	10:59:23	10-Jun-2008	10:59:54	10-Jun-2008	11:06:00
Lmax (slow):	70.0 dBA		83.9 dBC		89.3 dBF	
	10-Jun-2008	11:03:26	10-Jun-2008	11:06:01	10-Jun-2008	11:06:01
Lmin (slow):	30.8 dBA		59.5 dBC		61.4 dBF	
	10-Jun-2008	11:04:05	10-Jun-2008	11:04:05	10-Jun-2008	10:58:45
Lmax (fast):	72.2 dBA		87.5 dBC		92.8 dBF	
	10-Jun-2008	11:03:26	10-Jun-2008	11:06:01	10-Jun-2008	11:06:01
Lmin (fast):	29.3 dBA		54.4 dBC		60.0 dBF	
	10-Jun-2008	11:04:05	10-Jun-2008	11:04:01	10-Jun-2008	11:04:01
Lmax (impulse):	73.4 dBA		90.0 dBC		95.5 dBF	
	10-Jun-2008	10:59:23	10-Jun-2008	11:06:01	10-Jun-2008	11:06:01
Lmin (impulse):	31.0 dBA		58.3 dBC		59.6 dBF	
	10-Jun-2008	11:04:01	10-Jun-2008	10:58:45	10-Jun-2008	10:58:45

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun11l_013.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Revs: 4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Overall Measurement		Current Measurement	
Start Time:	10-Jun-2008 11:18:55	Start Time:	10-Jun-2008 11:18:55
Elapsed Time:	00:10:00.2	Elapsed Time:	00:10:00.2
Leq:	60.0 dBA	Leq:	60.0 dBA
SEL:	87.8 dBA	SEL:	87.8 dBA
Dose: (8 hr)	0.0 %	Dose: (8 hr)	0.0 %
Proj. Dose:	0.1 %	Proj. Dose:	0.1 %
Threshold:	0 dB	Threshold:	0 dB
Criterion:	90 dB	Criterion:	90 dB
Exchange Rate:	3 dB	Exchange Rate:	3 dB

Min:	32.4 dBA	10-Jun-2008 11:19:10	Min:	32.4 dBA	10-Jun-2008 11:19:10
Max:	74.4 dBA	10-Jun-2008 11:26:34	Max:	74.4 dBA	10-Jun-2008 11:26:34
Peak-1:	96.8 dBF	10-Jun-2008 11:20:40	Peak-1:	96.8 dBF	10-Jun-2008 11:20:40
Peak-2:	86.6 dBA	10-Jun-2008 11:26:33	Peak-2:	86.6 dBA	10-Jun-2008 11:26:33

Ln Start Level: 15 dB

L1.00	70.0 dBA	L90.00	41.1 dBA	LDN:	60.0 dBA
L5.00	66.3 dBA	L95.00	38.0 dBA	CNEL:	60.0 dBA
L50.00	52.4 dBA	L99.00	33.6 dBA	Overall Leq:	60.0 dBA

Detector: Slow
Weighting: A

SPL Exceedance Level 1:	115.0	Exceeded:	0 times
SPL Exceedance level 2:	120	Exceeded:	0 times
Peak-1 Exceedance Level:	140	Exceeded:	0 times
Peak-2 Exceedance Level:	140	Exceeded:	0 times

Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

Calibrated:	09-Jun-2008 12:13:19	Offset:	-45.2 dB
Checked:	10-Jun-2008 14:02:08	Level:	113.9 dB
Calibrator	not set	Level:	114.0 dB
Cal Records Count:	0		

Interval Records:	Enabled	Number Interval Records:	1
History Records:	Enabled	Number History Records:	13
Exceedance Records:	Disabled	Number Exceedance Records:	0
Daily Records:	Disabled	Number Daily Records:	0
Run/Stop Records:		Number Run/Stop Records:	2

824 Memory: 2097152 bytes

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun11l_013.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Rev4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Overall Any Data
Start Time: 10-Jun-2008 11:18:55
Elapsed Time: 00:10:00.2

	A Weight		C Weight		Flat	
Leq:	60.0 dBA		72.1 dBC		76.3 dBF	
SEL:	87.8 dBA		99.9 dBC		104.0 dBF	
Peak:	86.6 dBA		94.6 dBC		96.8 dBF	
	10-Jun-2008	11:26:33	10-Jun-2008	11:22:46	10-Jun-2008	11:20:40
Lmax (slow):	74.4 dBA		84.6 dBC		84.9 dBF	
	10-Jun-2008	11:26:34	10-Jun-2008	11:22:46	10-Jun-2008	11:22:46
Lmin (slow):	32.4 dBA		51.4 dBC		54.3 dBF	
	10-Jun-2008	11:19:10	10-Jun-2008	11:18:55	10-Jun-2008	11:18:55
Lmax (fast):	76.0 dBA		88.1 dBC		88.8 dBF	
	10-Jun-2008	11:26:32	10-Jun-2008	11:22:46	10-Jun-2008	11:20:48
Lmin (fast):	29.8 dBA		50.4 dBC		51.4 dBF	
	10-Jun-2008	11:19:10	10-Jun-2008	11:18:55	10-Jun-2008	11:18:55
Lmax (impulse):	76.7 dBA		88.8 dBC		92.1 dBF	
	10-Jun-2008	11:26:32	10-Jun-2008	11:22:46	10-Jun-2008	11:20:39
Lmin (impulse):	32.6 dBA		50.0 dBC		51.8 dBF	
	10-Jun-2008	11:19:18	10-Jun-2008	11:18:55	10-Jun-2008	11:18:55

File Translated: U:\UcJobs_05600-06000\05900\05930\Fieldwork\Measurements\10Jun11l_013.slmdl
Model/Serial Number: 824 / A2629
Firmware/Software Rev4.272 / 3.120
Name: Urban Crossroads
Descr1: Enter Address Line 1
Descr2: Enter Address Line 2
Setup/Setup Descr: logging.log / Untitled
Location:
Note1:
Note2:

Current Any Data
Start Time: 10-Jun-2008 11:18:55
Elapsed Time: 00:10:00.2

	A Weight		C Weight		Flat
Leq:	60.0 dBA		72.1 dBC		76.3 dBF
SEL:	87.8 dBA		99.9 dBC		104.0 dBF
Peak:	86.6 dBA		94.6 dBC		96.8 dBF
	10-Jun-2008 11:26:33	10-Jun-2008	11:22:46	10-Jun-2008	11:20:40
Lmax (slow):	74.4 dBA		84.6 dBC		84.9 dBF
	10-Jun-2008 11:26:34	10-Jun-2008	11:22:46	10-Jun-2008	11:22:46
Lmin (slow):	32.4 dBA		51.4 dBC		54.3 dBF
	10-Jun-2008 11:19:10	10-Jun-2008	11:18:55	10-Jun-2008	11:18:55
Lmax (fast):	76.0 dBA		88.1 dBC		88.8 dBF
	10-Jun-2008 11:26:32	10-Jun-2008	11:22:46	10-Jun-2008	11:20:48
Lmin (fast):	29.8 dBA		50.4 dBC		51.4 dBF
	10-Jun-2008 11:19:10	10-Jun-2008	11:18:55	10-Jun-2008	11:18:55
Lmax (impulse):	76.7 dBA		88.8 dBC		92.1 dBF
	10-Jun-2008 11:26:32	10-Jun-2008	11:22:46	10-Jun-2008	11:20:39
Lmin (impulse):	32.6 dBA		50.0 dBC		51.8 dBF
	10-Jun-2008 11:19:18	10-Jun-2008	11:18:55	10-Jun-2008	11:18:55

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APPENDIX E

Leq To Ldn Calculations

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MEASURED Leq TO Ldn CONVERSION

Noise Measurement location: 1
Measurement Time: 900
Measurement Level (dBA Leq): 47.4

Project : Hacienda @ Fairview EIR
Job Number: 5930
Analyst: J.T. Stephens

Hour Beginning	***Adjusted Hourly Leq***	***Ldn Penalty***	***Adjusted Hourly Leq***
0000	34.1	10.0	44.1
0100	32.1	10.0	42.1
0200	32.5	10.0	42.5
0300	32.4	10.0	42.4
0400	36.4	10.0	46.4
0500	40.6	10.0	50.6
0600	44.3	10.0	54.3
0700	45.3	0.0	45.3
0800	46.8	0.0	46.8
0900	47.4 *	0.0	47.4
1000	47.4	0.0	47.4
1100	47.5	0.0	47.5
1200	47.5	0.0	47.5
1300	47.4	0.0	47.4
1400	47.6	0.0	47.6
1500	47.8	0.0	47.8
1600	47.5	0.0	47.5
1700	47.6	0.0	47.6
1800	46.7	0.0	46.7
1900	45.9	0.0	45.9
2000	44.4	0.0	44.4
2100	41.3	0.0	41.3
2200	39.3	10.0	49.3
2300	36.1	10.0	46.1

Resulting Ldn (dBA) : ***47.5***

MEASURED Leq TO Ldn CONVERSION

Noise Measurement location: 2
Measurement Time: 1000
Measurement Level (dBA Leq): 41.8

Project : Hacienda @ Fairview EIR
Job Number: 5930
Analyst: J.T. Stephens

Hour Beginning	***Adjusted Hourly Leq***	***Ldn Penalty***	***Adjusted Hourly Leq***
0000	28.5	10.0	38.5
0100	26.4	10.0	36.4
0200	26.9	10.0	36.9
0300	26.7	10.0	36.7
0400	30.8	10.0	40.8
0500	35.0	10.0	45.0
0600	38.6	10.0	48.6
0700	39.7	0.0	39.7
0800	41.2	0.0	41.2
0900	41.8	0.0	41.8
1000	41.8 *	0.0	41.8
1100	41.9	0.0	41.9
1200	41.9	0.0	41.9
1300	41.8	0.0	41.8
1400	41.9	0.0	41.9
1500	42.1	0.0	42.1
1600	41.9	0.0	41.9
1700	42.0	0.0	42.0
1800	41.1	0.0	41.1
1900	40.3	0.0	40.3
2000	38.8	0.0	38.8
2100	35.7	0.0	35.7
2200	33.7	10.0	43.7
2300	30.5	10.0	40.5

Resulting Ldn (dBA) : ***41.9***

MEASURED Leq TO Ldn CONVERSION

Noise Measurement location: 3 *Project :* Hacienda @ Fairview EIR
Measurement Time: 1000 *Job Number:* 5930
Measurement Level (dBA Leq): 48.6 *Analyst:* J.T. Stephens

Hour Beginning	***Adjusted Hourly Leq***	***Ldn Penalty***	***Adjusted Hourly Leq***
0000	35.3	10.0	45.3
0100	33.2	10.0	43.2
0200	33.7	10.0	43.7
0300	33.5	10.0	43.5
0400	37.6	10.0	47.6
0500	41.8	10.0	51.8
0600	45.4	10.0	55.4
0700	46.5	0.0	46.5
0800	48.0	0.0	48.0
0900	48.6	0.0	48.6
1000	48.6 *	0.0	48.6
1100	48.7	0.0	48.7
1200	48.7	0.0	48.7
1300	48.6	0.0	48.6
1400	48.7	0.0	48.7
1500	48.9	0.0	48.9
1600	48.7	0.0	48.7
1700	48.8	0.0	48.8
1800	47.9	0.0	47.9
1900	47.1	0.0	47.1
2000	45.6	0.0	45.6
2100	42.5	0.0	42.5
2200	40.5	10.0	50.5
2300	37.3	10.0	47.3

Resulting Ldn (dBA) : ***48.7***

MEASURED Leq TO Ldn CONVERSION

Noise Measurement location: 4 *Project :* Hacienda @ Fairview EIR
Measurement Time: 1000 *Job Number:* 5930
Measurement Level (dBA Leq): 55.5 *Analyst:* J.T. Stephens

Hour Beginning	***Adjusted Hourly Leq***	***Ldn Penalty***	***Adjusted Hourly Leq***
0000	42.2	10.0	52.2
0100	40.1	10.0	50.1
0200	40.6	10.0	50.6
0300	40.4	10.0	50.4
0400	44.5	10.0	54.5
0500	48.7	10.0	58.7
0600	52.3	10.0	62.3
0700	53.4	0.0	53.4
0800	54.9	0.0	54.9
0900	55.5	0.0	55.5
1000	55.5 *	0.0	55.5
1100	55.6	0.0	55.6
1200	55.6	0.0	55.6
1300	55.5	0.0	55.5
1400	55.6	0.0	55.6
1500	55.8	0.0	55.8
1600	55.6	0.0	55.6
1700	55.7	0.0	55.7
1800	54.8	0.0	54.8
1900	54.0	0.0	54.0
2000	52.5	0.0	52.5
2100	49.4	0.0	49.4
2200	47.4	10.0	57.4
2300	44.2	10.0	54.2

Resulting Ldn (dBA) : ***55.6***

MEASURED Leq TO Ldn CONVERSION

Noise Measurement location: 5
Measurement Time: 1100
Measurement Level (dBA Leq): 60.0

Project : Hacienda @ Fairview EIR
Job Number: 5930
Analyst: J.T. Stephens

Hour Beginning	***Adjusted Hourly Leq***	***Ldn Penalty***	***Adjusted Hourly Leq***
0000	46.6	10.0	56.6
0100	44.5	10.0	54.5
0200	45.0	10.0	55.0
0300	44.8	10.0	54.8
0400	48.8	10.0	58.8
0500	53.1	10.0	63.1
0600	56.7	10.0	66.7
0700	57.8	0.0	57.8
0800	59.3	0.0	59.3
0900	59.9	0.0	59.9
1000	59.9	0.0	59.9
1100	60.0 *	0.0	60.0
1200	60.0	0.0	60.0
1300	59.9	0.0	59.9
1400	60.0	0.0	60.0
1500	60.2	0.0	60.2
1600	60.0	0.0	60.0
1700	60.1	0.0	60.1
1800	59.2	0.0	59.2
1900	58.4	0.0	58.4
2000	56.9	0.0	56.9
2100	53.8	0.0	53.8
2200	51.8	10.0	61.8
2300	48.6	10.0	58.6

Resulting Ldn (dBA) : ***60.0***

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APPENDIX F

Off-Site FHWA Traffic Noise Model Printouts

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	w/o Dale Evans Pkwy.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	390 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.04	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.28	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.23	-4.43	-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:	56.8	54.9	53.1	47.1	55.7	56.3
Medium Trucks:	50.5	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	51.4	50.0	40.9	42.2	50.5	50.7
Vehicle Noise:	58.6	56.9	53.7	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	32	69	149
CNEL:	16	34	74	160

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Dale Evans Pkwy.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	460 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.32	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.56	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.52	-4.43	-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:	57.5	55.6	53.8	47.8	56.4	57.0
Medium Trucks:	51.3	49.8	43.4	41.8	50.3	50.5
Heavy Trucks:	52.1	50.7	41.6	42.9	51.3	51.4
Vehicle Noise:	59.3	57.6	54.4	49.8	58.3	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	77	166
CNEL:	18	38	83	178

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.04	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-24.28	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-28.23	-4.43	-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:	55.8	53.9	52.1	46.1	54.7	55.3
Medium Trucks:	49.5	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	50.4	49.0	39.9	41.2	49.5	49.7
Vehicle Noise:	57.6	55.9	52.7	48.1	56.6	57.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	59	128
CNEL:	14	30	64	137

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.04	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-24.28	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-28.23	-4.43	-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:	55.8	53.9	52.1	46.1	54.7	55.3
Medium Trucks:	49.5	48.0	41.7	40.1	48.6	48.8
Heavy Trucks:	50.4	49.0	39.9	41.2	49.5	49.7
Vehicle Noise:	57.6	55.9	52.7	48.1	56.6	57.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	28	59	128
CNEL:	14	30	64	137

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	300 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.18	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-24.42	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-28.37	-4.43	-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	52.0	45.9	54.5	55.2
Medium Trucks:	49.4	47.9	41.5	40.0	48.4	48.7
Heavy Trucks:	50.2	48.8	39.8	41.0	49.4	49.5
Vehicle Noise:	57.5	55.7	52.6	47.9	56.5	56.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	13	27	58	125
CNEL:	13	29	62	134

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	w/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-41.95	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-59.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-63.15	-4.51	-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:	20.8	18.9	17.1	11.1	19.7	20.3
Medium Trucks:	14.5	13.0	6.7	5.1	13.6	13.8
Heavy Trucks:	15.4	14.0	4.9	6.2	14.5	14.7
Vehicle Noise:	22.6	20.9	17.7	13.1	21.6	22.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	50 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-14.96	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-32.20	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-36.16	-4.51	-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:	47.8	45.9	44.1	38.1	46.7	47.3
Medium Trucks:	41.5	40.0	33.7	32.1	40.6	40.8
Heavy Trucks:	42.4	41.0	31.9	33.2	41.5	41.7
Vehicle Noise:	49.6	47.9	44.7	40.0	48.6	49.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	8	17	37
CNEL:	4	9	19	40

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Joshua Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	60 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-14.17	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-31.41	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-35.36	-4.43	-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:	48.7	46.8	45.0	38.9	47.6	48.2
Medium Trucks:	42.4	40.9	34.5	33.0	41.5	41.7
Heavy Trucks:	43.3	41.8	32.8	34.1	42.4	42.5
Vehicle Noise:	50.5	48.8	45.6	40.9	49.5	49.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	4	9	20	43
CNEL:	5	10	21	46

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Thunderbird Road	*Job Number:*	5930
Road Segment:	w/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.76	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.99	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.95	-4.43	-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:	59.1	57.2	55.4	49.4	58.0	58.6
Medium Trucks:	52.8	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	53.7	52.3	43.2	44.5	52.8	52.9
Vehicle Noise:	60.9	59.2	56.0	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	98	211
CNEL:	23	49	105	227

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Thunderbird Road	*Job Number:*	5930
Road Segment:	e/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	390 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.04	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.28	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.23	-4.43	-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:	56.8	54.9	53.1	47.1	55.7	56.3
Medium Trucks:	50.5	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	51.4	50.0	40.9	42.2	50.5	50.7
Vehicle Noise:	58.6	56.9	53.7	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	32	69	149
CNEL:	16	34	74	160

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Standing Rock Avenue	*Job Number:*	5930
Road Segment:	w/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	170 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-9.65	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-26.88	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-30.84	-4.51	-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:	53.1	51.2	49.4	43.4	52.0	52.6
Medium Trucks:	46.9	45.3	39.0	37.4	45.9	46.1
Heavy Trucks:	47.7	46.3	37.2	38.5	46.8	47.0
Vehicle Noise:	54.9	53.2	50.0	45.4	53.9	54.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	84
CNEL:	9	20	42	91

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Standing Rock Avenue	*Job Number:*	5930
Road Segment:	e/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	170 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-9.65	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-26.88	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-30.84	-4.51	-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:	53.1	51.2	49.4	43.4	52.0	52.6
Medium Trucks:	46.9	45.3	39.0	37.4	45.9	46.1
Heavy Trucks:	47.7	46.3	37.2	38.5	46.8	47.0
Vehicle Noise:	54.9	53.2	50.0	45.4	53.9	54.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	84
CNEL:	9	20	42	91

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Yucca Loma Road	*Job Number:*	5930
Road Segment:	w/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,370 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.04	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-18.28	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-22.24	-4.17	-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:	63.8	61.9	60.1	54.1	62.7	63.3
Medium Trucks:	57.4	55.8	49.5	47.9	56.4	56.6
Heavy Trucks:	57.8	56.4	47.3	48.6	56.9	57.0
Vehicle Noise:	65.5	63.7	60.7	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	198	427
CNEL:	46	99	213	458

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Yucca Loma Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	860 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-3.06	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-20.30	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-24.26	-4.17	-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:	61.8	59.9	58.1	52.0	60.7	61.3
Medium Trucks:	55.3	53.8	47.5	45.9	54.4	54.6
Heavy Trucks:	55.8	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	63.5	61.7	58.7	53.9	62.4	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	313
CNEL:	34	72	156	336

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	w/o Bear Valley Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-5.08	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-22.32	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-26.28	-4.17	-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:	59.7	57.8	56.1	50.0	58.6	59.3
Medium Trucks:	53.3	51.8	45.4	43.9	52.4	52.6
Heavy Trucks:	53.7	52.3	43.3	44.5	52.9	53.0
Vehicle Noise:	61.4	59.7	56.6	51.9	60.4	60.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	106	229
CNEL:	25	53	114	246

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	e/o Bear Valley Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,230 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.05	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.29	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.25	-4.43	-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:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	55.5	54.0	47.7	46.1	54.6	54.8
Heavy Trucks:	56.4	55.0	45.9	47.2	55.5	55.7
Vehicle Noise:	63.6	61.9	58.7	54.0	62.6	63.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	320
CNEL:	34	74	159	344

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	e/o Milpas Dr.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	970 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.08	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.32	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.28	-4.43	-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:	60.7	58.8	57.1	51.0	59.6	60.3
Medium Trucks:	54.5	53.0	46.6	45.1	53.5	53.8
Heavy Trucks:	55.3	53.9	44.9	46.1	54.5	54.6
Vehicle Noise:	62.6	60.8	57.7	53.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	59	127	273
CNEL:	29	63	136	293

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Dale Evans Parkway	*Job Number:*	5930
Road Segment:	s/o Thunderbird Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	490 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.05	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.29	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.24	-4.43	-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:	57.8	55.9	54.1	48.1	56.7	57.3
Medium Trucks:	51.5	50.0	43.7	42.1	50.6	50.8
Heavy Trucks:	52.4	51.0	41.9	43.2	51.5	51.7
Vehicle Noise:	59.6	57.9	54.7	50.0	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	173
CNEL:	19	40	86	186

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Navajo Road	*Job Number:*	5930
Road Segment:	n/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,090	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.58	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.82	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.77	-4.43	-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:	61.2	59.4	57.6	51.5	60.2	60.8
Medium Trucks:	55.0	53.5	47.1	45.6	54.1	54.3
Heavy Trucks:	55.9	54.4	45.4	46.6	55.0	55.1
Vehicle Noise:	63.1	61.3	58.2	53.5	62.1	62.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	137	295
CNEL:	32	68	147	317

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	s/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	810 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.87	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.10	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.06	-4.43	-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:	60.0	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	53.7	52.2	45.8	44.3	52.8	53.0
Heavy Trucks:	54.6	53.1	44.1	45.4	53.7	53.8
Vehicle Noise:	61.8	60.1	56.9	52.2	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	242
CNEL:	26	56	121	260

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	870 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.56	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.79	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.75	-4.43	-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:	60.3	58.4	56.6	50.6	59.2	59.8
Medium Trucks:	54.0	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	54.9	53.5	44.4	45.7	54.0	54.1
Vehicle Noise:	62.1	60.4	57.2	52.5	61.1	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	254
CNEL:	27	59	127	273

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Yucca Loma Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	940 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.46	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-4.43	-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:	60.6	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	54.4	52.9	46.5	44.9	53.4	53.6
Heavy Trucks:	55.2	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	62.4	60.7	57.6	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	124	268
CNEL:	29	62	133	287

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Esaws Ave.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.76	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.99	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.95	-4.43	-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:	59.1	57.2	55.4	49.4	58.0	58.6
Medium Trucks:	52.8	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	53.7	52.3	43.2	44.5	52.8	52.9
Vehicle Noise:	60.9	59.2	56.0	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	98	211
CNEL:	23	49	105	227

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Standing Rock Ave.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,600	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	660	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.76	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.99	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.95	-4.43	-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:	59.1	57.2	55.4	49.4	58.0	58.6
Medium Trucks:	52.8	51.3	45.0	43.4	51.9	52.1
Heavy Trucks:	53.7	52.3	43.2	44.5	52.8	52.9
Vehicle Noise:	60.9	59.2	56.0	51.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	98	211
CNEL:	23	49	105	227

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Thunderbird Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	500	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.96	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.20	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.16	-4.43	-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:	57.9	56.0	54.2	48.1	56.8	57.4
Medium Trucks:	51.6	50.1	43.8	42.2	50.7	50.9
Heavy Trucks:	52.5	51.0	42.0	43.3	51.6	51.7
Vehicle Noise:	59.7	58.0	54.8	50.1	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	38	82	176
CNEL:	19	41	88	189

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	390 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.04	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.28	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.23	-4.43	-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:	56.8	54.9	53.1	47.1	55.7	56.3
Medium Trucks:	50.5	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	51.4	50.0	40.9	42.2	50.5	50.7
Vehicle Noise:	58.6	56.9	53.7	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	32	69	149
CNEL:	16	34	74	160

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Waalew Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	140 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.49	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-27.73	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-31.68	-4.43	-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:	52.3	50.4	48.7	42.6	51.2	51.8
Medium Trucks:	46.1	44.6	38.2	36.7	45.1	45.4
Heavy Trucks:	46.9	45.5	36.5	37.7	46.1	46.2
Vehicle Noise:	54.2	52.4	49.3	44.6	53.1	53.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	16	35	75
CNEL:	8	17	37	81

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	s/o Esaws Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-41.95	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-59.19	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-63.15	-4.43	-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:	20.9	19.0	17.2	11.2	19.8	20.4
Medium Trucks:	14.6	13.1	6.8	5.2	13.7	13.9
Heavy Trucks:	15.5	14.1	5.0	6.3	14.6	14.8
Vehicle Noise:	22.7	21.0	17.8	13.1	21.7	22.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	n/o Esaws Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	280 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.48	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-24.72	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-28.67	-4.43	-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:	55.3	53.4	51.7	45.6	54.2	54.9
Medium Trucks:	49.1	47.6	41.2	39.7	48.2	48.4
Heavy Trucks:	50.0	48.5	39.5	40.7	49.1	49.2
Vehicle Noise:	57.2	55.4	52.3	47.6	56.2	56.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	55	119
CNEL:	13	28	59	128

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	n/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	130 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.81	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-28.05	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-32.01	-4.43	-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:	52.0	50.1	48.3	42.3	50.9	51.5
Medium Trucks:	45.8	44.3	37.9	36.4	44.8	45.1
Heavy Trucks:	46.6	45.2	36.2	37.4	45.8	45.9
Vehicle Noise:	53.9	52.1	49.0	44.3	52.8	53.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	72
CNEL:	8	17	36	77

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Existing	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Laguna Seca Dr.	*Job Number:*	5930
Road Segment:	s/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-41.95	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-59.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-63.15	-4.51	-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:	20.8	18.9	17.1	11.1	19.7	20.3
Medium Trucks:	14.5	13.0	6.7	5.1	13.6	13.8
Heavy Trucks:	15.4	14.0	4.9	6.2	14.5	14.7
Vehicle Noise:	22.6	20.9	17.7	13.1	21.6	22.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	w/o Dale Evans Pkwy.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	920 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.31	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.55	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.51	-4.43	-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:	60.5	58.6	56.8	50.8	59.4	60.0
Medium Trucks:	54.3	52.8	46.4	44.9	53.3	53.5
Heavy Trucks:	55.1	53.7	44.7	45.9	54.3	54.4
Vehicle Noise:	62.3	60.6	57.5	52.8	61.3	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	57	122	264
CNEL:	28	61	131	283

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Dale Evans Pkwy.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	810 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.87	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.10	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.06	-4.43	-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:	60.0	58.1	56.3	50.2	58.9	59.5
Medium Trucks:	53.7	52.2	45.8	44.3	52.8	53.0
Heavy Trucks:	54.6	53.1	44.1	45.4	53.7	53.8
Vehicle Noise:	61.8	60.1	56.9	52.2	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	52	113	242
CNEL:	26	56	121	260

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	580 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.32	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.56	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.51	-4.43	-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:	58.5	56.6	54.8	48.8	57.4	58.0
Medium Trucks:	52.3	50.8	44.4	42.9	51.3	51.5
Heavy Trucks:	53.1	51.7	42.7	43.9	52.3	52.4
Vehicle Noise:	60.3	58.6	55.5	50.8	59.3	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	194
CNEL:	21	45	97	208

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	580 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.32	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.56	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.51	-4.43	-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:	58.5	56.6	54.8	48.8	57.4	58.0
Medium Trucks:	52.3	50.8	44.4	42.9	51.3	51.5
Heavy Trucks:	53.1	51.7	42.7	43.9	52.3	52.4
Vehicle Noise:	60.3	58.6	55.5	50.8	59.3	59.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	42	90	194
CNEL:	21	45	97	208

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	490 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.05	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.29	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.24	-4.43	-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:	57.8	55.9	54.1	48.1	56.7	57.3
Medium Trucks:	51.5	50.0	43.7	42.1	50.6	50.8
Heavy Trucks:	52.4	51.0	41.9	43.2	51.5	51.7
Vehicle Noise:	59.6	57.9	54.7	50.0	58.6	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	37	80	173
CNEL:	19	40	86	186

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	w/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	10 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-21.95	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-39.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-43.15	-4.51	-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:	40.8	38.9	37.1	31.1	39.7	40.3
Medium Trucks:	34.5	33.0	26.7	25.1	33.6	33.8
Heavy Trucks:	35.4	34.0	24.9	26.2	34.5	34.7
Vehicle Noise:	42.6	40.9	37.7	33.1	41.6	42.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	1	3	6	13
CNEL:	1	3	6	14

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	80 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-12.92	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-30.16	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-34.11	-4.51	-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:	49.8	47.9	46.2	40.1	48.7	49.3
Medium Trucks:	43.6	42.1	35.7	34.2	42.6	42.9
Heavy Trucks:	44.4	43.0	34.0	35.2	43.6	43.7
Vehicle Noise:	51.7	49.9	46.8	42.1	50.6	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	25	55

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Joshua Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	90 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-12.41	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-29.65	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-33.60	-4.43	-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:	50.4	48.5	46.8	40.7	49.3	49.9
Medium Trucks:	44.2	42.7	36.3	34.8	43.2	43.5
Heavy Trucks:	45.0	43.6	34.6	35.8	44.2	44.3
Vehicle Noise:	52.3	50.5	47.4	42.7	51.2	51.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	6	12	26	56
CNEL:	6	13	28	60

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Thunderbird Road	*Job Number:*	5930
Road Segment:	w/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,280 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.88	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.12	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.07	-4.43	-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:	61.9	60.0	58.3	52.2	60.8	61.5
Medium Trucks:	55.7	54.2	47.8	46.3	54.8	55.0
Heavy Trucks:	56.6	55.1	46.1	47.3	55.7	55.8
Vehicle Noise:	63.8	62.0	58.9	54.2	62.8	63.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	71	153	329
CNEL:	35	76	164	353

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Thunderbird Road	*Job Number:*	5930
Road Segment:	e/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	840 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.71	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.95	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.90	-4.43	-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:	60.1	58.2	56.5	50.4	59.0	59.6
Medium Trucks:	53.9	52.4	46.0	44.5	52.9	53.2
Heavy Trucks:	54.7	53.3	44.3	45.5	53.9	54.0
Vehicle Noise:	62.0	60.2	57.1	52.4	60.9	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	54	115	248
CNEL:	27	57	124	266

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Standing Rock Avenue	*Job Number:*	5930
Road Segment:	w/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	480 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.14	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.38	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.33	-4.51	-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:	57.6	55.7	53.9	47.9	56.5	57.1
Medium Trucks:	51.4	49.9	43.5	41.9	50.4	50.6
Heavy Trucks:	52.2	50.8	41.7	43.0	51.4	51.5
Vehicle Noise:	59.4	57.7	54.5	49.9	58.4	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	169
CNEL:	18	39	84	181

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Standing Rock Avenue	*Job Number:*	5930
Road Segment:	e/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	480 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.14	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.38	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.33	-4.51	-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:	57.6	55.7	53.9	47.9	56.5	57.1
Medium Trucks:	51.4	49.9	43.5	41.9	50.4	50.6
Heavy Trucks:	52.2	50.8	41.7	43.0	51.4	51.5
Vehicle Noise:	59.4	57.7	54.5	49.9	58.4	58.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	17	36	78	169
CNEL:	18	39	84	181

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Yucca Loma Road	*Job Number:*	5930
Road Segment:	w/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	31,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,100 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.51	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.73	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.69	-4.17	-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	63.7	57.6	66.2	66.8
Medium Trucks:	60.9	59.4	53.0	51.5	59.9	60.2
Heavy Trucks:	61.3	59.9	50.9	52.1	60.5	60.6
Vehicle Noise:	69.0	67.3	64.2	59.4	68.0	68.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	74	158	341	735
CNEL:	79	170	367	790

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Yucca Loma Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,880 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.33	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.91	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.86	-4.17	-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:	65.2	63.3	61.5	55.4	64.1	64.7
Medium Trucks:	58.7	57.2	50.9	49.3	57.8	58.0
Heavy Trucks:	59.1	57.7	48.7	49.9	58.3	58.4
Vehicle Noise:	66.9	65.1	62.1	57.3	65.8	66.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	53	113	244	527
CNEL:	57	122	263	566

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	w/o Bear Valley Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,020	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	72	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.32	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-19.56	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-23.52	-4.17	-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:	62.5	60.6	58.8	52.8	61.4	62.0
Medium Trucks:	56.1	54.6	48.2	46.7	55.1	55.3
Heavy Trucks:	56.5	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	64.2	62.4	59.4	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	163	350
CNEL:	38	81	175	376

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	e/o Bear Valley Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,600	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,560	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.13	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.11	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.06	-4.43	-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:	65.0	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	58.7	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	59.6	58.1	49.1	50.4	58.7	58.8
Vehicle Noise:	66.8	65.1	61.9	57.2	65.8	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	522
CNEL:	56	121	260	560

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	e/o Milpas Dr.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,170 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.41	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.82	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.78	-4.43	-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	60.6	54.5	63.1	63.7
Medium Trucks:	58.0	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.8	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	66.1	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	101	217	468
CNEL:	50	108	233	502

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Dale Evans Parkway	*Job Number:*	5930
Road Segment:	s/o Thunderbird Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	900 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.41	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.65	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.60	-4.43	-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:	60.4	58.5	56.8	50.7	59.3	59.9
Medium Trucks:	54.2	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	55.0	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	62.3	60.5	57.4	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	121	260
CNEL:	28	60	129	279

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Navajo Road	*Job Number:*	5930
Road Segment:	n/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,420 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.89	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.35	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.31	-4.43	-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	61.0	55.0	63.6	64.2
Medium Trucks:	58.5	57.0	50.6	49.1	57.5	57.7
Heavy Trucks:	59.3	57.9	48.9	50.1	58.5	58.6
Vehicle Noise:	66.5	64.8	61.7	57.0	65.5	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	108	233	503
CNEL:	54	116	250	539

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	s/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,600 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.09	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.15	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.10	-4.43	-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	59.3	53.2	61.8	62.4
Medium Trucks:	56.7	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	57.5	56.1	47.1	48.3	56.7	56.8
Vehicle Noise:	64.8	63.0	59.9	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	382
CNEL:	41	88	190	409

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,750 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.48	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.76	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.71	-4.43	-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	59.6	53.6	62.2	62.8
Medium Trucks:	57.1	55.6	49.2	47.6	56.1	56.3
Heavy Trucks:	57.9	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	65.1	63.4	60.2	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	87	188	405
CNEL:	43	94	202	435

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Yucca Loma Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,970 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.99	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.24	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.20	-4.43	-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:	63.8	61.9	60.2	54.1	62.7	63.3
Medium Trucks:	57.6	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	58.4	57.0	48.0	49.2	57.6	57.7
Vehicle Noise:	65.7	63.9	60.8	56.1	64.6	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	94	203	438
CNEL:	47	101	218	470

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Esaws Ave.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,440 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.37	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.61	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.56	-4.43	-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:	62.5	60.6	58.8	52.7	61.4	62.0
Medium Trucks:	56.2	54.7	48.3	46.8	55.3	55.5
Heavy Trucks:	57.1	55.6	46.6	47.9	56.2	56.3
Vehicle Noise:	64.3	62.6	59.4	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	177	382

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Standing Rock Ave.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,200 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.16	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.40	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.35	-4.43	-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:	61.7	59.8	58.0	51.9	60.6	61.2
Medium Trucks:	55.4	53.9	47.6	46.0	54.5	54.7
Heavy Trucks:	56.3	54.8	45.8	47.1	55.4	55.5
Vehicle Noise:	63.5	61.8	58.6	53.9	62.5	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	68	146	315
CNEL:	34	73	157	338

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Thunderbird Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	870 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.56	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.79	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.75	-4.43	-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:	60.3	58.4	56.6	50.6	59.2	59.8
Medium Trucks:	54.0	52.5	46.2	44.6	53.1	53.3
Heavy Trucks:	54.9	53.5	44.4	45.7	54.0	54.1
Vehicle Noise:	62.1	60.4	57.2	52.5	61.1	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	55	118	254
CNEL:	27	59	127	273

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.44	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.68	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.63	-4.43	-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:	59.4	57.5	55.7	49.7	58.3	58.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.5	44.8	53.1	53.3
Vehicle Noise:	61.2	59.5	56.3	51.7	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	111	238

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Waalew Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	290 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.33	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-24.57	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-28.52	-4.43	-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:	55.5	53.6	51.8	45.8	54.4	55.0
Medium Trucks:	49.3	47.7	41.4	39.8	48.3	48.5
Heavy Trucks:	50.1	48.7	39.6	40.9	49.2	49.4
Vehicle Noise:	57.3	55.6	52.4	47.8	56.3	56.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	12	26	57	122
CNEL:	13	28	61	131

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	s/o Esaws Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	710 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.44	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.68	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.63	-4.43	-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:	59.4	57.5	55.7	49.7	58.3	58.9
Medium Trucks:	53.1	51.6	45.3	43.7	52.2	52.4
Heavy Trucks:	54.0	52.6	43.5	44.8	53.1	53.3
Vehicle Noise:	61.2	59.5	56.3	51.7	60.2	60.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	22	48	103	222
CNEL:	24	51	111	238

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	n/o Esaws Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	600 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.17	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.41	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.36	-4.43	-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:	58.7	56.8	55.0	48.9	57.6	58.2
Medium Trucks:	52.4	50.9	44.5	43.0	51.5	51.7
Heavy Trucks:	53.3	51.8	42.8	44.1	52.4	52.5
Vehicle Noise:	60.5	58.8	55.6	50.9	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	92	198
CNEL:	21	46	99	213

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	n/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	230 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-8.33	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-25.57	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-29.53	-4.43	-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:	54.5	52.6	50.8	44.8	53.4	54.0
Medium Trucks:	48.2	46.7	40.4	38.8	47.3	47.5
Heavy Trucks:	49.1	47.7	38.6	39.9	48.2	48.4
Vehicle Noise:	56.3	54.6	51.4	46.8	55.3	55.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	23	49	105
CNEL:	11	24	52	112

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Laguna Seca Dr.	*Job Number:*	5930
Road Segment:	s/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-41.95	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-59.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-63.15	-4.51	-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:	20.8	18.9	17.1	11.1	19.7	20.3
Medium Trucks:	14.5	13.0	6.7	5.1	13.6	13.8
Heavy Trucks:	15.4	14.0	4.9	6.2	14.5	14.7
Vehicle Noise:	22.6	20.9	17.7	13.1	21.6	22.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	w/o Dale Evans Pkwy.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	980 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.04	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.28	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.23	-4.43	-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:	60.8	58.9	57.1	51.1	59.7	60.3
Medium Trucks:	54.5	53.0	46.7	45.1	53.6	53.8
Heavy Trucks:	55.4	54.0	44.9	46.2	54.5	54.7
Vehicle Noise:	62.6	60.9	57.7	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	59	128	275
CNEL:	30	64	137	295

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Dale Evans Pkwy.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	940 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.46	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-4.43	-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:	60.6	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	54.4	52.9	46.5	44.9	53.4	53.6
Heavy Trucks:	55.2	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	62.4	60.7	57.6	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	124	268
CNEL:	29	62	133	287

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	730 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.32	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.56	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.51	-4.43	-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:	59.5	57.6	55.8	49.8	58.4	59.0
Medium Trucks:	53.3	51.8	45.4	43.9	52.3	52.5
Heavy Trucks:	54.1	52.7	43.7	44.9	53.3	53.4
Vehicle Noise:	61.3	59.6	56.5	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	113	243

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	730 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.32	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.56	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.51	-4.43	-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:	59.5	57.6	55.8	49.8	58.4	59.0
Medium Trucks:	53.3	51.8	45.4	43.9	52.3	52.5
Heavy Trucks:	54.1	52.7	43.7	44.9	53.3	53.4
Vehicle Noise:	61.3	59.6	56.5	51.8	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	49	105	226
CNEL:	24	52	113	243

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	620 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.03	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.27	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.22	-4.43	-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:	58.8	56.9	55.1	49.1	57.7	58.3
Medium Trucks:	52.6	51.0	44.7	43.1	51.6	51.8
Heavy Trucks:	53.4	52.0	42.9	44.2	52.5	52.7
Vehicle Noise:	60.6	58.9	55.7	51.1	59.6	60.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	94	203
CNEL:	22	47	101	218

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	w/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	10 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-21.95	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-39.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-43.15	-4.51	-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:	40.8	38.9	37.1	31.1	39.7	40.3
Medium Trucks:	34.5	33.0	26.7	25.1	33.6	33.8
Heavy Trucks:	35.4	34.0	24.9	26.2	34.5	34.7
Vehicle Noise:	42.6	40.9	37.7	33.1	41.6	42.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	1	3	6	13
CNEL:	1	3	6	14

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	780 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.03	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.27	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.22	-4.51	-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:	59.7	57.8	56.0	50.0	58.6	59.2
Medium Trucks:	53.5	52.0	45.6	44.1	52.5	52.7
Heavy Trucks:	54.3	52.9	43.9	45.1	53.5	53.6
Vehicle Noise:	61.5	59.8	56.7	52.0	60.5	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	23	50	108	233
CNEL:	25	54	116	250

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Joshua Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	940 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.22	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.46	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.41	-4.43	-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:	60.6	58.7	56.9	50.9	59.5	60.1
Medium Trucks:	54.4	52.9	46.5	44.9	53.4	53.6
Heavy Trucks:	55.2	53.8	44.8	46.0	54.4	54.5
Vehicle Noise:	62.4	60.7	57.6	52.9	61.4	61.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	58	124	268
CNEL:	29	62	133	287

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Thunderbird Road	*Job Number:*	5930
Road Segment:	w/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,620 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.14	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.09	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.05	-4.43	-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:	63.0	61.1	59.3	53.3	61.9	62.5
Medium Trucks:	56.7	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	57.6	56.2	47.1	48.4	56.7	56.8
Vehicle Noise:	64.8	63.1	59.9	55.2	63.8	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	83	179	385
CNEL:	41	89	192	413

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Thunderbird Road	*Job Number:*	5930
Road Segment:	e/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,260	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.95	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.19	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.14	-4.43	-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:	61.9	60.0	58.2	52.2	60.8	61.4
Medium Trucks:	55.6	54.1	47.8	46.2	54.7	54.9
Heavy Trucks:	56.5	55.1	46.0	47.3	55.6	55.8
Vehicle Noise:	63.7	62.0	58.8	54.1	62.7	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	70	151	325
CNEL:	35	75	162	349

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Standing Rock Avenue	*Job Number:*	5930
Road Segment:	w/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	950 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.17	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.41	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.37	-4.51	-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:	60.6	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	54.3	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	55.2	53.7	44.7	46.0	54.3	54.4
Vehicle Noise:	62.4	60.7	57.5	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	57	123	266
CNEL:	29	61	132	285

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Standing Rock Avenue	*Job Number:*	5930
Road Segment:	e/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	950 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.17	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.41	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.37	-4.51	-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:	60.6	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	54.3	52.8	46.5	44.9	53.4	53.6
Heavy Trucks:	55.2	53.7	44.7	46.0	54.3	54.4
Vehicle Noise:	62.4	60.7	57.5	52.8	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	27	57	123	266
CNEL:	29	61	132	285

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Yucca Loma Road	*Job Number:*	5930
Road Segment:	w/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,330 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.82	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.42	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.38	-4.17	-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	64.0	57.9	66.5	67.2
Medium Trucks:	61.2	59.7	53.3	51.8	60.3	60.5
Heavy Trucks:	61.6	60.2	51.2	52.4	60.8	60.9
Vehicle Noise:	69.3	67.6	64.5	59.8	68.3	68.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	77	166	358	771
CNEL:	83	178	385	828

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Yucca Loma Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,000	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	72	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.60	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.64	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.59	-4.17	-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:	65.4	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	59.0	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.4	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	67.1	65.4	62.3	57.5	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	274	590

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	w/o Bear Valley Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,600	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,160	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	72	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.76	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-19.00	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-22.96	-4.17	-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:	63.1	61.2	59.4	53.3	62.0	62.6
Medium Trucks:	56.6	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.0	55.6	46.6	47.8	56.2	56.3
Vehicle Noise:	64.8	63.0	60.0	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	177	382
CNEL:	41	88	190	410

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	e/o Bear Valley Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,690	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.35	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.89	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.85	-4.43	-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:	65.2	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.9	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	59.8	58.4	49.3	50.6	58.9	59.0
Vehicle Noise:	67.0	65.3	62.1	57.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	116	250	540
CNEL:	58	125	269	579

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	e/o Milpas Dr.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,300 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.67	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.57	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.53	-4.43	-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:	64.5	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	58.2	56.7	50.4	48.8	57.3	57.5
Heavy Trucks:	59.1	57.7	48.6	49.9	58.2	58.4
Vehicle Noise:	66.3	64.6	61.4	56.8	65.3	65.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	226	486
CNEL:	52	112	242	521

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Dale Evans Parkway	*Job Number:*	5930
Road Segment:	s/o Thunderbird Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	900 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.41	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.65	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.60	-4.43	-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:	60.4	58.5	56.8	50.7	59.3	59.9
Medium Trucks:	54.2	52.7	46.3	44.8	53.2	53.5
Heavy Trucks:	55.0	53.6	44.6	45.8	54.2	54.3
Vehicle Noise:	62.3	60.5	57.4	52.7	61.2	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	121	260
CNEL:	28	60	129	279

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Navajo Road	*Job Number:*	5930
Road Segment:	n/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,550 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.11	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.12	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.08	-4.43	-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	61.3	55.2	63.8	64.4
Medium Trucks:	58.7	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	59.5	58.1	49.1	50.3	58.7	58.8
Vehicle Noise:	66.8	65.0	61.9	57.2	65.7	66.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	52	112	242	521
CNEL:	56	120	259	559

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Year 2020 With Project
Road Name: Central Road
Road Segment: s/o Ottawa Rd.

Project Name: Hacienda at Fairview EIR
Job Number: 5930
Analyst: J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,750 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.48	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.76	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.71	-4.43	-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	59.6	53.6	62.2	62.8
Medium Trucks:	57.1	55.6	49.2	47.6	56.1	56.3
Heavy Trucks:	57.9	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	65.1	63.4	60.2	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	87	188	405
CNEL:	43	94	202	435

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,400	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,940	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.93	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.31	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.27	-4.43	-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:	63.8	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	57.5	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	58.4	56.9	47.9	49.1	57.5	57.6
Vehicle Noise:	65.6	63.8	60.7	56.0	64.6	65.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	93	201	434
CNEL:	47	100	216	465

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Yucca Loma Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,200 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.47	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.77	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.72	-4.43	-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:	64.3	62.4	60.6	54.6	63.2	63.8
Medium Trucks:	58.1	56.5	50.2	48.6	57.1	57.3
Heavy Trucks:	58.9	57.5	48.4	49.7	58.0	58.2
Vehicle Noise:	66.1	64.4	61.2	56.6	65.1	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	102	219	472
CNEL:	51	109	235	506

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Esaws Ave.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,680 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.30	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.94	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.89	-4.43	-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:	63.1	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	56.9	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	57.7	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	65.0	63.2	60.1	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	85	183	394
CNEL:	42	91	196	423

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Standing Rock Ave.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,380 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.55	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.79	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.75	-4.43	-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:	62.3	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	56.0	54.5	48.2	46.6	55.1	55.3
Heavy Trucks:	56.9	55.5	46.4	47.7	56.0	56.2
Vehicle Noise:	64.1	62.4	59.2	54.5	63.1	63.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	74	161	346
CNEL:	37	80	172	371

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Thunderbird Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,490 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.22	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.46	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.41	-4.43	-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	58.9	52.9	61.5	62.1
Medium Trucks:	56.4	54.9	48.5	46.9	55.4	55.6
Heavy Trucks:	57.2	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	64.4	62.7	59.6	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	169	364
CNEL:	39	84	181	390

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	790 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.97	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.21	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.17	-4.43	-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:	59.9	58.0	56.2	50.1	58.8	59.4
Medium Trucks:	53.6	52.1	45.7	44.2	52.7	52.9
Heavy Trucks:	54.5	53.0	44.0	45.2	53.6	53.7
Vehicle Noise:	61.7	59.9	56.8	52.1	60.7	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	111	238
CNEL:	26	55	119	256

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Waalew Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	340 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.64	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.87	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.83	-4.43	-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:	56.2	54.3	52.5	46.5	55.1	55.7
Medium Trucks:	49.9	48.4	42.1	40.5	49.0	49.2
Heavy Trucks:	50.8	49.4	40.3	41.6	49.9	50.1
Vehicle Noise:	58.0	56.3	53.1	48.5	57.0	57.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	14	29	63	136
CNEL:	15	31	68	146

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	s/o Esaws Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,700	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,070	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.66	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.90	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.85	-4.43	-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:	61.2	59.3	57.5	51.4	60.1	60.7
Medium Trucks:	54.9	53.4	47.1	45.5	54.0	54.2
Heavy Trucks:	55.8	54.4	45.3	46.6	54.9	55.0
Vehicle Noise:	63.0	61.3	58.1	53.4	62.0	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	63	135	292
CNEL:	31	67	145	313

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	n/o Esaws Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.99	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.23	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.19	-4.43	-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:	60.8	58.9	57.2	51.1	59.7	60.3
Medium Trucks:	54.6	53.1	46.7	45.2	53.6	53.9
Heavy Trucks:	55.4	54.0	45.0	46.2	54.6	54.7
Vehicle Noise:	62.7	60.9	57.8	53.1	61.6	62.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	60	129	277
CNEL:	30	64	138	297

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	n/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	390 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-6.04	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.28	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.23	-4.43	-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:	56.8	54.9	53.1	47.1	55.7	56.3
Medium Trucks:	50.5	49.0	42.7	41.1	49.6	49.8
Heavy Trucks:	51.4	50.0	40.9	42.2	50.5	50.7
Vehicle Noise:	58.6	56.9	53.7	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	32	69	149
CNEL:	16	34	74	160

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2020 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Laguna Seca Dr.	*Job Number:*	5930
Road Segment:	s/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	460 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.32	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-22.56	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-26.52	-4.51	-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:	57.4	55.5	53.8	47.7	56.3	56.9
Medium Trucks:	51.2	49.7	43.3	41.8	50.2	50.5
Heavy Trucks:	52.0	50.6	41.6	42.8	51.2	51.3
Vehicle Noise:	59.3	57.5	54.4	49.7	58.2	58.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	16	35	76	164
CNEL:	18	38	82	176

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	w/o Dale Evans Pkwy.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,240 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.02	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.26	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.21	-4.43	-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:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	55.6	54.1	47.7	46.2	54.6	54.8
Heavy Trucks:	56.4	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	63.6	61.9	58.8	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	322
CNEL:	35	74	160	345

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Dale Evans Pkwy.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,190 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.20	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.43	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.39	-4.43	-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:	61.6	59.7	58.0	51.9	60.5	61.1
Medium Trucks:	55.4	53.9	47.5	46.0	54.4	54.7
Heavy Trucks:	56.2	54.8	45.8	47.0	55.4	55.5
Vehicle Noise:	63.5	61.7	58.6	53.9	62.4	62.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	145	313
CNEL:	34	72	156	336

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,700	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,170	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.27	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.51	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.46	-4.43	-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:	61.6	59.7	57.9	51.8	60.5	61.1
Medium Trucks:	55.3	53.8	47.4	45.9	54.4	54.6
Heavy Trucks:	56.2	54.7	45.7	47.0	55.3	55.4
Vehicle Noise:	63.4	61.7	58.5	53.8	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	72	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,580 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.04	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.20	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.16	-4.43	-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	59.2	53.1	61.8	62.4
Medium Trucks:	56.6	55.1	48.7	47.2	55.7	55.9
Heavy Trucks:	57.5	56.0	47.0	48.3	56.6	56.7
Vehicle Noise:	64.7	63.0	59.8	55.1	63.7	64.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	378
CNEL:	41	87	188	406

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	530 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.71	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.95	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.90	-4.43	-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:	51.9	50.4	44.0	42.5	50.9	51.2
Heavy Trucks:	52.7	51.3	42.3	43.5	51.9	52.0
Vehicle Noise:	60.0	58.2	55.1	50.4	58.9	59.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	39	85	183
CNEL:	20	42	91	196

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	w/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,300 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	130 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-10.81	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-28.05	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-32.01	-4.51	-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:	51.9	50.0	48.3	42.2	50.8	51.4
Medium Trucks:	45.7	44.2	37.8	36.3	44.7	45.0
Heavy Trucks:	46.5	45.1	36.1	37.3	45.7	45.8
Vehicle Noise:	53.8	52.0	48.9	44.2	52.7	53.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	7	15	33	71
CNEL:	8	16	35	76

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	400 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.93	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.17	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.12	-4.51	-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:	56.8	54.9	53.1	47.1	55.7	56.3
Medium Trucks:	50.6	49.1	42.7	41.2	49.6	49.8
Heavy Trucks:	51.4	50.0	41.0	42.2	50.6	50.7
Vehicle Noise:	58.6	56.9	53.8	49.1	57.6	58.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	32	69	149
CNEL:	16	35	74	160

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Joshua Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	400 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-5.93	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-23.17	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-27.12	-4.43	-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:	56.9	55.0	53.2	47.2	55.8	56.4
Medium Trucks:	50.7	49.1	42.8	41.2	49.7	49.9
Heavy Trucks:	51.5	50.1	41.0	42.3	50.6	50.8
Vehicle Noise:	58.7	57.0	53.8	49.2	57.7	58.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	15	33	70	151
CNEL:	16	35	75	162

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Thunderbird Road	*Job Number:*	5930
Road Segment:	w/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,390 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.52	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.76	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.72	-4.43	-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:	62.3	60.4	58.6	52.6	61.2	61.8
Medium Trucks:	56.1	54.6	48.2	46.6	55.1	55.3
Heavy Trucks:	56.9	55.5	46.5	47.7	56.1	56.2
Vehicle Noise:	64.1	62.4	59.2	54.6	63.1	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	347
CNEL:	37	80	173	373

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Thunderbird Road	*Job Number:*	5930
Road Segment:	e/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	910 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.36	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.60	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.55	-4.43	-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:	60.5	58.6	56.8	50.7	59.4	60.0
Medium Trucks:	54.2	52.7	46.4	44.8	53.3	53.5
Heavy Trucks:	55.1	53.6	44.6	45.9	54.2	54.3
Vehicle Noise:	62.3	60.6	57.4	52.7	61.3	61.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	56	122	262
CNEL:	28	61	130	281

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Standing Rock Avenue	*Job Number:*	5930
Road Segment:	w/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,190	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	36	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.20	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.43	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.39	-4.51	-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:	61.5	59.6	57.9	51.8	60.4	61.1
Medium Trucks:	55.3	53.8	47.4	45.9	54.3	54.6
Heavy Trucks:	56.1	54.7	45.7	46.9	55.3	55.4
Vehicle Noise:	63.4	61.6	58.5	53.8	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	309
CNEL:	33	71	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Standing Rock Avenue	*Job Number:*	5930
Road Segment:	e/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,490 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.22	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.46	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.41	-4.51	-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:	62.5	60.6	58.9	52.8	61.4	62.0
Medium Trucks:	56.3	54.8	48.4	46.9	55.3	55.6
Heavy Trucks:	57.1	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	64.4	62.6	59.5	54.8	63.3	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	167	359
CNEL:	39	83	179	385

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Yucca Loma Road	*Job Number:*	5930
Road Segment:	w/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	33,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	3,390 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	72 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.89	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.34	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.30	-4.17	-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:	67.7	65.8	64.1	58.0	66.6	67.2
Medium Trucks:	61.3	59.8	53.4	51.9	60.3	60.6
Heavy Trucks:	61.7	60.3	51.2	52.5	60.9	61.0
Vehicle Noise:	69.4	67.7	64.6	59.8	68.4	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	78	168	362	780
CNEL:	84	181	389	838

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Yucca Loma Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,990	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	72	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.58	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.66	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.61	-4.17	-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:	65.4	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	59.0	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.4	58.0	48.9	50.2	58.5	58.7
Vehicle Noise:	67.1	65.4	62.3	57.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	254	547
CNEL:	59	127	273	588

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	w/o Bear Valley Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,000	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	72	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.60	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.64	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.59	-4.17	-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:	65.4	63.5	61.8	55.7	64.3	64.9
Medium Trucks:	59.0	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.4	58.0	49.0	50.2	58.6	58.7
Vehicle Noise:	67.1	65.4	62.3	57.5	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	255	549
CNEL:	59	127	274	590

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	e/o Bear Valley Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,700 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.36	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.88	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.83	-4.43	-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:	65.2	63.3	61.5	55.5	64.1	64.7
Medium Trucks:	58.9	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	59.8	58.4	49.3	50.6	58.9	59.1
Vehicle Noise:	67.0	65.3	62.1	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	251	541
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	e/o Milpas Dr.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,380 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.81	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.42	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.38	-4.43	-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	61.0	54.9	63.5	64.1
Medium Trucks:	58.4	56.9	50.5	49.0	57.4	57.7
Heavy Trucks:	59.2	57.8	48.8	50.0	58.4	58.5
Vehicle Noise:	66.5	64.7	61.6	56.9	65.4	65.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	107	231	497
CNEL:	53	115	248	533

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Dale Evans Parkway	*Job Number:*	5930
Road Segment:	s/o Thunderbird Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,000	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,500	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.19	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.43	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.38	-4.43	-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	59.0	52.9	61.5	62.1
Medium Trucks:	56.4	54.9	48.5	47.0	55.4	55.7
Heavy Trucks:	57.2	55.8	46.8	48.0	56.4	56.5
Vehicle Noise:	64.5	62.7	59.6	54.9	63.4	63.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	79	170	366
CNEL:	39	84	182	392

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Navajo Road	*Job Number:*	5930
Road Segment:	n/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,660 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.30	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.94	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.90	-4.43	-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:	65.1	63.2	61.5	55.4	64.0	64.6
Medium Trucks:	58.9	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	59.7	58.3	49.3	50.5	58.9	59.0
Vehicle Noise:	67.0	65.2	62.1	57.4	65.9	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	115	249	536
CNEL:	57	124	267	575

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	s/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,760 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.50	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.73	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.69	-4.43	-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	59.7	53.6	62.2	62.8
Medium Trucks:	57.1	55.6	49.2	47.7	56.1	56.4
Heavy Trucks:	57.9	56.5	47.5	48.7	57.1	57.2
Vehicle Noise:	65.2	63.4	60.3	55.6	64.1	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	41	88	189	407
CNEL:	44	94	202	436

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,990 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.04	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.20	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.16	-4.43	-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:	63.9	62.0	60.2	54.1	62.8	63.4
Medium Trucks:	57.6	56.1	49.8	48.2	56.7	56.9
Heavy Trucks:	58.5	57.0	48.0	49.3	57.6	57.7
Vehicle Noise:	65.7	64.0	60.8	56.1	64.7	65.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	95	205	441
CNEL:	47	102	220	473

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Yucca Loma Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,160 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.39	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.84	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.80	-4.43	-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	60.6	54.5	63.1	63.7
Medium Trucks:	58.0	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	58.8	57.4	48.4	49.6	58.0	58.1
Vehicle Noise:	66.1	64.3	61.2	56.5	65.0	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	47	100	216	466
CNEL:	50	108	232	500

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Esaws Ave.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,590	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.06	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.18	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.13	-4.43	-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	59.2	53.2	61.8	62.4
Medium Trucks:	56.6	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.5	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	64.7	63.0	59.8	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	380
CNEL:	41	88	189	408

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Standing Rock Ave.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,320 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.75	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.98	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.94	-4.43	-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:	62.1	60.2	58.4	52.4	61.0	61.6
Medium Trucks:	55.8	54.3	48.0	46.4	54.9	55.1
Heavy Trucks:	56.7	55.3	46.2	47.5	55.8	56.0
Vehicle Noise:	63.9	62.2	59.0	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	72	156	336
CNEL:	36	78	167	360

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Thunderbird Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	880 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.51	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.74	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.70	-4.43	-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:	60.3	58.4	56.7	50.6	59.2	59.8
Medium Trucks:	54.1	52.6	46.2	44.7	53.1	53.4
Heavy Trucks:	54.9	53.5	44.5	45.7	54.1	54.2
Vehicle Noise:	62.2	60.4	57.3	52.6	61.1	61.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	26	55	119	256
CNEL:	27	59	128	275

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,100 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.54	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.78	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.73	-4.43	-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:	61.3	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	55.0	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	55.9	54.5	45.4	46.7	55.0	55.2
Vehicle Noise:	63.1	61.4	58.2	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Waalew Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,400	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,240	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.02	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.26	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.21	-4.43	-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:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	55.6	54.1	47.7	46.2	54.6	54.8
Heavy Trucks:	56.4	55.0	46.0	47.2	55.6	55.7
Vehicle Noise:	63.6	61.9	58.8	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	322
CNEL:	35	74	160	345

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	s/o Esaws Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	780 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.03	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.27	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.22	-4.43	-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:	59.8	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	53.6	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.4	53.0	43.9	45.2	53.5	53.7
Vehicle Noise:	61.6	59.9	56.7	52.1	60.6	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	236
CNEL:	25	55	118	254

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	n/o Esaws Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	780 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.03	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.27	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.22	-4.43	-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:	59.8	57.9	56.1	50.1	58.7	59.3
Medium Trucks:	53.6	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	54.4	53.0	43.9	45.2	53.5	53.7
Vehicle Noise:	61.6	59.9	56.7	52.1	60.6	61.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	24	51	110	236
CNEL:	25	55	118	254

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	n/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	540 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-4.63	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.87	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.82	-4.43	-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:	58.2	56.3	54.5	48.5	57.1	57.7
Medium Trucks:	52.0	50.4	44.1	42.5	51.0	51.2
Heavy Trucks:	52.8	51.4	42.3	43.6	51.9	52.1
Vehicle Noise:	60.0	58.3	55.1	50.5	59.0	59.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	18	40	86	185
CNEL:	20	43	92	198

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 Without Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Laguna Seca Dr.	*Job Number:*	5930
Road Segment:	s/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	0 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-41.95	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-59.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-63.15	-4.51	-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:	20.8	18.9	17.1	11.1	19.7	20.3
Medium Trucks:	14.5	13.0	6.7	5.1	13.6	13.8
Heavy Trucks:	15.4	14.0	4.9	6.2	14.5	14.7
Vehicle Noise:	22.6	20.9	17.7	13.1	21.6	22.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	0	0	0	1
CNEL:	0	0	0	1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	w/o Dale Evans Pkwy.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.78	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.02	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.97	-4.43	-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:	62.0	60.1	58.4	52.3	61.0	61.6
Medium Trucks:	55.8	54.3	47.9	46.4	54.9	55.1
Heavy Trucks:	56.7	55.2	46.2	47.4	55.8	55.9
Vehicle Noise:	63.9	62.1	59.0	54.3	62.9	63.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	334
CNEL:	36	77	166	358

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Dale Evans Pkwy.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,440 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.37	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.61	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.56	-4.43	-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:	62.5	60.6	58.8	52.7	61.4	62.0
Medium Trucks:	56.2	54.7	48.3	46.8	55.3	55.5
Heavy Trucks:	57.1	55.6	46.6	47.9	56.2	56.3
Vehicle Noise:	64.3	62.6	59.4	54.7	63.3	63.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	77	165	356
CNEL:	38	82	177	382

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,700	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,470	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.28	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.52	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.47	-4.43	-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:	62.5	60.6	58.9	52.8	61.5	62.1
Medium Trucks:	56.3	54.8	48.4	46.9	55.4	55.6
Heavy Trucks:	57.2	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	64.4	62.6	59.5	54.8	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	167	361
CNEL:	39	83	180	387

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,890 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.81	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.42	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.38	-4.43	-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	60.0	53.9	62.5	63.1
Medium Trucks:	57.4	55.9	49.5	48.0	56.4	56.7
Heavy Trucks:	58.2	56.8	47.8	49.0	57.4	57.5
Vehicle Noise:	65.5	63.7	60.6	55.9	64.4	64.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	43	92	198	426
CNEL:	46	99	212	457

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Waalew Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,020 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.87	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.10	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.06	-4.43	-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:	61.0	59.1	57.3	51.2	59.9	60.5
Medium Trucks:	54.7	53.2	46.8	45.3	53.8	54.0
Heavy Trucks:	55.6	54.1	45.1	46.4	54.7	54.8
Vehicle Noise:	62.8	61.1	57.9	53.2	61.8	62.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	28	61	131	283
CNEL:	30	65	141	303

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	w/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	190 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-9.16	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-26.40	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-30.36	-4.51	-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:	53.6	51.7	49.9	43.9	52.5	53.1
Medium Trucks:	47.3	45.8	39.5	37.9	46.4	46.6
Heavy Trucks:	48.2	46.8	37.7	39.0	47.3	47.5
Vehicle Noise:	55.4	53.7	50.5	45.8	54.4	54.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	9	20	42	91
CNEL:	10	21	45	98

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,400	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,440	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	36	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.37	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.61	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.56	-4.51	-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:	62.4	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	56.1	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.0	55.6	46.5	47.8	56.1	56.3
Vehicle Noise:	64.2	62.5	59.3	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	351
CNEL:	38	81	175	377

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Joshua Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,010 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.08	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.16	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.11	-4.43	-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:	63.9	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	57.7	56.2	49.8	48.2	56.7	56.9
Heavy Trucks:	58.5	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	65.7	64.0	60.9	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	44	96	206	444
CNEL:	48	103	221	477

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Thunderbird Road	*Job Number:*	5930
Road Segment:	w/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,700	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,470	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.28	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.52	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.47	-4.43	-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:	62.5	60.6	58.9	52.8	61.5	62.1
Medium Trucks:	56.3	54.8	48.4	46.9	55.4	55.6
Heavy Trucks:	57.2	55.7	46.7	47.9	56.3	56.4
Vehicle Noise:	64.4	62.6	59.5	54.8	63.4	63.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	36	78	167	361
CNEL:	39	83	180	387

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Thunderbird Road	*Job Number:*	5930
Road Segment:	e/o Navajo Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,100 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.54	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.78	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.73	-4.43	-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:	61.3	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	55.0	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	55.9	54.5	45.4	46.7	55.0	55.2
Vehicle Noise:	63.1	61.4	58.2	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Standing Rock Avenue	*Job Number:*	5930
Road Segment:	w/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,260 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.95	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.19	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.14	-4.51	-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:	61.8	59.9	58.1	52.1	60.7	61.3
Medium Trucks:	55.5	54.0	47.7	46.1	54.6	54.8
Heavy Trucks:	56.4	55.0	45.9	47.2	55.5	55.7
Vehicle Noise:	63.6	61.9	58.7	54.1	62.6	63.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	32	69	149	321
CNEL:	34	74	160	345

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Standing Rock Avenue	*Job Number:*	5930
Road Segment:	e/o High Desert Corridor	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,670 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.28	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.96	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.92	-4.51	-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:	63.0	61.1	59.4	53.3	61.9	62.5
Medium Trucks:	56.8	55.3	48.9	47.4	55.8	56.1
Heavy Trucks:	57.6	56.2	47.2	48.4	56.8	56.9
Vehicle Noise:	64.9	63.1	60.0	55.3	63.8	64.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	83	180	388
CNEL:	42	90	193	416

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Yucca Loma Road	*Job Number:*	5930
Road Segment:	w/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	34,600	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	3,460	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	72	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	2.98	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-14.26	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-18.21	-4.17	-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:	67.8	65.9	64.1	58.1	66.7	67.3
Medium Trucks:	61.4	59.9	53.5	52.0	60.4	60.7
Heavy Trucks:	61.8	60.4	51.3	52.6	60.9	61.1
Vehicle Noise:	69.5	67.8	64.7	59.9	68.5	68.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	79	170	367	791
CNEL:	85	183	394	850

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Yucca Loma Road	*Job Number:*	5930
Road Segment:	e/o Central Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,070	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	72	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.75	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.49	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.44	-4.17	-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:	65.6	63.7	61.9	55.9	64.5	65.1
Medium Trucks:	59.1	57.6	51.3	49.7	58.2	58.4
Heavy Trucks:	59.6	58.1	49.1	50.4	58.7	58.8
Vehicle Noise:	67.3	65.5	62.5	57.7	66.2	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	56	121	261	562
CNEL:	60	130	280	603

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	w/o Bear Valley Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,090	vehicles
Vehicle Speed:	50	mph
Near/Far Lane Distance:	72	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	93.429
Medium Trucks:	93.334
Heavy Trucks:	93.344

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	0.79	-4.18	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	81.00	-16.45	-4.17	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-20.40	-4.17	-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:	65.6	63.7	62.0	55.9	64.5	65.1
Medium Trucks:	59.2	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	59.6	58.2	49.1	50.4	58.8	58.9
Vehicle Noise:	67.3	65.6	62.5	57.7	66.3	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	57	122	262	565
CNEL:	61	131	282	607

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	e/o Bear Valley Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,790	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.51	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.73	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.69	-4.43	-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:	65.3	63.4	61.7	55.6	64.2	64.8
Medium Trucks:	59.1	57.6	51.2	49.7	58.1	58.4
Heavy Trucks:	59.9	58.5	49.5	50.7	59.1	59.2
Vehicle Noise:	67.2	65.4	62.3	57.6	66.1	66.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	119	257	553
CNEL:	59	128	275	593

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Happy Trails Highway	*Job Number:*	5930
Road Segment:	e/o Milpas Dr.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,470 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.98	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.26	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.22	-4.43	-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:	64.8	62.9	61.1	55.1	63.7	64.3
Medium Trucks:	58.6	57.1	50.7	49.1	57.6	57.8
Heavy Trucks:	59.4	58.0	48.9	50.2	58.6	58.7
Vehicle Noise:	66.6	64.9	61.7	57.1	65.6	66.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	510
CNEL:	55	118	254	547

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Dale Evans Parkway	*Job Number:*	5930
Road Segment:	s/o Thunderbird Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,900 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,590 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.06	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.18	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.13	-4.43	-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	59.2	53.2	61.8	62.4
Medium Trucks:	56.6	55.1	48.8	47.2	55.7	55.9
Heavy Trucks:	57.5	56.1	47.0	48.3	56.6	56.8
Vehicle Noise:	64.7	63.0	59.8	55.2	63.7	64.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	38	82	176	380
CNEL:	41	88	189	408

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Navajo Road	*Job Number:*	5930
Road Segment:	n/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,300	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,730	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	2.41	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-14.83	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-18.78	-4.43	-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:	65.2	63.3	61.6	55.5	64.1	64.7
Medium Trucks:	59.0	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	59.8	58.4	49.4	50.6	59.0	59.1
Vehicle Noise:	67.1	65.3	62.2	57.5	66.0	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	545
CNEL:	58	126	271	585

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	s/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,200 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,820 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.65	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.59	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.54	-4.43	-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:	63.5	61.6	59.8	53.8	62.4	63.0
Medium Trucks:	57.2	55.7	49.4	47.8	56.3	56.5
Heavy Trucks:	58.1	56.7	47.6	48.9	57.2	57.4
Vehicle Noise:	65.3	63.6	60.4	55.7	64.3	64.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	42	90	193	416
CNEL:	45	96	207	446

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Ottawa Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,200	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	2,020	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.10	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.14	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.09	-4.43	-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:	63.9	62.0	60.3	54.2	62.8	63.4
Medium Trucks:	57.7	56.2	49.8	48.3	56.7	57.0
Heavy Trucks:	58.5	57.1	48.1	49.3	57.7	57.8
Vehicle Noise:	65.8	64.0	60.9	56.2	64.7	65.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	45	96	207	446
CNEL:	48	103	222	478

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Yucca Loma Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,250 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	1.57	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-15.67	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-19.62	-4.43	-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:	64.4	62.5	60.7	54.7	63.3	63.9
Medium Trucks:	58.2	56.6	50.3	48.7	57.2	57.4
Heavy Trucks:	59.0	57.6	48.5	49.8	58.1	58.3
Vehicle Noise:	66.2	64.5	61.3	56.7	65.2	65.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	222	479
CNEL:	51	111	239	514

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Esaws Ave.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,680 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.30	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-16.94	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-20.89	-4.43	-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:	63.1	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	56.9	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	57.7	56.3	47.3	48.5	56.9	57.0
Vehicle Noise:	65.0	63.2	60.1	55.4	63.9	64.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	39	85	183	394
CNEL:	42	91	196	423

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Standing Rock Ave.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,100	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,410	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	48	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.46	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.70	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.65	-4.43	-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:	62.4	60.5	58.7	52.6	61.3	61.9
Medium Trucks:	56.1	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.0	55.5	46.5	47.8	56.1	56.2
Vehicle Noise:	64.2	62.5	59.3	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	351
CNEL:	38	81	175	376

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Thunderbird Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,170 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.27	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.51	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.46	-4.43	-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:	61.6	59.7	57.9	51.8	60.5	61.1
Medium Trucks:	55.3	53.8	47.4	45.9	54.4	54.6
Heavy Trucks:	56.2	54.7	45.7	47.0	55.3	55.4
Vehicle Noise:	63.4	61.7	58.5	53.8	62.4	62.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	31	67	144	310
CNEL:	33	72	154	332

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,000 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,100 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.54	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.78	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.73	-4.43	-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:	61.3	59.4	57.6	51.6	60.2	60.8
Medium Trucks:	55.0	53.5	47.2	45.6	54.1	54.3
Heavy Trucks:	55.9	54.5	45.4	46.7	55.0	55.2
Vehicle Noise:	63.1	61.4	58.2	53.6	62.1	62.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	30	64	138	297
CNEL:	32	69	148	319

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Central Road	*Job Number:*	5930
Road Segment:	n/o Waalew Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,410 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-0.46	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.70	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.65	-4.43	-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:	62.4	60.5	58.7	52.6	61.3	61.9
Medium Trucks:	56.1	54.6	48.3	46.7	55.2	55.4
Heavy Trucks:	57.0	55.5	46.5	47.8	56.1	56.2
Vehicle Noise:	64.2	62.5	59.3	54.6	63.2	63.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	76	163	351
CNEL:	38	81	175	376

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	s/o Esaws Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	850 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.66	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.90	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.85	-4.43	-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:	60.2	58.3	56.5	50.4	59.1	59.7
Medium Trucks:	53.9	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	54.8	53.4	44.3	45.6	53.9	54.0
Vehicle Noise:	62.0	60.3	57.1	52.4	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	125	269

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	n/o Esaws Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	850 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.66	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.90	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.85	-4.43	-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:	60.2	58.3	56.5	50.4	59.1	59.7
Medium Trucks:	53.9	52.4	46.1	44.5	53.0	53.2
Heavy Trucks:	54.8	53.4	44.3	45.6	53.9	54.0
Vehicle Noise:	62.0	60.3	57.1	52.4	61.0	61.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	116	250
CNEL:	27	58	125	269

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Joshua Road	*Job Number:*	5930
Road Segment:	n/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,600 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	1,060 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	48 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	97.206
Medium Trucks:	97.115
Heavy Trucks:	97.124

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-1.70	-4.43	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-18.94	-4.43	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-22.89	-4.43	-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:	61.1	59.2	57.5	51.4	60.0	60.6
Medium Trucks:	54.9	53.4	47.0	45.5	53.9	54.2
Heavy Trucks:	55.7	54.3	45.3	46.5	54.9	55.0
Vehicle Noise:	63.0	61.2	58.1	53.4	61.9	62.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	29	62	135	290
CNEL:	31	67	144	311

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Year 2030 With Project	*Project Name:*	Hacienda at Fairview EIR
Road Name:	Laguna Seca Dr.	*Job Number:*	5930
Road Segment:	s/o Cahuilla Rd.	*Analyst:*	J.T. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,500 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	250 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-7.97	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-25.21	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-29.17	-4.51	-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:	54.8	52.9	51.1	45.0	53.7	54.3
Medium Trucks:	48.5	47.0	40.7	39.1	47.6	47.8
Heavy Trucks:	49.4	48.0	38.9	40.2	48.5	48.6
Vehicle Noise:	56.6	54.9	51.7	47.0	55.6	56.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	11	24	51	109
CNEL:	12	25	54	117

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APPENDIX G

On-Site FHWA Traffic Noise Model Printouts

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Buildout Contours	*Project Name:*	Haceinda @ Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	w/o Driveway A	*Analyst:*	J. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,800	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	1,580	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	36	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	0.04	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-17.20	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-21.16	-4.51	-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	59.1	53.1	61.7	62.3
Medium Trucks:	56.5	55.0	48.7	47.1	55.6	55.8
Heavy Trucks:	57.4	56.0	46.9	48.2	56.5	56.7
Vehicle Noise:	64.6	62.9	59.7	55.0	63.6	64.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	37	80	173	373
CNEL:	40	86	186	401

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Buildout Contours	*Project Name:*	Haceinda @ Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	w/o Driveway B	*Analyst:*	J. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,800 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	880 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-2.51	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-19.74	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-23.70	-4.51	-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:	60.2	58.3	56.6	50.5	59.1	59.7
Medium Trucks:	54.0	52.5	46.1	44.6	53.0	53.3
Heavy Trucks:	54.8	53.4	44.4	45.6	54.0	54.1
Vehicle Noise:	62.1	60.3	57.2	52.5	61.0	61.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	25	54	117	253
CNEL:	27	58	126	271

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Buildout Contours	*Project Name:*	Haceinda @ Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	w/o Driveway C	*Analyst:*	J. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,900	vehicles
Peak Hour Percentage:	10%	
Peak Hour Volume:	690	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	36	feet

Site Data

Barrier Height:	**0.0**	**feet**
Barrier Type (0-Wall, 1-Berm):	0.0	
Centerline Dist. to Barrier:	100.0	feet
Centerline Dist. to Observer:	100.0	feet
Barrier Distance to Observer:	0.0	feet
Observer Height (Above Pad):	5.0	feet
Pad Elevation:	0.0	feet
Road Elevation:	0.0	feet
Road Grade:	0.0%	
Left View:	-90.0	degrees
Right View:	90.0	degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.56	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-20.80	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-24.76	-4.51	-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	49.5	58.1	58.7
Medium Trucks:	52.9	51.4	45.1	43.5	52.0	52.2
Heavy Trucks:	53.8	52.4	43.3	44.6	52.9	53.1
Vehicle Noise:	61.0	59.3	56.1	51.4	60.0	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	21	46	100	215
CNEL:	23	50	107	231

Monday, June 16, 2008

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario:	Buildout Contours	*Project Name:*	Haceinda @ Fairview EIR
Road Name:	Cahuilla Road	*Job Number:*	5930
Road Segment:	e/o Driveway C	*Analyst:*	J. Stephens

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	6,400 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	640 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	100.0 feet
Centerline Dist. to Observer:	100.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	98.494
Medium Trucks:	98.404
Heavy Trucks:	98.413

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	-3.89	-4.52	-1.20	*-4.77*	0.000	0.000
Medium Trucks:	79.45	-21.13	-4.51	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-25.08	-4.51	-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:	58.9	57.0	55.2	49.1	57.8	58.4
Medium Trucks:	52.6	51.1	44.7	43.2	51.7	51.9
Heavy Trucks:	53.5	52.0	43.0	44.2	52.6	52.7
Vehicle Noise:	60.7	58.9	55.8	51.1	59.7	60.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	44	95	204
CNEL:	22	47	102	219

Monday, June 16, 2008

APPENDIX H

Roadway Construction Noise Model Printouts

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Roadway Construction Noise Model (RCNM),Version 1.0

Report dat(12/9/2008
Case Desc Hacienda at Fairview

Descriptior Land Use
Building Cc Residential

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
Tractor	No	40	84		50
Tractor	No	40	84		50
Tractor	No	40	84		50
Tractor	No	40	84		50
Tractor	No	40	84		50
Water Truck	No	40		75	50
Water Truck	No	40		75	50
Water Truck	No	40		75	50
Water Truck	No	40		75	50
Water Truck	No	40		75	50
Vacuum Street Sweep	No	10		81.6	50
Vacuum Street Sweep	No	10		81.6	50
Vacuum Street Sweep	No	10		81.6	50

	Calculated (dBA)	
Equipment	*Lmax	Leq
Tractor	84	80
Tractor	84	80
Tractor	84	80
Tractor	84	80
Tractor	84	80
Water Truck	75	71
Water Truck	75	71
Water Truck	75	71
Water Truck	75	71
Water Truck	75	71
Vacuum Street Sweep	81.6	71.6
Vacuum Street Sweep	81.6	71.6
Vacuum Street Sweep	81.6	71.6
Total	84	87.8

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat(12/9/2008
Case Desc Hacienda at Fairview

Descriptior Land Use
Grading R(Residential

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
Scraper	No	40		83.6	50
Scraper	No	40		83.6	50
Scraper	No	40		83.6	50
Scraper	No	40		83.6	50
Scraper	No	40		83.6	50
Dozer	No	40		81.7	50
Dozer	No	40		81.7	50
Grader	No	40	85		50
Grader	No	40	85		50
Water Truck	No	40		75	50
Water Truck	No	40		75	50
Water Truck	No	40		75	50
Water Truck	No	40		75	50
Excavator	No	40		80.7	50

	Calculated (dBA)	
Equipment	*Lmax	Leq
Scraper	83.6	79.6
Scraper	83.6	79.6
Scraper	83.6	79.6
Scraper	83.6	79.6
Scraper	83.6	79.6
Dozer	81.7	77.7
Dozer	81.7	77.7
Grader	85	81
Grader	85	81
Water Truck	75	71
Water Truck	75	71
Water Truck	75	71
Water Truck	75	71
Excavator	80.7	76.7
Total	85	89.7

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 12/9/2008
Case Description: Hacienda at Fairview

Description	Land Use
Paving	Residential

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
Paver	No	50		77.2	50
Paver	No	50		77.2	50
Roller	No	20		80	50
Roller	No	20		80	50
Pickup Truck	No	40		75	50

Calculated (dBA)

Equipment		*Lmax	Leq
Paver		77.2	74.2
Paver		77.2	74.2
Roller		80	73
Roller		80	73
Pickup Truck		75	71
	Total	80	80.2

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 12/9/2008
Case Description: Hacienda at Fairview

Description	Land Use
Underground Utility	Residential

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
Excavator	No	40		80.7	50
Tractor	No	40	84		50
Tractor	No	40	84		50
Tractor	No	40	84		50
Water Truck	No	40		75	50
Water Truck	No	40		75	50
Water Truck	No	40		75	50
Scraper	No	40		83.6	50
Grader	No	40	85		50

Calculated (dBA)

Equipment		*Lmax	Leq
Excavator		80.7	76.7
Tractor		84	80
Tractor		84	80
Tractor		84	80
Water Truck		75	71
Water Truck		75	71
Water Truck		75	71
Scraper		83.6	79.6
Grader		85	81
	Total	85	87.8

*Calculated Lmax is the Loudest value.