

NOISE AND VIBRATION ANALYSIS REPORT

HAUN AND HOLLAND MIXED USE CENTER

Menifee, CA

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Acronyms

ADT	average daily traffic
ANSI	American National Standards Institute
APN	assessor's parcel number
Caltrans	California Department of Transportation
CMP	Conceptual Master Plan
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibel
du/ac	dwelling units per acre
EDC	Economic Development Corridor
EPA	United States Environmental Protection Agency
FHWA	Federal Highway Administration
HUD	United States Department of Housing and Urban Development
Hz	Hertz
in/sec	inches per second
ISO	International Standards Organization
L10	Level exceeded 10% of the stated time
L50	Level exceeded 50% of the stated time
L90	Level exceeded 90% of the stated time
Leq	Equivalent Sound Level
mph	miles per hour
PPV	peak particle velocity
SLM	sound level meter
SP	Specific Plan
SWL	sound power level
TNM	Traffic Noise Model
TPM	Tentative Parcel Map

EXECUTIVE SUMMARY

This analysis evaluates noise associated with the implementation of the proposed Haun and Holland Mixed Use Center Project (Project). The Project site is situated along the west side of Interstate 215, at the northeast corner of Haun Road and Holland Road, in the City of Menifee, California (Figure 1). The Project Applicant proposes development of retail, daycare, office, automobile sales, and industrial uses on six lots (Figure 2).

Traffic noise levels would be lower than 75 A-weighted decibels (dBA) Community Noise Equivalent Level (CNEL) at all areas of the Project site. Traffic noise levels would be lower than 70 dBA CNEL at all building façades and outdoor use areas. Interior traffic noise levels would be lower than 50 dBA Leq. The impact of traffic noise affecting the Project site would be less than significant.

Project-generated traffic would increase noise levels by up to 1.8 dBA CNEL at offsite land uses along Project access roadways. The impact of Project-generated traffic noise would be less than significant.

Project operations would not exceed 65 / 45 dBA Leq at an offsite residential land use during daytime / nighttime hours. The onsite operations noise impact is less than significant.

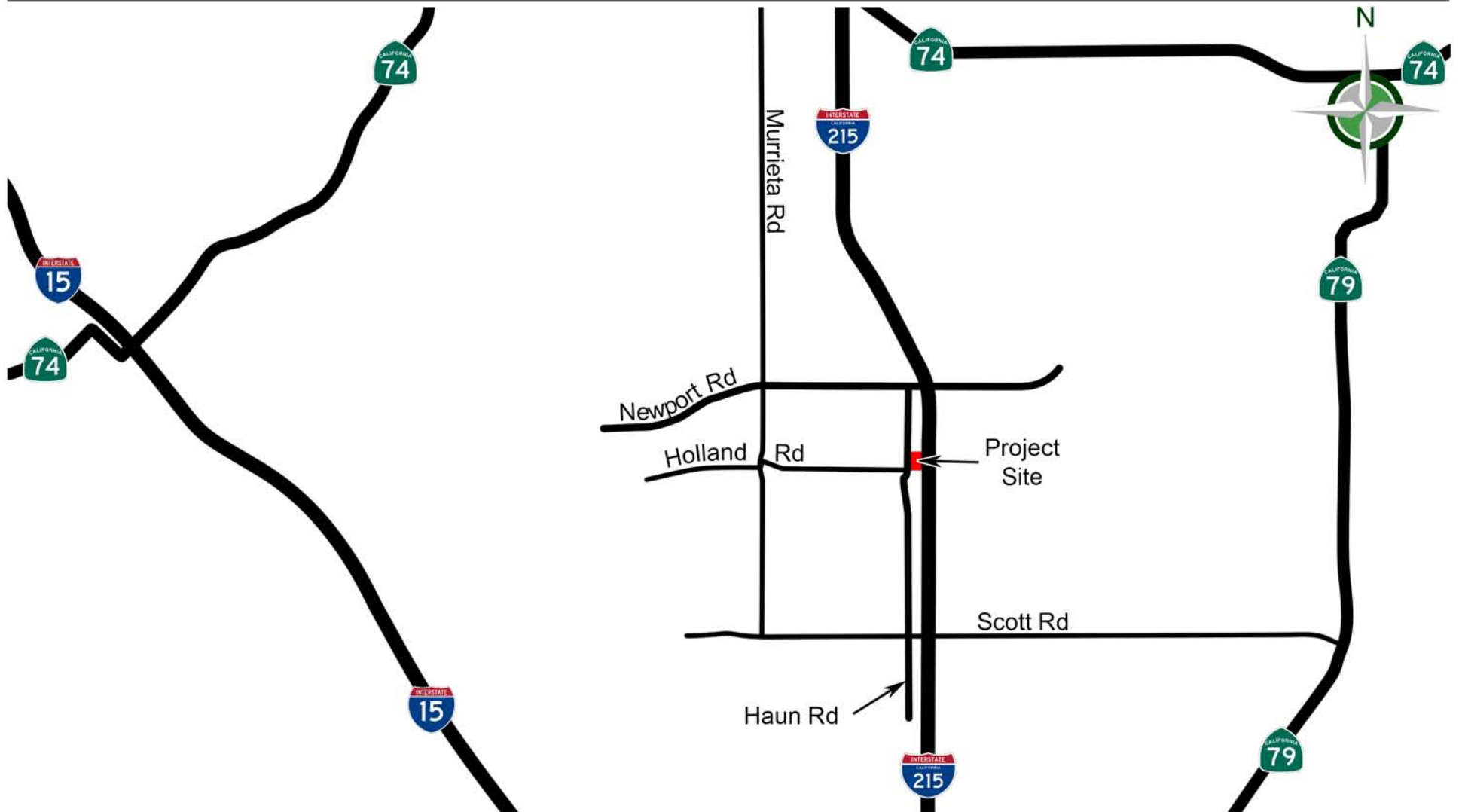
Construction would occur on the days and within the hours proscribed by the City of Menifee Municipal Code. The impact of Project construction noise would be less than significant.

Operational vibration impacts as a result of the Project would be less than significant.

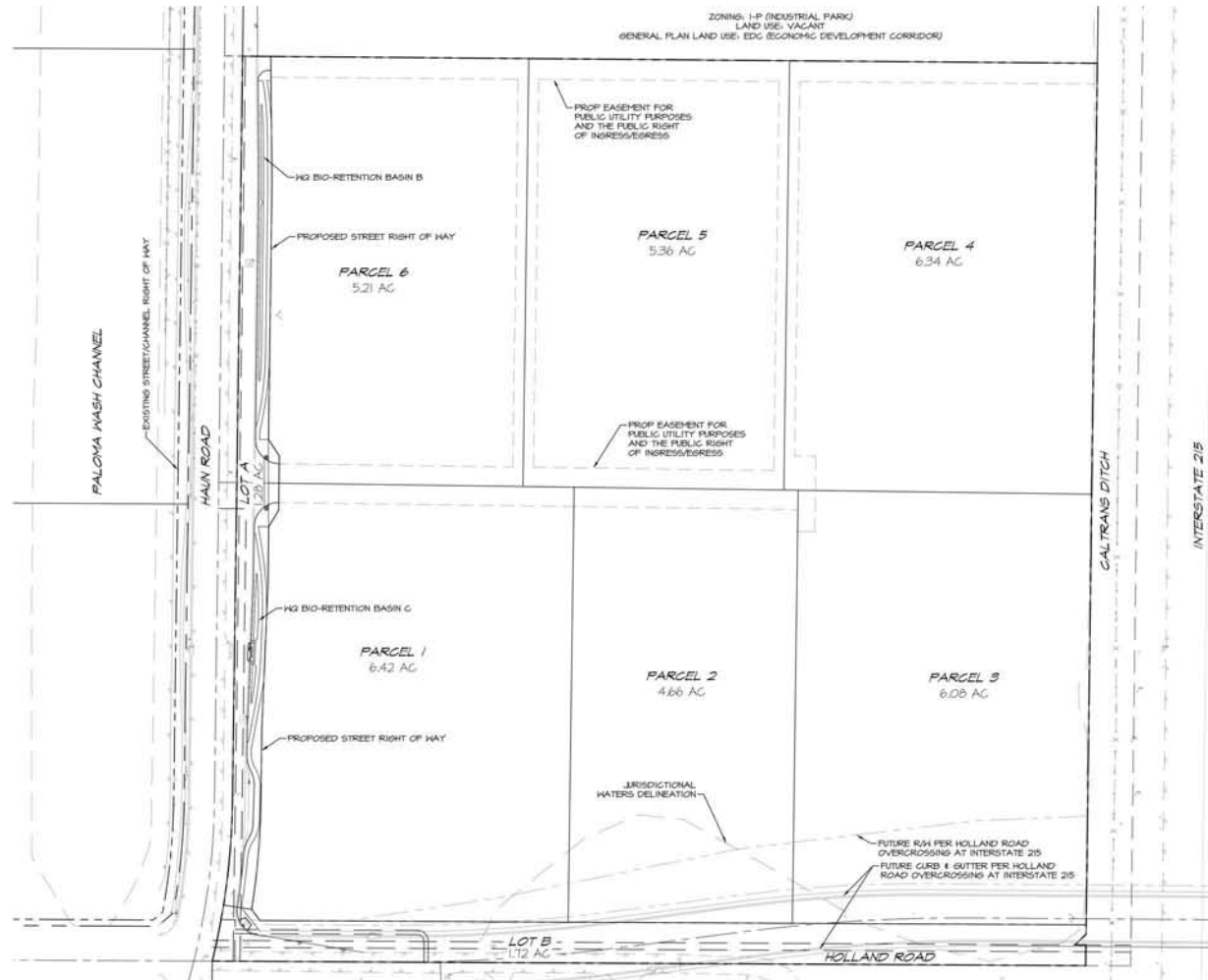
Temporary vibration impacts associated with construction of the Project would be less than significant.

The Project site is not located within the 60 dBA CNEL noise contours of any airport.

Holland and Haun Noise Analysis Report



Holland and Haun Noise Analysis Report



1.0 PROJECT DESCRIPTION

The proposed Haun and Holland Road Mixed Use Center Project (hereinafter “Project”) consists of one assessor’s parcel number (APN), which is currently undeveloped and vacant. One application is required by the City of Menifee, which is Tentative Parcel Map (TPM) #37121. Projects that are proposed within an Economic Development Corridor (EDC) must also submit a Conceptual Master Plan (CMP) prior to a formal project application. The CMP will show the anticipated uses for the Project and how it relates to existing or proposed development on adjacent properties. CMPs are reviewed on an administrative level by the City’s Community Development Director; only the TPM will be approved.

The currently undeveloped 32.71-acre parcel located in the City of Menifee’s Economic Development Corridor – Community Core (EDC-CC), consists of proposed multi-use development of six parcels providing a variety of commercial, office, retail, and industrial uses, as described below in Table 1:

Table 1. Project Land Uses

Parcel #	Gross Acreage	General Uses	Type
1	7.26	Retail	Gas Station with Convenience Store and Car Wash Retail / Quick Serve Restaurant Restaurant Day Care Center Restaurant with Drive Through
2	4.77	Industrial	Industrial
3	6.47	Automobile Sales	Auto Dealership Showroom / Office / Repair Bays
4	6.14	Automobile Sales	Auto Dealership Showroom / Office / Repair Bays
5	4.98	Office	Business Park
6	5.44	Retail	Major Retailer
Total	32.71		

Source: Haun and Holland Mixed Use Center Conceptual Site Plan

Site Preparation

The majority of the Project site is currently undeveloped and there are no structures on site to be demolished. A small (0.35 acre) region of the Project site is represented by the asphalt paved portion of Holland Road located across the southwest boundary. The Project site is generally flat and will require fill to be brought into the site for grading; the amount of fill required is approximately 131,800 cubic yards. Construction will begin no earlier than Fall 2019 and will be built in phases expected to last up to five years. The first proposed phase consists of constructing Street A, an east-west cul-de-sac that will allow access to the interior of the site and placing a stockpile of fill on the east/west/south/north portion of the Project site for future development of the parcels. Improvements to each parcel will occur in subsequent phases as the parcels are sold.

Access and Circulation

Access to the proposed Project site will be available from one driveway and a proposed signalized intersection that connects to the interior of the Project site. The proposed driveway will be located on Haun Road from Parcel 6 which will be right-in, right-out access. The driveway located on Parcel 6 will also provide access to the parcel north of the Project site, serving as a fire department access point. The Project also proposes to construct “Street A,” which will be a signalized east-west road intersecting with Haun Road to provide access to the interior of the site. The Project is proposing also to signalize the intersection of Holland Road and Haun Road. A bus pull-in will be located along the Project frontage on Haun Road along Parcel 1.

Other Site Improvements and Amenities

For utilities, the Project will run sewer and water east-west on interior Street A. Stubs for sewer and water will be constructed at the end of the cul-de-sac to the south for future development, tying in from the current water and sewer lines in Haun Road. Electricity will be tied into from the existing infrastructure in Haun Road.

Stormwater runoff that is not captured onsite will be conveyed by storm drain to Paloma Wash, located west of the Project site.

Offsite Improvements

The Project includes road improvements adjacent to the Project site on Haun Road. Haun Road will be widened 38 feet east of the centerline to full width to function as a Major Road. The improvements include a curb, gutter and meandering sidewalk along the Project frontage and landscaping along the sidewalk. The sidewalk and pedestrian amenities will comply with the applicable City design standards contained in the City’s Municipal Code Chapter 9.28.110 that defines development standards for projects within the EDC-CC.

Holland Road is located to the south of the Project site and runs east-west, terminating west of Interstate 215 (I-215). The Holland Road Overpass (Overpass) project will create a freeway overpass at Holland Road and I-215, south of the Project site. The Overpass project is currently scheduled to start beyond the planning horizon of this Project. This Project does not propose any improvements to Holland Road.

2.0 ENVIRONMENTAL NOISE BACKGROUND

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound typically associated with human activity and that interferes with or disrupts normal activities. The human environment is characterized by a certain consistent noise level which varies with each area. This is called ambient noise. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, perceived importance of the noise and its appropriateness in the setting, time of day and type of activity during which the noise occurs, and sensitivity of the individual.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and intensity. Frequency describes the sound's pitch and is measured in cycles per second, or hertz (Hz), whereas intensity describes the sound's loudness and is measured in decibels (dB). Decibels are measured using a logarithmic scale. A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB. Sound levels above about 120 dB begin to be felt inside the human ear as discomfort and eventually as pain at still higher levels. Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately 3 dBA. A change of at least 5 dBA would be noticeable and would likely evoke a community reaction. A 10-dBA increase is subjectively heard as a doubling in loudness and would cause a community response [Caltrans 2013a]. Sound levels of typical noise sources and environments are provided in Table 2.

Because of the logarithmic nature of the decibel unit, sound levels cannot be added or subtracted directly and are somewhat cumbersome to handle mathematically. A simple rule is useful, however, in dealing with sound levels. If a sound's intensity is doubled, the sound level increases by 3 dB, regardless of the initial sound level. Thus, for example, $60 \text{ dB} + 60 \text{ dB} = 63 \text{ dB}$, and $80 \text{ dB} + 80 \text{ dB} = 83 \text{ dB}$. The normal human ear can detect sounds that range in frequency from about 20 Hz to 20,000 Hz.

However, all sounds in this wide range of frequencies are not heard equally well by the human ear, which is most sensitive to frequencies in the range of 1,000 Hz to 4,000 Hz. This frequency dependence can be taken into account by applying a correction to each frequency range to approximate the human ear's sensitivity within each range. This is called A-weighting and is commonly used in measurements of community environmental noise. The A-weighted sound pressure level (abbreviated as dBA) is the sound level with the "A-weighting" frequency correction. In practice, the level of a noise source is conveniently measured using a sound level meter that includes a filter corresponding to the dBA curve.

Table 2. Sound Levels of Typical Noise Sources and Noise Environments

Noise Source (at Given Distance)	Noise Environment	A-Weighted Sound Level	Human Judgment of Noise Loudness (Relative to Reference Loudness of 70 Decibels*)
Military Jet Takeoff with Afterburner (50 ft)	Carrier Flight Deck	140 Decibels	128 times as loud
Civil Defense Siren (100 ft)		130	64 times as loud
Commercial Jet Take-off (200 ft)		120	32 times as loud Threshold of Pain
Pile Driver (50 ft)	Rock Music Concert Inside Subway Station (New York)	110	16 times as loud
Ambulance Siren (100 ft) Newspaper Press (5 ft) Gas Lawn Mower (3 ft)		100	8 times as loud Very Loud
Food Blender (3 ft) Propeller Plane Flyover (1,000 ft) Diesel Truck (150 ft)	Boiler Room Printing Press Plant	90	4 times as loud
Garbage Disposal (3 ft)	Noisy Urban Daytime	80	2 times as loud
Passenger Car, 65 mph (25 ft) Living Room Stereo (15 ft) Vacuum Cleaner (10 ft)	Commercial Areas	70	Reference Loudness Moderately Loud
Normal Speech (5 ft) Air Conditioning Unit (100 ft)	Data Processing Center Department Store	60	1/2 as loud
Light Traffic (100 ft)	Large Business Office Quiet Urban Daytime	50	1/4 as loud
Bird Calls (distant)	Quiet Urban Nighttime	40	1/8 as loud Quiet
Soft Whisper (5 ft)	Library and Bedroom at Night Quiet Rural Nighttime	30	1/16 as loud
	Broadcast and Recording Studio	20	1/32 as loud Just Audible
		0	1/64 as loud Threshold of Hearing

Source: Compiled by dBF Associates, Inc.

Because community noise fluctuates over time, a single measure called the Equivalent Sound Level (L_{eq}) is often used to describe the time-varying character of community noise. The L_{eq} is the energy-averaged A-weighted sound level during a measured time interval, and is equal to the level of a continuous steady sound containing the same total acoustical energy over the averaging time period as the actual time-varying sound. Additionally, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the L_{max} and L_{min} indicators, which represent the root-mean-square maximum and minimum noise levels obtained during the measurement interval. The L_{min} value obtained for a particular monitoring location is often called the “acoustic floor” for that location.

To describe the time-varying character of environmental noise, the statistical noise descriptors L_{10} , L_{50} , and L_{90} are commonly used. They are the noise levels equaled or exceeded during 10, 50, and 90 percent of a stated time, respectively. Sound levels associated with L_{10} typically describe transient or short-term events, whereas levels associated with L_{90} describe the steady-state (or most prevalent) noise conditions.

The Community Noise Equivalent Level (CNEL) is a descriptor representing a 24-hour, time-weighted, annual average noise level based on the “A-weighted” decibel. In the calculation process, noise occurring in the evening time period (7 p.m. to 10 p.m.) is penalized by adding 5 dB, while noise occurring in the nighttime period (10 p.m. to 7 a.m.) is penalized by adding 10 dB. These time periods and decibel increases were selected to reflect a typical person's increased sensitivity to noise during late-night and early morning hours. This descriptor is used by the State of California and the City of Menifee to evaluate land-use compatibility with regard to noise.

2.1 Vibration Background

Vibration is defined as any oscillatory motion induced in a structure or mechanical device as a direct result of some type of input excitation. Input excitation, generally in the form of an applied force or displacement, is the mechanism required to start some type of vibratory response. Sources of earthborne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or manmade (explosions, machinery, traffic, construction equipment, etc.). Vibration sources may be transient, steady-state or continuous, or pseudo steady-state. Examples of transient construction vibrations are those that occur from blasting with explosives, impact pile driving, demolition, and wrecking balls. Steady-state vibrations may be generated by vibratory pile drivers. Pseudo steady-state vibrations are of a random nature, but at short enough intervals to approach a steady-state condition. These include jackhammers, pavement breakers, trucks, bulldozers, cranes, and scrapers.

Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be comprised of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hz. Most environmental vibrations consist of a composite, or “spectrum” of many frequencies, and are generally classified as broadband or random vibrations. The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz.

Vibration data in this study is expressed in terms of the peak particle velocity (PPV) in inches per second (in/sec). The PPV is the velocity of the soil particles resulting from a disturbance. Agencies such as the State of California Department of Transportation (Caltrans) use the PPV descriptor to evaluate the potential for building damage and human annoyance.

3.0 REGULATORY FRAMEWORK

To limit exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, state of California, and local governments have established standards and ordinances to control noise and vibration. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains fairly constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources and noise / land use compatibility is left to local agencies.

No federal regulations are applicable to this project.

3.1 City of Menifee

3.1.1 General Plan

The Noise Element of the Menifee General Plan [2013] provides policies to protect noise-sensitive land uses. Policies applicable to this Project are reproduced below.

Policy N-1.7: Mitigate exterior and interior noises to the levels listed in the table below to the extent feasible, for stationary sources adjacent to sensitive receptors:

**Menifee General Plan Table N-1
Stationary Source Noise Standards**

Land Use (Residential)	Interior Standards	Exterior Standards
10 p.m. – 7 a.m.	40 Leq (10 minute)	45 Leq (10 minute)
7 a.m. – 10 p.m.	55 Leq (10 minute)	65 Leq (10 minute)

Policy N-1.11: Discourage the siting of noise-sensitive uses in areas in excess of 65 dBA CNEL without appropriate mitigation.

Policy N-2.1: Require that new developments abutting residentially designated properties that operate stationary noise sources such as industrial, commercial, entertainment, institutional uses, hospitals, or large hotels, be designed to minimize noise impacts generated by loading areas, parking lots, trash enclosures, mechanical equipment, and any other noise-generating features to the extent feasible.

Policy N-2.2: Require commercial or industrial truck delivery hours to be limited when adjacent to noise-sensitive land uses unless there is no feasible alternative or there are overriding transportation benefits.

Policy N-2.3: Limit the hours and/or require attenuation of commercial/entertainment operations adjacent to residential and other noise-sensitive uses.

The City of Menifee Noise Background Document & Definitions [2013] provides noise / land use compatibility criteria. Criteria applicable to this Project are reproduced below.

At the Residential – Low Density land use category, noise levels up to 60 dBA CNEL are considered Normally Acceptable. Noise levels up to 70 dBA CNEL are considered Conditionally Acceptable, with an analysis of noise reduction requirements. Noise levels above 70 dBA CNEL are considered Normally or Clearly Unacceptable.

At the Residential – Multiple Family land use category, noise levels up to 65 dBA CNEL are considered Normally Acceptable. Noise levels up to 70 dBA CNEL are considered Conditionally Acceptable, with an analysis of noise reduction requirements. Noise levels above 70 dBA CNEL are considered Normally or Clearly Unacceptable.

At the Schools, Libraries, Churches, Hospitals, and Nursing Homes land use category, noise levels up to 60 dBA CNEL are considered Normally Acceptable. Noise levels up to 70 dBA CNEL are considered Conditionally Acceptable, with an analysis of noise reduction requirements. Noise levels above 70 dBA CNEL are considered Normally or Clearly Unacceptable.

At the Businesses and Commercial land use category, noise levels up to 67.5 dBA CNEL are considered Normally Acceptable. Noise levels up to 75 dBA CNEL are considered Conditionally Acceptable, with an analysis of noise reduction requirements. Noise levels above 75 dBA CNEL are considered Normally Unacceptable.

At the Industrial land use category, noise levels up to 70 dBA CNEL are considered Normally Acceptable. Noise levels up to 75 dBA CNEL are considered Conditionally Acceptable, with an analysis of noise reduction requirements. Noise levels above 75 dBA CNEL are considered Normally Unacceptable.

Note that sound level variations of less than 3 dBA are not detectable by the typical human ear.

3.1.2 Municipal Code

The City of Menifee Code of Ordinances provides noise standards; relevant portions are reproduced below.

§8.01.010 HOURS OF CONSTRUCTION.

Any construction within the city located within one-fourth mile from an occupied residence shall be permitted Monday through Saturday, except nationally recognized holidays, 6:30 a.m. to 7:00 p.m. There shall be no construction permitted on Sunday or nationally recognized holidays unless approval is obtained from the City Building Official or City Engineer.

§9.09.030 CONSTRUCTION-RELATED EXEMPTIONS.

Exceptions may be requested from the standards set forth in §9.09.040 or 9.09.060 of this chapter and may be characterized as construction-related, single event or continuous events exceptions.

- (A) Private construction projects, with or without a building permit, located one-quarter of a mile or more from an inhabited dwelling.
- (B) Private construction projects, with or without a building permit, located within one-quarter of a mile from an inhabited dwelling, provided that:
 - (1) Construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. the following morning during the months of June through September; and
 - (2) Construction does not occur between the hours of 6:00 p.m. and 7:00 a.m. the following morning during the months of October through May.

Therefore, construction may occur between 6:30 a.m. and 7:00 p.m. on any day except Sundays or nationally recognized holidays. The municipal code does not regulate noise levels produced by construction provided it occurs during the timeframe mentioned above.

City of Menifee Code §9.09.050 specifies noise standards for stationary noise sources identical to General Plan Policy N-1.7.

3.2 State of California

3.2.1 Non-Residential

The California Green Building Standards Code (“Green Code”) [State of California 2016] limits noise within non-residential buildings. Relevant portions are reproduced below.

5.507.4.2 Performance method. For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1 (exposed to a noise level of 65 dB Leq-1-hr during any hour of operation), wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation.

3.3 Vibration

The City of Menifee does not regulate vibration. In the absence of local regulations, Caltrans guidance was consulted.

For frequent intermittent sources, Caltrans considers vibration levels less than 0.01 in/sec peak particle velocity (PPV) “barely perceptible” [Caltrans 2013b].

For continuous sources, Caltrans considers vibration levels less than 0.3 in/sec PPV, acceptable at “older residential” and more-fragile structures [Caltrans 2013b].

4.0 ENVIRONMENTAL SETTING AND EXISTING CONDITIONS

Noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise-sensitive and may warrant unique measures for protection from intruding noise.

Surrounding Land Uses and Environmental Setting

The Project site is vacant, dominated by non-native grassland and field croplands with disturbed habitats and a drainage ditch that runs west-to-east on the southern portion of the Project site. There are no structures on site; there is a small paved portion of Holland Road on the southwestern edge of the site. To the north, the immediately adjacent parcel is vacant, dominated by field croplands with disturbed habitats; to the north of the vacant parcel is the Meniffee Countryside Marketplace at the corner of Haun Road and Newport Road, a mixed-use center with commercial and restaurant uses. On the west side of the Project site, west of Haun Road, is Paloma Wash, a flood control channel owned and operated by Riverside County Flood Control and Water Conservation District. Phase 2 of the channel, which is to the west of the Project, was constructed in 2008. The earthen channel extends approximately 8,800 linear feet southerly from Salt Creek Channel. Flow captured and conveyed by Paloma Wash are discharged into Salt Creek Channel, which discharges into Canyon Lake and ultimately into Lake Elsinore. Further west of Paloma Wash is a vacant parcel followed by residential land uses. I-215 is directly to the east of the Project site; east of I-215 are residential land uses. Surrounding land uses are described in Table 3 below and shown on Figure 3.

Table 3. Surrounding Land Uses

Direction	General Plan Designation	Zoning District	Existing Land Use
<i>Project Site</i>	<i>EDC</i>	<i>Industrial Park (I-P)</i>	<i>Unimproved</i>
North	EDC	I-P	Vacant
South	EDC	I-P	Commercial/Storage
East	I-215; followed by 1-24 dwelling unit/acre (du/ac) residential further east	I-215	I-215
West	Water; followed by Countryside Specific Plan (SP) further west and residential	Specific Plan (SP)	Vacant

The Santa Rosa Academy K-12 school is located approximately 335 feet to the northwest, at the southeast corner of La Piedra Road and Sherman Road. Scattered single-family residences are located approximately 1,400 feet to the west, along the west side of Sherman Road. A single-family residential development is located approximately 1,425 feet to the west-southwest, at the southwest corner of Holland Road and Sherman Road. The Meniffee Meadows development, which includes medical offices and assisted living facilities, is planned approximately 715 feet to the west-southwest, at the southeast corner of Holland Road and Sherman Road; refer to Appendix A for details [MAA Architects 2017]. A self-storage facility and a construction company office are located approximately 75 feet to the south, along the south side of Holland Road. The Country Gardens single-family residential development is located approximately 415 feet to the east-southeast, beyond I-215, at the southeast corner of Holland Road and Antelope Road. The Cantabria Apartment Homes multifamily residential development is located approximately 400 feet to the east, beyond I-215, at the northeast corner of Holland Road and Antelope Road. The Mt. San Jacinto College Meniffee Valley Campus community college is located approximately 400 feet to the northeast, at the southeast corner of La Piedra Road and Antelope Road. Scattered residences, a church, commercial / industrial facilities, and vacant land are located ¼ mile and further to the south along Haun Road. Note that the shortest approximate distances between land uses are given.

The primary existing noise source in the vicinity of the Project is vehicular traffic on adjacent roadways.

I-215 is a six-lane freeway with an existing (year 2015) average daily traffic (ADT) volume of 85,000 vehicles between Scott Road and Newport Road [Caltrans 2016a] and an existing speed limit of 65 miles per hour (mph); the speed limit for trucks with 3 axles or more is 55 mph. The existing (year 2015 vehicle mix on I-215 between Interstate 15 and California State Route 74 is approximately 3.6% medium (2-axle) trucks and 3.8% heavy (3+-axle) trucks [Caltrans 2016b].

Haun Road is currently a three-lane (one northbound / two southbound) Major roadway with an existing (year 2017) ADT volume of 14,005 vehicles between La Piedra Road and Holland Road [Webb 2018] and an existing speed limit of 45 mph. Haun Road between La Piedra Road and Holland Road is a Major Collector roadway; however, only the southbound second lane has been constructed. The vehicle mix is assumed to be 3% medium trucks and 5% heavy trucks, based on Riverside County guidance [Riverside County 2015]. The intersection of Haun Road and Holland Road is stop sign-controlled. South of Holland Road, Haun Road is a two-lane roadway with an existing speed limit of 50 mph.

Holland Road is currently a three-lane (one eastbound / two westbound) Major roadway with an existing (year 2017) ADT volume of 11,631 vehicles between Sherman Road and Haun Road [Webb 2018] and an existing speed limit of 50 mph. Holland Road between Sherman Road and Haun Road is a Major Collector roadway; however, only the westbound second lane has been constructed. The vehicle mix is assumed to be 3% medium trucks and 5% heavy trucks, based on Riverside County guidance [Riverside County 2015]. The intersection of Haun Road and Holland Road is stop sign-controlled. East of Haun Road, Holland Road is an unclassified two-lane roadway serving only two local businesses; traffic on this portion is negligible. Holland Road is interrupted by I-215.

4.1 Ambient Sound Level Measurements

Ambient sound level measurements were conducted at seven locations to estimate the existing acoustical environment on and near the Project site. A RION Model NA-28 American National Standards Institute (ANSI) Type 1 Integrating Sound Level Meter (SLM) was used as the data-collection device. The meter was mounted on a tripod roughly 5 feet above ground to simulate the average height of the human ear. The microphone was fitted with a windscreen. Weather conditions during the measurements were approximately 75°F, 30% relative humidity, 0-3 mph wind speed, and mostly clear skies. The measurements were performed on Wednesday, October 11, 2017. The sound level meter was calibrated before the measurement period. Simultaneous traffic counts were conducted during the measurement periods as appropriate and when possible. The measurement results are summarized in Table 4 and correspond to the locations depicted on Figure 3. Refer to Appendix B for field notes.

Table 4. Sound Level Measurements (dBA)

Measurement Location		Time	Leq	Lmin	Lmax	L10	L50	L90	Traffic (C/MT/HT/MC/B)
ML1	Project site, northeast corner ~ 160 feet west of I-215 centerline	10:35 a.m. – 10:45 a.m.	67.3	59.7	75.4	69.7	66.6	63.2	I-215: 235 / 10 / 12 / 0 / 0 Northbound 243 / 11 / 10 / 0 / 0 Southbound
ML2	Project site, southwest corner ~ 55 feet east of Haun Road centerline	11:00 a.m. – 11:15 a.m.	62.7	45.7	73.3	65.9	61.2	50.4	Haun Road: 105 / 5 / 0 / 0 / 0 Northbound 97 / 2 / 0 / 0 / 0 Southbound
ML3	Southeast corner of Santa Rosa Academy school grounds ~ 275 feet west of Haun Road centerline	11:25 a.m. – 11:40 a.m.	53.6	46.5	60.6	56.1	52.9	49.7	Not counted. Primary sources: Haun Road, occasional aircraft.
ML4	Southeast corner of Holland Road and Sherman Road ~ 50 feet south of Holland Road centerline	11:55 a.m. – 12:05 p.m.	65.8	39.4	73.7	70.6	62.5	48.6	Holland Road: 51 / 1 / 0 / 0 / 0 Eastbound 45 / 1 / 0 / 0 / 0 Westbound
ML5	Parking lot of Abundant Life Church ~50 feet east of Haun Road centerline	12:20 p.m. – 12:30 p.m.	68.8	44.8	79.7	74.1	62.1	46.8	Haun Road: 49 / 0 / 1 / 0 / 0 Northbound 38 / 2 / 1 / 0 / 1 Southbound
ML6	Cantabria Apartment Homes, Buildings G / H ~ 235 feet east of I-215 centerline	12:45 p.m. – 12:55 p.m.	69.5	59.1	90.0	70.4	66.5	62.9	Not counted. Primary sources: I-215, Antelope Road.
ML7	Mt. San Jacinto College, Menifee Valley Campus Near Building 700 ~ 660 feet east of I-215 centerline	1:10 p.m. – 1:25 p.m.	53.2	48.6	67.8	54.7	52.0	50.5	Not counted. Primary sources: I-215, Antelope Road, cars in parking lot.

Notes:

See Figure 3.

Measurements conducted on Wednesday, October 11, 2017.

C = cars, MT = medium trucks, HT = heavy trucks, MC = Motorcycles, B = Buses.

Holland and Haun Noise Analysis Report



5.0 POTENTIAL NOISE IMPACTS

5.1 Vehicular Traffic Noise

The Federal Highway Administration (FHWA) Traffic Noise Model (TNM) version 2.5 was used to estimate traffic noise levels. The modeling effort considered the peak-hour traffic volume, average estimated vehicle speed, and estimated vehicle mix, i.e., percentage of cars, medium trucks, heavy trucks, buses, and motorcycles. The peak hour traffic volume was assumed to be 10% of the ADT, based on experience and general consistent guidance from the traffic engineering community. The peak hour traffic noise level was considered equivalent to the CNEL [24 CFR 51 Subpart B]. The vehicle mixes were based on the vehicle classification counts performed during the sound level measurements.

Sound levels caused by line sources (i.e., variable or moving sound sources such as traffic) generally decrease at a rate of 3 to 4.5 dBA when the distance from the road is doubled, depending on the ground surface hardness between the source and the receiving property [Caltrans 2013a]. The model assumed “hard soil” propagation conditions, which corresponds to a drop-off rate of approximately 3 dBA per doubling of distance. The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures (walls and buildings), barriers, and topography. The noise attenuating effects of changes in elevation, topography, and intervening structures were not included in the model. Therefore, the modeling effort is considered a worst-case representation of the roadway noise.

5.1.1 Traffic Noise Affecting the Project Site

The Project Applicant proposes development of the Project site with various uses as described in Section 1.0 of this report. The proposed uses would be classified as commercial, business, industrial, and school land uses under the Menifee General Plan. Noise levels up to 75 dBA CNEL are conditionally acceptable at commercial, business, and industrial land uses. Noise levels up to 70 dBA CNEL are conditionally acceptable at school land uses.

TNM was used to estimate noise levels on the Project site as a result of vehicular traffic on adjacent roadways. Traffic volumes were obtained from data used to prepare the project Traffic Impact Analysis (TIA) [Webb 2018] (Appendix C). For Haun Road and Holland Road, the worst-case Existing + Ambient (2021) + Cumulative + Project traffic condition, both with and without the potential Holland Avenue / I-215 overpass (not part of the Project), was analyzed.

The various traffic scenarios in the TIA are comprised of several traffic projection methods. These methods are described using the terms “Existing”, Ambient (growth)”, “Cumulative”, and “Project”. Based on a review of the TIA, definitions of these terms are presented below. However, in the case of any incongruity between a definition provided in this report and that provided in the TIA, the definition provided in the TIA stands. For further details regarding the underlying assumptions used to prepare these scenarios, refer to the TIA.

Existing: The actual traffic counted on the roadways during the year 2017.

Ambient Growth: A 2 percent per year growth rate, as directed by City of Menifee staff.

Cumulative: The traffic produced by projects within the study area expected to be occupied or operational by the year indicated in parentheses. The list of cumulative projects, and their associated traffic, was approved by City of Menifee staff and is presented in Appendix B of the TIA.

Project: The traffic produced by the subject project.

The Holland Road Overpass is a separate project currently under consideration by the City; this project would connect the portions of Holland Road east and west of I-215 using a bridge. The TIA analyzed the traffic scenarios described above both with and without the presence of the overpass.

The peak-hour traffic volume was assumed to be 10% of the ADT. The widening of northbound Haun Road to two through lanes, and the signalization of the Haun Road / Holland Road intersection, both parts of the Project, were included in the model. The approximate distances to noise contours are shown in Table 5 and Table 6. Additional roadway parameters are discussed in Section 4.0.

As described in Section 4.0, Holland Road currently does not pass over I-215. In the “without Overpass” condition, Holland Road east of Haun Road is an unclassified two-lane roadway serving only two local businesses; traffic on this portion is negligible and is not analyzed in the TIA. In the “with Overpass” condition, Holland Road east of Haun Road would be a four-lane Major road.

When traffic projections are not available, the loudest hour is generally characterized by free-flowing traffic during peak hour at the roadway design speed (i.e., Level of Service [LOS] C or better). I-215 has a maximum capacity of 1,800 vehicles per lane per hour at its design speed [Caltrans 2015].

Table 5. Onsite Noise Levels (without Overpass)

Roadway	Peak-Hour Traffic Volume (vehicles)	Speed Limit	Approximate Distance from Centerline to Noise Level		
			70 dBA CNEL	67.5 dBA CNEL	65 dBA CNEL
I-215	10,800 *	65 mph	235 feet	370 feet	565 feet
Haun Road	2,360 **	45 mph	85 feet	120 feet	185 feet
Holland Road	N/A	-	-	-	-

* The maximum capacity at the roadway design speed was analyzed.

** The Existing + Ambient (2021) + Cumulative + Project traffic condition was analyzed.

Table 6. Onsite Noise Levels (with Overpass)

Roadway	Peak-Hour Traffic Volume (vehicles)	Speed Limit	Approximate Distance from Centerline to Noise Level		
			70 dBA CNEL	67.5 dBA CNEL	65 dBA CNEL
I-215	10,800 *	65 mph	235 feet	370 feet	565 feet
Haun Road	2,366 **	45 mph	85 feet	120 feet	185 feet
Holland Road	1,556 **	50 mph	70 feet	105 feet	165 feet

* The maximum capacity at the roadway design speed was analyzed.

** The Existing + Ambient (2021) + Cumulative + Project traffic condition was analyzed.

The east Project site property line is approximately 160 feet from the centerline of I-215; the closest Project building façade would be approximately 250 feet away. The eastern 75 feet of the Project site would be the only area of the site exposed to a traffic noise level of 70 dBA CNEL or greater.

The west Project site property line is approximately 55 feet from the centerline of Haun Road.

The south Project site property line is approximately 65-145 feet from the centerline of the projected Holland Road alignment; the closest Project building façade would be approximately 100 feet away, and the closest (western) day care playground would be approximately 105 feet away.

Traffic noise levels would be lower than 75 dBA CNEL at all areas of the Project site. Traffic noise levels would be lower than 70 dBA CNEL at all building façades and outdoor use areas. The traffic noise level would be approximately 68 dBA CNEL at the western day care playground. Refer to Appendix D.

The entirety of the Project site would be exposed to traffic noise levels of 60 dBA CNEL or greater. School uses within this area are considered Conditionally Acceptable.

The westerly 65 feet, easterly 210 feet, and a portion of the southerly 40 feet of the Project site would be exposed to traffic noise levels of 67.5 CNEL or greater. Business and Commercial uses within this area are considered Conditionally Acceptable.

Outdoor traffic noise levels would be lower than 70 dBA Leq at all building façades. The project buildings would be at least light-frame construction with ordinary windows, which would provide at least 20 dBA of exterior-to-interior noise reduction [FHWA 2011]. Interior traffic noise levels would be lower than 50 dBA Leq.

The impact of traffic noise affecting the Project site would be less than significant.

5.1.2 Project-Generated Traffic

The proposed Project would generate traffic on roadways in the Project area. Land uses along Project area roadways include: schools, single-family and multifamily residences, future medical offices and assisted living facilities, businesses / commercial establishments, a church, and vacant land. The proposed Project would result in a significant increase in existing ambient noise levels if:

- Project traffic would increase the noise level by 3 dBA CNEL or more to over 70 dBA CNEL at an outdoor use area of an offsite single- or multi-family residence, school, church, or medical facility; or
- Project traffic would increase the noise level by 3 dBA CNEL or more to over 75 dBA CNEL at an outdoor use area of an offsite commercial / retail use.

The Menifee General Plan considers noise levels up to 70 dBA CNEL to be Conditionally Acceptable at single- or multi-family residences, schools, churches, and medical facilities; and noise levels up to 75 dBA CNEL to be Conditionally Acceptable at commercial / retail uses.

An analysis was conducted of the Project's effect on traffic noise conditions at offsite land uses. Existing-Without-Project traffic noise levels were compared to Existing-With-Project traffic noise levels, and Existing-Plus-Cumulative-Without-Project traffic noise levels were compared to Existing-Plus-Cumulative-With Project traffic noise levels. Traffic conditions both with and without the potential Holland Avenue / I-215 overpass (not part of the Project) were analyzed. Refer to Section 5.1.1 of this report for descriptions of the different traffic scenarios. These comparisons are presented in Tables 7 through 10 of this report. In each comparison, the environmental baseline is the without-Project condition.

Riverside County guidance indicates that the traffic mix on Major and Arterial roadways is assumed to be 3% medium trucks and 5% heavy trucks, and 1.84% medium trucks and 0.74% heavy trucks on smaller roadways.

TNM was used to estimate noise levels at a general reference distance of 50 feet from the centerline of the nearest roadway. The addition of Project traffic would increase noise levels along Haun Road between Newport Road and Holland Road by 0.9 to 1.8 dBA CNEL, depending on scenario. The addition of Project traffic would increase noise levels along all other roadway segments by less than 1 dBA CNEL. Refer to Tables 7 through 10 for details. Sound level variations of less than 3 dBA are not detectable by the typical human ear. The impact of Project-generated traffic noise would be less than significant.

Table 7. Offsite Traffic Noise Levels (Existing, without Overpass) (dBA CNEL)

Roadway	Roadway Segment	Roadway Classification	Speed Limit	Existing ADT (PCE)	Existing (Baseline) Noise Level	Existing + Project ADT (PCE)	Existing + Project Noise Level	Project-Generated Noise Level Increase	Impact
Bradley Road	Park Avenue to Newport Road	Secondary	45 mph	14,984	70.3	15,504	70.4	0.1	No
	Newport Road to La Piedra Road	Major	45 mph	12,389	70.2	12,597	70.3	0.1	No
	La Piedra Road to Holland Road	Major	45 mph	8,469	68.5	8,989	68.6	0.1	No
Haun Road	Newport Road to La Piedra Road	Major	45 mph	22,821	72.8	30,840	73.7	0.9	No
	La Piedra Road to Holland Road	Major	45 mph	12,141	70.0	20,680	71.7	1.7	No
	Holland Road to Scott Road	Major	45 mph	10,858	69.5	12,106	69.8	0.3	No
Newport Road	Murietta Road to Bradley Road	Urban Arterial	50 mph	34,448	75.7	35,488	75.8	0.1	No
	Bradley Road to Haun Road	Urban Arterial	50 mph	43,696	76.7	45,256	76.8	0.1	No
	Haun Road to I-215 SB Ramps	Urban Arterial	50 mph	55,824	77.8	61,659	78.1	0.3	No
	I-215 NB Ramps to Antelope Road	Urban Arterial	50 mph	66,584	78.4	68,872	78.4	0.0	No
	Antelope Road to Meniffee Road	Urban Arterial	45 mph	38,566	75.0	40,022	75.1	0.1	No
La Piedra Road	Sherman Road to Haun Road	Secondary	40 mph *	2,411	61.7	2,931	62.4	0.7	No
Scott Road	Haun Road to I-215 SB Ramps	Urban Arterial	50 mph *	26,108	74.3	27,044	74.4	0.1	No
	I-215 NB Ramps to Antelope Road	Urban Arterial	50 mph *	40,170	76.0	40,586	76.0	0.0	No
Holland Road	Bradley Road to Sherman Road	Major	50 mph	12,356	71.2	13,396	71.5	0.3	No
	Sherman Road to Haun Road	Major	50 mph	11,631	71.0	12,671	71.3	0.3	No

Notes:
Noise levels estimated at a reference distance of 50 feet.
Noise levels are rounded to the nearest decibel.
* unmarked; assumed speed limit

Table 8. Offsite Traffic Noise Levels (Existing + Cumulative, without Overpass) (dBA CNEL)

Roadway	Roadway Segment	Roadway Classification	Speed Limit	Existing + Cumulative ADT (PCE)	Existing + Cumulative (Baseline) Noise Level	Existing + Cumulative + Project ADT (PCE)	Existing + Cumulative + Project Noise Level	Project-Generated Noise Level Increase	Impact
Bradley Road	Park Avenue to Newport Road	Secondary	45 mph	18,214	71.0	18,734	71.1	0.1	No
	Newport Road to La Piedra Road	Major	45 mph	13,741	70.5	13,949	70.6	0.1	No
	La Piedra Road to Holland Road	Major	45 mph	9,439	68.8	9,959	68.9	0.1	No
Haun Road	Newport Road to La Piedra Road	Major	45 mph	23,930	72.9	31,949	73.8	0.9	No
	La Piedra Road to Holland Road	Major	45 mph	14,094	70.4	22,633	71.9	1.5	No
	Holland Road to Scott Road	Major	45 mph	13,764	70.1	15,012	70.4	0.3	No
Newport Road	Murietta Road to Bradley Road	Urban Arterial	50 mph	41,287	76.2	42,327	76.3	0.1	No
	Bradley Road to Haun Road	Urban Arterial	50 mph	51,445	77.2	53,005	77.3	0.1	No
	Haun Road to I-215 SB Ramps	Urban Arterial	50 mph	59,580	77.9	65,416	78.2	0.3	No
	I-215 NB Ramps to Antelope Road	Urban Arterial	50 mph	74,694	78.7	76,982	78.8	0.1	No
	Antelope Road to Menifee Road	Urban Arterial	45 mph	44,535	75.4	45,991	75.4	0.0	No
La Piedra Road	Sherman Road to Haun Road	Secondary	40 mph *	52,53	63.9	5,773	64.3	0.4	No
Scott Road	Haun Road to I-215 SB Ramps	Urban Arterial	50 mph *	29,702	74.9	30,638	75.0	0.1	No
	I-215 NB Ramps to Antelope Road	Urban Arterial	50 mph *	45,788	76.4	46,204	76.4	0.0	No
Holland Road	Bradley Road to Sherman Road	Major	50 mph	13,084	71.4	14,123	71.6	0.2	No
	Sherman Road to Haun Road	Major	50 mph	14,331	71.6	15,371	71.8	0.2	No

Notes:
Noise levels estimated at a reference distance of 50 feet.
Noise levels are rounded to the nearest decibel.
* unmarked; assumed speed limit

Table 9. Offsite Traffic Noise Levels (Existing, with Overpass) (dBA CNEL)

Roadway	Roadway Segment	Roadway Classification	Speed Limit	Existing ADT (PCE)	Existing (Baseline) Noise Level	Existing + Project ADT (PCE)	Existing + Project Noise Level	Project-Generated Noise Level Increase	Impact
Bradley Road	Park Avenue to Newport Road	Secondary	45 mph	14,984	70.3	15,504	70.4	0.1	No
	Newport Road to La Piedra Road	Major	45 mph	12,743	70.4	12,951	70.4	0.0	No
	La Piedra Road to Holland Road	Major	45 mph	8,823	68.7	9,343	68.8	0.1	No
Haun Road	Newport Road to La Piedra Road	Major	45 mph	21,457	72.5	28,436	73.7	1.2	No
	La Piedra Road to Holland Road	Major	45 mph	14,005	70.6	21,504	72.4	1.8	No
	Holland Road to Scott Road	Major	45 mph	10,464	69.3	11,504	69.6	0.3	No
Newport Road	Murietta Road to Bradley Road	Urban Arterial	50 mph	34,092	75.6	35,132	75.7	0.1	No
	Bradley Road to Haun Road	Urban Arterial	50 mph	42,271	76.6	43,831	76.7	0.1	No
	Haun Road to I-215 SB Ramps	Urban Arterial	50 mph	53,441	77.5	58,237	78.0	0.5	No
	I-215 NB Ramps to Antelope Road	Urban Arterial	50 mph	63,402	78.1	64,650	78.2	0.1	No
	Antelope Road to Menifee Road	Urban Arterial	45 mph	36,444	74.7	37,380	74.8	0.1	No
La Piedra Road	Sherman Road to Haun Road	Secondary	40 mph *	2,411	61.7	2,931	62.4	0.7	No
Scott Road	Haun Road to I-215 SB Ramps	Urban Arterial	50 mph *	23,154	73.8	23,882	73.9	0.1	No
	I-215 NB Ramps to Antelope Road	Urban Arterial	50 mph *	36,216	75.6	36,424	75.6	0.0	No
Holland Road	Bradley Road to Sherman Road	Major	50 mph	12,356	71.2	13,396	71.5	0.3	No
	Sherman Road to Haun Road	Major	50 mph	11,631	71.1	12,671	71.3	0.2	No
	Haun Road to Hanover Lane	Major	45 mph	7,233	67.8	8,481	68.2	0.4	No
	Hanover Lane to Palomar Road	Major	45 mph	6,054	67.0	6,574	67.2	0.2	No
	Palomar Road to Menifee Road	Major	45 mph	6,054	67.0	6,574	67.2	0.2	No

Notes:
Noise levels estimated at a reference distance of 50 feet.
Noise levels are rounded to the nearest decibel.
* unmarked; assumed speed limit

Table 10. Offsite Traffic Noise Levels (Existing + Cumulative, with Overpass) (dBA CNEL)

Roadway	Roadway Segment	Roadway Classification	Speed Limit	Existing + Cumulative ADT (PCE)	Existing + Cumulative (Baseline) Noise Level	Existing + Cumulative + Project ADT (PCE)	Existing + Cumulative + Project Noise Level	Project-Generated Noise Level Increase	Impact
Bradley Road	Park Avenue to Newport Road	Secondary	45 mph	17,814	70.9	18,334	71.0	0.1	No
	Newport Road to La Piedra Road	Major	45 mph	14,429	70.7	14,637	70.7	0.0	No
	La Piedra Road to Holland Road	Major	45 mph	10,127	69.0	10,647	69.2	0.2	No
Haun Road	Newport Road to La Piedra Road	Major	45 mph	22,098	72.6	29,077	73.7	1.1	No
	La Piedra Road to Holland Road	Major	45 mph	15,044	70.8	22,543	72.5	1.7	No
	Holland Road to Scott Road	Major	45 mph	14,732	70.3	15,772	70.5	0.2	No
Newport Road	Murietta Road to Bradley Road	Urban Arterial	50 mph	40,070	76.1	41,110	76.2	0.1	No
	Bradley Road to Haun Road	Urban Arterial	50 mph	48,586	77.0	50,146	77.1	0.1	No
	Haun Road to I-215 SB Ramps	Urban Arterial	50 mph	55,316	77.7	60,112	78.1	0.4	No
	I-215 NB Ramps to Antelope Road	Urban Arterial	50 mph	69,631	78.4	70,879	78.5	0.1	No
	Antelope Road to Menifee Road	Urban Arterial	45 mph	41,350	75.1	42,286	75.1	0.0	No
La Piedra Road	Sherman Road to Haun Road	Secondary	40 mph *	5,253	63.9	5,773	64.3	0.4	No
Scott Road	Haun Road to I-215 SB Ramps	Urban Arterial	50 mph *	26,002	74.4	26,730	74.5	0.1	No
	I-215 NB Ramps to Antelope Road	Urban Arterial	50 mph *	41,088	75.9	41,296	75.9	0.0	No
Holland Road	Bradley Road to Sherman Road	Major	50 mph	13,218	71.4	14,257	71.7	0.3	No
	Sherman Road to Haun Road	Major	50 mph	16,531	72.0	17,571	72.3	0.3	No
	Haun Road to Hanover Lane	Major	45 mph	13,733	69.6	14,981	69.9	0.3	No
	Hanover Lane to Palomar Road	Major	45 mph	9,271	68.2	9,791	68.4	0.2	No
	Palomar Road to Menifee Road	Major	45 mph	8,299	67.8	8,819	68.0	0.2	No

Notes:
Noise levels estimated at a reference distance of 50 feet.
Noise levels are rounded to the nearest decibel.
* unmarked; assumed speed limit

5.2 Operational (Non-Construction) Noise

The Project proposes a tentative parcel map to subdivide the 37.06 gross acre site into six (6) commercial parcels for the potential future development of commercial, office, retail and/or industrial uses on approximately 32 net acres at the northeast corner of Holland Road and Haun Road in the City of Menifee, California. The Project site is designated as Economic Development Corridor – Community Core (EDC-CC) in the City’s General Plan and as such must also submit a Conceptual Master Plan (CMP) prior to a formal project application. The CMP shows anticipated uses for the Project and how they relate to existing or proposed development on adjacent properties. For this Project, the CMP is being utilized to establish uses and intensities for the impact analysis. The uses analyzed consist of: 12.7 acres of retail, 4.98 acres of office, 4.77 acres of industrial, and 12.61 acres of automobile sales. Consistent with the Project-specific Traffic Impact Analysis Report (TIA), the intensity of development analyzed consists of: 7,500 square feet (SF) of shopping center, 13,300 SF of restaurant space, 39,000 SF of supermarket, a gasoline/service station with 16 pumps and associated convenience market and carwash, 4,500 SF day care center, 4,800 SF of fast food restaurants with drive-thru, 47,200 SF of industrial park, 105,000 SF of automobile sales, and 79,000 SF of general office building.

Off-site improvements associated with the Project include the widening of Haun Road east of the centerline adjacent to the Project site and connections to existing water and sewer pipelines in Haun Road. Storm water will drain to the existing Paloma Wash immediately west of Haun Road. The Project would expose people to noise levels which exceed the City’s noise limits if:

- Project operation noise would exceed 65 / 45 dBA Leq at an offsite residential land use during daytime / nighttime hours.

The City does not limit operational noise levels at day care facilities.

The Datakustik Cadna/A industrial noise prediction model was used to estimate noise levels from noise sources on the Project site, which are expected to include vehicular traffic and mechanical equipment. The locations of the Project buildings and parking lots were imported from the site plan [SCA Architecture 2017]. The assumptions made for source input into the noise model are detailed below. The project would not include exterior emergency generators, cooling towers, or trash compactors.

Onsite project traffic would primarily consist of customer passenger vehicles. The site plan indicates that 1,573 parking spaces would be provided [SCA Architecture 2017]. The traffic was assumed to be evenly distributed over the 15-hour period from 7:00 a.m. to 10:00 p.m. Passenger car traffic at a frequency of one car per minute at 15 mph generates an hourly average noise level of approximately 42.2 dBA Leq(h) at a distance of 50 feet [FHWA 1978]. Onsite vehicles were treated as areas of moving point sources. Each parking space was assumed to experience one vehicle per hour.

A preliminary mechanical layout was not available; the following assumptions were made:

Table 11. Assumed Building Equipment and Noise Sources

Building	Equipment / Noise Sources
1A: 22,700 sf Major Retail	14 HVAC units
1B: 16,300 sf Major Retail	10 HVAC units
1C: 5,500 Retail / Quick Serve	3 HVAC units
2A: 40,000 sf Two Story Office	24 HVAC units
2B: 39,000 sf Two Story Office	24 HVAC units
3: 65,000 sf Two Story Auto Dealership Showroom / Office / Repair Bays	20 HVAC units and 5 repair bays
4: 40,000 sf Two Story Auto Dealership Showroom / Office / Repair Bays	15 HVAC units and 3 repair bays
5A: 17,800 sf Industrial	10 HVAC units and 3 loading docks
5B: 15,500 sf Industrial	10 HVAC units and 3 loading docks
5C: 13,900 sf Industrial	9 HVAC units and 3 loading docks
6A: 3,500 sf Gas Station with Convenience Store and Car Wash	2 HVAC units and 1 car wash
6B: 10,000 sf Retail / Quick Serve Restaurants	6 HVAC units
6C: 5,800 sf Restaurant	4 HVAC units
6D: 4,500 sf Day Care Center	3 HVAC units and 20 children per playground
6E: 4,800 sf Restaurant with Drive Through	3 HVAC units and 1 drive through

The HVAC units were assumed to be 10-ton units each producing a sound power level (SWL) of 83 dBA [Carrier]. HVAC units were treated as stationary point sources and assumed to be operational at any time. HVAC units were assumed to be placed on the rooftops of the project buildings. HVAC units were assumed to be 5 feet in height above rooftop level.

dBFA staff have measured several auto repair operations. At a Sam's Club, short-term sound levels were up to 76 dBA Leq at 10 feet during pneumatic wheel nut removal / tightening. At an auto repair shop, short-term sound levels were up to 95 dBA Leq at 5 feet during pneumatic wrench operation. At a Ford dealership, hourly average sound levels were 62-66 dBA Leq at 50 feet during typical operations. In the interest of a worst-case analysis, the project repair bays were assumed to produce a sound pressure level of up to 75 dBA Leq at 50 feet. The repair bays were assumed to be operational anytime between 7:00 a.m. and 10:00 p.m.

dBFA staff have measured several loading operations. At a grocery store, short-term sound levels were from 65-82 dBA Leq at 25 feet. At a Walmart, short-term sound levels were up to 70 dBA Leq at 10 feet. In the interest of a worst-case analysis, the project loading docks were assumed to produce a sound pressure level of up to 75 dBA Leq at 50 feet. The loading docks were assumed to be operational at any time.

The car wash was assumed to produce a sound pressure level of 64 dBA Leq at 20 feet from the entrance and 69 dBA Leq at 20 feet from the exit, based on car wash measurements conducted by dBFA staff. The

measured car wash was part of an 8-pump Chevron station. The measurements were conducted over one full 6-minute cycle, which included drying. The car wash was assumed to be operational at any time. The gas station traffic was included in the parking lot traffic calculations.

The playgrounds were assumed to produce a sound power level of 87 dBA per child [Probst 1994]. Playgrounds were treated as areas of moving point sources and assumed to be operational anytime between 7:00 a.m. and 10:00 p.m.

The drive through was assumed to produce a sound pressure level of up to 81 dBA Leq at 1 foot, based on measurements, conducted by dBFA staff, of a single-lane drive-through Starbucks. The drive through was assumed to be operational at any time.

The planned Meniffee Meadows project to the southwest is currently expected to include medical offices and two residential buildings: an assisted living facility and a memory care facility (Appendix A). The nearest residential building to the Project site is approximately 1,100 feet away. The Project would generate up to approximately 49 / 41 dBA Leq (daytime / nighttime) at the Meniffee Meadows residential buildings.

The nearest residential building to the Project site across I-215 to the east is in the Cantabria Apartment Homes development, approximately 400 feet away. The Project would generate up to approximately 44 / 42 dBA Leq (daytime / nighttime) at the Cantabria Apartment Homes residential buildings.

Project operations would not exceed 65 / 45 dBA Leq at an offsite residential land use during daytime / nighttime hours. The onsite operations noise impact is less than significant.

5.3 Construction Noise

A grading plan and construction phasing plan has not been finalized at the time of this analysis; therefore, only a general estimate of construction noise levels can be provided. The primary noise from Project construction would be from site preparation. Grading would require the use of heavy equipment such as bulldozers, loaders, and scrapers. No blasting would be necessary. Haul trucks would be used to import the 275,000 cubic yards of fill to the project site.

Construction of the Project would generate a short-term temporary increase in noise in the Project area. The increase in noise level would be primarily experienced close to the noise source. The magnitude of the impact would depend on the type of construction activity, noise level generated by various pieces of construction equipment, duration of the construction phase, acoustical shielding and distance between the noise source and receiver.

Construction activity and delivery of construction materials and equipment would be limited to between 6:00 a.m. and 6:00 p.m. during June through September, and to between 7:00 a.m. and 6:00 p.m. during October through May.

This Project would implement conventional construction techniques and equipment. Standard equipment such as scrapers, graders, backhoes, loaders, tractors, cranes, and miscellaneous trucks would be used for construction of most Project facilities. Sound levels of typical construction equipment range from approximately 65–95 dBA at 50 feet from the source (U.S. Environmental Protection Agency [U.S. EPA] 1971). Worst-case noise levels are typically associated with grading. Noise sources associated with grading of the proposed Project, and associated noise levels, are shown in Table 11.

Table 12. Grading Noise Source Levels

Noise Source	Noise Level	Number
Bulldozer	85 dBA at 50 feet	1
Scraper	85 dBA at 50 feet	1
Backhoe	85 dBA at 50 feet	1
Water Truck	85 dBA at 50 feet	1
Roller	75 dBA at 50 feet	1

Acoustical calculations were performed to estimate worst-case noise from construction activity. The closest existing and potential residences are located:

- Across I-215, at the northeast and northwest corners of Antelope Road and Holland Road, approximately 400 feet east of the east Project boundary (Cantabria Apartment Homes and Country Gardens), and
- Southeast of Holland Road and Sherman Road, approximately 1,100 feet southwest of the southwest Project boundary (Meniffee Meadows). Refer to Figure 3 for details.

It was assumed that one bulldozer, one scraper, one backhoe, one water truck, and one roller would operate continuously within the boundary of the nearest planning area. No correction was applied for downtime associated with equipment maintenance, breaks, or similar situations. The calculations assumed point source acoustical characteristics. Using standard point source calculations, the combined level of 91 dBA Leq at 50 feet would attenuate to approximately 73 dBA Leq at the residences across I-215 and 64 dBA Leq at the potential future assisted living facility to the southwest.

Construction would occur on the days and within the hours proscribed by the City of Menifee Municipal Code (Monday through Saturday, except nationally recognized holidays, between 6:30 a.m. and 7:00 p.m.). Therefore, impacts related to short-term construction noise would be less than significant.

5.4 Vibration

5.4.1 Operational Vibration

Vibration associated with operation of the Project would be generated by vehicular traffic and mechanical equipment operation.

Vehicles traveling on a smooth pavement surface are rarely, if ever, the source of perceptible ground vibration. All vehicles on the Project site would have rubber tires and suspension systems that isolate vibration from the ground, and would generally travel at a maximum speed of approximately 10 miles per hour. All vehicular traffic would operate over 25 feet from vibration-sensitive structures. Vehicular traffic on the Project site is expected to generate vibration levels less than 0.01 in/sec peak particle velocity (PPV), the level for frequent intermittent sources considered “barely perceptible” by Caltrans [2013b], at all on-site and off-site structures.

All mechanical equipment would be located over 25 feet from vibration-sensitive structures. Groundborne vibration levels resulting from mechanical equipment are dependent on the design of the equipment. Any Project ground-mounted mechanical equipment would be installed using vibration-dampening resilient isolators designed to ensure that vibration levels would be lower than 0.3 in/sec PPV, the Caltrans [2013b] threshold for continuous sources at older residential buildings, at all on-site and off-site structures.

Operational vibration impacts as a result of the Project would be less than significant.

5.4.2 Construction Vibration

The highest vibration levels generated by construction of the Project would occur during grading. Typical vibration levels associated with potential Project construction equipment are presented in Table 12.

Project construction would not require pile driving.

Table 13. Construction Equipment Vibration Source Levels

Equipment	PPV at 25 feet
Vibratory Roller	0.210 in/sec
Grader	0.110 in/sec
Excavator	0.110 in/sec
Scraper	0.110 in/sec
Front-End Loader	0.089 in/sec
Large Bulldozer	0.089 in/sec
Loaded Truck	0.076 in/sec
Small Bulldozer	0.003 in/sec

Source: FTA 2006

The piece of potential Project construction equipment producing the highest potential vibration levels is the vibratory roller. The vibratory roller could be operated as close as 400 feet from a residence. At 400 feet, using Caltrans [2013] propagation prediction methodology, the vibratory roller would generate approximately 0.01 in/sec PPV. A vibration level of 0.01 in/sec PPV would be “barely perceptible” to humans within the residence, but would not cause structural damage [Caltrans 2013]. Temporary vibration impacts associated with construction would be less than significant.

5.5 Project Exposure to Airport Noise

The Project site is not located within the 60 dBA CNEL noise contours of any airport.

6.0 RECOMMENDATIONS

6.1 Vehicular Traffic Noise

No significant impacts were identified. Therefore, no recommendations are required.

6.2 Operational (Non-Construction) Noise

No significant impacts were identified. Therefore, no recommendations are required.

6.3 Construction Noise

Although impacts from Project construction would be less than significant, minimization disturbance from construction noise is often desired. The following measures should be considered:

- Select equipment capable of performing the necessary tasks with the lowest sound level and the lowest acoustic height possible.
- Implement alternatives to the standard backup beepers as feasible. These alternatives include strobe lights or products such as the Brigade Electronics, Inc. Broadband Sound system, which is equally effective while generating a lower noise level.
- Use specially-quieted equipment, such as quieted and enclosed air compressors and properly-working manufacturer-recommended mufflers on all engines.
- Construct enclosures around noise-producing stationary sources such as generators used for night lighting.
- Perform construction vehicle maintenance as far from any residential land use as possible.
- Place the laydown area as far as possible from the closest noise sensitive receptors.
- Limit the delivery of material to the hours between 7:00 a.m. and 7:00 p.m.

6.4 Vibration

No significant impacts were identified. Therefore, no recommendations are required.

6.5 Project Exposure to Airport Noise

No significant impacts were identified. Therefore, no recommendations are required.

7.0 REFERENCES

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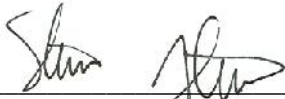
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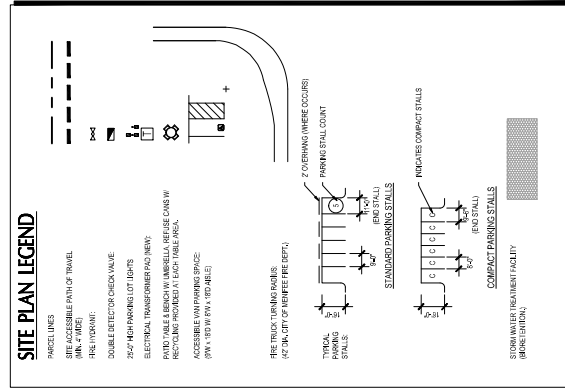
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8.0 LIST OF PREPARERS



Steven Fiedler, INCE
Principal, dBF Associates, Inc.



Sheet Title: **NORTH
SITE PLAN**

Sheet Number

A11

MENIFFE MEADOWS
HOLLAND ROAD AND SHERMAN ROAD
MENIFFE, CA

[illegible][illegible]



MMA Architects
1113 East Avenue, Suite 200
Menifee, CA 92559
951-681-1111

ALL IDEAS, DESIGN AND
CONSTRUCTION DETAILS ON
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STORAGE AND RETRIEVAL
SYSTEM, WITHOUT THE
WRITTEN CONSENT OF THE
ARCHITECT.



ANDREW J. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
NO. 44444
CIVIL ENGINE
MAY 1, 2015 TO 12/31/2018
MAY 1, 2019 TO 12/31/2021

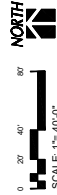
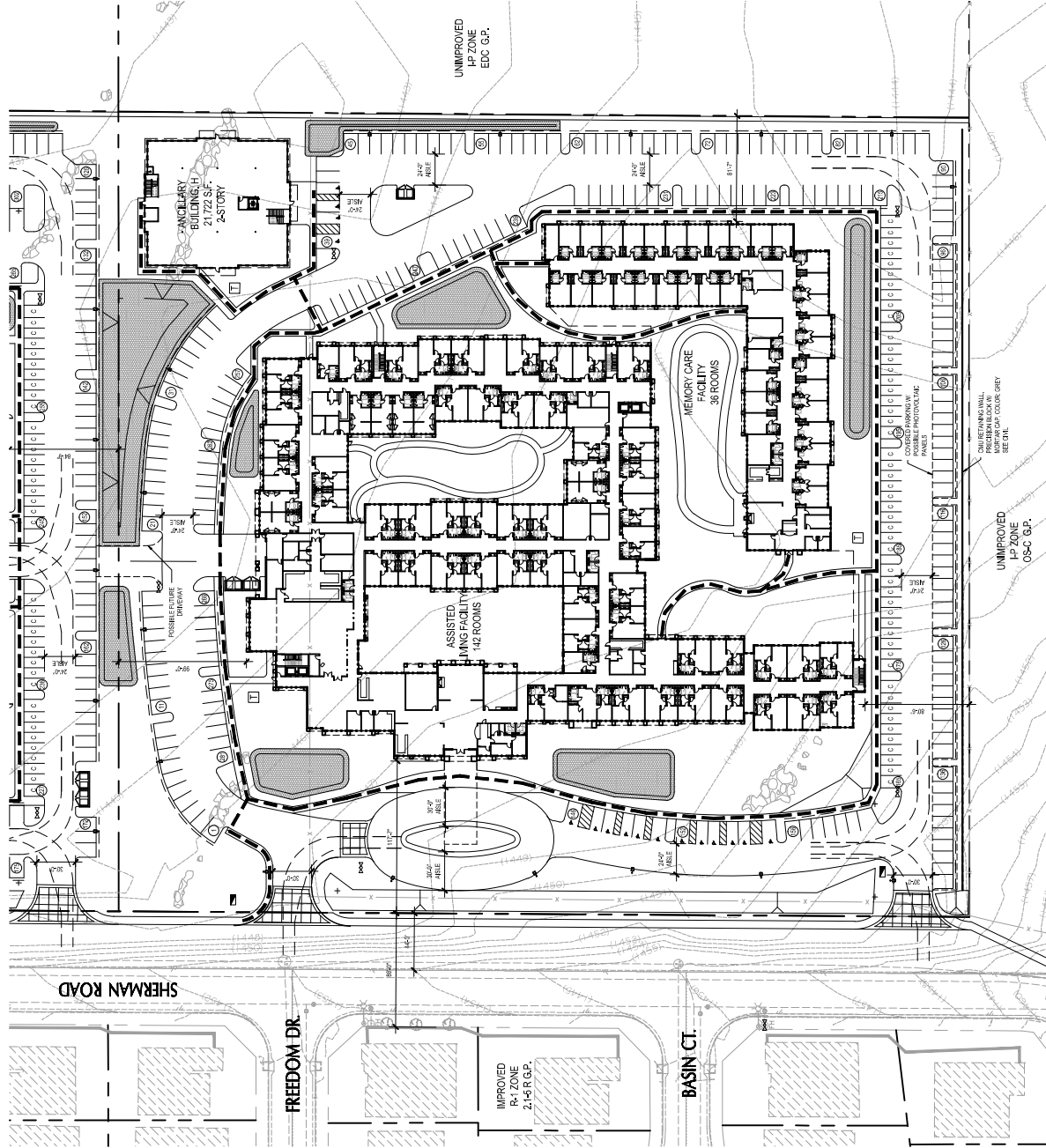
MENIFFE MEADOWS HOLLAND ROAD AND SHERMAN ROAD MENIFFE, CA

Date:	3-2-21
Project:	15-03 HOLLAND ROAD DUP
File:	0709-AU
Revised:	

SOUTH SITE PLAN

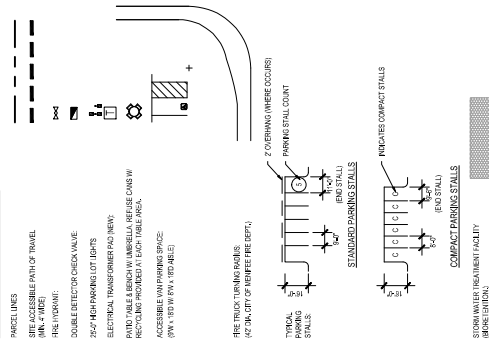
Sheet Title

A1.2



NORTH SITE PLAN

SITE PLAN LEGEND



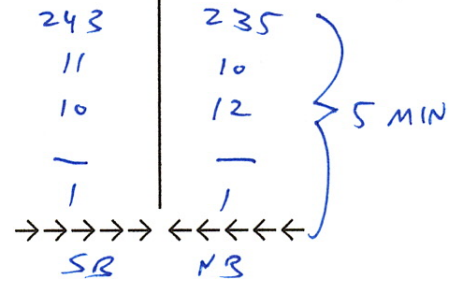
FIELD NOISE MEASUREMENT DATA

Project Name: HAUN & HOLLAND MIXED-USE CENTER Page 1 of 1
 Project #: _____ Day / Date: WED 10/11/2017 My Name: FIEDLER

<u>Sound Level Meter</u>		<u>Calibrator</u>		<u>Weather Meter</u>	
Model # <u>R10N NA-28</u>		Model # <u>LD 200</u>		Model # _____ Serial # _____	
Serial # _____		Serial # _____			
Weighting: <u>A / C / Flat</u>		Pre-Test: <u>114.0</u> dBA SPL		Terrain: <u>Hard / Soft / Mixed</u>	
Response: <u>Slow / Fast / Impl</u>		Post-Test: <u>114.0</u> dBA SPL		Topo: <u>Flat / Hilly (describe)</u>	
Windscreen: <u>Yes / No</u>				Wind: <u>Steady / Gusty</u>	

ID	Time Start	Time Stop	Leq	Lmin	Lmax	L10	L50	L90	Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
<u>MU1</u>	<u>10:35</u>	<u>10:45</u>	<u>67.3</u>	<u>59.7</u>	<u>75.4</u>	<u>69.7</u>	<u>66.7</u>	<u>63.2</u>	<u>0-3 E</u>	<u>75</u>	<u>30</u>		<u>10</u>

Roadway Name I-215
 Speed (post/obs) 65/65
 Number of Lanes 3+3
 Width (pave/row) _____
 1- or 2- way 2
 Grade —
 Bus Stops —
 Stoplights —
 Street Parking —
 Automobiles 243
 Medium Trucks 11
 Heavy Trucks 10
 Buses —
 Motorcycles 1



Location(s) / GPS Reading(s):
MU: AT WEST EDGE OF CREEK,
N 30' FROM FENCE,
NE CORNER OF SITE.
I-215: K-RAIL TOP
≈ FLATBED TRUCK
BES HEIGHT
(NB SIDE)

Other Noise Sources: distant: aircraft / roadway traffic / trains / landscaping / rustling leaves / children playing / dogs barking / birds vocalizing

FIELD NOISE MEASUREMENT DATA

Project Name: <u>HAWN ; HOLLAND MIXED-USE CENTER</u>										Page <u>2</u> of <u>2</u>			
Project #:		Day / Date: <u>WED 10/11/2017</u>						My Name: <u>FIEDLER</u>					
<u>Sound Level Meter</u>					<u>Calibrator</u>					<u>Weather Meter</u>			
Model # <u>RION NA-28</u>					Model # <u>LD200</u>					Model # _____		Serial # _____	
Serial # _____					Serial # _____								
Weighting: <u>A</u> / C / Flat					Pre-Test: <u>114.0</u> dBA SPL					Terrain: Hard / <u>Soft</u> / Mixed			
Response: <u>Slow</u> / Fast / Impl					Post-Test: <u>114.0</u> dBA SPL					Topo: <u>Flat</u> / Hilly (describe)			
Windscreen: <u>Yes</u> / No										Wind: <u>Steady</u> / Gusty			

ID	Time Start	Time Stop	Leq	Lmin	Lmax	L10	L50	L90	Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
<u>ML2</u>	<u>11:00</u>	<u>11:15</u>	<u>62.7</u>	<u>45.7</u>	<u>73.3</u>	<u>65.9</u>	<u>61.2</u>	<u>50.4</u>	<u>0-3 E</u>	<u>75</u>	<u>30</u>		<u>10</u>

<p>Roadway Name <u>HAWN ROAD</u></p> <p>Speed (post/obs) <u>45 / 45</u></p> <p>Number of Lanes <u>2 SB / 1 NB</u></p> <p>Width (pave/row) <u>(R SB → RT TO HOLLAND)</u></p> <p>1- or 2- way <u>2</u></p> <p>Grade <u>—</u></p> <p>Bus Stops <u>—</u></p> <p>Stoplights <u>STOP SIGN @ HOLLAND</u></p> <p>Street Parking <u>—</u></p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Automobiles</td> <td style="width:20%; text-align: center;"><u>102</u></td> <td style="width:20%; text-align: center;"><u>97</u></td> <td style="width:10%;"></td> </tr> <tr> <td>Medium Trucks</td> <td style="text-align: center;"><u>5</u></td> <td style="text-align: center;"><u>2</u></td> <td></td> </tr> <tr> <td>Heavy Trucks</td> <td style="text-align: center;"><u>—</u></td> <td style="text-align: center;"><u>—</u></td> <td></td> </tr> <tr> <td>Buses</td> <td style="text-align: center;"><u>—</u></td> <td style="text-align: center;"><u>—</u></td> <td></td> </tr> <tr> <td>Motorcycles</td> <td style="text-align: center;"><u>—</u></td> <td style="text-align: center;"><u>—</u></td> <td></td> </tr> </table> <p style="text-align: center; margin-top: 10px;"> <u>→→→→→</u> <u>←←←←←</u> <u>NB</u> <u>SB</u> </p>	Automobiles	<u>102</u>	<u>97</u>		Medium Trucks	<u>5</u>	<u>2</u>		Heavy Trucks	<u>—</u>	<u>—</u>		Buses	<u>—</u>	<u>—</u>		Motorcycles	<u>—</u>	<u>—</u>		<p>Location(s) / GPS Reading(s):</p> <p><u>ML2: 40' E OF</u></p> <p><u>E PAVEMENT STRIPE</u></p> <p><u>NEAR MANHOLE I/GN.</u></p> <p><u>HOLLAND: 50 MPH.</u></p>
Automobiles	<u>102</u>	<u>97</u>																			
Medium Trucks	<u>5</u>	<u>2</u>																			
Heavy Trucks	<u>—</u>	<u>—</u>																			
Buses	<u>—</u>	<u>—</u>																			
Motorcycles	<u>—</u>	<u>—</u>																			

Other Noise Sources: distant: aircraft / roadway traffic / trains / landscaping / rustling leaves / children playing / dogs barking / birds vocalizing

FIELD NOISE MEASUREMENT DATA

Project Name: <u>HAUN & HOLLAND MIXED-USE CENTER</u>										Page <u>3</u> of <u> </u>			
Project #:		Day / Date: <u>WED 10/11/2017</u>						My Name: <u>FIEDLER</u>					
<u>Sound Level Meter</u>					<u>Calibrator</u>					<u>Weather Meter</u>			
Model # <u>R10N NA-28</u>					Model # <u>LD200</u>					Model # <u> </u>		Serial # <u> </u>	
Serial # <u> </u>					Serial # <u> </u>								
Weighting: <u>A / C / Flat</u>					Pre-Test: <u>114.0</u> dBA SPL					Terrain: <u>Hard / Soft / Mixed</u>			
Response: <u>Slow / Fast / Impl</u>					Post-Test: <u>114.0</u> dBA SPL					Topo: <u>Flat / Hilly (describe)</u>			
Windscreen: <u>Yes / No</u>										Wind: <u>Steady / Gusty</u>			

ID	Time Start	Time Stop	Leq	Lmin	Lmax	L10	L50	L90	Wind Spd/ Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
ML3	11:25	11:40	53.6	46.5	60.6	56.1	52.9	49.7	0-3 E	76	30		10
ML4	11:55	12:05	65.8	39.4	73.7	70.6	62.5	48.6	0-3 E	76	30		10

<p>Roadway Name <u>HOLLAND ROAD</u></p> <p>Speed (post/obs) <u>50/50</u></p> <p>Number of Lanes <u>1+1</u></p> <p>Width (pave/row) <u> </u></p> <p>1- or 2- way <u>2</u></p> <p>Grade <u>—</u></p> <p>Bus Stops <u>—</u></p> <p>Stoplights <u>—</u></p> <p>Street Parking <u>—</u></p> <table style="width:100%;"> <tr> <td>Automobiles</td> <td><u>51</u></td> <td><u>45</u></td> </tr> <tr> <td>Medium Trucks</td> <td><u>1</u></td> <td><u>1</u></td> </tr> <tr> <td>Heavy Trucks</td> <td><u>—</u></td> <td><u>—</u></td> </tr> <tr> <td>Buses</td> <td><u>—</u></td> <td><u>—</u></td> </tr> <tr> <td>Motorcycles</td> <td><u>—</u></td> <td><u>—</u></td> </tr> </table> <p style="text-align: center;"><u>EB</u> →→→→→ ←←←←← <u>WB</u></p>	Automobiles	<u>51</u>	<u>45</u>	Medium Trucks	<u>1</u>	<u>1</u>	Heavy Trucks	<u>—</u>	<u>—</u>	Buses	<u>—</u>	<u>—</u>	Motorcycles	<u>—</u>	<u>—</u>	<p>Location(s) / GPS Reading(s):</p> <p>ML3: SE CORNER OF SANTA ROSA ACADEMY SCHOOL GROUNDS.</p> <p>PRIMARY SOURCE: HAUN OCC' AIRCRAFT.</p> <p>ML4: SEC HOLLAND/SHERMAN ~50' from CL.</p> <p>ACOUSTICALLY EQUIVALENT TO NEIGHBORHOOD AT SWC, except 6' walls.</p>
Automobiles	<u>51</u>	<u>45</u>														
Medium Trucks	<u>1</u>	<u>1</u>														
Heavy Trucks	<u>—</u>	<u>—</u>														
Buses	<u>—</u>	<u>—</u>														
Motorcycles	<u>—</u>	<u>—</u>														

Other Noise Sources: distant: aircraft / roadway traffic / trains / landscaping / rustling leaves / children playing / dogs barking / birds vocalizing

FIELD NOISE MEASUREMENT DATA

Project Name: HAUN & HOLLAND MIXED-USE CENTER Page 4 of 4
 Project #: _____ Day / Date: WED 10/11/2017 My Name: FIEDLER

Sound Level Meter Model # <u>R101 NA-28</u> Serial # _____ Weighting: <u>A</u> / C / Flat Response: <u>Slow</u> / Fast / Impl Windscreen: <u>Yes</u> / No	Calibrator Model # <u>L2 200</u> Serial # _____ Pre-Test: <u>114.0</u> dBA SPL Post-Test: <u>114.0</u> dBA SPL	Weather Meter Model # _____ Serial # _____ Terrain: <u>Hard</u> / Soft / Mixed Topo: <u>Flat</u> / Hilly (describe) Wind: <u>Steady</u> / Gusty
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ID	Time Start	Time Stop	Leq	Lmin	Lmax	L10	L50	L90	Wind Spd/Dir (mph)	Temp (°F)	RH (%)	Bar Psr (in Hg)	Cloud Cover (%)
<u>MUS</u>	<u>12:20</u>	<u>12:30</u>	<u>68.8</u>	<u>44.8</u>	<u>79.7</u>	<u>74.1</u>	<u>62.1</u>	<u>46.8</u>	<u>0-3 E</u>	<u>77</u>	<u>30</u>		<u>10</u>

Roadway Name <u>HAUN ROAD</u> Speed (post/obs) <u>50 / 50-55</u> Number of Lanes <u>1+1, 12' MEDIAN</u> Width (pave/row) _____ 1- or 2- way <u>2</u> Grade <u>—</u> Bus Stops <u>—</u> Stoplights <u>—</u> Street Parking <u>—</u> Automobiles <u>49</u> <u>38</u> Medium Trucks <u>—</u> <u>2</u> Heavy Trucks <u>1</u> <u>1</u> Buses <u>—</u> <u>—</u> Motorcycles <u>—</u> <u>1</u> <div style="text-align: center; margin-top: 10px;"> <u>NB</u> →→→→→ ←←←←← <u>SB</u> </div>	Location(s) / GPS Reading(s): <u>MUS: 50' E of HAUN CL.</u> <u>ACOUSTICALLY EQUIVALENT</u> <u>TO "MARDEN" except</u> <u>6' WALLS.</u> <u>Paved Parking lot of</u> <u>ABUNDANT LIFE CHURCH /</u> <u>ANTELOPE-MEMPHIS</u> <u>RURAL CENTER</u> <u>— has an outdoor</u> <u>USE area.</u>
--	--

Other Noise Sources: distant: aircraft / roadway traffic / trains / landscaping / rustling leaves / children playing / dogs barking / birds vocalizing

FIELD NOISE MEASUREMENT DATA

[illegible]

Roadway Name
Speed (post/obs)
Number of Lanes
Width (pave/row)
1- or 2- way
Grade
Bus Stops
Stoplights
Street Parking
Automobiles
Medium Trucks
Heavy Trucks
Buses
Motorcycles

→→→→→ ←←←←←

Location(s) / GPS Reading(s):

ML6: CANTABRIA
APARTMENT HOMES.
MIDWAY BETWEEN
BUILDINGS F & G,
AT WEST FACADE.
I-215 ; ANTELOPE ROAD

MT. STAN JACINTO
COLLEGE, MELIFEE
VALLEY CAMPUS.
OUTSIDE BLDG. 700.
I-215, ANTELOPE ROAD
CONSTANT BACKGROUND.
CARS IN PARKING LOT.

Other Noise Sources: distant: aircraft / roadway traffic / trains / landscaping / rustling leaves / children playing / dogs barking / birds vocalizing

JPN Haun Mixed Use Project Without Overpass Conditions

Street	From	To	Existing (2017)					Project					Cumulative				
			Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)
Bradley Road	Park Avenue	Newport Road	14,984	0	0	0	14,984	520	0	0	0	520	3,230	0	0	0	3,230
Bradley Road	Newport Road	La Piedra Road	12,389	0	0	0	12,389	208	0	0	0	208	1,352	0	0	0	1,352
Bradley Road	La Piedra Road	Holland Road	8,469	0	0	0	8,469	520	0	0	0	520	970	0	0	0	970
Haun Road	Newport Road	La Piedra Road	22,821	0	0	0	22,821	7,591	18	22	388	8,019	1,109	0	0	0	1,109
Haun Road	La Piedra Road	Holland Road	12,141	0	0	0	12,141	8,111	18	22	388	8,539	1,953	0	0	0	1,953
Haun Road	Holland Road	Scott Road	10,858	0	0	0	10,858	1,248	0	0	0	1,248	2,906	0	0	0	2,906
Newport Road	Murrieta Road	Bradley Road	34,448	0	0	0	34,448	1,040	0	0	0	1,040	6,839	0	0	0	6,839
Newport Road	Bradley Road	Haun Road	43,696	0	0	0	43,696	1,560	0	0	0	1,560	7,749	0	0	0	7,749
Newport Road	Haun Road	I-215 SB Ramps	55,824	0	0	0	55,824	5,407	18	22	388	5,835	3,756	0	0	0	3,756
Newport Road	I-215 NB Ramps	Antelope Road	66,584	0	0	0	66,584	2,288	0	0	0	2,288	8,110	0	0	0	8,110
Newport Road	Antelope Road	Meniffee Road	38,566	0	0	0	38,566	1,456	0	0	0	1,456	5,969	0	0	0	5,969
La Piedra Road	Sherman Road	Haun Road	2,411	0	0	0	2,411	520	0	0	0	520	2,842	0	0	0	2,842
Scott Road	Haun Road	I-215 SB Ramps	26,108	0	0	0	26,108	936	0	0	0	936	3,289	16	20	269	3,594
Scott Road	I-215 NB Ramps	Antelope Road	40,170	0	0	0	40,170	416	0	0	0	416	5,618	0	0	0	5,618
Holland Road	Bradley Road	Sherman Road	12,356	0	0	0	12,356	1,040	0	0	0	1,040	728	0	0	0	728
Holland Road	Sherman Road	Haun Road	11,631	0	0	0	11,631	1,040	0	0	0	1,040	2,700	0	0	0	2,700

Street	From	To	Existing (2017)					Existing Plus Project				
			Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)
Bradley Road	Park Avenue	Newport Road	14,984	0	0	0	14,984	15,504	0	0	0	15,504
Bradley Road	Newport Road	La Piedra Road	12,389	0	0	0	12,389	12,597	0	0	0	12,597
Bradley Road	La Piedra Road	Holland Road	8,469	0	0	0	8,469	8,989	0	0	0	8,989
Haun Road	Newport Road	La Piedra Road	22,821	0	0	0	22,821	30,412	18	22	388	30,840
Haun Road	La Piedra Road	Holland Road	12,141	0	0	0	12,141	20,252	18	22	388	20,680
Haun Road	Holland Road	Scott Road	10,858	0	0	0	10,858	12,106	0	0	0	12,106
Newport Road	Murrieta Road	Bradley Road	34,448	0	0	0	34,448	35,488	0	0	0	35,488
Newport Road	Bradley Road	Haun Road	43,696	0	0	0	43,696	45,256	0	0	0	45,256
Newport Road	Haun Road	I-215 SB Ramps	55,824	0	0	0	55,824	61,231	18	22	388	61,659
Newport Road	I-215 NB Ramps	Antelope Road	66,584	0	0	0	66,584	68,872	0	0	0	68,872
Newport Road	Antelope Road	Meniffee Road	38,566	0	0	0	38,566	40,022	0	0	0	40,022
La Piedra Road	Sherman Road	Haun Road	2,411	0	0	0	2,411	2,931	0	0	0	2,931
Scott Road	Haun Road	I-215 SB Ramps	26,108	0	0	0	26,108	27,044	0	0	0	27,044
Scott Road	I-215 NB Ramps	Antelope Road	40,170	0	0	0	40,170	40,586	0	0	0	40,586
Holland Road	Bradley Road	Sherman Road	12,356	0	0	0	12,356	13,396	0	0	0	13,396
Holland Road	Sherman Road	Haun Road	11,631	0	0	0	11,631	12,671	0	0	0	12,671

Street	From	To	Existing + Ambient (2021)					Existing + Ambient (2021) + Project					Existing + Ambient (2021) + Cumulative					Existing + Ambient (2021) + Cumulative + Project				
			Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)
Bradley Road	Park Avenue	Newport Road	16,183	0	0	0	16,183	16,703	0	0	0	16,703	19,413	0	0	0	19,413	19,933	0	0	0	19,933
Bradley Road	Newport Road	La Piedra Road	13,380	0	0	0	13,380	13,588	0	0	0	13,588	14,732	0	0	0	14,732	14,940	0	0	0	14,940
Bradley Road	La Piedra Road	Holland Road	9,147	0	0	0	9,147	9,667	0	0	0	9,667	10,117	0	0	0	10,117	10,637	0	0	0	10,637
Haun Road	Newport Road	La Piedra Road	24,647	0	0	0	24,647	32,238	18	22	388	32,666	25,756	0	0	0	25,756	33,347	18	22	388	33,775
Haun Road	La Piedra Road	Holland Road	13,112	0	0	0	13,112	21,223	18	22	388	21,651	15,065	0	0	0	15,065	23,176	18	22	388	23,604
Haun Road	Holland Road	Scott Road	11,727	0	0	0	11,727	12,975	0	0	0	12,975	14,633	0	0	0	14,633	15,881	0	0	0	15,881
Newport Road	Murrieta Road	Bradley Road	37,204	0	0	0	37,204	38,244	0	0	0	38,244	44,043	0	0	0	44,043	45,083	0	0	0	45,083
Newport Road	Bradley Road	Haun Road	47,192	0	0	0	47,192	48,752	0	0	0	48,752	54,941	0	0	0	54,941	56,501	0	0	0	56,501
Newport Road	Haun Road	I-215 SB Ramps	60,290	0	0	0	60,290	65,697	18	22	388	66,125	64,046	0	0	0	64,046	69,454	18	22	388	69,882
Newport Road	I-215 NB Ramps	Antelope Road	71,911	0	0	0	71,911	74,199	0	0	0	74,199	80,021	0	0	0	80,021	82,309	0	0	0	82,309
Newport Road	Antelope Road	Meniffee Road	41,651	0	0	0	41,651	43,107	0	0	0	43,107	47,620	0	0	0	47,620	49,076	0	0	0	49,076
La Piedra Road	Sherman Road	Haun Road	2,604	0	0	0	2,604	3,124	0	0	0	3,124	5,446	0	0	0	5,446	5,966	0	0	0	5,966
Scott Road	Haun Road	I-215 SB Ramps	28,197	0	0	0	28,197	29,133	0	0	0	29,133	31,486	16	20	269	31,791	32,422	16	20	269	32,727
Scott Road	I-215 NB Ramps	Antelope Road	43,384	0	0	0	43,384	43,800	0	0	0	43,800	49,002	0	0	0	49,002	49,418	0	0	0	49,418
Holland Road	Bradley Road	Sherman Road	13,344	0	0	0	13,344	14,384	0	0	0	14,384	14,072	0	0	0	14,072	15,111	0	0	0	15,111
Holland Road	Sherman Road	Haun Road	12,561	0	0	0	12,561	13,601	0	0	0	13,601	15,261	0	0	0	15,261	16,301	0	0	0	16,301

JPN Haun Mixed Use Project With Overpass Conditions

Street	From	To	Existing (2017)					Project					Cumulative				
			Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)
Bradley Road	Park Avenue	Newport Road	14,984	0	0	0	14,984	520	0	0	0	520	2,830	0	0	0	2,830
Bradley Road	Newport Road	La Piedra Road	12,743	0	0	0	12,743	208	0	0	0	208	1,686	0	0	0	1,686
Bradley Road	La Piedra Road	Holland Road	8,823	0	0	0	8,823	520	0	0	0	520	1,304	0	0	0	1,304
Haun Road	Newport Road	La Piedra Road	21,457	0	0	0	21,457	6,551	18	22	388	6,979	641	0	0	0	641
Haun Road	La Piedra Road	Holland Road	14,005	0	0	0	14,005	7,071	18	22	388	7,499	1,039	0	0	0	1,039
Haun Road	Holland Road	Scott Road	10,464	0	0	0	10,464	1,040	0	0	0	1,040	4,268	0	0	0	4,268
Newport Road	Murrieta Road	Bradley Road	34,092	0	0	0	34,092	1,040	0	0	0	1,040	5,978	0	0	0	5,978
Newport Road	Bradley Road	Haun Road	42,271	0	0	0	42,271	1,560	0	0	0	1,560	6,315	0	0	0	6,315
Newport Road	Haun Road	I-215 SB Ramps	53,441	0	0	0	53,441	4,368	18	22	388	4,796	1,875	0	0	0	1,875
Newport Road	I-215 NB Ramps	Antelope Road	63,402	0	0	0	63,402	1,248	0	0	0	1,248	6,229	0	0	0	6,229
Newport Road	Antelope Road	Meniffee Road	36,444	0	0	0	36,444	936	0	0	0	936	4,906	0	0	0	4,906
La Piedra Road	Sherman Road	Haun Road	2,411	0	0	0	2,411	520	0	0	0	520	2,842	0	0	0	2,842
Scott Road	Haun Road	I-215 SB Ramps	23,154	0	0	0	23,154	728	0	0	0	728	2,543	16	20	269	2,848
Scott Road	I-215 NB Ramps	Antelope Road	36,216	0	0	0	36,216	208	0	0	0	208	4,872	0	0	0	4,872
Holland Road	Bradley Road	Sherman Road	12,356	0	0	0	12,356	1,040	0	0	0	1,040	862	0	0	0	862
Holland Road	Sherman Road	Haun Road	11,631	0	0	0	11,631	1,040	0	0	0	1,040	4,900	0	0	0	4,900
Holland Road	Haun Road	Hanover Lane	7,233	0	0	0	7,233	1,248	0	0	0	1,248	6,500	0	0	0	6,500
Holland Road	Hanover Lane	Palomar Road	6,054	0	0	0	6,054	520	0	0	0	520	3,217	0	0	0	3,217
Holland Road	Palomar Road	Meniffee Road	6,054	0	0	0	6,054	520	0	0	0	520	2,245	0	0	0	2,245

Street	From	To	Existing (2017)					Existing Plus Project				
			Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)
Bradley Road	Park Avenue	Newport Road	14,984	0	0	0	14,984	15,504	0	0	0	15,504
Bradley Road	Newport Road	La Piedra Road	12,743	0	0	0	12,743	12,951	0	0	0	12,951
Bradley Road	La Piedra Road	Holland Road	8,823	0	0	0	8,823	9,343	0	0	0	9,343
Haun Road	Newport Road	La Piedra Road	21,457	0	0	0	21,457	28,008	18	22	388	28,436
Haun Road	La Piedra Road	Holland Road	14,005	0	0	0	14,005	21,076	18	22	388	21,504
Haun Road	Holland Road	Scott Road	10,464	0	0	0	10,464	11,504	0	0	0	11,504
Newport Road	Murrieta Road	Bradley Road	34,092	0	0	0	34,092	35,132	0	0	0	35,132
Newport Road	Bradley Road	Haun Road	42,271	0	0	0	42,271	43,831	0	0	0	43,831
Newport Road	Haun Road	I-215 SB Ramps	53,441	0	0	0	53,441	57,809	18	22	388	58,237
Newport Road	I-215 NB Ramps	Antelope Road	63,402	0	0	0	63,402	64,650	0	0	0	64,650
Newport Road	Antelope Road	Meniffee Road	36,444	0	0	0	36,444	37,380	0	0	0	37,380
La Piedra Road	Sherman Road	Haun Road	2,411	0	0	0	2,411	2,931	0	0	0	2,931
Scott Road	Haun Road	I-215 SB Ramps	23,154	0	0	0	23,154	23,882	0	0	0	23,882
Scott Road	I-215 NB Ramps	Antelope Road	36,216	0	0	0	36,216	36,424	0	0	0	36,424
Holland Road	Bradley Road	Sherman Road	12,356	0	0	0	12,356	13,396	0	0	0	13,396
Holland Road	Sherman Road	Haun Road	11,631	0	0	0	11,631	12,671	0	0	0	12,671
Holland Road	Haun Road	Hanover Lane	7,233	0	0	0	7,233	8,481	0	0	0	8,481
Holland Road	Hanover Lane	Palomar Road	6,054	0	0	0	6,054	6,574	0	0	0	6,574
Holland Road	Palomar Road	Meniffee Road	6,054	0	0	0	6,054	6,574	0	0	0	6,574

Street	From	To	Existing + Ambient (2021)					Existing + Ambient (2021) + Project					Existing + Ambient (2021) + Cumulative					Existing + Ambient (2021) + Cumulative + Project				
			Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)	Pass. Cars	2 Axle Trucks (PCE)	3 Axle Trucks (PCE)	4+ Axle Trucks (PCE)	Total (PCE)
Bradley Road	Park Avenue	Newport Road	16,183	0	0	0	16,183	16,703	0	0	0	16,703	19,013	0	0	0	19,013	19,533	0	0	0	19,533
Bradley Road	Newport Road	La Piedra Road	13,762	0	0	0	13,762	13,970	0	0	0	13,970	15,448	0	0	0	15,448	15,656	0	0	0	15,656
Bradley Road	La Piedra Road	Holland Road	9,529	0	0	0	9,529	10,049	0	0	0	10,049	10,833	0	0	0	10,833	11,353	0	0	0	11,353
Haun Road	Newport Road	La Piedra Road	23,174	0	0	0	23,174	29,725	18	22	388	30,153	23,815	0	0	0	23,815	30,366	18	22	388	30,794
Haun Road	La Piedra Road	Holland Road	15,125	0	0	0	15,125	22,196	18	22	388	22,624	16,164	0	0	0	16,164	23,235	18	22	388	23,663
Haun Road	Holland Road	Scott Road	11,301	0	0	0	11,301	12,341	0	0	0	12,341	15,569	0	0	0	15,569	16,609	0	0	0	16,609
Newport Road	Murrieta Road	Bradley Road	36,819	0	0	0	36,819	37,859	0	0	0	37,859	42,797	0	0	0	42,797	43,837	0	0	0	43,837
Newport Road	Bradley Road	Haun Road	45,653	0	0	0	45,653	47,213	0	0	0	47,213	51,968	0	0	0	51,968	53,528	0	0	0	53,528
Newport Road	Haun Road	I-215 SB Ramps	57,716	0	0	0	57,716	62,084	18	22	388	62,512	59,591	0	0	0	59,591	63,959	18	22	388	64,387
Newport Road	I-215 NB Ramps	Antelope Road	68,474	0	0	0	68,474	69,722	0	0	0	69,722	74,703	0	0	0	74,703	75,951	0	0	0	75,951
Newport Road	Antelope Road	Meniffee Road	39,360	0	0	0	39,360	40,296	0	0	0	40,296	44,266	0	0	0	44,266	45,202	0	0	0	45,202
La Piedra Road	Sherman Road	Haun Road	2,604	0	0	0	2,604	3,124	0	0	0	3,124	5,446	0	0	0	5,446	5,966	0	0	0	5,966
Scott Road	Haun Road	I-215 SB Ramps	25,006	0	0	0	25,006	25,734	0	0	0	25,734	27,549	16	20	269	27,854	28,277	16	20	269	28,582
Scott Road	I-215 NB Ramps	Antelope Road	39,113	0	0	0	39,113	39,321	0	0	0	39,321	43,985	0	0	0	43,985	44,193	0	0	0	44,193
Holland Road	Bradley Road	Sherman Road	13,344	0	0	0	13,344	14,384	0	0	0	14,384	14,206	0	0	0	14,206	15,245	0	0	0	15,245
Holland Road	Sherman Road	Haun Road	12,561	0	0	0	12,561	13,601	0	0	0	13,601	17,461	0	0	0	17,461	18,501	0	0	0	18,501
Holland Road	Haun Road	Hanover Lane	7,812	0	0	0	7,812	9,060	0	0	0	9,060	14,312	0	0	0	14,312	15,560	0	0	0	15,560
Holland Road	Hanover Lane	Palomar Road	6,538	0	0	0	6,538	7,058	0	0	0	7,058	9,755	0	0	0	9,755	10,275	0	0	0	10,275
Holland Road	Palomar Road	Meniffee Road	6,538	0	0	0	6,538	7,058	0	0	0	7,058	8,783	0	0	0	8,783	9,303	0	0	0	9,303

INPUT: ROADWAYS
Haun and Holland Mixed Use Center

dBFA Associates, Inc.						29 November 2018					
SPF						TNM 2.5					
INPUT: ROADWAYS						Average pavement type shall be used unless					
PROJECT/CONTRACT:						a State highway agency substantiates the use					
RUN:						of a different type with the approval of FHWA					
Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
I-215 NB1	35.0	point1	1	1,405.0	-1,000.0	4.00				OGAC	
		point2	2	1,405.0	2,000.0	4.00					
I-215 NB2	12.0	point3	3	1,417.0	-1,000.0	4.00				OGAC	
		point4	4	1,417.0	2,000.0	4.00					
I-215 NB3	34.0	point5	5	1,429.0	-1,000.0	4.00				OGAC	
		point6	6	1,429.0	2,000.0	4.00					
I-215 SB1	29.0	point7	7	1,372.0	2,000.0	4.00				OGAC	
		point8	8	1,372.0	-1,000.0	4.00					
I-215 SB2	12.0	point9	9	1,360.0	2,000.0	4.00				OGAC	
		point10	10	1,360.0	-1,000.0	4.00					
I-215 SB3	34.0	point11	11	1,348.0	2,000.0	4.00				OGAC	
		point12	12	1,348.0	-1,000.0	4.00					
Haun Road NB1	12.0	point13	13	-38.0	-1,000.0	0.00	Signal	0.00	30	Average	
		point19	19	-38.0	0.0	0.00					
Haun Road SB1	12.0	point15	15	-49.5	2,000.0	0.00				Average	
		point20	20	-49.5	0.0	0.00					
Haun Road SB2	12.0	point17	17	-64.0	2,000.0	0.00				Average	
		point21	21	-64.0	0.0	0.00					
Haun Road NB1-2	12.0	point22	22	-38.0	0.0	0.00	Signal	0.00	30	Average	
		point25	25	-38.0	200.0	0.00				Average	
		point26	26	-38.0	400.0	0.00				Average	
		point27	27	-38.0	600.0	0.00				Average	
		point28	28	-38.0	800.0	0.00				Average	
		point29	29	-38.0	1,000.0	0.00				Average	
		point30	30	-38.0	1,200.0	0.00				Average	

INPUT: ROADWAYS
Haun and Holland Mixed Use Center

		point31	31	-38.0	1,400.0	0.00				Average	
		point32	32	-38.0	1,600.0	0.00				Average	
		point33	33	-38.0	1,800.0	0.00				Average	
		point14	14	-38.0	2,000.0	0.00					
Haun Road SB1-2	12.0	point23	23	-49.5	0.0	0.00	Signal	0.00	30	Average	
		point16	16	-49.5	-1,000.0	0.00					
Haun Road SB2-2	12.0	point24	24	-64.0	0.0	0.00	Signal	0.00	30	Average	
		point18	18	-64.0	-1,000.0	0.00					
Haun Road NB2	12.0	point34	34	-26.0	0.0	0.00	Signal	0.00	30	Average	
		point36	36	-26.0	200.0	0.00				Average	
		point37	37	-26.0	400.0	0.00				Average	
		point38	38	-26.0	600.0	0.00				Average	
		point39	39	-26.0	800.0	0.00				Average	
		point40	40	-26.0	1,000.0	0.00				Average	
		point41	41	-26.0	1,200.0	0.00				Average	
		point42	42	-26.0	1,400.0	0.00				Average	
		point43	43	-26.0	1,600.0	0.00				Average	
		point44	44	-26.0	1,800.0	0.00				Average	
		point35	35	-26.0	2,000.0	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Center

dBF Associates, Inc.												
SPF												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	Haun and Holland Mixed Use Center											
RUN:	Future without Overpass											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
I-215 NB1	point1	1	1667	65	65	65	69	55	0	0	0	0
	point2	2										
I-215 NB2	point3	3	1667	65	65	65	69	55	0	0	0	0
	point4	4										
I-215 NB3	point5	5	1667	65	65	65	69	55	0	0	0	0
	point6	6										
I-215 SB1	point7	7	1667	65	65	65	69	55	0	0	0	0
	point8	8										
I-215 SB2	point9	9	1667	65	65	65	69	55	0	0	0	0
	point10	10										
I-215 SB3	point11	11	1667	65	65	65	69	55	0	0	0	0
	point12	12										
Haun Road NB1	point13	13	730	50	24	50	40	50	0	0	0	0
	point19	19										
Haun Road SB1	point15	15	550	45	12	45	23	45	0	0	0	0
	point20	20										
Haun Road SB2	point17	17	550	45	12	45	23	45	0	0	0	0
	point21	21										
Haun Road NB1-2	point22	22	550	45	12	45	23	45	0	0	0	0
	point25	25	550	45	12	45	23	45	0	0	0	0
	point26	26	550	45	12	45	23	45	0	0	0	0
	point27	27	550	45	12	45	23	45	0	0	0	0
	point28	28	550	45	12	45	23	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes**Haun and Holland Mixed Use Center**

	point29	29	550	45	12	45	23	45	0	0	0	0
	point30	30	550	45	12	45	23	45	0	0	0	0
	point31	31	550	45	12	45	23	45	0	0	0	0
	point32	32	550	45	12	45	23	45	0	0	0	0
	point33	33	550	45	12	45	23	45	0	0	0	0
	point14	14										
Haun Road SB1-2	point23	23	365	50	12	50	20	50	0	0	0	0
	point16	16										
Haun Road SB2-2	point24	24	365	50	12	50	20	50	0	0	0	0
	point18	18										
Haun Road NB2	point34	34	550	45	12	45	23	45	0	0	0	0
	point36	36	550	45	12	45	23	45	0	0	0	0
	point37	37	550	45	12	45	23	45	0	0	0	0
	point38	38	550	45	12	45	23	45	0	0	0	0
	point39	39	550	45	12	45	23	45	0	0	0	0
	point40	40	550	45	12	45	23	45	0	0	0	0
	point41	41	550	45	12	45	23	45	0	0	0	0
	point42	42	550	45	12	45	23	45	0	0	0	0
	point43	43	550	45	12	45	23	45	0	0	0	0
	point44	44	550	45	12	45	23	45	0	0	0	0
	point35	35										

INPUT: RECEIVERS
Haun and Holland Mixed Use Center

dBF Associates, Inc.						29 November 2018					
SPF						TNM 2.5					
INPUT: RECEIVERS											
PROJECT/CONTRACT:		Haun and Holland Mixed Use Center									
RUN:		Future without Overpass									
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
W PL	18	1	0.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
70 W	20	1	30.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
65 W	21	1	130.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
65 E	23	1	830.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
70 E	24	1	1,155.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
E PL	25	1	1,230.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y

INPUT: BARRIERS

Haun and Holland Mixed Use Center

dBF Associates, Inc.																			
SPF																			
INPUT: BARRIERS																			
PROJECT/CONTRACT:	Haun and Holland Mixed Use Center																		
RUN:	Future without Overpass																		
Barrier																			
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)		Height	Segment					
		Min	Max	\$ per Unit	\$ per Unit	Top Width	Run:Rise	\$ per Unit			X	Y	Z	at Point	Seg Ht	Perturbs	On	Important	
				Area	Vol.			Length							Incre-	#Up	#Dn	Struct?	Reflec-
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft				tions?
I-215 K-Rail	W	0.00	99.99	0.00				0.00	point1	1	1,387.0	-1,000.0	4.00	3.50	0.00	0	0		
									point2	2	1,387.0	2,000.0	4.00	3.50					

RESULTS: SOUND LEVELS
Haun and Holland Mixed Use Center

dBF Associates, Inc.												
SPF												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:												
RUN:												
BARRIER DESIGN:												
ATMOSPHERICS:												
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
W PL	18	1	0.0	73.1	66	73.1	10	Snd Lvl	73.1	0.0	8	-8.0
70 W	20	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0
65 W	21	1	0.0	65.0	66	65.0	10	----	65.0	0.0	8	-8.0
65 E	23	1	0.0	64.9	66	64.9	10	----	64.9	0.0	8	-8.0
70 E	24	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0
E PL	25	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		6	0.0	0.0	0.0							
All Impacted		4	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

INPUT: ROADWAYS
Haun and Holland Mixed Use Center

dBFA Associates, Inc.						29 November 2018					
SPF						TNM 2.5					
INPUT: ROADWAYS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA				
PROJECT/CONTRACT:	Haun and Holland Mixed Use Center										
RUN:	Future without Overpass										
Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
I-215 NB1	35.0	point1	1	1,405.0	-1,000.0	4.00				OGAC	
		point2	2	1,405.0	2,000.0	4.00					
I-215 NB2	12.0	point3	3	1,417.0	-1,000.0	4.00				OGAC	
		point4	4	1,417.0	2,000.0	4.00					
I-215 NB3	34.0	point5	5	1,429.0	-1,000.0	4.00				OGAC	
		point6	6	1,429.0	2,000.0	4.00					
I-215 SB1	29.0	point7	7	1,372.0	2,000.0	4.00				OGAC	
		point8	8	1,372.0	-1,000.0	4.00					
I-215 SB2	12.0	point9	9	1,360.0	2,000.0	4.00				OGAC	
		point10	10	1,360.0	-1,000.0	4.00					
I-215 SB3	34.0	point11	11	1,348.0	2,000.0	4.00				OGAC	
		point12	12	1,348.0	-1,000.0	4.00					
Haun Road NB1	12.0	point13	13	-38.0	-1,000.0	0.00	Signal	0.00	30	Average	
		point19	19	-38.0	0.0	0.00					
Haun Road SB1	12.0	point15	15	-49.5	2,000.0	0.00				Average	
		point20	20	-49.5	0.0	0.00					
Haun Road SB2	12.0	point17	17	-64.0	2,000.0	0.00				Average	
		point21	21	-64.0	0.0	0.00					
Haun Road NB1-2	12.0	point22	22	-38.0	0.0	0.00	Signal	0.00	30	Average	
		point25	25	-38.0	200.0	0.00				Average	
		point26	26	-38.0	400.0	0.00				Average	
		point27	27	-38.0	600.0	0.00				Average	
		point28	28	-38.0	800.0	0.00				Average	
		point29	29	-38.0	1,000.0	0.00				Average	
		point30	30	-38.0	1,200.0	0.00				Average	

INPUT: ROADWAYS
Haun and Holland Mixed Use Center

		point31	31	-38.0	1,400.0	0.00				Average	
		point32	32	-38.0	1,600.0	0.00				Average	
		point33	33	-38.0	1,800.0	0.00				Average	
		point14	14	-38.0	2,000.0	0.00					
Haun Road SB1-2	12.0	point23	23	-49.5	0.0	0.00	Signal	0.00	30	Average	
		point16	16	-49.5	-1,000.0	0.00					
Haun Road SB2-2	12.0	point24	24	-64.0	0.0	0.00	Signal	0.00	30	Average	
		point18	18	-64.0	-1,000.0	0.00					
Haun Road NB2	12.0	point34	34	-26.0	0.0	0.00	Signal	0.00	30	Average	
		point36	36	-26.0	200.0	0.00				Average	
		point37	37	-26.0	400.0	0.00				Average	
		point38	38	-26.0	600.0	0.00				Average	
		point39	39	-26.0	800.0	0.00				Average	
		point40	40	-26.0	1,000.0	0.00				Average	
		point41	41	-26.0	1,200.0	0.00				Average	
		point42	42	-26.0	1,400.0	0.00				Average	
		point43	43	-26.0	1,600.0	0.00				Average	
		point44	44	-26.0	1,800.0	0.00				Average	
		point35	35	-26.0	2,000.0	0.00					
Holland Road	12.0	point45	45	-1,000.0	0.0	0.00				Average	
		point47	47	-65.0	0.0	0.00					
Holland Road-2	12.0	point51	51	-25.0	0.0	0.00	Signal	0.00	30	Average	
		point52	52	175.0	0.0	0.00				Average	
		point53	53	375.0	0.0	0.00				Average	
		point54	54	575.0	0.0	0.00				Average	
		point55	55	775.0	0.0	0.00				Average	
		point56	56	975.0	0.0	0.00				Average	
		point57	57	1,175.0	0.0	0.00				Average	Y
		point58	58	1,375.0	0.0	0.00				Average	Y
		point59	59	1,575.0	0.0	0.00				Average	
		point60	60	1,775.0	0.0	0.00				Average	
		point61	61	1,975.0	0.0	0.00				Average	
		point46	46	2,000.0	0.0	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Center

dB Associates, Inc.			29 November 2018									
SPF			TNM 2.5									
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	Haun and Holland Mixed Use Center											
RUN:	Future without Overpass											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
I-215 NB1	point1	1	1667	65	65	65	69	55	0	0	0	0
	point2	2										
I-215 NB2	point3	3	1667	65	65	65	69	55	0	0	0	0
	point4	4										
I-215 NB3	point5	5	1667	65	65	65	69	55	0	0	0	0
	point6	6										
I-215 SB1	point7	7	1667	65	65	65	69	55	0	0	0	0
	point8	8										
I-215 SB2	point9	9	1667	65	65	65	69	55	0	0	0	0
	point10	10										
I-215 SB3	point11	11	1667	65	65	65	69	55	0	0	0	0
	point12	12										
Haun Road NB1	point13	13	764	50	26	50	42	50	0	0	0	0
	point19	19										
Haun Road SB1	point15	15	549	45	13	45	24	45	0	0	0	0
	point20	20										
Haun Road SB2	point17	17	549	45	13	45	24	45	0	0	0	0
	point21	21										
Haun Road NB1-2	point22	22	549	45	13	45	24	45	0	0	0	0
	point25	25	793	45	11	45	13	45	0	0	0	0
	point26	26	793	45	11	45	13	45	0	0	0	0
	point27	27	793	45	11	45	13	45	0	0	0	0
	point28	28	793	45	11	45	13	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Center

	point29	29	793	45	11	45	13	45	0	0	0	0
	point30	30	793	45	11	45	13	45	0	0	0	0
	point31	31	793	45	11	45	13	45	0	0	0	0
	point32	32	793	45	11	45	13	45	0	0	0	0
	point33	33	793	45	11	45	13	45	0	0	0	0
	point14	14										
Haun Road SB1-2	point23	23	382	50	13	50	21	50	0	0	0	0
	point16	16										
Haun Road SB2-2	point24	24	382	50	13	50	21	50	0	0	0	0
	point18	18										
Haun Road NB2	point34	34	549	45	13	45	24	45	0	0	0	0
	point36	36	793	45	11	45	13	45	0	0	0	0
	point37	37	793	45	11	45	13	45	0	0	0	0
	point38	38	793	45	11	45	13	45	0	0	0	0
	point39	39	793	45	11	45	13	45	0	0	0	0
	point40	40	793	45	11	45	13	45	0	0	0	0
	point41	41	793	45	11	45	13	45	0	0	0	0
	point42	42	793	45	11	45	13	45	0	0	0	0
	point43	43	793	45	11	45	13	45	0	0	0	0
	point44	44	793	45	11	45	13	45	0	0	0	0
	point35	35										
Holland Road	point45	45	1704	50	56	50	96	50	0	0	0	0
	point47	47										
Holland Road-2	point51	51	1432	50	48	50	80	50	0	0	0	0
	point52	52	2873	50	44	50	15	50	0	0	0	0
	point53	53	2873	50	44	50	15	50	0	0	0	0
	point54	54	2873	50	44	50	15	50	0	0	0	0
	point55	55	2873	50	44	50	15	50	0	0	0	0
	point56	56	2873	50	44	50	15	50	0	0	0	0
	point57	57	2873	50	44	50	15	50	0	0	0	0
	point58	58	2873	50	44	50	15	50	0	0	0	0
	point59	59	2873	50	44	50	15	50	0	0	0	0
	point60	60	2873	50	44	50	15	50	0	0	0	0
	point61	61	2873	50	44	50	15	50	0	0	0	0
	point46	46										

INPUT: RECEIVERS
Haun and Holland Mixed Use Center

dBF Associates, Inc.							29 November 2018				
SPF							TNM 2.5				
INPUT: RECEIVERS											
PROJECT/CONTRACT:	Haun and Holland Mixed Use Center										
RUN:	Future without Overpass										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
W PL	4	1	0.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
70 W	5	1	30.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
65 W	6	1	130.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
65 E	8	1	830.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
70 E	9	1	1,155.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
E PL	17	1	1,230.0	1,000.0	0.00	5.00	0.00	66	10.0	8.0	Y
S PL	18	1	325.0	60.0	0.00	5.00	0.00	66	10.0	8.0	Y
70 S	20	1	325.0	75.0	0.00	5.00	0.00	66	10.0	8.0	Y
Tot	23	1	325.0	105.0	0.00	5.00	0.00	66	10.0	8.0	Y
65 S	24	1	325.0	165.0	0.00	5.00	0.00	66	10.0	8.0	Y

INPUT: BARRIERS

Haun and Holland Mixed Use Center

dBF Associates, Inc.																			
SPF																			
INPUT: BARRIERS																			
PROJECT/CONTRACT:	Haun and Holland Mixed Use Center																		
RUN:	Future without Overpass																		
Barrier																			
Name	Type	Height		If Wall	If Berm			Add'tnl		Points									
		Min	Max	\$ per Unit	\$ per Unit	Top Width	Run:Rise	\$ per Unit		Name	No.	Coordinates (bottom)		Height at Point	Segment				
				Area	Vol.			Length				X	Y	Z		Seg Ht	Perturbs	On	Important
																Incre-	#Up	#Dn	Reflec-
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft				ft	ft	ft	ft	ment		Struct?	tions?
I-215 K-Rail	W	0.00	99.99	0.00				0.00		point1	1	1,387.0	-1,000.0	4.00	3.50	0.00	0	0	
										point2	2	1,387.0	2,000.0	4.00	3.50				

RESULTS: SOUND LEVELS
Haun and Holland Mixed Use Center

dBF Associates, Inc.													
SPF													
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:													
RUN:													
BARRIER DESIGN:													
ATMOSPHERICS:													
Receiver													
Name	No.	#DUs	Existing	No Barrier						With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction			
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated	
							Sub'l Inc					minus	
												Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	
W PL	4	1	0.0	73.6	66	73.6	10	Snd Lvl	73.6	0.0	8	-8.0	
70 W	5	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0	
65 W	6	1	0.0	65.1	66	65.1	10	----	65.1	0.0	8	-8.0	
65 E	8	1	0.0	65.0	66	65.0	10	----	65.0	0.0	8	-8.0	
70 E	9	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0	
E PL	17	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0	
S PL	18	1	0.0	71.6	66	71.6	10	Snd Lvl	71.6	0.0	8	-8.0	
70 S	20	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0	
Tot	23	1	0.0	67.5	66	67.5	10	Snd Lvl	67.5	0.0	8	-8.0	
65 S	24	1	0.0	65.0	66	65.0	10	----	65.0	0.0	8	-8.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		10	0.0	0.0	0.0								
All Impacted		7	0.0	0.0	0.0								
All that meet NR Goal		0	0.0	0.0	0.0								

INPUT: ROADWAYS
Haun and Holland Mixed Use Project

dBF Associates, Inc.						29 November 2018					
SPF						TNM 2.5					
INPUT: ROADWAYS						Average pavement type shall be used unless					
PROJECT/CONTRACT:						a State highway agency substantiates the use					
RUN:						of a different type with the approval of FHWA					
Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Bradley	12.0	Park	10	5,280.0	16,840.0	0.00				Average	
		Newport	9	5,280.0	15,840.0	0.00				Average	
		La Piedra	8	5,280.0	13,200.0	0.00				Average	
		Holland	7	5,280.0	10,560.0	0.00					
Haun	12.0	Newport	16	9,240.0	15,840.0	0.00				Average	
		La Piedra	15	9,240.0	13,200.0	0.00				Average	
		Holland	14	9,240.0	10,560.0	0.00				Average	
		Scott	13	9,240.0	0.0	0.00					
Newport	12.0	Murietta	34	0.0	15,840.0	0.00				Average	
		Bradley	35	5,280.0	15,840.0	0.00				Average	
		Haun	36	9,240.0	15,840.0	0.00				Average	
		I-215 SB r	37	9,740.0	15,840.0	0.00				Average	
		I-215 NB r	38	11,380.0	15,840.0	0.00				Average	
		Antelope	39	11,880.0	15,840.0	0.00				Average	
		Meniffee	40	15,200.0	15,840.0	0.00					
La Piedra	12.0	Sherman	41	7,920.0	13,200.0	0.00				Average	
		Haun	42	9,240.0	13,200.0	0.00					
Holland	12.0	Bradley	47	5,280.0	10,560.0	0.00				Average	
		Sherman	48	7,920.0	10,560.0	0.00				Average	
		Haun	49	9,240.0	10,560.0	0.00				Average	
		Antelope	50	11,880.0	10,560.0	0.00				Average	
		Hanover	51	12,290.0	10,560.0	0.00				Average	
		Palomar	53	13,610.0	10,560.0	0.00				Average	
		Meniffee	52	15,200.0	10,560.0	0.00					
Scott	12.0	Haun	54	9,240.0	0.0	0.00				Average	

INPUT: ROADWAYS

Haun and Holland Mixed Use Project

		I-215 SB r	55	9,740.0	0.0	0.00				Average	
		I-215 NB r	56	11,380.0	0.0	0.00				Average	
		Antelope	57	11,880.0	0.0	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project											
RUN:	Existing without Overpass											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Bradley	Park	10	1460	45	28	45	12	45	0	0	0	0
	Newport	9	1140	45	38	45	62	45	0	0	0	0
	La Piedra	8	779	45	26	45	43	45	0	0	0	0
	Holland	7										
Haun	Newport	16	2100	45	69	45	115	45	0	0	0	0
	La Piedra	15	1117	45	37	45	61	45	0	0	0	0
	Holland	14	999	45	33	45	55	45	0	0	0	0
	Scott	13										
Newport	Murietta	34	3170	50	104	50	173	50	0	0	0	0
	Bradley	35	4020	50	132	50	219	50	0	0	0	0
	Haun	36	5136	50	168	50	280	50	0	0	0	0
	I-215 SB ramp	37	6126	50	200	50	333	50	0	0	0	0
	I-215 NB ramp	38	6126	50	200	50	333	50	0	0	0	0
	Antelope	39	3548	45	116	45	193	45	0	0	0	0
	Menifee	40										
La Piedra	Sherman	41	235	40	5	40	2	40	0	0	0	0
	Haun	42										
Holland	Bradley	47	1137	50	38	50	62	50	0	0	0	0
	Sherman	48	1070	50	35	50	59	50	0	0	0	0
	Haun	49	0	0	0	0	0	0	0	0	0	0
	Antelope	50	0	0	0	0	0	0	0	0	0	0
	Hanover	51	0	0	0	0	0	0	0	0	0	0
	Palomar	53	0	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes**Haun and Holland Mixed Use Project**

	Meniffee	52										
Scott	Haun	54	2402	50	79	50	131	50	0	0	0	0
	I-215 SB ramp	55	2402	50	79	50	131	50	0	0	0	0
	I-215 NB ramp	56	3696	50	121	50	201	50	0	0	0	0
	Antelope	57										

INPUT: RECEIVERS
Haun and Holland Mixed Use Project

dBF Associates, Inc.											
SPF											
INPUT: RECEIVERS											
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project										
RUN:	Existing without Overpass										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Bradley - Park to Newport	1	1	5,230.0	16,340.0	0.00	5.00	0.00	66	10.0	8.0	Y
Bradley - Newport to La Piedra	2	1	5,230.0	14,520.0	0.00	5.00	0.00	66	10.0	8.0	Y
Bradley - La Piedra to Holland	3	1	5,230.0	11,880.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - Newport to La Piedra	4	1	9,190.0	14,520.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - La Piedra to Holland	5	1	9,190.0	11,880.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - Holland to Scott	6	1	9,190.0	5,280.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Murietta to Bradley	7	1	2,640.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Bradley to Haun	8	1	7,260.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Haun to SB ramps	9	1	9,490.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - NB ramps to Antelope	10	1	11,630.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Antelope to Menifee	11	1	13,540.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
La Piedra - Sherman to Haun	12	1	8,265.0	13,250.0	0.00	5.00	0.00	66	10.0	8.0	Y
Scott - Haun to SB ramps	13	1	9,490.0	-50.0	0.00	5.00	0.00	66	10.0	8.0	Y
Scott - NB ramps to Antelope	14	1	11,630.0	-50.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Bradley to Sherman	17	1	6,600.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Sherman to Haun	18	1	8,580.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Haun to Hanover	19	1	10,765.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Hanover to Palomar	20	1	12,950.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Palomar to Menifee	21	1	14,405.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Menifee - Newport to Holland	22	1	15,250.0	13,200.0	0.00	5.00	0.00	66	10.0	8.0	Y
Antelope - Newport to Albion	23	1	11,930.0	13,520.0	0.00	5.00	0.00	66	10.0	8.0	Y

RESULTS: SOUND LEVELS
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:			Haun and Holland Mixed Use Project									
RUN:			Existing without Overpass									
BARRIER DESIGN:			INPUT HEIGHTS						Average pavement type shall be used unless			
									a State highway agency substantiates the use			
ATMOSPHERICS:			68 deg F, 50% RH						of a different type with approval of FHWA.			
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Bradley - Park to Newport	1	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
Bradley - Newport to La Piedra	2	1	0.0	70.2	66	70.2	10	Snd Lvl	70.2	0.0	8	-8.0
Bradley - La Piedra to Holland	3	1	0.0	68.5	66	68.5	10	Snd Lvl	68.5	0.0	8	-8.0
Haun - Newport to La Piedra	4	1	0.0	72.8	66	72.8	10	Snd Lvl	72.8	0.0	8	-8.0
Haun - La Piedra to Holland	5	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0
Haun - Holland to Scott	6	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0
Newport - Murietta to Bradley	7	1	0.0	75.7	66	75.7	10	Snd Lvl	75.7	0.0	8	-8.0
Newport - Bradley to Haun	8	1	0.0	76.7	66	76.7	10	Snd Lvl	76.7	0.0	8	-8.0
Newport - Haun to SB ramps	9	1	0.0	77.8	66	77.8	10	Snd Lvl	77.8	0.0	8	-8.0
Newport - NB ramps to Antelope	10	1	0.0	78.4	66	78.4	10	Snd Lvl	78.4	0.0	8	-8.0
Newport - Antelope to Menifee	11	1	0.0	75.0	66	75.0	10	Snd Lvl	75.0	0.0	8	-8.0
La Piedra - Sherman to Haun	12	1	0.0	61.7	66	61.7	10	----	61.7	0.0	8	-8.0
Scott - Haun to SB ramps	13	1	0.0	74.3	66	74.3	10	Snd Lvl	74.3	0.0	8	-8.0
Scott - NB ramps to Antelope	14	1	0.0	76.0	66	76.0	10	Snd Lvl	76.0	0.0	8	-8.0
Holland - Bradley to Sherman	17	1	0.0	71.2	66	71.2	10	Snd Lvl	71.2	0.0	8	-8.0
Holland - Sherman to Haun	18	1	0.0	71.0	66	71.0	10	Snd Lvl	71.0	0.0	8	-8.0
Holland - Haun to Hanover	19	1	0.0	52.6	66	52.6	10	----	52.6	0.0	8	-8.0
Holland - Hanover to Palomar	20	1	0.0	48.5	66	48.5	10	----	48.5	0.0	8	-8.0
Holland - Palomar to Menifee	21	1	0.0	47.0	66	47.0	10	----	47.0	0.0	8	-8.0
Menifee - Newport to Holland	22	1	0.0	49.5	66	49.5	10	----	49.5	0.0	8	-8.0
Antelope - Newport to Albion	23	1	0.0	54.2	66	54.2	10	----	54.2	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							

RESULTS: SOUND LEVELS

Haun and Holland Mixed Use Project

			dB	dB	dB							
All Selected		21	0.0	0.0	0.0							
All Impacted		15	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project											
RUN:	Existing without Overpass + Project											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Bradley	Park	10	1512	45	28	45	12	45	0	0	0	0
	Newport	9	1161	45	38	45	62	45	0	0	0	0
	La Piedra	8	831	45	26	45	43	45	0	0	0	0
	Holland	7										
Haun	Newport	16	2859	45	70	45	129	45	0	0	0	0
	La Piedra	15	1928	45	38	45	75	45	0	0	0	0
	Holland	14	1124	45	33	45	55	45	0	0	0	0
	Scott	13										
Antelope	Newport	20	0	0	0	0	0	0	0	0	0	0
	Albion	19										
Menifee	Newport	32	0	0	0	0	0	0	0	0	0	0
	Holland	29										
Newport	Murietta	34	3274	50	104	50	173	50	0	0	0	0
	Bradley	35	4176	50	132	50	219	50	0	0	0	0
	Haun	36	5677	50	169	50	294	50	0	0	0	0
	I-215 SB ramp	37	5677	50	169	50	294	50	0	0	0	0
	I-215 NB ramp	38	6355	50	200	50	333	50	0	0	0	0
	Antelope	39	3694	45	116	45	193	45	0	0	0	0
	Menifee	40										
La Piedra	Sherman	41	287	40	5	40	2	40	0	0	0	0
	Haun	42										
Holland	Bradley	47	1241	50	38	50	62	50	0	0	0	0
	Sherman	48	1174	50	35	50	59	50	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes**Haun and Holland Mixed Use Project**

	Haun	49	0	0	0	0	0	0	0	0	0	0
	Antelope	50	0	0	0	0	0	0	0	0	0	0
	Hanover	51	0	0	0	0	0	0	0	0	0	0
	Palomar	53	0	0	0	0	0	0	0	0	0	0
	Meniffee	52										
Scott	Haun	54	2496	50	79	50	131	50	0	0	0	0
	I-215 SB ramp	55	2496	50	79	50	131	50	0	0	0	0
	I-215 NB ramp	56	3738	50	121	50	201	50	0	0	0	0
	Antelope	57										

RESULTS: SOUND LEVELS
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:												
RUN:												
BARRIER DESIGN:												
ATMOSPHERICS:												
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Bradley - Park to Newport	1	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Bradley - Newport to La Piedra	2	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
Bradley - La Piedra to Holland	3	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
Haun - Newport to La Piedra	4	1	0.0	73.7	66	73.7	10	Snd Lvl	73.7	0.0	8	-8.0
Haun - La Piedra to Holland	5	1	0.0	71.7	66	71.7	10	Snd Lvl	71.7	0.0	8	-8.0
Haun - Holland to Scott	6	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
Newport - Murietta to Bradley	7	1	0.0	75.8	66	75.8	10	Snd Lvl	75.8	0.0	8	-8.0
Newport - Bradley to Haun	8	1	0.0	76.8	66	76.8	10	Snd Lvl	76.8	0.0	8	-8.0
Newport - Haun to SB ramps	9	1	0.0	78.1	66	78.1	10	Snd Lvl	78.1	0.0	8	-8.0
Newport - NB ramps to Antelope	10	1	0.0	78.4	66	78.4	10	Snd Lvl	78.4	0.0	8	-8.0
Newport - Antelope to Menifee	11	1	0.0	75.1	66	75.1	10	Snd Lvl	75.1	0.0	8	-8.0
La Piedra - Sherman to Haun	12	1	0.0	62.4	66	62.4	10	----	62.4	0.0	8	-8.0
Scott - Haun to SB ramps	13	1	0.0	74.4	66	74.4	10	Snd Lvl	74.4	0.0	8	-8.0
Scott - NB ramps to Antelope	14	1	0.0	76.0	66	76.0	10	Snd Lvl	76.0	0.0	8	-8.0
Holland - Bradley to Sherman	17	1	0.0	71.5	66	71.5	10	Snd Lvl	71.5	0.0	8	-8.0
Holland - Sherman to Haun	18	1	0.0	71.3	66	71.3	10	Snd Lvl	71.3	0.0	8	-8.0
Holland - Haun to Hanover	19	1	0.0	53.1	66	53.1	10	----	53.1	0.0	8	-8.0
Holland - Hanover to Palomar	20	1	0.0	48.8	66	48.8	10	----	48.8	0.0	8	-8.0
Holland - Palomar to Menifee	21	1	0.0	47.2	66	47.2	10	----	47.2	0.0	8	-8.0
Menifee - Newport to Holland	22	1	0.0	49.6	66	49.6	10	----	49.6	0.0	8	-8.0
Antelope - Newport to Albion	23	1	0.0	54.3	66	54.3	10	----	54.3	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							

RESULTS: SOUND LEVELS

Haun and Holland Mixed Use Project

			dB	dB	dB							
All Selected		21	0.0	0.0	0.0							
All Impacted		15	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

INPUT: ROADWAYS
Haun and Holland Mixed Use Project

dBFA Associates, Inc.						29 November 2018					
SPF						TNM 2.5					
INPUT: ROADWAYS						Average pavement type shall be used unless					
PROJECT/CONTRACT:						a State highway agency substantiates the use					
RUN:						of a different type with the approval of FHWA					
Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Bradley	12.0	Park	10	5,280.0	16,840.0	0.00				Average	
		Newport	9	5,280.0	15,840.0	0.00				Average	
		La Piedra	8	5,280.0	13,200.0	0.00				Average	
		Holland	7	5,280.0	10,560.0	0.00					
Haun	12.0	Newport	16	9,240.0	15,840.0	0.00				Average	
		La Piedra	15	9,240.0	13,200.0	0.00				Average	
		Holland	14	9,240.0	10,560.0	0.00				Average	
		Scott	13	9,240.0	0.0	0.00					
Antelope	12.0	Newport	20	11,880.0	15,840.0	0.00				Average	
		Albion	19	11,880.0	11,200.0	0.00					
Menifee	12.0	Newport	32	15,200.0	15,840.0	0.00				Average	
		Holland	29	15,200.0	10,560.0	0.00					
Newport	12.0	Murietta	34	0.0	15,840.0	0.00				Average	
		Bradley	35	5,280.0	15,840.0	0.00				Average	
		Haun	36	9,240.0	15,840.0	0.00				Average	
		I-215 SB r	37	9,740.0	15,840.0	0.00				Average	
		I-215 NB r	38	11,380.0	15,840.0	0.00				Average	
		Antelope	39	11,880.0	15,840.0	0.00				Average	
		Menifee	40	15,200.0	15,840.0	0.00					
La Piedra	12.0	Sherman	41	7,920.0	13,200.0	0.00				Average	
		Haun	42	9,240.0	13,200.0	0.00					
Holland	12.0	Bradley	47	5,280.0	10,560.0	0.00				Average	
		Sherman	48	7,920.0	10,560.0	0.00				Average	
		Haun	49	9,240.0	10,560.0	0.00				Average	
		Antelope	50	11,880.0	10,560.0	0.00				Average	

INPUT: ROADWAYS**Haun and Holland Mixed Use Project**

		Hanover	51	12,290.0	10,560.0	0.00				Average	
		Palomar	53	13,610.0	10,560.0	0.00				Average	
		Meniffee	52	15,200.0	10,560.0	0.00					
Scott	12.0	Haun	54	9,240.0	0.0	0.00				Average	
		I-215 SB r	55	9,740.0	0.0	0.00				Average	
		I-215 NB r	56	11,380.0	0.0	0.00				Average	
		Antelope	57	11,880.0	0.0	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project											
RUN:	Existing + Cumulative without Overpass											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Bradley	Park	10	1783	45	28	45	12	45	0	0	0	0
	Newport	9	1275	45	38	45	62	45	0	0	0	0
	La Piedra	8	876	45	26	45	43	45	0	0	0	0
	Holland	7										
Haun	Newport	16	2211	45	69	45	115	45	0	0	0	0
	La Piedra	15	1313	45	37	45	61	45	0	0	0	0
	Holland	14	1290	45	33	45	55	45	0	0	0	0
	Scott	13										
Antelope	Newport	20	0	0	0	0	0	0	0	0	0	0
	Albion	19										
Menifee	Newport	32	0	0	0	0	0	0	0	0	0	0
	Holland	29										
Newport	Murietta	34	3853	50	104	50	173	50	0	0	0	0
	Bradley	35	4795	50	132	50	219	50	0	0	0	0
	Haun	36	5512	50	168	50	280	50	0	0	0	0
	I-215 SB ramp	37	5512	50	168	50	280	50	0	0	0	0
	I-215 NB ramp	38	6937	50	200	50	333	50	0	0	0	0
	Antelope	39	4145	45	116	45	193	45	0	0	0	0
	Menifee	40										
La Piedra	Sherman	41	519	40	5	40	2	40	0	0	0	0
	Haun	42										
Holland	Bradley	47	1210	50	38	50	62	50	0	0	0	0
	Sherman	48	1340	50	35	50	59	50	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes**Haun and Holland Mixed Use Project**

	Haun	49	0	0	0	0	0	0	0	0	0	0
	Antelope	50	0	0	0	0	0	0	0	0	0	0
	Hanover	51	0	0	0	0	0	0	0	0	0	0
	Palomar	53	0	0	0	0	0	0	0	0	0	0
	Meniffee	52										
Scott	Haun	54	2731	50	80	50	160	50	0	0	0	0
	I-215 SB ramp	55	2731	50	80	50	160	50	0	0	0	0
	I-215 NB ramp	56	4258	50	121	50	201	50	0	0	0	0
	Antelope	57										

INPUT: RECEIVERS
Haun and Holland Mixed Use Project

dBF Associates, Inc.											
SPF											
INPUT: RECEIVERS											
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project										
RUN:	Existing + Cumulative without Overpass										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Bradley - Park to Newport	1	1	5,230.0	16,340.0	0.00	5.00	0.00	66	10.0	8.0	Y
Bradley - Newport to La Piedra	2	1	5,230.0	14,520.0	0.00	5.00	0.00	66	10.0	8.0	Y
Bradley - La Piedra to Holland	3	1	5,230.0	11,880.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - Newport to La Piedra	4	1	9,190.0	14,520.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - La Piedra to Holland	5	1	9,190.0	11,880.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - Holland to Scott	6	1	9,190.0	5,280.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Murietta to Bradley	7	1	2,640.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Bradley to Haun	8	1	7,260.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Haun to SB ramps	9	1	9,490.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - NB ramps to Antelope	10	1	11,630.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Antelope to Menifee	11	1	13,540.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
La Piedra - Sherman to Haun	12	1	8,265.0	13,250.0	0.00	5.00	0.00	66	10.0	8.0	Y
Scott - Haun to SB ramps	13	1	9,490.0	-50.0	0.00	5.00	0.00	66	10.0	8.0	Y
Scott - NB ramps to Antelope	14	1	11,630.0	-50.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Bradley to Sherman	17	1	6,600.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Sherman to Haun	18	1	8,580.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Haun to Hanover	19	1	10,765.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Hanover to Palomar	20	1	12,950.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Palomar to Menifee	21	1	14,405.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Menifee - Newport to Holland	22	1	15,250.0	13,200.0	0.00	5.00	0.00	66	10.0	8.0	Y
Antelope - Newport to Albion	23	1	11,930.0	13,520.0	0.00	5.00	0.00	66	10.0	8.0	Y

RESULTS: SOUND LEVELS
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:												
RUN:												
BARRIER DESIGN:												
ATMOSPHERICS:												
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Bradley - Park to Newport	1	1	0.0	71.0	66	71.0	10	Snd Lvl	71.0	0.0	8	-8.0
Bradley - Newport to La Piedra	2	1	0.0	70.5	66	70.5	10	Snd Lvl	70.5	0.0	8	-8.0
Bradley - La Piedra to Holland	3	1	0.0	68.8	66	68.8	10	Snd Lvl	68.8	0.0	8	-8.0
Haun - Newport to La Piedra	4	1	0.0	72.9	66	72.9	10	Snd Lvl	72.9	0.0	8	-8.0
Haun - La Piedra to Holland	5	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Haun - Holland to Scott	6	1	0.0	70.1	66	70.1	10	Snd Lvl	70.1	0.0	8	-8.0
Newport - Murietta to Bradley	7	1	0.0	76.2	66	76.2	10	Snd Lvl	76.2	0.0	8	-8.0
Newport - Bradley to Haun	8	1	0.0	77.2	66	77.2	10	Snd Lvl	77.2	0.0	8	-8.0
Newport - Haun to SB ramps	9	1	0.0	77.9	66	77.9	10	Snd Lvl	77.9	0.0	8	-8.0
Newport - NB ramps to Antelope	10	1	0.0	78.7	66	78.7	10	Snd Lvl	78.7	0.0	8	-8.0
Newport - Antelope to Meniffee	11	1	0.0	75.4	66	75.4	10	Snd Lvl	75.4	0.0	8	-8.0
La Piedra - Sherman to Haun	12	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0
Scott - Haun to SB ramps	13	1	0.0	74.9	66	74.9	10	Snd Lvl	74.9	0.0	8	-8.0
Scott - NB ramps to Antelope	14	1	0.0	76.4	66	76.4	10	Snd Lvl	76.4	0.0	8	-8.0
Holland - Bradley to Sherman	17	1	0.0	71.4	66	71.4	10	Snd Lvl	71.4	0.0	8	-8.0
Holland - Sherman to Haun	18	1	0.0	71.6	66	71.6	10	Snd Lvl	71.6	0.0	8	-8.0
Holland - Haun to Hanover	19	1	0.0	52.9	66	52.9	10	----	52.9	0.0	8	-8.0
Holland - Hanover to Palomar	20	1	0.0	48.7	66	48.7	10	----	48.7	0.0	8	-8.0
Holland - Palomar to Meniffee	21	1	0.0	47.2	66	47.2	10	----	47.2	0.0	8	-8.0
Meniffee - Newport to Holland	22	1	0.0	49.7	66	49.7	10	----	49.7	0.0	8	-8.0
Antelope - Newport to Albion	23	1	0.0	54.3	66	54.3	10	----	54.3	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							

RESULTS: SOUND LEVELS

Haun and Holland Mixed Use Project

			dB	dB	dB							
All Selected		21	0.0	0.0	0.0							
All Impacted		15	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Project

dBF Associates, Inc.			29 November 2018									
SPF			TNM 2.5									
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project											
RUN:	Existing + Cumulative + Project wo Ovrps											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Bradley	Park	10	1835	45	28	45	12	45	0	0	0	0
	Newport	9	1296	45	38	45	62	45	0	0	0	0
	La Piedra	8	928	45	26	45	43	45	0	0	0	0
	Holland	7										
Haun	Newport	16	2970	45	70	45	129	45	0	0	0	0
	La Piedra	15	2124	45	38	45	75	45	0	0	0	0
	Holland	14	1415	45	33	45	55	45	0	0	0	0
	Scott	13										
Antelope	Newport	20	0	0	0	0	0	0	0	0	0	0
	Albion	19										
Menifee	Newport	32	0	0	0	0	0	0	0	0	0	0
	Holland	29										
Newport	Murietta	34	3957	50	104	50	173	50	0	0	0	0
	Bradley	35	4951	50	132	50	219	50	0	0	0	0
	Haun	36	6053	50	169	50	294	50	0	0	0	0
	I-215 SB ramp	37	6053	50	169	50	294	50	0	0	0	0
	I-215 NB ramp	38	7166	50	200	50	333	50	0	0	0	0
	Antelope	39	4291	45	116	45	193	45	0	0	0	0
	Menifee	40										
La Piedra	Sherman	41	571	40	5	40	2	40	0	0	0	0
	Haun	42										
Holland	Bradley	47	1314	50	38	50	62	50	0	0	0	0
	Sherman	48	1444	50	35	50	59	50	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes**Haun and Holland Mixed Use Project**

	Haun	49	0	0	0	0	0	0	0	0	0	0
	Antelope	50	0	0	0	0	0	0	0	0	0	0
	Hanover	51	0	0	0	0	0	0	0	0	0	0
	Palomar	53	0	0	0	0	0	0	0	0	0	0
	Meniffee	52										
Scott	Haun	54	2825	50	80	50	160	50	0	0	0	0
	I-215 SB ramp	55	2825	50	80	50	160	50	0	0	0	0
	I-215 NB ramp	56	4299	50	121	50	201	50	0	0	0	0
	Antelope	57										

RESULTS: SOUND LEVELS
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:												
RUN:												
BARRIER DESIGN:												
ATMOSPHERICS:												
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Bradley - Park to Newport	1	1	0.0	71.1	66	71.1	10	Snd Lvl	71.1	0.0	8	-8.0
Bradley - Newport to La Piedra	2	1	0.0	70.6	66	70.6	10	Snd Lvl	70.6	0.0	8	-8.0
Bradley - La Piedra to Holland	3	1	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
Haun - Newport to La Piedra	4	1	0.0	73.8	66	73.8	10	Snd Lvl	73.8	0.0	8	-8.0
Haun - La Piedra to Holland	5	1	0.0	71.9	66	71.9	10	Snd Lvl	71.9	0.0	8	-8.0
Haun - Holland to Scott	6	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Newport - Murietta to Bradley	7	1	0.0	76.3	66	76.3	10	Snd Lvl	76.3	0.0	8	-8.0
Newport - Bradley to Haun	8	1	0.0	77.3	66	77.3	10	Snd Lvl	77.3	0.0	8	-8.0
Newport - Haun to SB ramps	9	1	0.0	78.2	66	78.2	10	Snd Lvl	78.2	0.0	8	-8.0
Newport - NB ramps to Antelope	10	1	0.0	78.8	66	78.8	10	Snd Lvl	78.8	0.0	8	-8.0
Newport - Antelope to Menifee	11	1	0.0	75.4	66	75.4	10	Snd Lvl	75.4	0.0	8	-8.0
La Piedra - Sherman to Haun	12	1	0.0	64.3	66	64.3	10	----	64.3	0.0	8	-8.0
Scott - Haun to SB ramps	13	1	0.0	75.0	66	75.0	10	Snd Lvl	75.0	0.0	8	-8.0
Scott - NB ramps to Antelope	14	1	0.0	76.4	66	76.4	10	Snd Lvl	76.4	0.0	8	-8.0
Holland - Bradley to Sherman	17	1	0.0	71.6	66	71.6	10	Snd Lvl	71.6	0.0	8	-8.0
Holland - Sherman to Haun	18	1	0.0	71.8	66	71.8	10	Snd Lvl	71.8	0.0	8	-8.0
Holland - Haun to Hanover	19	1	0.0	53.4	66	53.4	10	----	53.4	0.0	8	-8.0
Holland - Hanover to Palomar	20	1	0.0	49.1	66	49.1	10	----	49.1	0.0	8	-8.0
Holland - Palomar to Menifee	21	1	0.0	47.4	66	47.4	10	----	47.4	0.0	8	-8.0
Menifee - Newport to Holland	22	1	0.0	49.9	66	49.9	10	----	49.9	0.0	8	-8.0
Antelope - Newport to Albion	23	1	0.0	54.6	66	54.6	10	----	54.6	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							

RESULTS: SOUND LEVELS

Haun and Holland Mixed Use Project

			dB	dB	dB							
All Selected		21	0.0	0.0	0.0							
All Impacted		15	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

INPUT: ROADWAYS
Haun and Holland Mixed Use Project

dBFA Associates, Inc.						29 November 2018					
SPF						TNM 2.5					
INPUT: ROADWAYS						Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA					
PROJECT/CONTRACT:			Haun and Holland Mixed Use Project								
RUN:			Existing with Overpass								
Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Bradley	12.0	Park	10	5,280.0	16,840.0	0.00				Average	
		Newport	9	5,280.0	15,840.0	0.00				Average	
		La Piedra	8	5,280.0	13,200.0	0.00				Average	
		Holland	7	5,280.0	10,560.0	0.00					
Haun	12.0	Newport	16	9,240.0	15,840.0	0.00				Average	
		La Piedra	15	9,240.0	13,200.0	0.00				Average	
		Holland	14	9,240.0	10,560.0	0.00				Average	
		Scott	13	9,240.0	0.0	0.00					
Antelope	12.0	Newport	20	11,880.0	15,840.0	0.00				Average	
		Albion	19	11,880.0	11,200.0	0.00					
Menifee	12.0	Newport	32	15,200.0	15,840.0	0.00				Average	
		Holland	29	15,200.0	10,560.0	0.00					
Newport	12.0	Murietta	34	0.0	15,840.0	0.00				Average	
		Bradley	35	5,280.0	15,840.0	0.00				Average	
		Haun	36	9,240.0	15,840.0	0.00				Average	
		I-215 SB r	37	9,740.0	15,840.0	0.00				Average	
		I-215 NB r	38	11,380.0	15,840.0	0.00				Average	
		Antelope	39	11,880.0	15,840.0	0.00				Average	
		Menifee	40	15,200.0	15,840.0	0.00					
La Piedra	12.0	Sherman	41	7,920.0	13,200.0	0.00				Average	
		Haun	42	9,240.0	13,200.0	0.00					
Holland	12.0	Bradley	47	5,280.0	10,560.0	0.00				Average	
		Sherman	48	7,920.0	10,560.0	0.00				Average	
		Haun	49	9,240.0	10,560.0	0.00				Average	
		Antelope	50	11,880.0	10,560.0	0.00				Average	

INPUT: ROADWAYS**Haun and Holland Mixed Use Project**

		Hanover	51	12,290.0	10,560.0	0.00				Average	
		Palomar	53	13,610.0	10,560.0	0.00				Average	
		Meniffee	52	15,200.0	10,560.0	0.00					
Scott	12.0	Haun	54	9,240.0	0.0	0.00				Average	
		I-215 SB r	55	9,740.0	0.0	0.00				Average	
		I-215 NB r	56	11,380.0	0.0	0.00				Average	
		Antelope	57	11,880.0	0.0	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project											
RUN:	Existing with Overpass											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Bradley	Park	10	1460	45	28	45	12	45	0	0	0	0
	Newport	9	1173	45	39	45	64	45	0	0	0	0
	La Piedra	8	812	45	27	45	45	45	0	0	0	0
	Holland	7										
Haun	Newport	16	1974	45	65	45	108	45	0	0	0	0
	La Piedra	15	1289	45	43	45	71	45	0	0	0	0
	Holland	14	963	45	32	45	53	45	0	0	0	0
	Scott	13										
Antelope	Newport	20	0	0	0	0	0	0	0	0	0	0
	Albion	19										
Menifee	Newport	32	0	0	0	0	0	0	0	0	0	0
	Holland	29										
Newport	Murietta	34	3137	50	103	50	171	50	0	0	0	0
	Bradley	35	3889	50	127	50	212	50	0	0	0	0
	Haun	36	4917	50	161	50	268	50	0	0	0	0
	I-215 SB ramp	37	4917	50	161	50	268	50	0	0	0	0
	I-215 NB ramp	38	5833	50	191	50	318	50	0	0	0	0
	Antelope	39	3353	45	110	45	183	45	0	0	0	0
	Menifee	40										
La Piedra	Sherman	41	235	40	5	40	2	40	0	0	0	0
	Haun	42										
Holland	Bradley	47	1137	50	38	50	62	50	0	0	0	0
	Sherman	48	1070	50	35	50	59	50	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes**Haun and Holland Mixed Use Project**

	Haun	49	666	45	22	45	37	45	0	0	0	0
	Antelope	50	557	45	19	45	31	45	0	0	0	0
	Hanover	51	557	45	19	45	31	45	0	0	0	0
	Palomar	53	557	45	19	45	31	45	0	0	0	0
	Meniffee	52										
Scott	Haun	54	2131	50	70	50	116	50	0	0	0	0
	I-215 SB ramp	55	2131	50	70	50	116	50	0	0	0	0
	I-215 NB ramp	56	3332	50	109	50	182	50	0	0	0	0
	Antelope	57										

INPUT: RECEIVERS
Haun and Holland Mixed Use Project

dBF Associates, Inc.											
SPF											
INPUT: RECEIVERS											
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project										
RUN:	Existing with Overpass										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Bradley - Park to Newport	1	1	5,230.0	16,340.0	0.00	5.00	0.00	66	10.0	8.0	Y
Bradley - Newport to La Piedra	2	1	5,230.0	14,520.0	0.00	5.00	0.00	66	10.0	8.0	Y
Bradley - La Piedra to Holland	3	1	5,230.0	11,880.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - Newport to La Piedra	4	1	9,190.0	14,520.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - La Piedra to Holland	5	1	9,190.0	11,880.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - Holland to Scott	6	1	9,190.0	5,280.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Murietta to Bradley	7	1	2,640.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Bradley to Haun	8	1	7,260.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Haun to SB ramps	9	1	9,490.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - NB ramps to Antelope	10	1	11,630.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Antelope to Meniffee	11	1	13,540.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
La Piedra - Sherman to Haun	12	1	8,265.0	13,250.0	0.00	5.00	0.00	66	10.0	8.0	Y
Scott - Haun to SB ramps	13	1	9,490.0	-50.0	0.00	5.00	0.00	66	10.0	8.0	Y
Scott - NB ramps to Antelope	14	1	11,630.0	-50.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Bradley to Sherman	17	1	6,600.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Sherman to Haun	18	1	8,580.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Haun to Hanover	19	1	10,765.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Hanover to Palomar	20	1	12,950.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Palomar to Meniffee	21	1	14,405.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Meniffee - Newport to Holland	22	1	15,250.0	13,200.0	0.00	5.00	0.00	66	10.0	8.0	Y
Antelope - Newport to Albion	23	1	11,930.0	13,520.0	0.00	5.00	0.00	66	10.0	8.0	Y

RESULTS: SOUND LEVELS
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:			Haun and Holland Mixed Use Project									
RUN:			Existing with Overpass									
BARRIER DESIGN:			INPUT HEIGHTS						Average pavement type shall be used unless			
									a State highway agency substantiates the use			
ATMOSPHERICS:			68 deg F, 50% RH						of a different type with approval of FHWA.			
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Bradley - Park to Newport	1	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
Bradley - Newport to La Piedra	2	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Bradley - La Piedra to Holland	3	1	0.0	68.7	66	68.7	10	Snd Lvl	68.7	0.0	8	-8.0
Haun - Newport to La Piedra	4	1	0.0	72.5	66	72.5	10	Snd Lvl	72.5	0.0	8	-8.0
Haun - La Piedra to Holland	5	1	0.0	70.6	66	70.6	10	Snd Lvl	70.6	0.0	8	-8.0
Haun - Holland to Scott	6	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0
Newport - Murietta to Bradley	7	1	0.0	75.6	66	75.6	10	Snd Lvl	75.6	0.0	8	-8.0
Newport - Bradley to Haun	8	1	0.0	76.6	66	76.6	10	Snd Lvl	76.6	0.0	8	-8.0
Newport - Haun to SB ramps	9	1	0.0	77.5	66	77.5	10	Snd Lvl	77.5	0.0	8	-8.0
Newport - NB ramps to Antelope	10	1	0.0	78.1	66	78.1	10	Snd Lvl	78.1	0.0	8	-8.0
Newport - Antelope to Meniffee	11	1	0.0	74.7	66	74.7	10	Snd Lvl	74.7	0.0	8	-8.0
La Piedra - Sherman to Haun	12	1	0.0	61.7	66	61.7	10	----	61.7	0.0	8	-8.0
Scott - Haun to SB ramps	13	1	0.0	73.8	66	73.8	10	Snd Lvl	73.8	0.0	8	-8.0
Scott - NB ramps to Antelope	14	1	0.0	75.6	66	75.6	10	Snd Lvl	75.6	0.0	8	-8.0
Holland - Bradley to Sherman	17	1	0.0	71.2	66	71.2	10	Snd Lvl	71.2	0.0	8	-8.0
Holland - Sherman to Haun	18	1	0.0	71.1	66	71.1	10	Snd Lvl	71.1	0.0	8	-8.0
Holland - Haun to Hanover	19	1	0.0	67.8	66	67.8	10	Snd Lvl	67.8	0.0	8	-8.0
Holland - Hanover to Palomar	20	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
Holland - Palomar to Meniffee	21	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
Meniffee - Newport to Holland	22	1	0.0	49.7	66	49.7	10	----	49.7	0.0	8	-8.0
Antelope - Newport to Albion	23	1	0.0	54.1	66	54.1	10	----	54.1	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							

RESULTS: SOUND LEVELS

Haun and Holland Mixed Use Project

			dB	dB	dB							
All Selected		21	0.0	0.0	0.0							
All Impacted		18	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project											
RUN:	Existing with Overpass + Project											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Bradley	Park	10	1512	45	28	45	12	45	0	0	0	0
	Newport	9	1193	45	39	45	64	45	0	0	0	0
	La Piedra	8	864	45	27	45	45	45	0	0	0	0
	Holland	7										
Haun	Newport	16	2630	45	69	45	147	45	0	0	0	0
	La Piedra	15	1996	45	46	45	110	45	0	0	0	0
	Holland	14	1067	45	32	45	53	45	0	0	0	0
	Scott	13										
Antelope	Newport	20	0	0	0	0	0	0	0	0	0	0
	Albion	19										
Menifee	Newport	32	0	0	0	0	0	0	0	0	0	0
	Holland	29										
Newport	Murietta	34	3241	50	103	50	171	50	0	0	0	0
	Bradley	35	4045	50	127	50	212	50	0	0	0	0
	Haun	36	5354	50	165	50	307	50	0	0	0	0
	I-215 SB ramp	37	5354	50	165	50	307	50	0	0	0	0
	I-215 NB ramp	38	5958	50	191	50	318	50	0	0	0	0
	Antelope	39	3447	45	110	45	183	45	0	0	0	0
	Menifee	40										
La Piedra	Sherman	41	287	40	5	40	2	40	0	0	0	0
	Haun	42										
Holland	Bradley	47	1241	50	38	50	62	50	0	0	0	0
	Sherman	48	1174	50	35	50	59	50	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes**Haun and Holland Mixed Use Project**

	Haun	49	791	45	22	45	37	45	0	0	0	0
	Antelope	50	609	45	19	45	31	45	0	0	0	0
	Hanover	51	609	45	19	45	31	45	0	0	0	0
	Palomar	53	609	45	19	45	31	45	0	0	0	0
	Meniffee	52										
Scott	Haun	54	2203	50	70	50	116	50	0	0	0	0
	I-215 SB ramp	55	2203	50	70	50	116	50	0	0	0	0
	I-215 NB ramp	56	3353	50	109	50	182	50	0	0	0	0
	Antelope	57										

RESULTS: SOUND LEVELS
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:												
RUN:												
BARRIER DESIGN:												
ATMOSPHERICS:												
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Bradley - Park to Newport	1	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Bradley - Newport to La Piedra	2	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
Bradley - La Piedra to Holland	3	1	0.0	68.8	66	68.8	10	Snd Lvl	68.8	0.0	8	-8.0
Haun - Newport to La Piedra	4	1	0.0	73.7	66	73.7	10	Snd Lvl	73.7	0.0	8	-8.0
Haun - La Piedra to Holland	5	1	0.0	72.4	66	72.4	10	Snd Lvl	72.4	0.0	8	-8.0
Haun - Holland to Scott	6	1	0.0	69.6	66	69.6	10	Snd Lvl	69.6	0.0	8	-8.0
Newport - Murietta to Bradley	7	1	0.0	75.7	66	75.7	10	Snd Lvl	75.7	0.0	8	-8.0
Newport - Bradley to Haun	8	1	0.0	76.7	66	76.7	10	Snd Lvl	76.7	0.0	8	-8.0
Newport - Haun to SB ramps	9	1	0.0	78.0	66	78.0	10	Snd Lvl	78.0	0.0	8	-8.0
Newport - NB ramps to Antelope	10	1	0.0	78.2	66	78.2	10	Snd Lvl	78.2	0.0	8	-8.0
Newport - Antelope to Menifee	11	1	0.0	74.8	66	74.8	10	Snd Lvl	74.8	0.0	8	-8.0
La Piedra - Sherman to Haun	12	1	0.0	62.4	66	62.4	10	----	62.4	0.0	8	-8.0
Scott - Haun to SB ramps	13	1	0.0	73.9	66	73.9	10	Snd Lvl	73.9	0.0	8	-8.0
Scott - NB ramps to Antelope	14	1	0.0	75.6	66	75.6	10	Snd Lvl	75.6	0.0	8	-8.0
Holland - Bradley to Sherman	17	1	0.0	71.5	66	71.5	10	Snd Lvl	71.5	0.0	8	-8.0
Holland - Sherman to Haun	18	1	0.0	71.3	66	71.3	10	Snd Lvl	71.3	0.0	8	-8.0
Holland - Haun to Hanover	19	1	0.0	68.2	66	68.2	10	Snd Lvl	68.2	0.0	8	-8.0
Holland - Hanover to Palomar	20	1	0.0	67.2	66	67.2	10	Snd Lvl	67.2	0.0	8	-8.0
Holland - Palomar to Menifee	21	1	0.0	67.2	66	67.2	10	Snd Lvl	67.2	0.0	8	-8.0
Menifee - Newport to Holland	22	1	0.0	50.0	66	50.0	10	----	50.0	0.0	8	-8.0
Antelope - Newport to Albion	23	1	0.0	54.5	66	54.5	10	----	54.5	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							

RESULTS: SOUND LEVELS

Haun and Holland Mixed Use Project

			dB	dB	dB							
All Selected		21	0.0	0.0	0.0							
All Impacted		18	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

INPUT: ROADWAYS
Haun and Holland Mixed Use Project

dBFA Associates, Inc.						29 November 2018					
SPF						TNM 2.5					
INPUT: ROADWAYS						Average pavement type shall be used unless					
PROJECT/CONTRACT:						a State highway agency substantiates the use					
RUN:						of a different type with the approval of FHWA					
Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Bradley	12.0	Park	10	5,280.0	16,840.0	0.00				Average	
		Newport	9	5,280.0	15,840.0	0.00				Average	
		La Piedra	8	5,280.0	13,200.0	0.00				Average	
		Holland	7	5,280.0	10,560.0	0.00					
Haun	12.0	Newport	16	9,240.0	15,840.0	0.00				Average	
		La Piedra	15	9,240.0	13,200.0	0.00				Average	
		Holland	14	9,240.0	10,560.0	0.00				Average	
		Scott	13	9,240.0	0.0	0.00					
Antelope	12.0	Newport	20	11,880.0	15,840.0	0.00				Average	
		Albion	19	11,880.0	11,200.0	0.00					
Menifee	12.0	Newport	32	15,200.0	15,840.0	0.00				Average	
		Holland	29	15,200.0	10,560.0	0.00					
Newport	12.0	Murietta	34	0.0	15,840.0	0.00				Average	
		Bradley	35	5,280.0	15,840.0	0.00				Average	
		Haun	36	9,240.0	15,840.0	0.00				Average	
		I-215 SB r	37	9,740.0	15,840.0	0.00				Average	
		I-215 NB r	38	11,380.0	15,840.0	0.00				Average	
		Antelope	39	11,880.0	15,840.0	0.00				Average	
		Menifee	40	15,200.0	15,840.0	0.00					
La Piedra	12.0	Sherman	41	7,920.0	13,200.0	0.00				Average	
		Haun	42	9,240.0	13,200.0	0.00					
Holland	12.0	Bradley	47	5,280.0	10,560.0	0.00				Average	
		Sherman	48	7,920.0	10,560.0	0.00				Average	
		Haun	49	9,240.0	10,560.0	0.00				Average	
		Antelope	50	11,880.0	10,560.0	0.00				Average	

INPUT: ROADWAYS**Haun and Holland Mixed Use Project**

		Hanover	51	12,290.0	10,560.0	0.00				Average	
		Palomar	53	13,610.0	10,560.0	0.00				Average	
		Meniffee	52	15,200.0	10,560.0	0.00					
Scott	12.0	Haun	54	9,240.0	0.0	0.00				Average	
		I-215 SB r	55	9,740.0	0.0	0.00				Average	
		I-215 NB r	56	11,380.0	0.0	0.00				Average	
		Antelope	57	11,880.0	0.0	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project											
RUN:	Existing + Cumulative with Overpass											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Bradley	Park	10	1743	45	28	45	12	45	0	0	0	0
	Newport	9	1341	45	39	45	64	45	0	0	0	0
	La Piedra	8	942	45	27	45	45	45	0	0	0	0
	Holland	7										
Haun	Newport	16	2039	45	65	45	108	45	0	0	0	0
	La Piedra	15	1393	45	43	45	71	45	0	0	0	0
	Holland	14	1390	45	32	45	53	45	0	0	0	0
	Scott	13										
Antelope	Newport	20	0	0	0	0	0	0	0	0	0	0
	Albion	19										
Menifee	Newport	32	0	0	0	0	0	0	0	0	0	0
	Holland	29										
Newport	Murietta	34	3735	50	103	50	171	50	0	0	0	0
	Bradley	35	4521	50	127	50	212	50	0	0	0	0
	Haun	36	5104	50	161	50	268	50	0	0	0	0
	I-215 SB ramp	37	5104	50	161	50	268	50	0	0	0	0
	I-215 NB ramp	38	6456	50	191	50	318	50	0	0	0	0
	Antelope	39	3844	45	110	45	183	45	0	0	0	0
	Menifee	40										
La Piedra	Sherman	41	519	40	5	40	2	40	0	0	0	0
	Haun	42										
Holland	Bradley	47	1223	50	38	50	62	50	0	0	0	0
	Sherman	48	1560	50	35	50	59	50	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes**Haun and Holland Mixed Use Project**

	Haun	49	1316	45	22	45	37	45	0	0	0	0
	Antelope	50	879	45	19	45	31	45	0	0	0	0
	Hanover	51	879	45	19	45	31	45	0	0	0	0
	Palomar	53	782	45	19	45	31	45	0	0	0	0
	Meniffee	52										
Scott	Haun	54	2385	50	72	50	145	50	0	0	0	0
	I-215 SB ramp	55	2385	50	72	50	145	50	0	0	0	0
	I-215 NB ramp	56	3819	50	109	50	182	50	0	0	0	0
	Antelope	57										

INPUT: RECEIVERS
Haun and Holland Mixed Use Project

dBF Associates, Inc.											
SPF											
INPUT: RECEIVERS											
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project										
RUN:	Existing + Cumulative with Overpass										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Bradley - Park to Newport	1	1	5,230.0	16,340.0	0.00	5.00	0.00	66	10.0	8.0	Y
Bradley - Newport to La Piedra	2	1	5,230.0	14,520.0	0.00	5.00	0.00	66	10.0	8.0	Y
Bradley - La Piedra to Holland	3	1	5,230.0	11,880.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - Newport to La Piedra	4	1	9,190.0	14,520.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - La Piedra to Holland	5	1	9,190.0	11,880.0	0.00	5.00	0.00	66	10.0	8.0	Y
Haun - Holland to Scott	6	1	9,190.0	5,280.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Murietta to Bradley	7	1	2,640.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Bradley to Haun	8	1	7,260.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Haun to SB ramps	9	1	9,490.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - NB ramps to Antelope	10	1	11,630.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
Newport - Antelope to Menifee	11	1	13,540.0	15,890.0	0.00	5.00	0.00	66	10.0	8.0	Y
La Piedra - Sherman to Haun	12	1	8,265.0	13,250.0	0.00	5.00	0.00	66	10.0	8.0	Y
Scott - Haun to SB ramps	13	1	9,490.0	-50.0	0.00	5.00	0.00	66	10.0	8.0	Y
Scott - NB ramps to Antelope	14	1	11,630.0	-50.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Bradley to Sherman	17	1	6,600.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Sherman to Haun	18	1	8,580.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Haun to Hanover	19	1	10,765.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Hanover to Palomar	20	1	12,950.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Holland - Palomar to Menifee	21	1	14,405.0	10,510.0	0.00	5.00	0.00	66	10.0	8.0	Y
Menifee - Newport to Holland	22	1	15,250.0	13,200.0	0.00	5.00	0.00	66	10.0	8.0	Y
Antelope - Newport to Albion	23	1	11,930.0	13,520.0	0.00	5.00	0.00	66	10.0	8.0	Y

RESULTS: SOUND LEVELS
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:												
RUN:												
BARRIER DESIGN:												
ATMOSPHERICS:												
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Bradley - Park to Newport	1	1	0.0	70.9	66	70.9	10	Snd Lvl	70.9	0.0	8	-8.0
Bradley - Newport to La Piedra	2	1	0.0	70.7	66	70.7	10	Snd Lvl	70.7	0.0	8	-8.0
Bradley - La Piedra to Holland	3	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0
Haun - Newport to La Piedra	4	1	0.0	72.6	66	72.6	10	Snd Lvl	72.6	0.0	8	-8.0
Haun - La Piedra to Holland	5	1	0.0	70.8	66	70.8	10	Snd Lvl	70.8	0.0	8	-8.0
Haun - Holland to Scott	6	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
Newport - Murietta to Bradley	7	1	0.0	76.1	66	76.1	10	Snd Lvl	76.1	0.0	8	-8.0
Newport - Bradley to Haun	8	1	0.0	77.0	66	77.0	10	Snd Lvl	77.0	0.0	8	-8.0
Newport - Haun to SB ramps	9	1	0.0	77.7	66	77.7	10	Snd Lvl	77.7	0.0	8	-8.0
Newport - NB ramps to Antelope	10	1	0.0	78.4	66	78.4	10	Snd Lvl	78.4	0.0	8	-8.0
Newport - Antelope to Menifee	11	1	0.0	75.1	66	75.1	10	Snd Lvl	75.1	0.0	8	-8.0
La Piedra - Sherman to Haun	12	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0
Scott - Haun to SB ramps	13	1	0.0	74.4	66	74.4	10	Snd Lvl	74.4	0.0	8	-8.0
Scott - NB ramps to Antelope	14	1	0.0	75.9	66	75.9	10	Snd Lvl	75.9	0.0	8	-8.0
Holland - Bradley to Sherman	17	1	0.0	71.4	66	71.4	10	Snd Lvl	71.4	0.0	8	-8.0
Holland - Sherman to Haun	18	1	0.0	72.0	66	72.0	10	Snd Lvl	72.0	0.0	8	-8.0
Holland - Haun to Hanover	19	1	0.0	69.6	66	69.6	10	Snd Lvl	69.6	0.0	8	-8.0
Holland - Hanover to Palomar	20	1	0.0	68.2	66	68.2	10	Snd Lvl	68.2	0.0	8	-8.0
Holland - Palomar to Menifee	21	1	0.0	67.8	66	67.8	10	Snd Lvl	67.8	0.0	8	-8.0
Menifee - Newport to Holland	22	1	0.0	50.1	66	50.1	10	----	50.1	0.0	8	-8.0
Antelope - Newport to Albion	23	1	0.0	54.4	66	54.4	10	----	54.4	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							

RESULTS: SOUND LEVELS

Haun and Holland Mixed Use Project

			dB	dB	dB							
All Selected		21	0.0	0.0	0.0							
All Impacted		18	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

INPUT: TRAFFIC FOR LAeq1h Volumes
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	Haun and Holland Mixed Use Project											
RUN:	Existing + Cumulative + Project w Ovrps											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Bradley	Park	10	1795	45	28	45	12	45	0	0	0	0
	Newport	9	1362	45	39	45	64	45	0	0	0	0
	La Piedra	8	994	45	27	45	45	45	0	0	0	0
	Holland	7										
Haun	Newport	16	2694	45	69	45	147	45	0	0	0	0
	La Piedra	15	2100	45	46	45	110	45	0	0	0	0
	Holland	14	1494	45	32	45	53	45	0	0	0	0
	Scott	13										
Antelope	Newport	20	0	0	0	0	0	0	0	0	0	0
	Albion	19										
Menifee	Newport	32	0	0	0	0	0	0	0	0	0	0
	Holland	29										
Newport	Murietta	34	3839	50	103	50	171	50	0	0	0	0
	Bradley	35	4677	50	127	50	212	50	0	0	0	0
	Haun	36	5541	50	165	50	307	50	0	0	0	0
	I-215 SB ramp	37	5541	50	165	50	307	50	0	0	0	0
	I-215 NB ramp	38	6581	50	191	50	318	50	0	0	0	0
	Antelope	39	3937	45	110	45	183	45	0	0	0	0
	Menifee	40										
La Piedra	Sherman	41	571	40	5	40	2	40	0	0	0	0
	Haun	42										
Holland	Bradley	47	1327	50	38	50	62	50	0	0	0	0
	Sherman	48	1664	50	35	50	59	50	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes**Haun and Holland Mixed Use Project**

	Haun	49	1441	45	22	45	37	45	0	0	0	0
	Antelope	50	931	45	19	45	31	45	0	0	0	0
	Hanover	51	931	45	19	45	31	45	0	0	0	0
	Palomar	53	834	45	19	45	31	45	0	0	0	0
	Meniffee	52										
Scott	Haun	54	2458	50	72	50	145	50	0	0	0	0
	I-215 SB ramp	55	2458	50	72	50	145	50	0	0	0	0
	I-215 NB ramp	56	3840	50	109	50	182	50	0	0	0	0
	Antelope	57										

RESULTS: SOUND LEVELS
Haun and Holland Mixed Use Project

dBF Associates, Inc.												
SPF												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:												
RUN:												
BARRIER DESIGN:												
ATMOSPHERICS:												
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Bradley - Park to Newport	1	1	0.0	71.0	66	71.0	10	Snd Lvl	71.0	0.0	8	-8.0
Bradley - Newport to La Piedra	2	1	0.0	70.7	66	70.7	10	Snd Lvl	70.7	0.0	8	-8.0
Bradley - La Piedra to Holland	3	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
Haun - Newport to La Piedra	4	1	0.0	73.7	66	73.7	10	Snd Lvl	73.7	0.0	8	-8.0
Haun - La Piedra to Holland	5	1	0.0	72.5	66	72.5	10	Snd Lvl	72.5	0.0	8	-8.0
Haun - Holland to Scott	6	1	0.0	70.5	66	70.5	10	Snd Lvl	70.5	0.0	8	-8.0
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Newport - NB ramps to Antelope	10	1	0.0	78.5	66	78.5	10	Snd Lvl	78.5	0.0	8	-8.0
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Holland - Hanover to Palomar	20	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0
Holland - Palomar to Menifee	21	1	0.0	68.0	66	68.0	10	Snd Lvl	68.0	0.0	8	-8.0
Menifee - Newport to Holland	22	1	0.0	50.3	66	50.3	10	----	50.3	0.0	8	-8.0
Antelope - Newport to Albion	23	1	0.0	54.7	66	54.7	10	----	54.7	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							

RESULTS: SOUND LEVELS

Haun and Holland Mixed Use Project

			dB	dB	dB							
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All that meet NR Goal		0	0.0	0.0	0.0							