

Appendix NOI-1

Environmental Noise Analysis



Jackson Township Specific Plan Environmental Noise Analysis

Sacramento County, California

May 15, 2018

jcb Project # 2018-102

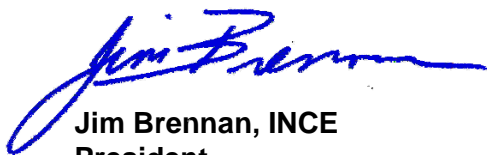
Prepared for:

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INTRODUCTION

This section describes the existing noise environment in the area of the proposed Jackson Township Specific Plan, and the potential of the Proposed Project to significantly increase noise levels due to project construction and increased traffic, and the potential of the Proposed Project to expose new noise sensitive uses to excessive noise levels. The relevant noise standards are contained within the Noise Elements of the local General Plans and noise ordinances.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective: one person's music is another's headache.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the

same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn} , and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. Appendix A provides a summary of acoustical terms used in this report.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

**TABLE 1
TYPICAL NOISE LEVELS**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. November 2009.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING CONDITIONS

Sources of ambient noise in the project vicinity include roadway traffic, the Sacramento Raceway and some potential noise from the Mather Airport aircraft operations.

EXISTING ON-SITE AND ADJACENT LAND USES

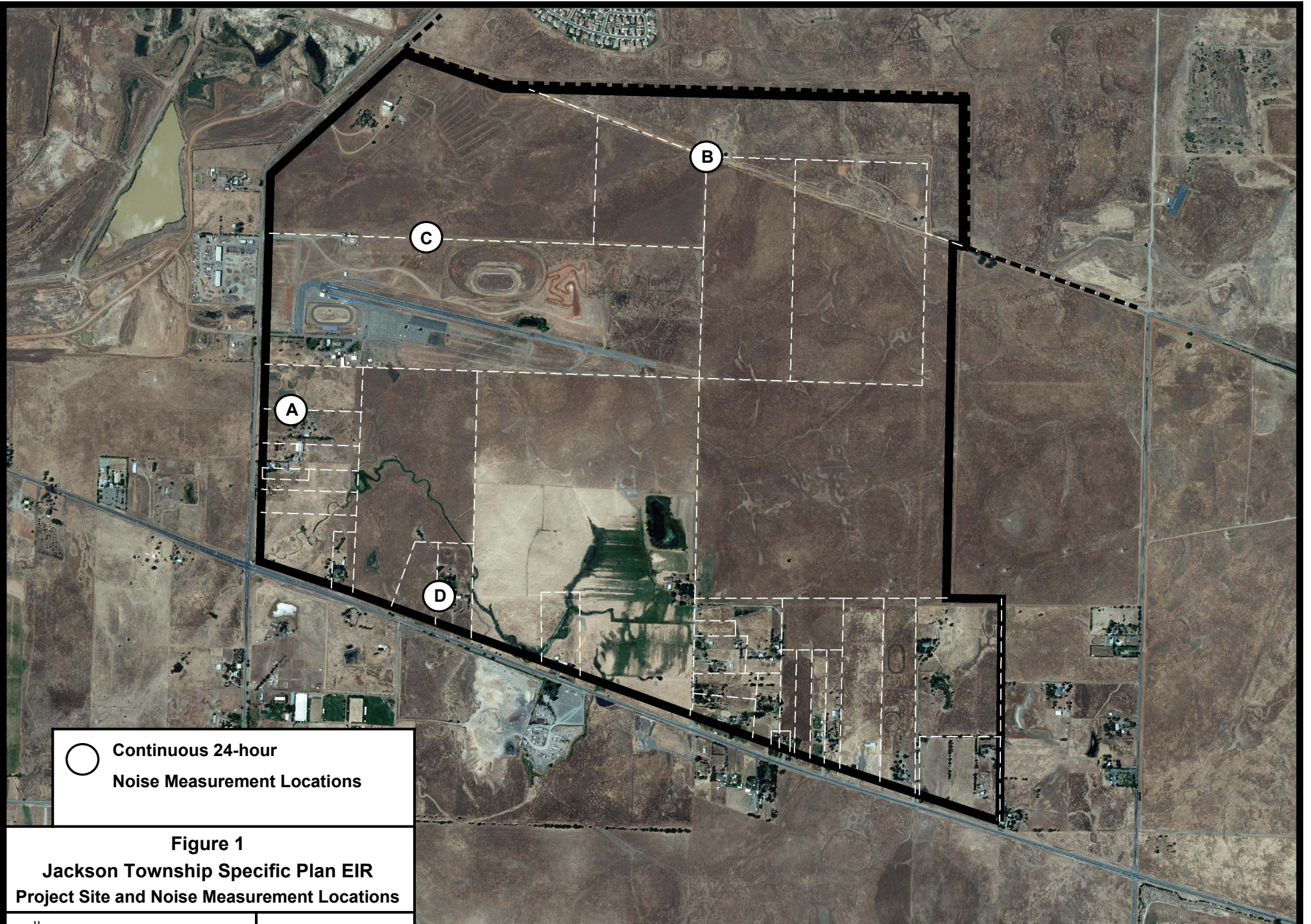
The project site currently consists of open space and large-lot residential uses. Adjacent uses are primarily open space, agricultural or industrial uses.

EXISTING AMBIENT DAYTIME NOISE LEVELS

To generally quantify existing ambient noise levels in the project vicinity, continuous 24-hour background noise measurements were conducted at four locations around the project site. The ambient noise measurement locations are shown on Figure 1.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

The sound level meters were programmed to record the maximum and average noise levels at each site, as well as other statistical descriptors during the survey. The maximum value, denoted L_{max} , represents the highest noise level measured during the interval period. The average value, denoted L_{eq} , represents the energy average of all of the noise received by the sound level meter microphone during the interval period. Table 2 shows the summary of the noise measurement data. Appendix B graphically shows the results of the continuous measurement results.



Continuous 24-hour
Noise Measurement Locations

Figure 1

**Jackson Township Specific Plan EIR
Project Site and Noise Measurement Locations**

TABLE 2
SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA
JACKSON TOWNSHIP SPECIFIC PLAN EIR – COUNTY OF SACRAMENTO, CALIFORNIA

Site	Date	Notes	Measured Noise Levels, dB						
			L _{dn}	Daytime (7am-10pm)			Nighttime (10pm-7am)		
				L _{eq}	L _{max}	L ₅₀	L _{eq}	L _{max}	L ₅₀
A	August 5, 2013	On-site 365 feet from centerline of Excelsior Road	53.3	49.1	66.1	44.9	46.4	60.9	42.3
	August 6, 2013		55.7	52.9	71.1	46.4	48.2	61.7	42.8
B	August 5, 2013	On-site proposed Kiefer Blvd, 4,140 feet from Excelsior Road and 6,360 feet from Jackson Road	50.9	51.5	61.4	36.8	39.7	50.0	36.9
	August 6, 2013		50.4	49.0	66.6	39.9	42.1	53.8	38.8
C	*August 10, 2013	On-site 825 feet north of center racetrack	66.6	68.6	80.6	50.2	40.0	50.7	37.4
	August 11, 2013		47.0	44.1	61.7	36.1	39.6	52.2	34.3
D	*August 10, 2013	On-Site, 365 feet from centerline of Jackson rd	56.4	52.2	66.0	49.9	49.5	63.9	44.0
	August 11, 2013		54.8	50.5	65.5	47.2	47.9	62.6	40.0

Source: j.c. brennan & associates, Inc., 2013

* Race Event Day

Existing Project Roadway Noise Levels

To predict noise levels due to traffic, information provided by the Traffic Consultant (DKS) was used. j.c. brennan & associates, Inc. utilized the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). PER supplied the information so as to be consistent between the four separate Specific Plans which are being analyzed simultaneously. The FHWA model is based upon the Calveno reference noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. After applying the day/night traffic distribution, the 24-hour L_{dn} values can be calculated.

Table 3 shows the existing traffic noise levels in terms of L_{dn} at a reference distance of 100 feet from the centerlines of the existing and existing plus project-area roadways identified by DKS. This table also shows the distances to traffic noise contours. A complete listing of the FHWA Model input data is can be obtained from j.c. brennan & associates.

**TABLE 3
PREDICTED EXISTING TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Ldn @ 100'	Distance to Contours (feet) (Ldn)		
				70 dB	65 dB	60 dB
Bradshaw Rd	Folsom Blvd	US 50	67.6	69	149	321
Bradshaw Rd	US 50	Lincoln Village Dr	70.7	111	239	515
Bradshaw Rd	Lincoln Village Dr	Old Placerville Rd	69.8	97	208	449
Bradshaw Rd	Old Placerville Rd	Goethe Rd	69.4	91	196	422
Bradshaw Rd	Goethe Rd	Kiefer Blvd	68.0	74	160	344
Bradshaw Rd	Kiefer Blvd	Jackson Rd	68.3	78	167	360
Bradshaw Rd	Jackson Rd	Elder Creek Rd	67.1	64	137	296
Bradshaw Rd	Elder Creek Rd	Florin Rd	66.9	63	135	291
Bradshaw Rd	Florin Rd	Gerber Rd	67.1	64	137	296
Bradshaw Rd	Gerber Rd	Calvine Rd	65.8	52	113	243
Calvine Rd	Waterman Rd	Bradshaw Rd	65.5	50	108	233
Calvine Rd	Bradshaw Rd	Vineyard Rd	64.4	42	91	197
Calvine Rd	Vineyard Rd	Excelsior Rd	60.2	22	48	103
Chrysanthy Blvd	Sunrise Blvd	Rancho Cordova Pkwy	57.7	15	33	70
Douglas Rd	Mather Blvd	Zinfandel Dr	61.7	28	60	130
Douglas Rd	Zinfandel Dr	Sunrise Blvd	62.7	33	70	152
Douglas Rd	Sunrise Blvd	Rancho Cordova Pkwy	60.2	22	48	103
Douglas Rd	Rancho Cordova Pkwy	Grant Line Rd	60.2	22	48	103
Eagles Nest Rd	Kiefer Blvd	Jackson Rd	54.1	9	19	40
Eagles Nest Rd	Jackson Rd	Florin Rd	50.6	5	11	24
Eagles Nest Rd	Florin Rd	Grant Line Rd	46.2	3	6	12
Elder Creek Rd	65th St	Power Inn Rd	67.9	73	157	337
Elder Creek Rd	Power Inn Rd	Florin-Perkins Rd	65.5	50	107	231
Elder Creek Rd	Florin Perkins Rd	South Watt Ave	63.9	39	85	183
Elder Creek Rd	South Watt Ave	Hedge Ave	61.0	25	54	116
Elder Creek Rd	Hedge Ave	Mayhew Rd	63.9	39	84	181
Elder Creek Rd	Mayhew Rd	Bradshaw Rd	63.5	37	80	171
Elder Creek Rd	Bradshaw Rd	Excelsior Rd	57.8	15	33	71
Elk Grove-Florin Rd	Florin Rd	Gerber Rd	69.8	97	210	452
Excelsior Rd	Kiefer Blvd	Douglas Rd	60.2	22	48	103
Excelsior Rd	Douglas Rd	Collector WJ-1/ Collector JT-1	61.9	29	62	134
Excelsior Rd	Collector WJ-1/ Collector JT-1	Collector WJ-2/ Collector JT-2	61.9	29	62	134
Excelsior Rd	Collector WJ-2/ Collector JT-2	Jackson Rd	61.9	29	62	134
Excelsior Rd	Jackson Rd	Elder Creek Rd	64.0	40	86	186
Excelsior Rd	Elder Creek Rd	Florin Rd	63.2	35	76	164
Excelsior Rd	Florin Rd	Gerber Rd	60.8	24	53	114
Excelsior Rd	Gerber Rd	Calvine Rd	59.8	21	45	96
Excelsior Rd	Calvine Rd	Sheldon Rd	60.0	22	46	100
Florin Rd	Stockton Blvd	Power Inn Rd	68.9	85	183	394
Florin Rd	Power Inn Rd	Florin-Perkins Rd	67.9	72	156	336
Florin Rd	Florin-Perkins Rd	So Watt Ave/ Elk Grove Florin Rd	66.1	55	118	253
Florin Rd	South Watt Ave	Hedge Ave	63.4	36	78	169

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				70 dB	65 dB	60 dB
Florin Rd	Hedge Ave	Mayhew Rd	62.5	32	69	148
Florin Rd	Mayhew Rd	Bradshaw Rd	62.5	32	69	148
Florin Rd	Bradshaw Rd	Excelsior Rd	58.9	18	39	85
Florin Rd	Excelsior Rd	Sunrise Blvd	57.8	15	33	72
Folsom Blvd	Howe Ave	Jackson Rd	67.7	71	152	328
Fruitridge Rd	65th St	Power Inn Rd	65.7	52	111	240
Fruitridge Rd	Power Inn Rd	Florin Perkins Rd	65.3	49	105	226
Fruitridge Rd	Florin Perkins Rd	South Watt Ave	63.6	38	81	174
Fruitridge Rd	South Watt Ave	Hedge Ave	58.1	16	35	75
Fruitridge Rd	Hedge Ave	Mayhew Rd	56.0	12	25	54
Grant Line Rd	White Rock Rd	Douglas Rd	62.1	30	64	137
Grant Line Rd	Douglas Rd	Kiefer Blvd	61.4	27	57	124
Grant Line Rd	Kiefer Blvd	Jackson Rd	61.1	25	55	118
Grant Line Rd	Jackson Rd	Sunrise Blvd	65.2	48	103	221
Grant Line Rd	Sunrise Blvd	Calvine Rd	66.2	56	120	258
Grant Line Rd	Calvine Rd	Sheldon Rd	64.7	44	95	204
Grant Line Rd	Sheldon Rd	Wilton Rd	65.9	53	115	247
Grant Line Rd	Wilton Rd	Bond Rd	65.5	50	108	234
Happy Ln	Old Placerville Rd	Kiefer Blvd	60.1	22	47	102
Hedge Ave	Jackson Rd	Fruitridge Rd	58.3	17	36	77
Hedge Ave	Fruitridge Rd	Elder Creek Rd	59.2	19	41	88
Hedge Ave	Elder Creek Rd	Florin Rd	60.0	21	46	99
Howe Ave	US 50	Folsom Blvd	72.9	156	337	726
International Dr	Mather Field Rd	Zinfandel Dr	68.0	74	159	343
International Dr	Zinfandel Dr	Sunrise Blvd	67.2	65	140	301
Jackson Rd	Folsom Blvd	Florin Perkins Rd	64.4	42	91	196
Jackson Rd	Florin Perkins Rd	South Watt Ave	63.7	38	82	176
Jackson Rd	South Watt Ave	Hedge Ave	66.9	62	133	287
Jackson Rd	Hedge Ave	Mayhew Rd	64.5	43	93	200
Jackson Rd	Mayhew Rd	Bradshaw Rd	64.1	41	87	188
Jackson Rd	Bradshaw Rd	Excelsior Rd	63.5	37	80	172
Jackson Rd	Excelsior Rd	Collector JT-3	62.6	32	69	148
Jackson Rd	Collector JT-3	Tree View Ln	62.6	32	69	148
Jackson Rd	Tree View Ln	Collector JT-4	67.6	69	149	321
Jackson Rd	Collector JT-4	Eagles Nest Rd	68.1	75	162	349
Jackson Rd	Eagles Nest Rd	Sunrise Blvd	67.9	73	157	337
Jackson Rd	Sunrise Blvd	Grant Line Rd	69.2	88	190	409
Kiefer Blvd	Florin Perkins Rd	South Watt Ave	64.0	40	86	186
Kiefer Blvd	South Watt Ave	Mayhew Rd	70.1	102	219	472
Kiefer Blvd	Mayhew Rd	Bradshaw Rd	67.1	64	137	296
Kiefer Blvd	Bradshaw Rd	Happy Ln	64.0	40	86	186
Kiefer Blvd	Zinfandel Dr	Sunrise Blvd	0	0	0	0
Kiefer Blvd	Sunrise Blvd	Rancho Cordova Pkwy	60.9	25	53	114
Mather Blvd / Norden Ave	Von Karman St	Bleckely St	62.0	29	63	136
Mather Blvd	Bleckely St	Femoyer St	62.0	29	63	136
Mather Blvd	Femoyer St	Douglas Rd	59.9	21	46	99
Mather Blvd-Excelsior Rd	Douglas Rd	Kiefer Blvd	60.7	24	51	111
Mather Field Rd	US 50	Rockingham Dr	68.1	75	162	349
Mather Field Rd	Rockingham Dr	International Dr	68.1	75	161	347
Mather Field Rd	International Dr	Peter A McCuen Blvd	64.1	40	87	187

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				70 dB	65 dB	60 dB
Mayhew Rd	Folsom Blvd	Goethe Rd	60.8	24	53	113
Mayhew Rd	Goethe Rd	Kiefer Blvd	61.7	28	60	129
Mayhew Rd	Jackson Rd	Fruitridge Rd	55.6	11	24	51
Old Placerville Rd	Bradshaw Rd	Granby Dr	65.5	50	108	232
Old Placerville Rd	Granby Dr	Happy Ln	65.3	48	104	224
Old Placerville Rd	Happy Ln	Routier Rd	64.2	41	89	192
Old Placerville Rd	Routier Rd	Rockingham Dr	64.2	41	89	192
Power Inn Rd	Folsom Blvd	14th Ave	69.5	93	200	431
Rockingham Dr	Old Placerville Rd	Mather Field Rd	66.9	62	134	289
South Watt Ave	Folsom Blvd	Kiefer Blvd	70.1	101	217	468
South Watt Ave	Kiefer Blvd	Jackson Rd	68.6	81	174	375
South Watt Ave	Jackson Rd	Fruitridge Rd	68.7	81	176	378
South Watt Ave	Fruitridge Rd	Elder Creek Rd	66.8	61	132	285
South Watt Ave	Elder Creek Rd	Florin Rd	65.2	48	103	221
Sunrise Blvd	US 50	Folsom Blvd	69.7	96	207	446
Sunrise Blvd	Folsom Blvd	Trade Center Dr	69.3	90	194	418
Sunrise Blvd	Trade Center Dr	White Rock Rd	67.8	71	153	329
Sunrise Blvd	White Rock Rd	International Dr	71.5	126	272	586
Sunrise Blvd	International Dr	Rio Del Oro Pkwy	72.5	146	315	678
Sunrise Blvd	Rio Del Oro Pkwy	Douglas Rd	72.1	137	295	636
Sunrise Blvd	Douglas Rd	Kiefer Blvd	71.3	123	264	570
Sunrise Blvd	Kiefer Blvd	Jackson Rd	69.7	95	205	442
Sunrise Blvd	Jackson Rd	Florin Rd	67.9	72	156	335
Sunrise Blvd	Florin Rd	Grant Line Rd	66.3	57	122	263
Vineyard Rd	Gerber Rd	Calvine Rd	64.8	45	97	209
Watt Ave	US 50	Folsom Blvd	75.3	227	489	1054
White Rock Rd	International Rd	Quality Dr	62.4	31	67	145
White Rock Rd	Quality Dr	Zinfandel Dr	66.1	55	118	255
White Rock Rd	Zinfandel Dr	Kilgore Rd	67.3	66	142	306
White Rock Rd	Kilgore Rd	Sunrise Blvd	65.2	48	103	222
White Rock Rd	Sunrise Blvd	Fitzgerald Rd	64.3	41	89	192
White Rock Rd	Fitzgerald Rd	Grant Line Rd	56.3	12	26	57
White Rock Rd	Grant Line Rd	Prairie City Rd	62.1	30	64	138
Zinfandel Dr	US 50	White Rock Rd	68.9	85	183	393
Zinfandel Dr	White Rock Rd	International Rd	64.9	46	99	212
Zinfandel Dr	International Rd	Baroque Dr	62.3	31	66	142
Zinfandel Dr	Baroque Dr	City Limit	62.3	31	66	142
Zinfandel Dr	City Limit	Douglas Rd	62.3	31	66	142
Zinfandel Dr	Douglas Rd	Kiefer Blvd	58.5	17	37	79

¹ Distances to traffic noise contours are measured in feet from the centerlines of the Roadways.

² Traffic noise levels do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Source: The County of Sacramento, PER . 2014

Mather Airport Noise Levels

The Mather Airport is located approximately 1.2 miles from the northwest corner of the project site. Figure 2 shows the locations of the noise contours associated with aircraft operations at the Mather Airport (*Source: Mather Airport Master Plan Draft EIR, 2013*). Based upon the location of the 60 dB CNEL noise contour, the project site is approximately 1,869 feet outside of the existing (2014) Mather Airport 60 dB CNEL contour.

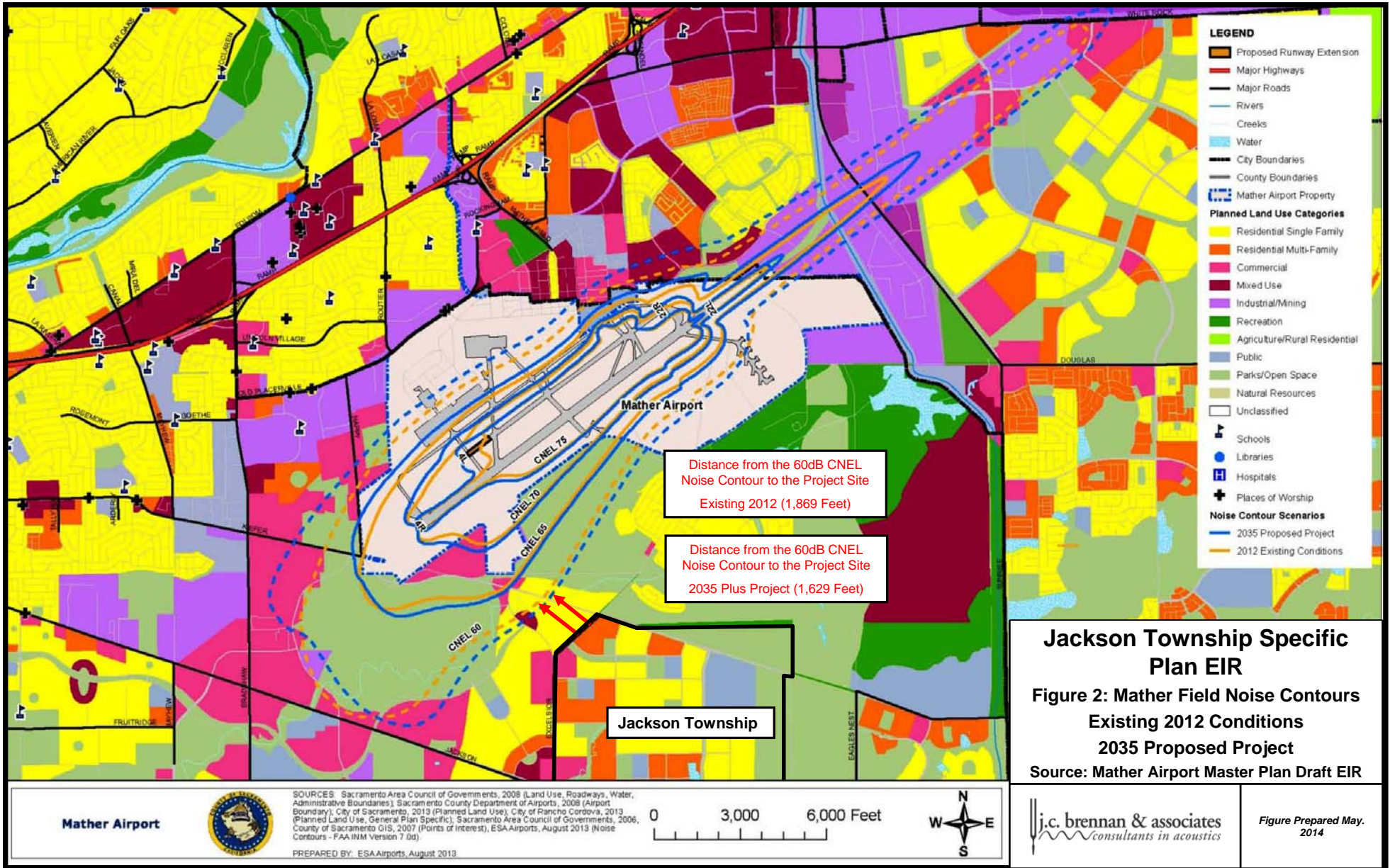
Sacramento Raceway Park Noise Levels

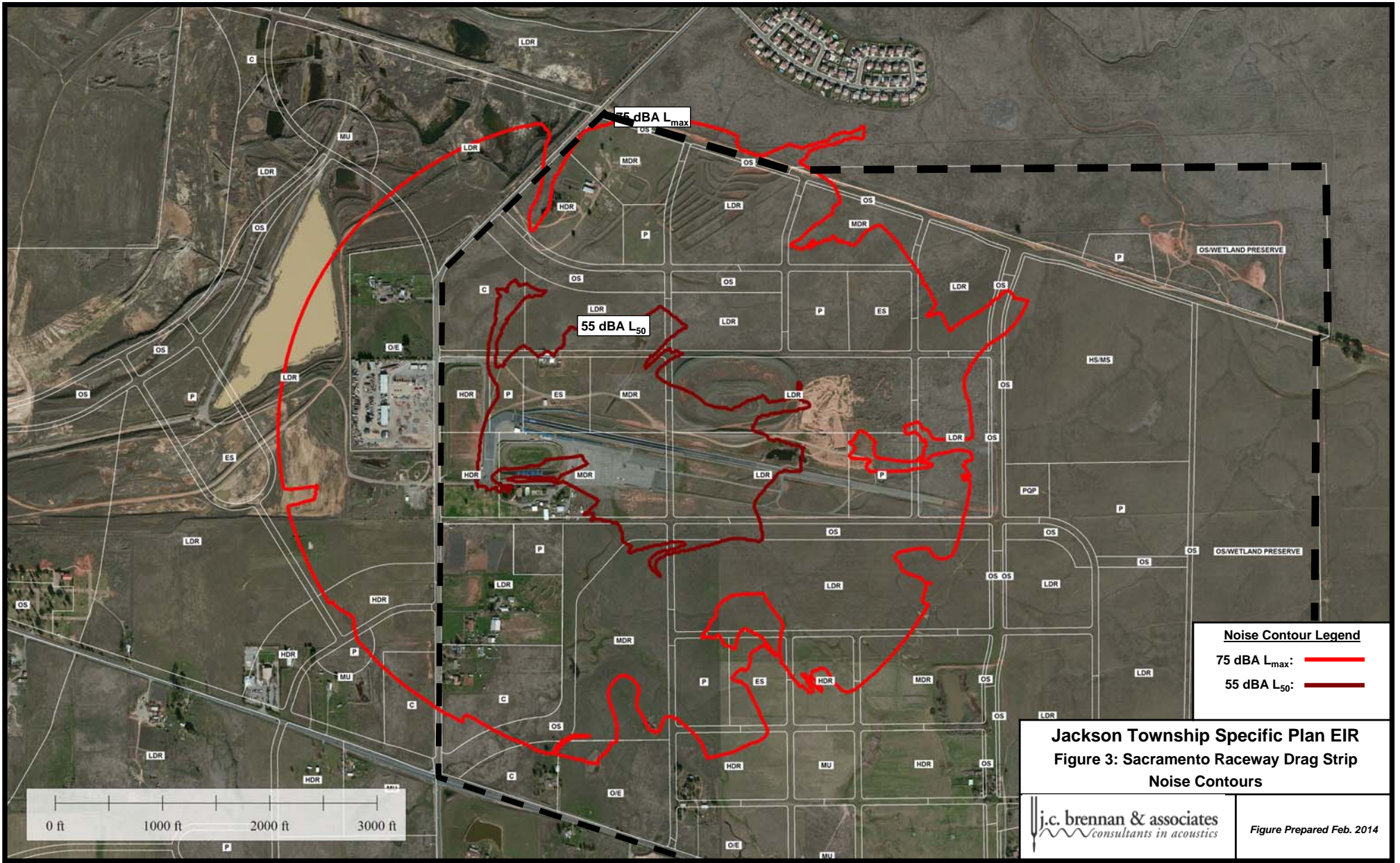
The Sacramento Raceway Park is located near the northwest corner of the project site. Activities at the raceway generally occur throughout the year. The primary race events include pro-drag races, street-legal drag races, MX motorcycle races, and stock car racing. The raceway has a drag strip, a motocross dirt track and an oval track.

j.c. brennan & associates, Inc. conducted both continuous and short-term noise level measurements of racing events in 2013. Noise level measurements were conducted for an MX motorcycle race (August 9, 2013), a pro-drag race (August 10, 2013), and a street-legal drag race (August 7, 2013). The noise level measurements were conducted to determine the maximum (Lmax), hourly average (Leq), and the hourly median (L50) noise levels associated with each of the race events.

Noise contours, which show the 75 dB Lmax and the 55 dB hourly L50 noise levels were developed for each of the racing events. The noise contours were developed using the CadnaA noise prediction model. The CadnaA model has the ability to predict noise levels while accounting for multiple noise sources, noise source heights, shielding effects from topography or intervening structures, and atmospheric conditions. Direct inputs included sound power levels, including the frequency content of the noise sources, topographic mapping in the form of shape files and the configuration of each of the race tracks.

Figures 3 through 5 show the CadnaA modeling results. Based upon the analysis and the noise contours shown on Figure 3, the drag strip noise contours cover a significant portion of the project site, and extend to the west onto the West Jackson Highway Master Plan Area. Figure 4 which shows the street legal drag strip noise contours indicates that the 75 dB Lmax contour also covers a significant portion of the project site. Figure 5 which shows the MX motorcycle race contours indicates that the noise from the MX motorcycle race is contained within a fairly small area of the site.



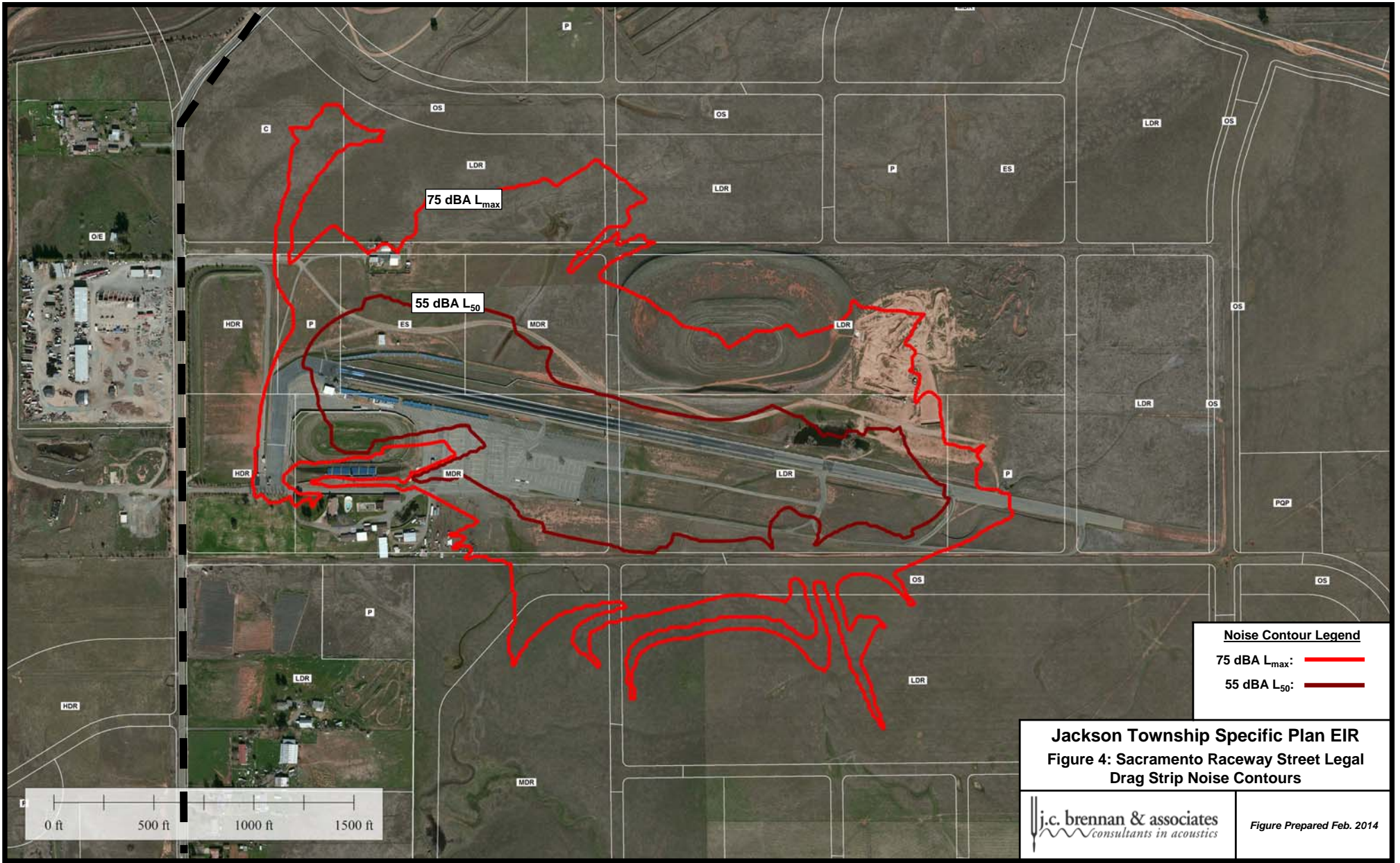


Noise Contour Legend
 75 dBA L_{max}: ——— (Red line)
 55 dBA L₅₀: ——— (Brown line)

Jackson Township Specific Plan EIR
Figure 3: Sacramento Raceway Drag Strip
Noise Contours

j.c. brennan & associates
consultants in acoustics

Figure Prepared Feb. 2014



Noise Contour Legend

75 dBA L_{max} : —

55 dBA L_{90} : —

Jackson Township Specific Plan EIR
Figure 4: Sacramento Raceway Street Legal Drag Strip Noise Contours

j.c. brennan & associates
consultants in acoustics

Figure Prepared Feb. 2014



75 dBA L_{max}

55 dBA L₅₀

MDR

LDR

OS

LDR

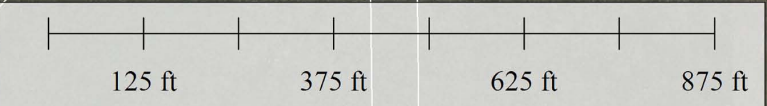
OS

LDR

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Noise Contour Legend
 75 dBA L_{max}: ———
 55 dBA L₅₀: ———



Jackson Township Specific Plan EIR
Figure 5: Sacramento Raceway Motocross
Noise Contours

j.c. brennan & associates
consultants in acoustics

Figure Prepared Feb. 2014

REGULATORY CONTEXT

FEDERAL

There are no federal regulations related to noise that apply to the Proposed Project.

STATE

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept close, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

SACRAMENTO COUNTY GENERAL PLAN NOISE ELEMENT

The Sacramento County General Plan Noise Element establishes the following goals and policies for noise that would apply to the proposed project:

- GOAL 1 To protect the existing and future citizens of Sacramento County from the harmful effects of exposure to excessive noise. More specifically, to protect existing noise-sensitive land uses from new uses that would generate noise levels which are incompatible with those uses, and to discourage new noise-sensitive land uses from being developed near sources of high noise levels.

- GOAL 2 To protect the economic base of Sacramento County by preventing the encroachment of noise-sensitive land uses into areas affected by existing noise-producing uses. More specifically, to recognize that noise is an inherent by-product of many land uses and to prevent new noise-sensitive land uses from being developed in areas affected by existing noise-producing uses.

- GOAL 3 To provide the County with flexibility in the development of infill properties which may be located in elevated noise environments.

- GOAL 4 To provide sufficient noise exposure information so that existing and potential future noise impacts may be effectively addressed in the land use planning and project review processes.

Traffic and Railroad Noise Sources

- NO-1 The noise level standards for noise-sensitive areas of new uses affected by traffic or railroad noise sources in Sacramento County are shown by Table 4 (*Table 1 of the Sacramento General Plan Noise Element*). Where the noise

level standards of Table 4 (*Table 1 of the Sacramento General Plan Noise Element*) are predicted to be exceeded at new uses proposed within Sacramento County which are affected by traffic or railroad noise, appropriate noise mitigation measures shall be included in the project design to reduce projected noise levels to a state of compliance with the Table 4 standards.

Aircraft Noise Sources

NO-2 Proposals for new development within Sacramento County which may be affected by aircraft noise shall be evaluated relative to Table 4 (*of the Sacramento County Noise Element*): Land Use Compatibility for Aircraft Noise.

NO-3 New residential development within the 60 CNEL noise contours adopted by the County for planning purposes at any airport or Helipad within Sacramento County shall be prohibited. This policy is not applicable to Executive Airport.

NO-4 New residential development within adopted Airport Policy Area boundaries, but outside the 60 CNEL, shall be subject to the following conditions:

- A. Provide minimum noise insulation to 45 dB CNEL within new residential dwellings, including detached single family dwellings, with windows closed in any habitable room.
- B. Notification in the Public Report prepared by the California Department of Real Estate disclosing the fact to prospective buyers that the parcel is located within an Airport Policy Area.
- C. An Avigation Easement prepared by the Sacramento County Counsel's Office granted to the County of Sacramento, recorded with the Sacramento County Recorder, and filed with Department of Airports. Such Avigation Easement shall acknowledge the property location within an Airport Planning Policy Area and shall grant the right of flight and unobstructed passage of all aircraft into and out of the subject Airport.

Exceptions: New accessory residential dwellings on parcels zoned Agricultural, Agricultural-Residential, Interim Agricultural, Interim General Agricultural, or Interim Limited Agricultural and between the 60 and 65 CNEL contours, shall be permitted within adopted Airport Policy Area boundaries, but would be subject to the conditions listed above.

Non-Transportation Noise Sources

NO-5 The interior and exterior noise level standards for noise-sensitive areas of new uses affected by existing non-transportation noise sources in Sacramento County are shown by Table 5 (*Table 2 of the Sacramento County General Plan Noise Element*). Where the noise level standards of Table 5 (*Table 2 of the Sacramento County General Plan Noise Element*) are

predicted to be exceeded at a proposed noise-sensitive area due to existing non-transportation noise sources, appropriate noise mitigation measures shall be included in the project design to reduce projected noise levels to a state of compliance with the Table 5 (*Table 2 of the Sacramento County General Plan Noise Element*) standards within sensitive areas.

NO-6 Where a project would consist of or include non-transportation noise sources, the noise generation of those sources shall be mitigated so as not exceed the interior and exterior noise level standards of Table 5 (*Table 2 of the Sacramento County General Plan Noise Element*) at existing noise-sensitive areas in the project vicinity.

NO-7 The “last use there” shall be responsible for noise mitigation. However, if a noise-generating use is proposed adjacent to lands zoned for uses which may have sensitivity to noise, then the noise generating use shall be responsible for mitigating its noise generation to a state of compliance with the Table 5 standards (*Table 2 of the Sacramento County General Plan Noise Element*) at the property line of the generating use in anticipation of the future neighboring development.

Construction Noise

NO-8 Noise associated with construction activities shall adhere to the County Code requirements. Specifically, Section 6.68.090(e) addresses construction noise within the County.

Transportation Projects

NO-9 For capacity enhancing roadway or rail projects, or the construction of new roadways or railways, a noise analysis shall be prepared in accordance with the Table 6 (*Table 3 of the Sacramento County General Plan Noise Element*) requirements. If projected post-project traffic noise levels at existing uses exceed the noise standards of Table 4 (*Table 1 of the Sacramento County General Plan Noise Element*), then feasible methods of reducing noise to levels consistent with the Table 4 standards (*Table 1 of the Sacramento County General Plan Noise Element*) shall be analyzed as part of the noise analysis. In the case of existing residential uses, sensitive outdoor areas shall be mitigated to 60 dB, when possible, through the application of feasible methods to reduce noise. If 60 dB cannot be achieved after the application of all feasible methods of reducing noise, then noise levels up to 65 dB are allowed.

If pre-project traffic noise levels for existing uses already exceed the noise standards of Table 4 (*Table 1 of the Sacramento County General Plan Noise Element*) and the increase is significant as defined below, feasible methods of reducing noise to levels consistent with the Table 4 standards (*Table 1 of the Sacramento County General Plan Noise Element*) should be applied. In no case shall the long-term noise exposure for non-industrial uses be greater than 75 dB; long-term noise exposure above this level has the potential to result in hearing loss.

A significant increase is defined as follows:

Pre-Project Noise Environment (Ldn)	Significant Increase
Less than 60 dB	5+ dB
60 - 65 dB	3+ dB
Greater than 65 dB	1.5+ dB

NO-10 For interim capacity enhancing roadway or rail projects, or the construction of new interim roadways or railways, it may not be practical or feasible to provide mitigation if the ultimate roadway or railway design would render the interim improvements ineffective or obsolete. An example would be a noise barrier constructed for an interim project which would need to be removed to accommodate the ultimate project. The following factors should be considered in determining whether or not noise mitigation will be implemented for interim projects, but in general, noise mitigation for interim projects would not be provided:

- a. The severity of the impact
- b. The cost and effectiveness of the mitigation.
- c. The number of properties which would benefit from the mitigation.
- d. The foreseeable duration between interim and ultimate improvements.
- e. Aesthetic, safety and engineering considerations.

NO-11 If noise-reducing pavement is to be utilized in conjunction with a roadway improvement project, or if such paving existing adjacent to a proposed new noise-sensitive land use, the acoustical benefits of such pavement shall be included in the noise analysis prepared for the project.

General Noise Policy

NO-12 All noise analyses prepared to determine compliance with the noise level standards contained within this Noise Element shall be prepared in accordance with Table 6 (*Table 3 of the Sacramento County General Plan Noise Element*).

NO-13 Where noise mitigation measures are required to satisfy the noise level standards of this Noise Element, emphasis shall be placed on the use of setbacks and site design to the extent feasible, prior to consideration of the use of noise barriers.

NO-14 Noise analyses prepared for multi-family residential projects, town homes, mixed-use, condominiums, or other residential projects where floor ceiling assemblies or party-walls shall be common to different owners/occupants, shall be consistent with the State of California Noise Insulation standards.

NO-15 The County shall have the flexibility to consider the application of 5 dB less restrictive exterior noise standards than those prescribed in Tables 4 and 5 (*Tables 1 and 2 of the Sacramento County General Plan Noise Element*) in cases where it is impractical or infeasible to reduce exterior noise levels within infill projects to a state of compliance with the Table 4 or 5 standards

(Tables 1 and 2 of the Sacramento County General Plan Noise Element). In such cases, the rationale for such consideration shall be clearly presented and disclosure statements and noise easements should be included as conditions of project approval. The interior noise level standards of Tables 4 and 5 (Tables 1 and 2 of the Sacramento County General Plan Noise Element) would still apply. The maximum allowable long-term noise exposure permissible for non-industrial uses is 75 dB.

Exemptions

NO-16 The following sources of noise shall be exempt from the provisions of this Noise Element:

- a) Emergency warning devices and equipment operated in conjunction with emergency situations, such as sirens and generators which are activated during power outages. The routine testing of such warning devices and equipment shall also be exempt provided such testing occurs during daytime hours.
- b) Activities associated with events for which a permit has been obtained from the County.

SACRAMENTO COUNTY NOISE ORDINANCE

The Sacramento County Noise Ordinance establishes stationary noise level criteria consistent with the General Plan Table 5 (Table 2 of this report). The Sacramento County Noise Ordinance also provides exemptions (Section 6.68.090) for noise due to various activities, including activities in parks, public playgrounds, school grounds and construction activities. The following are exemptions in the ordinance for such activities:

6.68.090 (c). Activities conducted on parks, public playgrounds and school grounds, provided such parks, playgrounds and school grounds are owned and operated by a public entity or private school;

6.68.090 (e). Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of eight p.m. and six a.m. on weekdays and Friday commencing at eight p.m. through and including seven a.m. on Saturday; Saturdays commencing at eight p.m. through and including seven a.m. on the next following Sunday and on each Sunday after the hour of eight p.m. Provided, however, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after eight p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.

Table 4 - (Table 1 of the Noise Element)
Noise Standards for New Uses Affected by Traffic and Railroad Noise
Sacramento County Noise Element

New Land Use	Sensitive ¹ Outdoor Area - Ldn	Sensitive Interior ² Area - Ldn	Notes
All Residential	65	45	5
Transient Lodging	65	45	3,5
Hospitals & Nursing Homes	65	45	3, 4, 5
Theaters & Auditoriums	---	35	3
Churches, Meeting Halls	65	40	3
Schools, Libraries, etc.	65	40	3
Office Buildings	65	45	3
Commercial Buildings	---	50	3
Playgrounds, Parks, etc.	70	---	
Industry	65	50	3

Notes:

1. Sensitive areas are defined in acoustic terminology section.
2. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
3. Where there are no sensitive exterior spaces proposed for these uses, only the interior noise level standard shall apply.
4. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
5. If this use is affected by railroad noise, a maximum (Lmax) noise level standard of 70 dB shall be applied to all sleeping rooms to reduce the potential for sleep disturbance during nighttime train passages.

Table 5 - (Table 2 of the Noise Element)

**Non-Transportation Noise Standards
Sacramento County Noise Element
Median (L50) / Maximum (Lmax)¹**

Receiving Land Use	Outdoor Area ²		Interior ³	Notes
	Daytime	Nighttime	Day & Night	
All Residential	55 / 75	50 / 70	35 / 55	
Transient Lodging	55 / 75	---	35 / 55	4
Hospitals & Nursing Homes	55 / 75	---	35 / 55	5, 6
Theaters & Auditoriums	---	---	30 / 50	6
Churches, Meeting Halls, Schools, Libraries, etc.	55 / 75	---	35 / 60	6
Office Buildings	60 / 75	---	45 / 65	6
Commercial Buildings	---	---	45 / 65	6
Playgrounds, Parks, etc.	65 / 75	---	---	6
Industry	60 / 80	---	50 / 70	6

Notes:

1. The Table 2 standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of Table 2, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.
2. Sensitive areas are defined acoustic terminology section.
3. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
4. Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.
5. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
6. The outdoor activity areas of these uses (if any), are not typically utilized during nighttime hours.
7. Where median (L50) noise level data is not available for a particular noise source, average (Leq) values may be substituted for the standards of this table provided the noise source in question operates for at least 30 minutes of an hour. If the source in question operates less than 30 minutes per hour, then the maximum noise level standards shown would apply.

Table 6 – (Table 3 of the Noise Element)
Requirements for Acoustical Analyses Prepared in Sacramento County

An acoustical analysis prepared pursuant to the Noise Element shall:

1. Be the responsibility of the applicant.
2. Be prepared by qualified persons experienced in the fields of environmental noise assessment and architectural acoustics.
3. Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions.
4. Estimate projected future (20 year) noise levels in terms of the Standards of Tables 1 and 2, and compare those levels to the adopted policies of the Noise Element.
5. Recommend appropriate mitigation to achieve compliance with the adopted policies and standards of the Noise Element.
6. Estimate interior and exterior noise exposure after the prescribed mitigation measures have been implemented.

Vibration Standards

Sacramento County does not have specific standards for vibration. However, standard criteria which describe annoyance and potential structural damage have been developed. Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 7, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second. Table 7 indicates that the threshold for damage to structures ranges from 2 to 6 in/sec. One-half this minimum threshold or 1 in/sec p.p.v. is considered a safe criterion that would protect against architectural or structural damage. The general threshold at which human annoyance could occur is noted as 0.1 in/sec p.p.v.

**Table 7
Effects of Vibration on People and Buildings**

Peak Particle Velocity inches/second	Peak Particle Velocity mm/second	Human Reaction	Effect on Buildings
0-.006	0.15	Imperceptible by people	Vibrations unlikely to cause damage of any type
.006-.02	0.5	Range of Threshold of perception	Vibrations unlikely to cause damage of any type
.08	2.0	Vibrations clearly perceptible	Recommended upper level of which ruins and ancient monuments should be subjected
0.1	2.54	Level at which continuous vibrations begin to annoy people	Virtually no risk of architectural damage to normal buildings
0.2	5.0	Vibrations annoying to people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
1.0	25.4		Architectural Damage
2.0	50.4		Structural Damage to Residential Buildings

Source: Survey of Earth-borne Vibrations due to Highway Construction and Highway Traffic, Caltrans 1976.

City of Sacramento General Plan Noise Element

Traffic generated by the Proposed Project could result in traffic noise increases on roadways within the City of Sacramento. Table EC-1 of the City of Sacramento 2030 General Plan Noise Element (Table 8 of this report) provides noise criteria that could be used to assess such traffic noise impacts:

Table 8
(Table EC-1: City of Sacramento General Plan Noise Element)

Table EC 1 Exterior Noise Compatibility Standards for Various Land Uses	
<i>Land Use Type</i>	<i>Highest Level of Noise Exposure That Is Regarded as "Normally Acceptable" (L_{dn} or CNEL)</i>
Residential—Low Density Single Family, Duplex, Mobile Homes	60 dBA ^{d,e}
Residential—Multi-family	65 dBA
Urban Residential Infill ^f and Mixed-Use Projects ^g	70 dBA
Transient Lodging—Motels, Hotels	65 dBA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office Buildings—Business, Commercial and Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA

SOURCE: Governor's Office of Planning and Research, *State of California General Plan Guidelines 2003*, October 2003.

a. As defined in the *Guidelines*, "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements."

b. L_{dn} or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels.

c. CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period.

d. dBA or A-weighted decibel scale is a measurement of noise levels.

e. The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dBA.

f. With land use designations of Central Business District, Urban Neighborhood (Low, Medium, or High) Urban Center (Low or High), Urban Corridor (Low or High).

g. All mixed-use projects located anywhere in the City of Sacramento.

City of Elk Grove General Plan Noise Element

Traffic generated by the Proposed Project could result in traffic noise increases on roadways within the City of Elk Grove. Table NO-C of the City of Elk Grove General Plan Noise Element (Table 9 of this report) establishes noise level criteria for transportation noise sources that could apply to such impacts.

Table 9
(Table NO-C of the City of Elk Grove General Plan)
Maximum Allowable Noise Exposure
Transportation Noise Sources

Land Use	Outdoor Activity Areas ¹ L _{dn} /CNEL, dB	Interior Spaces	
		L _{dn} /CNEL, dB	L _{eq} , dB ²
Residential	60 ³	45	-
Residential subject to noise from railroad tracks, aircraft over-flights	60 ³	40 ⁵	-
Transient Lodging	60 ⁴	45	-
Hospitals, Nursing Homes	60 ³	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	60 ³	-	40
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45
Playgrounds, Neighborhood Parks	70	-	-

Source: Elk Grove General Plan Noise Element. Adopted 11/19/03 | Amended January 5, 2005. Table NO-C

1. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.

2. As determined for a typical worst-case hour during periods of use.
3. Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best -available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
4. In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.
5. The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks.

City of Rancho Cordova General Plan Noise Element

Traffic generated by the Proposed Project could result in traffic noise increases on roadways within the City of Rancho Cordova. Noise level criteria pertaining to project generated traffic noise levels are contained within the City of Rancho Cordova General Plan Noise Element. The following is a summary of the Noise Element Policies and Criteria which could apply to such impacts.

The City of Rancho Cordova establishes a normally acceptable exterior noise level standard of 60 dB Ldn for residential uses. The standard is generally applied at the outdoor activity areas such as patios or designated areas such as play areas. A conditionally acceptable exterior noise level standard of 65 dB Ldn is allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with the 45 dB Ldn interior noise level criterion. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.

IMPACTS AND MITIGATION MEASURES

METHOD OF ANALYSIS

Traffic Noise Impact Assessment Methodology

To assess noise impacts due to, and upon the project site, traffic noise levels are predicted at a representative distance of 100 feet from the roadway centerlines for existing plus project, existing plus all projects, cumulative and cumulative plus project scenarios. To predict noise levels due to traffic, once again, information provided by DKS was used. j.c. brennan & associates, Inc. utilized the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). DKS supplied the traffic volume information so as to be consistent between the four separate Specific Plans which are being analyzed simultaneously. The FHWA model is based upon the Calveno reference noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. After applying the day/night traffic distribution, the 24-hour L_{dn} values can be calculated. Tables 10 and 11 show the existing and existing plus project traffic noise levels, and Tables 12 and 13 show the cumulative and cumulative plus project traffic noise levels.

**TABLE 10
PREDICTED EXISTING AND EXISTING + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment	Distance (feet)	Traffic Noise Level (Ldn, dB)			Distance to Contours (feet) Existing			Distance to Contours (feet) Existing + Project			
			Existing	Existing + Project	Δ	70 dB	65 dB	60 dB	70 dB	65 dB	60 dB	
			Bradshaw Rd	Folsom Blvd	US 50	100	67.6	67.6	0	69	149	321
Bradshaw Rd	US 50	Lincoln Village Dr	100	70.7	70.8	0.1	111	239	515	113	244	526
Bradshaw Rd	Lincoln Village Dr	Old Placerville Rd	100	69.8	69.9	0.1	97	208	449	99	213	460
Bradshaw Rd	Old Placerville Rd	Goethe Rd	100	69.4	69.5	0.1	91	196	422	93	201	433
Bradshaw Rd	Goethe Rd	Kiefer Blvd	100	68.0	68.3	0.3	74	160	344	77	166	357
Bradshaw Rd	Kiefer Blvd	Jackson Rd	100	68.3	69.0	0.7	78	167	360	86	185	398
Bradshaw Rd	Jackson Rd	Elder Creek Rd	100	67.1	66.9	-0.2	64	137	296	62	134	288
Bradshaw Rd	Elder Creek Rd	Florin Rd	100	66.9	67.3	0.4	63	135	291	66	142	306
Bradshaw Rd	Florin Rd	Gerber Rd	100	67.1	67.3	0.2	64	137	296	66	143	308
Bradshaw Rd	Gerber Rd	Calvine Rd	100	65.8	66.2	0.4	52	113	243	56	120	258
Calvine Rd	Waterman Rd	Bradshaw Rd	100	65.5	65.7	0.2	50	108	233	51	110	238
Calvine Rd	Bradshaw Rd	Vineyard Rd	100	64.4	64.9	0.5	42	91	197	46	98	212
Calvine Rd	Vineyard Rd	Excelsior Rd	100	60.2	61.1	0.9	22	48	103	26	55	119
Chrysanthy Blvd	Sunrise Blvd	Rancho Cordova Pkwy	100	57.7	57.9	0.2	15	33	70	16	34	73
Douglas Rd	Mather Blvd	Zinfandel Dr	100	61.7	62.2	0.5	28	60	130	30	65	140
Douglas Rd	Zinfandel Dr	Sunrise Blvd	100	62.7	63.1	0.4	33	70	152	35	75	162
Douglas Rd	Sunrise Blvd	Rancho Cordova Pkwy	100	60.2	60.8	0.6	22	48	103	24	52	112
Douglas Rd	Rancho Cordova Pkwy	Grant Line Rd	100	60.2	60.5	0.3	22	48	103	23	50	108
Eagles Nest Rd	Kiefer Blvd	Jackson Rd	100	54.1	58.1	4	9	19	40	16	34	74
Eagles Nest Rd	Jackson Rd	Florin Rd	100	50.6	56.1	5.5	5	11	24	12	26	55
Eagles Nest Rd	Florin Rd	Grant Line Rd	100	46.2	55.0	8.8	3	6	12	10	21	46
Elder Creek Rd	65th St	Power Inn Rd	100	67.9	68.3	0.4	73	157	337	77	167	359
Elder Creek Rd	Power Inn Rd	Florin-Perkins Rd	100	65.5	65.9	0.4	50	107	231	53	115	247
Elder Creek Rd	Florin Perkins Rd	South Watt Ave	100	63.9	64.8	0.9	39	85	183	45	98	210
Elder Creek Rd	South Watt Ave	Hedge Ave	100	61.0	63.1	2.1	25	54	116	34	74	160
Elder Creek Rd	Hedge Ave	Mayhew Rd	100	63.9	66.0	2.1	39	84	181	54	116	249
Elder Creek Rd	Mayhew Rd	Bradshaw Rd	100	63.5	66.0	2.5	37	80	171	54	116	249
Elder Creek Rd	Bradshaw Rd	Excelsior Rd	100	57.8	64.6	6.8	15	33	71	44	94	203

**TABLE 10
PREDICTED EXISTING AND EXISTING + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Elk Grove-Florin Rd	Florin Rd	Gerber Rd	100	69.8	69.9	0.1	97	210	452	98	212	456
Excelsior Rd	Kiefer Blvd	Douglas Rd	100	60.2	63.1	2.9	22	48	103	35	75	161
Excelsior Rd	Douglas Rd	Collector WJ-1/ Collector JT-1	100	61.9	64.9	3	29	62	134	46	99	213
Excelsior Rd	Collector WJ-1/ Collector JT-1	Collector WJ-2/ Collector JT-2	100	61.9	67.5	5.6	29	62	134	68	146	314
Excelsior Rd	Collector WJ-2/ Collector JT-2	Jackson Rd	100	61.9	68.0	6.1	29	62	134	74	159	342
Excelsior Rd	Jackson Rd	Elder Creek Rd	100	64.0	69.2	5.2	40	86	186	88	190	409
Excelsior Rd	Elder Creek Rd	Florin Rd	100	63.2	65.6	2.4	35	76	164	51	109	235
Excelsior Rd	Florin Rd	Gerber Rd	100	60.8	62.3	1.5	24	53	114	31	66	142
Excelsior Rd	Gerber Rd	Calvine Rd	100	59.8	60.7	0.9	21	45	96	24	51	111
Excelsior Rd	Calvine Rd	Sheldon Rd	100	60.0	61.6	1.6	22	46	100	28	59	128
Florin Rd	Stockton Blvd	Power Inn Rd	100	68.9	69.1	0.2	85	183	394	87	188	406
Florin Rd	Power Inn Rd	Florin-Perkins Rd	100	67.9	68.3	0.4	72	156	336	76	165	355
Florin Rd	Florin-Perkins Rd	So Watt Ave/ Elk Grove Florin Rd	100	66.1	66.7	0.6	55	118	253	60	129	278
Florin Rd	South Watt Ave	Hedge Ave	100	63.4	64.5	1.1	36	78	169	43	93	200
Florin Rd	Hedge Ave	Mayhew Rd	100	62.5	64.1	1.6	32	69	148	40	87	187
Florin Rd	Mayhew Rd	Bradshaw Rd	100	62.5	64.1	1.6	32	69	148	41	87	188
Florin Rd	Bradshaw Rd	Excelsior Rd	100	58.9	61.2	2.3	18	39	85	26	56	120
Florin Rd	Excelsior Rd	Sunrise Blvd	100	57.8	58.7	0.9	15	33	72	18	38	82
Folsom Blvd	Howe Ave	Jackson Rd	100	67.7	68.0	0.3	71	152	328	74	159	343
Fruitridge Rd	65th St	Power Inn Rd	100	65.7	65.7	0	52	111	240	52	111	240
Fruitridge Rd	Power Inn Rd	Florin Perkins Rd	100	65.3	65.7	0.4	49	105	226	52	111	239
Fruitridge Rd	Florin Perkins Rd	South Watt Ave	100	63.6	64.0	0.4	38	81	174	40	85	184
Fruitridge Rd	South Watt Ave	Hedge Ave	100	58.1	58.2	0.1	16	35	75	16	35	76
Fruitridge Rd	Hedge Ave	Mayhew Rd	100	56.0	55.1	-0.9	12	25	54	10	22	47
Grant Line Rd	White Rock Rd	Douglas Rd	100	62.1	62.7	0.6	30	64	137	33	70	151
Grant Line Rd	Douglas Rd	Kiefer Blvd	100	61.4	62.2	0.8	27	57	124	30	65	141
Grant Line Rd	Kiefer Blvd	Jackson Rd	100	61.1	61.9	0.8	25	55	118	29	62	134
Grant Line Rd	Jackson Rd	Sunrise Blvd	100	65.2	65.1	-0.1	48	103	221	47	101	218
Grant Line Rd	Sunrise Blvd	Calvine Rd	100	66.2	66.3	0.1	56	120	258	57	123	265
Grant Line Rd	Calvine Rd	Sheldon Rd	100	64.7	64.8	0.1	44	95	204	45	97	209
Grant Line Rd	Sheldon Rd	Wilton Rd	100	65.9	66.4	0.5	53	115	247	57	124	267

**TABLE 10
PREDICTED EXISTING AND EXISTING + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Grant Line Rd	Wilton Rd	Bond Rd	100	65.5	66.0	0.5	50	108	234	54	117	253
Happy Ln	Old Placerville Rd	Kiefer Blvd	100	60.1	61.7	1.6	22	47	102	28	61	130
Hedge Ave	Jackson Rd	Fruitridge Rd	100	58.3	57.7	-0.6	17	36	77	15	33	70
Hedge Ave	Fruitridge Rd	Elder Creek Rd	100	59.2	59.4	0.2	19	41	88	20	43	92
Hedge Ave	Elder Creek Rd	Florin Rd	100	60.0	60.4	0.4	21	46	99	23	49	106
Howe Ave	US 50	Folsom Blvd	100	72.9	73.0	0.1	156	337	726	159	342	737
International Dr	Mather Field Rd	Zinfandel Dr	100	68.0	68.1	0.1	74	159	343	75	162	349
International Dr	Zinfandel Dr	Sunrise Blvd	100	67.2	67.5	0.3	65	140	301	68	147	316
Jackson Rd	Folsom Blvd	Florin Perkins Rd	100	64.4	64.8	0.4	42	91	196	45	97	209
Jackson Rd	Florin Perkins Rd	South Watt Ave	100	63.7	64.8	1.1	38	82	176	45	97	208
Jackson Rd	South Watt Ave	Hedge Ave	100	66.9	68.2	1.3	62	133	287	76	164	353
Jackson Rd	Hedge Ave	Mayhew Rd	100	64.5	66.4	1.9	43	93	200	58	125	268
Jackson Rd	Mayhew Rd	Bradshaw Rd	100	64.1	65.7	1.6	41	87	188	52	112	241
Jackson Rd	Bradshaw Rd	Excelsior Rd	100	63.5	66.5	3	37	80	172	59	127	273
Jackson Rd	Excelsior Rd	Collector JT-3	100	62.6	67.4	4.8	32	69	148	68	146	314
Jackson Rd	Collector JT-3	Tree View Ln	100	62.6	65.4	2.8	32	69	148	50	107	230
Jackson Rd	Tree View Ln	Collector JT-4	100	67.6	69.3	1.7	69	149	321	90	194	418
Jackson Rd	Collector JT-4	Eagles Nest Rd	100	68.1	69.7	1.6	75	162	349	96	206	444
Jackson Rd	Eagles Nest Rd	Sunrise Blvd	100	67.9	68.8	0.9	73	157	337	83	178	384
Jackson Rd	Sunrise Blvd	Grant Line Rd	100	69.2	69.6	0.4	88	190	409	94	203	437
Kiefer Blvd	Florin Perkins Rd	South Watt Ave	100	64.0	64.3	0.3	40	86	186	41	89	192
Kiefer Blvd	South Watt Ave	Mayhew Rd	100	70.1	70.4	0.3	102	219	472	107	230	496
Kiefer Blvd	Mayhew Rd	Bradshaw Rd	100	67.1	68.3	1.2	64	137	296	77	166	358
Kiefer Blvd	Bradshaw Rd	Happy Ln	100	64.0	64.9	0.9	40	86	186	46	98	212
Kiefer Blvd	Zinfandel Dr	Sunrise Blvd	100	0	0	0	0	0	0	0	0	0
Kiefer Blvd	Sunrise Blvd	Rancho Cordova Pkwy	100	60.9	60.9	0	25	53	114	25	53	114
Mather Blvd / Norden Ave	Von Karman St	Bleckely St	100	62.0	63.2	1.2	29	63	136	35	76	163
Mather Blvd	Bleckely St	Femoyer St	100	62.0	63.2	1.2	29	63	136	35	76	163
Mather Blvd	Femoyer St	Douglas Rd	100	59.9	61.1	1.2	21	46	99	25	55	118
Mather Blvd-Excelsior Rd	Douglas Rd	Kiefer Blvd	100	60.7	61.8	1.1	24	51	111	28	61	132
Mather Field Rd	US 50	Rockingham Dr	100	68.1	68.3	0.2	75	162	349	77	165	356

**TABLE 10
PREDICTED EXISTING AND EXISTING + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Mather Field Rd	Rockingham Dr	International Dr	100	68.1	68.2	0.1	75	161	347	76	163	351
Mather Field Rd	International Dr	Peter A McCuen Blvd	100	64.1	64.2	0.1	40	87	187	41	88	190
Mayhew Rd	Folsom Blvd	Goethe Rd	100	60.8	61.5	0.7	24	53	113	27	58	125
Mayhew Rd	Goethe Rd	Kiefer Blvd	100	61.7	62.5	0.8	28	60	129	31	68	146
Mayhew Rd	Jackson Rd	Fruitridge Rd	100	55.6	54.5	-1.1	11	24	51	9	20	43
Old Placerville Rd	Bradshaw Rd	Granby Dr	100	65.5	65.8	0.3	50	108	232	52	113	243
Old Placerville Rd	Granby Dr	Happy Ln	100	65.3	65.5	0.2	48	104	224	50	108	233
Old Placerville Rd	Happy Ln	Routier Rd	100	64.2	64.8	0.6	41	89	192	45	96	208
Old Placerville Rd	Routier Rd	Rockingham Dr	100	64.2	64.5	0.3	41	89	192	43	93	200
Power Inn Rd	Folsom Blvd	14th Ave	100	69.5	69.5	0	93	200	431	93	201	432
Rockingham Dr	Old Placerville Rd	Mather Field Rd	100	66.9	67.1	0.2	62	134	289	64	138	297
South Watt Ave	Folsom Blvd	Kiefer Blvd	100	70.1	70.4	0.3	101	217	468	106	229	493
South Watt Ave	Kiefer Blvd	Jackson Rd	100	68.6	69.0	0.4	81	174	375	86	185	398
South Watt Ave	Jackson Rd	Fruitridge Rd	100	68.7	68.7	0	81	176	378	82	176	379
South Watt Ave	Fruitridge Rd	Elder Creek Rd	100	66.8	66.9	0.1	61	132	285	62	134	288
South Watt Ave	Elder Creek Rd	Florin Rd	100	65.2	65.2	0	48	103	221	48	103	222
Sunrise Blvd	US 50	Folsom Blvd	100	69.7	69.7	0	96	207	446	96	207	447
Sunrise Blvd	Folsom Blvd	Trade Center Dr	100	69.3	69.4	0.1	90	194	418	91	195	421
Sunrise Blvd	Trade Center Dr	White Rock Rd	100	67.8	67.9	0.1	71	153	329	72	156	336
Sunrise Blvd	White Rock Rd	International Dr	100	71.5	71.7	0.2	126	272	586	130	281	605
Sunrise Blvd	International Dr	Rio Del Oro Pkwy	100	72.5	72.9	0.4	146	315	678	156	335	723
Sunrise Blvd	Rio Del Oro Pkwy	Douglas Rd	100	72.1	72.6	0.5	137	295	636	149	322	693
Sunrise Blvd	Douglas Rd	Kiefer Blvd	100	71.3	71.9	0.6	123	264	570	133	287	617
Sunrise Blvd	Kiefer Blvd	Jackson Rd	100	69.7	70.2	0.5	95	205	442	104	223	481
Sunrise Blvd	Jackson Rd	Florin Rd	100	67.9	68.0	0.1	72	156	335	73	157	339
Sunrise Blvd	Florin Rd	Grant Line Rd	100	66.3	66.1	-0.2	57	122	263	55	119	256
Vineyard Rd	Gerber Rd	Calvine Rd	100	64.8	65.0	0.2	45	97	209	47	101	217
Watt Ave	US 50	Folsom Blvd	100	75.3	75.5	0.2	227	489	1054	233	501	1080
White Rock Rd	International Rd	Quality Dr	100	62.4	62.5	0.1	31	67	145	31	68	146
White Rock Rd	Quality Dr	Zinfandel Dr	100	66.1	65.9	-0.2	55	118	255	54	115	248
White Rock Rd	Zinfandel Dr	Kilgore Rd	100	67.3	67.3	0	66	142	306	66	142	306
White Rock Rd	Kilgore Rd	Sunrise Blvd	100	65.2	65.2	0	48	103	222	48	104	223
White Rock Rd	Sunrise Blvd	Fitzgerald Rd	100	64.3	64.2	-0.1	41	89	192	41	89	192
White Rock Rd	Fitzgerald Rd	Grant Line Rd	100	56.3	55.9	-0.4	12	26	57	11	25	53
White Rock Rd	Grant Line Rd	Prairie City Rd	100	62.1	62.5	0.4	30	64	138	32	68	147

**TABLE 10
PREDICTED EXISTING AND EXISTING + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Zinfandel Dr	US 50	White Rock Rd	100	68.9	69.1	0.2	85	183	393	88	189	407
Zinfandel Dr	White Rock Rd	International Rd	100	64.9	65.6	0.7	46	99	212	51	110	237
Zinfandel Dr	International Rd	Baroque Dr	100	62.3	64.2	1.9	31	66	142	41	89	191
Zinfandel Dr	Baroque Dr	City Limit	100	62.3	64.2	1.9	31	66	142	41	89	192
Zinfandel Dr	City Limit	Douglas Rd	100	62.3	64.2	1.9	31	66	142	41	89	192
Zinfandel Dr	Douglas Rd	Kiefer Blvd	100	58.5	62.3	3.8	17	37	79	31	66	142
Collector JT-1	Excelsior Rd	Collector JT-3	100	0	0	0	0	0	0	0	0	0
Collector JT-1	Collector JT-3	Tree View Ln	100	0	0	0	0	0	0	0	0	0
Collector JT-3	Kiefer Blvd	Collector JT-1	100	0	0	0	0	0	0	0	0	0
Collector JT-3	Collector JT-1	Collector JT-6	100	0	0	0	0	0	0	0	0	0
Collector JT-3	Collector JT-6	Collector JT-5	100	0	0	0	0	0	0	0	0	0

¹ Distances to traffic noise contours are measured in feet from the centerlines of the Roadways.

² Traffic noise levels do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Source: DKS & j.c. brennan

Bold indicates a significant increase in noise levels

TABLE 11
PREDICTED EXISTING AND EXISTING + (ALT-2) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP

Roadway	Segment		Noise Levels (L _{dn} , dB)												
			Distance (feet)	Existing	Existing + ALT-2 Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Existing + Project (L _{dn})					
							Existing (L _{dn})			70	65	60	70	65	60
							70	65	60						
Bradshaw Rd	Folsom Blvd	US 50	100	67.6	67.6	0	69	149	321	70	150	323			
Bradshaw Rd	US 50	Lincoln Village Dr	100	70.7	70.8	0.1	111	239	515	113	243	523			
Bradshaw Rd	Lincoln Village Dr	Old Placerville Rd	100	69.8	69.9	0.1	97	208	449	99	214	460			
Bradshaw Rd	Old Placerville Rd	Goethe Rd	100	69.4	69.6	0.2	91	196	422	93	201	434			
Bradshaw Rd	Goethe Rd	Kiefer Blvd	100	68.0	68.3	0.3	74	160	344	77	166	358			
Bradshaw Rd	Kiefer Blvd	Jackson Rd	100	68.3	69.0	0.7	78	167	360	85	184	396			
Bradshaw Rd	Jackson Rd	Elder Creek Rd	100	67.1	66.9	-0.2	64	137	296	62	133	286			
Bradshaw Rd	Elder Creek Rd	Florin Rd	100	66.9	67.3	0.4	63	135	291	66	142	306			
Bradshaw Rd	Florin Rd	Gerber Rd	100	67.1	67.3	0.2	64	137	296	66	143	308			
Bradshaw Rd	Gerber Rd	Calvine Rd	100	65.8	66.2	0.4	52	113	243	56	120	259			
Calvine Rd	Waterman Rd	Bradshaw Rd	100	65.5	65.7	0.2	50	108	233	51	110	238			
Calvine Rd	Bradshaw Rd	Vineyard Rd	100	64.4	64.8	0.4	42	91	197	45	97	209			
Calvine Rd	Vineyard Rd	Excelsior Rd	100	60.2	60.9	0.7	22	48	103	25	54	116			
Chrysanthy Blvd	Sunrise Blvd	Rancho Cordova Pkwy	100	57.7	57.9	0.2	15	33	70	16	34	73			
Douglas Rd	Mather Blvd	Zinfandel Dr	100	61.7	62.3	0.6	28	60	130	31	66	143			
Douglas Rd	Zinfandel Dr	Sunrise Blvd	100	62.7	63.0	0.3	33	70	152	34	74	159			
Douglas Rd	Sunrise Blvd	Rancho Cordova Pkwy	100	60.2	60.9	0.7	22	48	103	25	53	114			
Douglas Rd	Rancho Cordova Pkwy	Grant Line Rd	100	60.2	60.5	0.3	22	48	103	23	50	109			
Eagles Nest Rd	Kiefer Blvd	Jackson Rd	100	54.1	58.3	4.2	9	19	40	17	36	77			
Eagles Nest Rd	Jackson Rd	Florin Rd	100	50.6	55.6	5	5	11	24	11	24	51			
Eagles Nest Rd	Florin Rd	Grant Line Rd	100	46.2	54.4	8.2	3	6	12	9	20	42			
Elder Creek Rd	65th St	Power Inn Rd	100	67.9	68.3	0.4	73	157	337	77	166	358			
Elder Creek Rd	Power Inn Rd	Florin-Perkins Rd	100	65.5	65.9	0.4	50	107	231	53	114	246			
Elder Creek Rd	Florin Perkins Rd	South Watt Ave	100	63.9	64.8	0.9	39	85	183	45	96	208			
Elder Creek Rd	South Watt Ave	Hedge Ave	100	61.0	62.9	1.9	25	54	116	34	72	156			
Elder Creek Rd	Hedge Ave	Mayhew Rd	100	63.9	65.8	1.9	39	84	181	52	113	243			
Elder Creek Rd	Mayhew Rd	Bradshaw Rd	100	63.5	65.8	2.3	37	80	171	52	113	243			
Elder Creek Rd	Bradshaw Rd	Excelsior Rd	100	57.8	64.4	6.6	15	33	71	42	91	195			
Elk Grove-Florin Rd	Florin Rd	Gerber Rd	100	69.8	69.9	0.1	97	210	452	98	212	456			
Excelsior Rd	Kiefer Blvd	Douglas Rd	100	60.2	63.0	2.8	22	48	103	34	74	160			

Excelsior Rd	Douglas Rd	Collector WJ-1/ Collector JT-1	100	61.9	64.9	3	29	62	134	45	98	211
Excelsior Rd	Collector WJ-1/ Collector JT-1	Collector WJ-2/ Collector JT-2	100	61.9	67.1	5.2	29	62	134	64	139	299
Excelsior Rd	Collector WJ-2/ Collector JT-2	Jackson Rd	100	61.9	67.6	5.7	29	62	134	70	150	323
Excelsior Rd	Jackson Rd	Elder Creek Rd	100	64.0	68.9	4.9	40	86	186	85	183	394
Excelsior Rd	Elder Creek Rd	Florin Rd	100	63.2	65.3	2.1	35	76	164	49	105	227
Excelsior Rd	Florin Rd	Gerber Rd	100	60.8	62.3	1.5	24	53	114	31	66	142
Excelsior Rd	Gerber Rd	Calvine Rd	100	59.8	60.8	1	21	45	96	24	52	113
Excelsior Rd	Calvine Rd	Sheldon Rd	100	60.0	61.6	1.6	22	46	100	27	59	127
Florin Rd	Stockton Blvd	Power Inn Rd	100	68.9	69.1	0.2	85	183	394	87	187	403
Florin Rd	Power Inn Rd	Florin-Perkins Rd	100	67.9	68.2	0.3	72	156	336	76	164	352
Florin Rd	Florin-Perkins Rd	So Watt Ave/ Elk Grove Florin Rd	100	66.1	66.6	0.5	55	118	253	59	128	275
Florin Rd	South Watt Ave	Hedge Ave	100	63.4	64.3	0.9	36	78	169	42	90	194
Florin Rd	Hedge Ave	Mayhew Rd	100	62.5	63.9	1.4	32	69	148	39	85	182
Florin Rd	Mayhew Rd	Bradshaw Rd	100	62.5	63.9	1.4	32	69	148	39	85	183
Florin Rd	Bradshaw Rd	Excelsior Rd	100	58.9	60.8	1.9	18	39	85	24	52	113
Florin Rd	Excelsior Rd	Sunrise Blvd	100	57.8	58.4	0.6	15	33	72	17	36	78
Folsom Blvd	Howe Ave	Jackson Rd	100	67.7	68.0	0.3	71	152	328	74	159	343
Fruitridge Rd	65th St	Power Inn Rd	100	65.7	65.8	0.1	52	111	240	52	113	243
Fruitridge Rd	Power Inn Rd	Florin Perkins Rd	100	65.3	65.6	0.3	49	105	226	51	110	236
Fruitridge Rd	Florin Perkins Rd	South Watt Ave	100	63.6	63.8	0.2	38	81	174	39	83	179
Fruitridge Rd	South Watt Ave	Hedge Ave	100	58.1	57.6	-0.5	16	35	75	15	32	69
Fruitridge Rd	Hedge Ave	Mayhew Rd	100	56.0	54.3	-1.7	12	25	54	9	19	41
Grant Line Rd	White Rock Rd	Douglas Rd	100	62.1	62.8	0.7	30	64	137	33	71	154
Grant Line Rd	Douglas Rd	Kiefer Blvd	100	61.4	62.4	1	27	57	124	31	67	144
Grant Line Rd	Kiefer Blvd	Jackson Rd	100	61.1	62.1	1	25	55	118	30	64	138
Grant Line Rd	Jackson Rd	Sunrise Blvd	100	65.2	65.0	-0.2	48	103	221	47	101	217
Grant Line Rd	Sunrise Blvd	Calvine Rd	100	66.2	66.3	0.1	56	120	258	57	122	263
Grant Line Rd	Calvine Rd	Sheldon Rd	100	64.7	64.8	0.1	44	95	204	45	96	208
Grant Line Rd	Sheldon Rd	Wilton Rd	100	65.9	66.4	0.5	53	115	247	57	123	265
Grant Line Rd	Wilton Rd	Bond Rd	100	65.5	66.0	0.5	50	108	234	54	117	252
Happy Ln	Old Placerville Rd	Kiefer Blvd	100	60.1	61.7	1.6	22	47	102	28	60	129
Hedge Ave	Jackson Rd	Fruitridge Rd	100	58.3	57.6	-0.7	17	36	77	15	32	69
Hedge Ave	Fruitridge Rd	Elder Creek Rd	100	59.2	59.4	0.2	19	41	88	20	42	91
Hedge Ave	Elder Creek Rd	Florin Rd	100	60.0	60.4	0.4	21	46	99	23	49	106
Howe Ave	US 50	Folsom Blvd	100	72.9	73.0	0.1	156	337	726	159	342	738
International Dr	Mather Field Rd	Zinfandel Dr	100	68.0	68.2	0.2	74	159	343	76	163	352
International Dr	Zinfandel Dr	Sunrise Blvd	100	67.2	67.7	0.5	65	140	301	71	152	328
Jackson Rd	Folsom Blvd	Florin Perkins Rd	100	64.4	64.8	0.4	42	91	196	45	98	210
Jackson Rd	Florin Perkins Rd	South Watt Ave	100	63.7	64.9	1.2	38	82	176	46	98	212
Jackson Rd	South Watt Ave	Hedge Ave	100	66.9	68.3	1.4	62	133	287	77	166	358
Jackson Rd	Hedge Ave	Mayhew Rd	100	64.5	66.5	2	43	93	200	59	127	273
Jackson Rd	Mayhew Rd	Bradshaw Rd	100	64.1	65.8	1.7	41	87	188	52	113	243

Jackson Rd	Bradshaw Rd	Excelsior Rd	100	63.5	66.6	3.1	37	80	172	59	128	275
Jackson Rd	Excelsior Rd	Collector JT-3	100	62.6	67.5	4.9	32	69	148	68	147	316
Jackson Rd	Collector JT-3	Tree View Ln	100	62.6	65.4	2.8	32	69	148	50	107	230
Jackson Rd	Tree View Ln	Collector JT-4	100	67.6	69.6	2	69	149	321	94	202	435
Jackson Rd	Collector JT-4	Eagles Nest Rd	100	68.1	69.9	1.8	75	162	349	98	211	455
Jackson Rd	Eagles Nest Rd	Sunrise Blvd	100	67.9	69.0	1.1	73	157	337	86	185	398
Jackson Rd	Sunrise Blvd	Grant Line Rd	100	69.2	69.7	0.5	88	190	409	96	206	444
Kiefer Blvd	Florin Perkins Rd	South Watt Ave	100	64.0	64.2	0.2	40	86	186	41	88	190
Kiefer Blvd	South Watt Ave	Mayhew Rd	100	70.1	70.3	0.2	102	219	472	105	226	487
Kiefer Blvd	Mayhew Rd	Bradshaw Rd	100	67.1	68.2	1.1	64	137	296	76	164	353
Kiefer Blvd	Bradshaw Rd	Happy Ln	100	64.0	64.9	0.9	40	86	186	45	98	211
Kiefer Blvd	Zinfandel Dr	Sunrise Blvd	100	0	0	0	0	0	0	0	0	0
Kiefer Blvd	Sunrise Blvd	Rancho Cordova Pkwy	100	60.9	60.9	0	25	53	114	25	53	115
Mather Blvd / Norden Ave	Von Karman St	Bleckely St	100	62.0	63.0	1	29	63	136	34	73	158
Mather Blvd	Bleckely St	Femoyer St	100	62.0	63.0	1	29	63	136	34	73	158
Mather Blvd	Femoyer St	Douglas Rd	100	59.9	60.9	1	21	46	99	25	53	114
Mather Blvd-Excelsior Rd	Douglas Rd	Kiefer Blvd	100	60.7	61.8	1.1	24	51	111	28	61	131
Mather Field Rd	US 50	Rockingham Dr	100	68.1	68.3	0.2	75	162	349	77	165	356
Mather Field Rd	Rockingham Dr	International Dr	100	68.1	68.2	0.1	75	161	347	76	163	351
Mather Field Rd	International Dr	Peter A McCuen Blvd	100	64.1	64.2	0.1	40	87	187	41	88	190
Mayhew Rd	Folsom Blvd	Goethe Rd	100	60.8	61.5	0.7	24	53	113	27	58	125
Mayhew Rd	Goethe Rd	Kiefer Blvd	100	61.7	62.6	0.9	28	60	129	32	69	149
Mayhew Rd	Jackson Rd	Fruitridge Rd	100	55.6	53.5	-2.1	11	24	51	8	17	37
Old Placerville Rd	Bradshaw Rd	Granby Dr	100	65.5	65.8	0.3	50	108	232	52	113	243
Old Placerville Rd	Granby Dr	Happy Ln	100	65.3	65.5	0.2	48	104	224	50	108	233
Old Placerville Rd	Happy Ln	Routier Rd	100	64.2	64.8	0.6	41	89	192	45	97	208
Old Placerville Rd	Routier Rd	Rockingham Dr	100	64.2	64.5	0.3	41	89	192	43	93	201
Power Inn Rd	Folsom Blvd	14th Ave	100	69.5	69.5	0	93	200	431	93	201	432
Rockingham Dr	Old Placerville Rd	Mather Field Rd	100	66.9	67.1	0.2	62	134	289	64	138	297
South Watt Ave	Folsom Blvd	Kiefer Blvd	100	70.1	70.4	0.3	101	217	468	106	228	492
South Watt Ave	Kiefer Blvd	Jackson Rd	100	68.6	69.0	0.4	81	174	375	86	185	399
South Watt Ave	Jackson Rd	Fruitridge Rd	100	68.7	68.7	0	81	176	378	82	176	379
South Watt Ave	Fruitridge Rd	Elder Creek Rd	100	66.8	66.9	0.1	61	132	285	62	133	287
South Watt Ave	Elder Creek Rd	Florin Rd	100	65.2	65.2	0	48	103	221	48	103	223
Sunrise Blvd	US 50	Folsom Blvd	100	69.7	69.8	0.1	96	207	446	97	210	452
Sunrise Blvd	Folsom Blvd	Trade Center Dr	100	69.3	69.4	0.1	90	194	418	92	198	426
Sunrise Blvd	Trade Center Dr	White Rock Rd	100	67.8	68.0	0.2	71	153	329	73	157	339
Sunrise Blvd	White Rock Rd	International Dr	100	71.5	71.8	0.3	126	272	586	131	282	607
Sunrise Blvd	International Dr	Rio Del Oro Pkwy	100	72.5	72.9	0.4	146	315	678	156	337	725
Sunrise Blvd	Rio Del Oro Pkwy	Douglas Rd	100	72.1	72.6	0.5	137	295	636	149	321	692
Sunrise Blvd	Douglas Rd	Kiefer Blvd	100	71.3	71.8	0.5	123	264	570	133	286	616
Sunrise Blvd	Kiefer Blvd	Jackson Rd	100	69.7	70.2	0.5	95	205	442	103	222	478

Sunrise Blvd	Jackson Rd	Florin Rd	100	67.9	67.9	0	72	156	335	72	156	336
Sunrise Blvd	Florin Rd	Grant Line Rd	100	66.3	66.2	-0.1	57	122	263	56	121	260
Vineyard Rd	Gerber Rd	Calvine Rd	100	64.8	65.1	0.3	45	97	209	47	101	217
Watt Ave	US 50	Folsom Blvd	100	75.3	75.5	0.2	227	489	1054	233	501	1079
White Rock Rd	International Rd	Quality Dr	100	62.4	62.5	0.1	31	67	145	32	68	147
White Rock Rd	Quality Dr	Zinfandel Dr	100	66.1	66.0	-0.1	55	118	255	54	117	252
White Rock Rd	Zinfandel Dr	Kilgore Rd	100	67.3	67.3	0	66	142	306	66	143	308
White Rock Rd	Kilgore Rd	Sunrise Blvd	100	65.2	65.3	0.1	48	103	222	49	105	226
White Rock Rd	Sunrise Blvd	Fitzgerald Rd	100	64.3	64.3	0	41	89	192	42	90	194
White Rock Rd	Fitzgerald Rd	Grant Line Rd	100	56.3	56.2	-0.1	12	26	57	12	26	56
White Rock Rd	Grant Line Rd	Prairie City Rd	100	62.1	62.6	0.5	30	64	138	32	69	150
Zinfandel Dr	US 50	White Rock Rd	100	68.9	69.2	0.3	85	183	393	88	190	410
Zinfandel Dr	White Rock Rd	International Rd	100	64.9	65.6	0.7	46	99	212	51	110	238
Zinfandel Dr	International Rd	Baroque Dr	100	62.3	64.3	2	31	66	142	42	90	194
Zinfandel Dr	Baroque Dr	City Limit	100	62.3	64.4	2.1	31	66	142	42	91	195
Zinfandel Dr	City Limit	Douglas Rd	100	62.3	64.4	2.1	31	66	142	42	91	195
Zinfandel Dr	Douglas Rd	Kiefer Blvd	100	58.5	62.3	3.8	17	37	79	31	66	142
Collector JT-1	Excelsior Rd	Collector JT-3	100	0	0	0	0	0	0	0	0	0
Collector JT-1	Collector JT-3	Tree View Ln	100	0	0	0	0	0	0	0	0	0
Collector JT-3	Kiefer Blvd	Collector JT-1	100	0	0	0	0	0	0	0	0	0
Collector JT-3	Collector JT-1	Collector JT-6	100	0	0	0	0	0	0	0	0	0
Collector JT-3	Collector JT-6	Collector JT-5	100	0	0	0	0	0	0	0	0	0

58.554.154.856.156.165.964.863.166.066.064.669.963.164.967.568.069.2¹ Distances to traffic noise contours are measured in feet from the centerlines of the Roadways.

² Traffic noise levels do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Source: DKS & j.c. brennan

Bold indicates a significant increase in noise levels

**TABLE 12
PREDICTED CUMULATIVE AND CUMULATIVE + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)												
			Distance (feet)	Cumulative	Cumulative + Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + Original Project (L _{dn})					
							Cumulative (L _{dn})			70	65	60	70	65	60
							70	65	60						
Bradshaw Rd	Folsom Blvd	US 50	100	68.2	68.4	0.2	76	164	353	78	169	364			
Bradshaw Rd	US 50	Lincoln Village Dr	100	72.6	72.8	0.2	148	319	687	154	332	715			
Bradshaw Rd	Lincoln Village Dr	Old Placerville Rd	100	72.1	72.4	0.3	137	295	636	144	311	670			
Bradshaw Rd	Old Placerville Rd	Goethe Rd	100	71.8	72.2	0.4	132	285	613	140	302	651			
Bradshaw Rd	Goethe Rd	Collector WJ-8	100	71.0	71.5	0.5	117	251	541	126	271	584			
Bradshaw Rd	Collector WJ-8	Kiefer Blvd	100	70.7	71.2	0.5	111	238	513	121	261	562			
Bradshaw Rd	Kiefer Blvd	Collector WJ-9	100	70.9	70.8	-0.1	114	246	530	113	243	524			
Bradshaw Rd	Collector WJ-9	Mayhew Rd	100	70.9	70.8	-0.1	114	246	531	113	244	526			
Bradshaw Rd	Mayhew Rd	Jackson Rd	100	71.1	71.1	0	118	254	548	119	256	552			
Bradshaw Rd	Jackson Rd	Rock Creek Pkwy	100	70.5	70.4	-0.1	108	233	502	107	230	495			
Bradshaw Rd	Rock Creek Pkwy	Collector WJ-10	100	70.7	70.6	-0.1	111	240	516	110	238	512			
Bradshaw Rd	Collector WJ-10	Collector WJ-11	100	70.3	70.2	-0.1	104	224	483	103	223	480			
Bradshaw Rd	Collector WJ-11	Elder Creek Rd	100	68.8	68.7	-0.1	83	178	383	82	177	382			
Bradshaw Rd	Elder Creek Rd	Florin Rd	100	69.4	69.6	0.2	91	196	422	94	202	435			
Bradshaw Rd	Florin Rd	Gerber Rd	100	70.5	70.7	0.2	109	234	505	111	239	516			
Bradshaw Rd	Gerber Rd	Calvine Rd	100	69.1	69.2	0.1	87	188	405	88	191	411			
Calvine Rd	Waterman Rd	Bradshaw Rd	100	67.1	67.2	0.1	64	139	298	66	141	304			
Calvine Rd	Bradshaw Rd	Vineyard Rd	100	66.2	66.3	0.1	56	121	261	56	121	262			
Calvine Rd	Vineyard Rd	Excelsior Rd	100	65.1	65.4	0.3	47	102	220	49	106	229			
Chrysanthy Blvd	Sunrise Blvd	Rancho Cordova Pkwy	100	63.2	63.4	0.2	35	76	164	36	78	168			
Douglas Rd	Mather Blvd	Zinfandel Dr	100	69.0	68.8	-0.2	86	185	400	84	180	388			
Douglas Rd	Zinfandel Dr	Sunrise Blvd	100	72.6	72.4	-0.2	148	319	687	145	312	673			
Douglas Rd	Sunrise Blvd	Rancho Cordova Pkwy	100	70.1	69.9	-0.2	101	218	470	98	211	454			
Douglas Rd	Rancho Cordova Pkwy	Americanos Blvd	100	69.9	69.8	-0.1	98	212	456	98	210	453			
Douglas Rd	Americanos Blvd	Grant Line Rd	100	68.6	68.5	-0.1	81	174	375	80	172	371			
Eagles Nest Rd	Kiefer Blvd	N Bridgewater Dr	100	67.4	66.8	-0.6	67	144	311	61	131	283			
Eagles Nest Rd	N Bridgewater Dr	S Bridgewater Dr	100	67.8	66.9	-0.9	72	154	332	63	135	290			
Eagles Nest Rd	S Bridgewater Dr	Jackson Rd	100	67.1	65.7	-1.4	64	137	296	52	112	241			
Eagles Nest Rd	Jackson Rd	Florin Rd	100	65.4	66.1	0.7	49	106	227	55	119	256			

**TABLE 12
PREDICTED CUMULATIVE AND CUMULATIVE + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + Original Project (L _{dn})		
							70	65	60	70	65	60
Eagles Nest Rd	Florin Rd	Grant Line Rd	100	60.0	61.5	1.5	22	47	101	27	58	125
Elder Creek Rd	65th St	Power Inn Rd	100	70.6	70.7	0.1	110	237	510	111	240	517
Elder Creek Rd	Power Inn Rd	Florin-Perkins Rd	100	70.7	70.8	0.1	112	241	519	113	243	524
Elder Creek Rd	Florin Perkins Rd	South Watt Ave	100	71.1	71.2	0.1	118	254	548	120	259	558
Elder Creek Rd	South Watt Ave	Hedge Ave	100	74.2	74.3	0.1	191	411	885	192	414	893
Elder Creek Rd	Hedge Ave	Mayhew Rd	100	73.3	73.4	0.1	166	358	772	169	364	785
Elder Creek Rd	Mayhew Rd	Bradshaw Rd	100	67.5	68.1	0.6	68	147	317	75	161	348
Elder Creek Rd	Bradshaw Rd	Vineyard Rd	100	67.6	68.6	1	69	149	321	81	175	376
Elder Creek Rd	Vineyard Rd	Excelsior Rd	100	65.8	68.0	2.2	52	112	242	73	158	340
Elk Grove-Florin Rd	Florin Rd	Gerber Rd	100	71.3	71.3	0	122	263	566	122	262	564
Excelsior Rd	Kiefer Blvd	Douglas Rd	100	57.5	62.8	5.3	15	32	68	33	71	154
Excelsior Rd	Douglas Rd	Collector WJ-1/ Collector JT-1	100	68.4	69.5	1.1	78	168	362	92	199	428
Excelsior Rd	Collector WJ-1/ Collector JT-1	Collector WJ-2/ Collector JT-2	100	68.1	69.1	1	75	162	349	87	188	406
Excelsior Rd	Collector WJ-2/ Collector JT-2	Jackson Rd	100	68.1	69.0	0.9	75	161	347	86	186	400
Excelsior Rd	Jackson Rd	Collector WJ-6	100	68.6	70.5	1.9	81	174	374	108	233	503
Excelsior Rd	Collector WJ-6	Elder Creek Rd	100	67.5	69.4	1.9	68	146	314	91	197	424
Excelsior Rd	Elder Creek Rd	Florin Rd	100	62.0	63.1	1.1	29	63	135	35	75	161
Excelsior Rd	Florin Rd	Gerber Rd	100	62.5	63.3	0.8	32	68	147	36	77	166
Excelsior Rd	Gerber Rd	Calvine Rd	100	61.9	62.7	0.8	29	62	134	33	70	151
Excelsior Rd	Calvine Rd	Sheldon Rd	100	62.3	63.2	0.9	30	66	141	35	75	162
Florin Rd	Stockton Blvd	Power Inn Rd	100	70.2	70.3	0.1	104	223	481	105	227	488
Florin Rd	Power Inn Rd	Florin-Perkins Rd	100	69.8	70.0	0.2	97	209	451	100	215	463
Florin Rd	Florin-Perkins Rd	So Watt Ave/ Elk Grove Florin Rd	100	69.0	69.2	0.2	86	186	400	89	191	413
Florin Rd	South Watt Ave	Hedge Ave	100	64.2	64.5	0.3	41	88	190	43	93	200
Florin Rd	Hedge Ave	Mayhew Rd	100	64.6	65.0	0.4	44	95	204	46	99	214
Florin Rd	Mayhew Rd	Bradshaw Rd	100	69.4	69.7	0.3	91	196	423	95	206	443
Florin Rd	Bradshaw Rd	Vineyard Rd	100	67.6	67.8	0.2	70	150	323	71	154	331
Florin Rd	Vineyard Rd	Excelsior Rd	100	67.3	67.6	0.3	66	142	305	69	149	321
Florin Rd	Excelsior Rd	Sunrise Blvd	100	65.9	65.9	0	53	115	247	54	115	249
Folsom Blvd	Howe Ave	Jackson Rd	100	70.9	71.0	0.1	115	248	534	116	250	539
Fruitridge Rd	65th St	Power Inn Rd	100	67.9	68.0	0.1	72	155	334	73	158	340

**TABLE 12
PREDICTED CUMULATIVE AND CUMULATIVE + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + Original Project (Ldn)		
							70	65	60	70	65	60
Fruitridge Rd	Power Inn Rd	Florin Perkins Rd	100	68.3	68.5	0.2	77	165	357	79	171	368
Fruitridge Rd	Florin Perkins Rd	South Watt Ave	100	67.8	68.0	0.2	71	153	330	74	159	343
Fruitridge Rd	South Watt Ave	Hedge Ave	100	67.1	67.5	0.4	64	137	296	68	146	315
Fruitridge Rd	Hedge Ave	Collector WJ-12	100	69.2	69.6	0.4	89	191	411	94	203	437
Fruitridge Rd	Collector WJ-12	Mayhew Rd	100	68.7	69.2	0.5	81	175	378	88	190	409
Grant Line Rd	White Rock Rd	Douglas Rd	100	71.6	71.8	0.2	129	278	598	132	284	612
Grant Line Rd	Douglas Rd	Chrysanthy Blvd	100	75.4	75.4	0	228	491	1057	229	493	1061
Grant Line Rd	Chrysanthy Blvd	Kiefer Blvd	100	70.2	70.3	0.1	103	221	477	105	226	488
Grant Line Rd	Kiefer Blvd	Rancho Cordova Pkwy	100	69.2	69.2	0	89	191	411	89	191	412
Grant Line Rd	Rancho Cordova Pkwy	Jackson Rd	100	70.9	70.8	-0.1	115	247	533	113	244	526
Grant Line Rd	Jackson Rd	Sunrise Blvd	100	68.4	68.3	-0.1	78	168	362	77	166	357
Grant Line Rd	Sunrise Blvd	Calvine Rd	100	68.8	68.8	0	83	179	385	84	180	388
Grant Line Rd	Calvine Rd	Sheldon Rd	100	68.0	68.1	0.1	74	159	343	74	160	346
Grant Line Rd	Sheldon Rd	Wilton Rd	100	68.0	69.0	1	74	159	343	86	185	398
Grant Line Rd	Wilton Rd	Bond Rd	100	68.8	68.5	-0.3	83	179	385	79	171	368
Happy Lane	Old Placerville Road	Routier Ext	100	73.3	70.1	-3.2	165	356	768	101	218	471
Happy Lane	Routier Ext	Kiefer Boulevard	100	69.7	71.7	2	96	206	444	130	279	602
Hedge Ave	Jackson Rd	Rock Creek Pkwy	100	70.2	68.7	-1.5	104	224	482	82	176	378
Hedge Ave	Rock Creek Pkwy	Fruitridge Rd	100	68.7	66.8	-1.9	82	177	382	61	131	282
Hedge Ave	Fruitridge Rd	Elder Creek Rd	100	66.5	67.5	1	58	125	269	68	146	314
Hedge Ave	Elder Creek Rd	Florin Rd	100	67.4	70.9	3.5	67	144	309	115	247	533
Howe Ave	US 50	Folsom Blvd	100	70.9	76.0	5.1	115	247	533	250	538	1160
International Dr	Mather Field Rd	Zinfandel Dr	100	75.9	74.2	-1.7	248	534	1149	190	409	880
International Dr	Zinfandel Dr	Sunrise Blvd	100	74.1	73.4	-0.7	189	406	876	168	361	778
Jackson Rd	Folsom Blvd	Florin Perkins Rd	100	72.5	72.0	-0.5	146	315	679	136	292	630
Jackson Rd	Florin Perkins Rd	14th Ave	100	71.1	72.1	1	119	256	552	138	298	641
Jackson Rd	14th Ave	Rock Creek Pkwy	100	71.9	73.6	1.7	134	289	622	174	375	807
Jackson Rd	Rock Creek Pkwy	Aspen 1 Dwy	100	71.3	71.2	-0.1	122	262	565	120	259	559
Jackson Rd	Aspen 1 Dwy	South Watt Ave	100	69.8	69.9	0.1	98	210	453	99	213	458
Jackson Rd	South Watt Ave	Hedge Ave	100	69.7	70.7	1	95	205	441	111	239	515
Jackson Rd	Hedge Ave	Collector WJ-3	100	70.5	70.0	-0.5	109	234	505	100	216	465
Jackson Rd	Collector WJ-3	Mayhew Rd	100	69.8	70.1	0.3	97	209	451	102	219	472

**TABLE 12
PREDICTED CUMULATIVE AND CUMULATIVE + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)												
			Distance (feet)	Cumulative	Cumulative + Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + Original Project (L _{dn})					
							Cumulative (L _{dn})			70	65	60	70	65	60
							70	65	60						
Jackson Rd	Mayhew Rd	Bradshaw Rd	100	69.9	70.1	0.2	99	213	460	101	217	468			
Jackson Rd	Bradshaw Rd	Collector WJ-4	100	70.9	71.4	0.5	115	247	533	125	269	578			
Jackson Rd	Collector WJ-4	Happy Ln	100	71.0	71.5	0.5	117	252	543	126	272	585			
Jackson Rd	Happy Ln	Rock Creek Pkwy	100	71.0	70.1	-0.9	117	251	541	101	218	469			
Jackson Rd	Rock Creek Pkwy	Collector WJ-5	100	69.8	70.5	0.7	97	210	452	108	232	499			
Jackson Rd	Collector WJ-5	Collector WJ-6	100	69.8	70.3	0.5	97	209	449	104	224	483			
Jackson Rd	Collector WJ-6	Excelsior Rd	100	69.5	70.3	0.8	92	199	428	104	225	484			
Jackson Rd	Excelsior Rd	Collector JT-3	100	69.5	72.2	2.7	92	199	428	141	303	653			
Jackson Rd	Collector JT-3	Tree View Ln	100	70.8	70.9	0.1	114	245	529	115	248	535			
Jackson Rd	Tree View Ln	Collector JT-4	100	70.8	70.3	-0.5	114	245	529	105	226	486			
Jackson Rd	Collector JT-4	Eagles Nest Rd	100	70.2	69.4	-0.8	103	221	477	91	197	424			
Jackson Rd	Eagles Nest Rd	Rockbridge Dr	100	70.6	70.3	-0.3	110	236	509	105	227	489			
Jackson Rd	Rockbridge Dr	Sunrise Blvd	100	69.6	69.4	-0.2	95	204	440	91	195	421			
Jackson Rd	Sunrise Blvd	Grant Line Rd	100	69.0	69.0	0	86	185	399	86	185	399			
Kiefer Blvd	Florin Perkins Rd	South Watt Ave	100	58.7	59.5	0.8	18	38	82	20	43	92			
Kiefer Blvd	South Watt Ave	Mayhew Rd	100	66.8	67.5	0.7	62	133	286	68	147	318			
Kiefer Blvd	Mayhew Rd	Bradshaw Rd	100	67.9	68.8	0.9	73	156	337	83	179	385			
Kiefer Boulevard	Bradshaw Road	Collector WJ-14	100	73.2	74.7	1.5	162	350	754	205	441	950			
Kiefer Boulevard	Collector WJ-14	Routier Ext	100	73.0	74.9	1.9	160	344	741	213	458	986			
Kiefer Boulevard	Routier Ext	Happy Lane	100	73.2	75.1	1.9	163	352	758	220	474	1022			
Kiefer Blvd	Eagles Nest Rd	W Collector MS-1	100	68.0	73.1	5.1	73	157	339	160	346	745			
Kiefer Blvd	W Collector MS-1	Northbridge Dr	100	67.6	72.2	4.6	69	148	319	140	302	650			
Kiefer Blvd	Northbridge Dr	E Collector MS-1	100	68.6	72.5	3.9	81	174	374	146	314	677			
Kiefer Blvd	E Collector MS-1	Sunrise Blvd	100	71.4	73.5	2.1	123	265	571	170	367	791			
Kiefer Blvd	Sunrise Blvd	Rancho Cordova Pkwy	100	71.3	72.6	1.3	123	264	570	150	323	697			
Mather Blvd / Norden Ave	Von Karman St	Bleckely St	100	69.0	69.0	0	86	184	397	86	184	397			
Mather Blvd	Bleckely St	Femoyer St	100	68.2	68.2	0	76	164	353	76	164	352			
Mather Blvd	Femoyer St	Douglas Rd	100	67.4	67.4	0	67	145	311	67	145	311			
Mather Blvd-Excelsior Rd	Douglas Rd	Kiefer Blvd	100	63.6	63.8	0.2	37	80	173	39	84	180			
Mather Field Rd	US 50	Rockingham Dr	100	71.6	71.6	0	127	274	591	128	275	593			
Mather Field Rd	Rockingham Dr	International Dr	100	71.1	71.1	0	118	254	547	117	253	545			
Mather Field Rd	International Dr	Peter A McCuen	100	64.4	64.6	0.2	42	91	196	44	95	204			

**TABLE 12
PREDICTED CUMULATIVE AND CUMULATIVE + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)										
			Distance (feet)	Cumulative	Cumulative + Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + Original Project (L _{dn})			
							70	65	60	70	65	60	
													Cumulative (L _{dn})
		Blvd											
Mayhew Rd	Folsom Blvd	Goethe Rd	100	63.5	64.1	0.6	37	79	171	41	88	189	
Mayhew Rd	Goethe Rd	Kiefer Blvd	100	63.5	63.8	0.3	37	79	171	39	84	180	
Mayhew Rd	Jackson Rd	Rock Creek Pkwy	100	69.2	69.2	0	88	189	408	88	191	411	
Mayhew Rd	Rock Creek Pkwy	Fruitridge Rd	100	70.2	70.2	0	103	221	477	103	223	480	
Old Placerville Rd	Bradshaw Rd	Granby Dr	100	67.2	67.1	-0.1	65	141	304	64	138	297	
Old Placerville Rd	Granby Dr	Happy Ln	100	66.7	66.7	0	60	129	279	61	130	281	
Old Placerville Rd	Happy Ln	Routier Rd	100	66.8	67.4	0.6	62	133	286	67	144	309	
Old Placerville Rd	Routier Rd	Rockingham Dr	100	69.5	69.6	0.1	92	198	427	95	204	439	
Power Inn Rd	Folsom Blvd	14th Ave	100	70.6	70.7	0.1	110	238	512	112	240	518	
Rockingham Dr	Old Placerville Rd	Mather Field Rd	100	69.9	70.1	0.2	99	213	459	101	217	468	
South Watt Ave	Folsom Blvd	Kiefer Blvd	100	73.0	73.1	0.1	158	340	732	160	346	745	
South Watt Ave	Kiefer Blvd	Jackson Rd	100	72.5	72.4	-0.1	148	318	686	146	313	675	
South Watt Ave	Jackson Rd	Rock Creek Pkwy	100	70.2	70.2	0	103	222	478	103	221	476	
South Watt Ave	Rock Creek Pkwy	Fruitridge Rd	100	70.2	70.2	0	103	223	480	102	221	475	
South Watt Ave	Fruitridge Rd	Elder Creek Rd	100	69.8	69.7	-0.1	97	208	448	96	207	446	
South Watt Ave	Elder Creek Rd	Florin Rd	100	72.3	72.3	0	142	306	659	142	306	660	
Sunrise Blvd	US 50	Folsom Blvd	100	72.6	72.6	0	148	319	688	148	319	687	
Sunrise Blvd	Folsom Blvd	Trade Center Dr	100	71.3	71.3	0	123	265	570	122	264	568	
Sunrise Blvd	Trade Center Dr	White Rock Rd	100	69.3	69.3	0	90	194	418	90	193	417	
Sunrise Blvd	White Rock Rd	International Dr	100	70.5	70.5	0	108	233	502	109	234	504	
Sunrise Blvd	International Dr	Rio Del Oro Pkwy	100	70.9	70.9	0	114	246	531	115	248	535	
Sunrise Blvd	Rio Del Oro Pkwy	Douglas Rd	100	71.5	71.6	0.1	126	271	583	129	277	597	
Sunrise Blvd	Douglas Rd	Kiefer Blvd	100	70.0	70.0	0	101	217	467	100	216	465	
Sunrise Blvd	Kiefer Blvd	Jackson Rd	100	69.3	68.9	-0.4	90	194	418	84	181	390	
Sunrise Blvd	Jackson Rd	Florin Rd	100	68.4	68.4	0	78	168	363	78	168	362	
Sunrise Blvd	Florin Rd	Grant Line Rd	100	66.2	66.1	-0.1	55	120	258	55	119	256	
Vineyard Rd	Gerber Rd	Calvine Rd	100	62.4	62.7	0.3	31	67	145	32	70	150	
Watt Ave	US 50	Folsom Blvd	100	73.7	73.8	0.1	177	380	820	178	385	828	
White Rock Rd	International Rd	Quality Dr	100	61.0	60.9	-0.1	25	54	117	25	53	115	
White Rock Rd	Quality Dr	Zinfandel Dr	100	67.2	67.1	-0.1	65	139	300	64	137	296	
White Rock Rd	Zinfandel Dr	Kilgore Rd	100	69.4	69.5	0.1	91	197	424	92	198	427	
White Rock Rd	Kilgore Rd	Sunrise Blvd	100	70.5	70.5	0	107	231	498	108	233	501	
White Rock Rd	Sunrise Blvd	Fitzgerald Rd	100	70.0	70.0	0	100	216	465	100	216	464	

**TABLE 12
PREDICTED CUMULATIVE AND CUMULATIVE + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + Original Project (L _{dn})		
							70	65	60	70	65	60
White Rock Rd	Fitzgerald Rd	Rancho Cordova Pkwy	100	72.0	71.9	-0.1	136	292	629	135	290	625
White Rock Rd	Rancho Cordova Pkwy	Americanos Blvd	100	67.8	67.8	0	71	153	329	71	154	332
White Rock Rd	Americanos Blvd	Grant Line Rd	100	67.6	67.6	0	69	149	320	69	149	322
White Rock Rd	Grant Line Rd	Prairie City Rd	100	70.9	71.0	0.1	115	247	533	116	251	540
Zinfandel Dr	US 50	White Rock Rd	100	72.6	72.6	0	150	323	695	150	323	696
Zinfandel Dr	White Rock Rd	International Rd	100	69.8	69.8	0	96	208	447	98	210	453
Zinfandel Dr	International Rd	Baroque Dr	100	70.6	70.7	0.1	110	237	511	111	240	516
Zinfandel Dr	Baroque Dr	City Limit	100	69.7	69.8	0.1	95	206	443	96	208	448
Zinfandel Dr	City Limit	Douglas Rd	100	70.6	70.7	0.1	110	237	511	111	240	516
Zinfandel Dr	Douglas Rd	Collector MS-2	100	69.9	70.0	0.1	98	211	454	100	215	463
Zinfandel Dr	Collector MS-2	Collector MS-3	100	67.4	68.0	0.6	67	145	313	74	158	341
Zinfandel Dr	Collector MS-3	Collector MS-4	100	65.0	66.2	1.2	46	100	214	56	120	259
Zinfandel Dr	Collector MS-4	Kiefer Blvd	100	65.9	68.1	2.2	53	115	248	74	160	345
14th Ave	Power Inn Rd	Florin Perkins Rd	100	66.6	66.9	0.3	60	129	277	62	134	289
14th Ave	Florin Perkins Rd	Jackson Rd	100	64.8	65.0	0.2	45	97	208	47	100	216
Chrysanthy Blvd	Rancho Cordova Pkwy	Americanos Blvd	100	65.8	65.7	-0.1	53	113	244	52	111	240
Chrysanthy Blvd	Americanos Blvd	Grant Line Rd	100	64.3	64.4	0.1	42	90	194	42	91	197
Douglas Rd (Extension)	Mather Blvd	Kiefer Blvd	100	68.1	67.9	-0.2	75	161	346	73	157	338
International Dr	Sunrise Blvd	Rancho Cordova Pkwy	100	69.5	69.6	0.1	93	201	433	94	203	437
International Dr	Rancho Cordova Pkwy	Americanos Blvd	100	67.2	67.2	0	65	140	301	65	139	300
Kiefer Blvd	Rancho Cordova Pkwy	Americanos Blvd	100	63.0	64.2	1.2	34	74	159	41	88	190
Kiefer Blvd	Americanos Blvd	Grant Line Rd	100	68.2	69.0	0.8	75	162	350	86	186	401
Rancho Cordova Pkwy	US 50	Easton Valley Pkwy	100	76.8	76.9	0.1	285	614	1323	287	618	1332
Rancho Cordova Pkwy	Easton Valley Pkwy	White Rock Rd	100	70.9	71.0	0.1	115	249	535	116	251	540
Rancho Cordova Pkwy	White Rock Rd	International Dr	100	69.3	69.4	0.1	90	193	416	91	196	422

**TABLE 12
PREDICTED CUMULATIVE AND CUMULATIVE + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)												
			Distance (feet)	Cumulative	Cumulative + Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + Original Project (L _{dn})					
							Cumulative (L _{dn})			70	65	60	70	65	60
							70	65	60						
Rancho Cordova Pkwy	International Dr	Rio Del Oro Pkwy	100	71.2	71.3	0.1	121	260	561	123	265	570			
Rancho Cordova Pkwy	Rio Del Oro Pkwy	Villagio Dr	100	69.4	69.4	0	91	195	420	91	196	422			
Rancho Cordova Pkwy	Villagio Dr	Douglas Rd	100	68.7	68.7	0	82	176	379	81	175	377			
Rancho Cordova Pkwy	Douglas Rd	Chrysanthy Blvd	100	68.9	68.8	-0.1	85	183	394	83	178	384			
Rancho Cordova Pkwy	Chrysanthy Blvd	Kiefer Blvd	100	66.8	66.4	-0.4	61	131	282	57	123	266			
Rancho Cordova Pkwy	Kiefer Blvd	Grant Line Rd	100	64.4	65.1	0.7	42	91	197	47	101	217			
Americanos Blvd	White Rock Rd	Douglas Rd	100	61.3	61.5	0.2	26	56	121	27	58	126			
Americanos Blvd	Douglas Rd	Chrysanthy Blvd	100	63.1	63.1	0	35	75	162	35	75	162			
Americanos Blvd	Chrysanthy Blvd	Kiefer Blvd	100	63.5	63.2	-0.3	37	79	171	35	76	163			
Vineyard Rd	Florin Rd	Gerber Rd	100	63.5	63.9	0.4	37	79	171	39	85	182			
Rio Del Oro Pkwy	Sunrise Blvd	Rancho Cordova Pkwy	100	68.4	68.7	0.3	78	168	363	81	175	377			
Rio Del Oro Pkwy	Rancho Cordova Pkwy	White Rock Rd	100	62.9	62.8	-0.1	34	72	156	33	72	155			
Kiefer Blvd	Tree View Ln	Eagles Nest Rd	100	70.5	70.5	0	108	232	501	108	232	501			
Douglas Rd	Excelsior Rd	Rock Creek Pkwy	100	67.3	68.5	1.2	66	142	307	79	171	368			
Douglas Rd	Rock Creek Pkwy	Kiefer Blvd	100	68.9	69.6	0.7	85	183	393	94	203	437			
Kiefer Blvd	Happy Ln	Douglas Rd	100	68.6	70.7	2.1	81	174	375	111	239	516			
Kiefer Blvd	Douglas Rd	Excelsior Rd	100	61.7	69.0	7.3	28	60	130	85	184	397			
Mayhew Rd	Routier Ext	Bradshaw Rd	100	69.4	69.5	0.1	91	196	423	93	200	431			
Mayhew Rd	Bradshaw Rd	Jackson Rd	100	69.6	69.7	0.1	94	202	435	95	204	440			
Mayhew Rd	Fruitridge Rd	Collector WJ-13	100	68.5	68.2	-0.3	79	171	367	76	165	355			
Mayhew Rd	Collector WJ-13	Elder Creek Rd	100	68.8	68.6	-0.2	83	179	385	81	174	375			
Rock Creek Pkwy	South Watt Ave	Hedge Ave	100	61.8	62.5	0.7	28	61	132	31	68	146			
Rock Creek Pkwy	Hedge Ave	Mayhew Rd	100	0	64.0	0	0	0	0	40	86	185			
Rock Creek Pkwy	Mayhew Rd	Bradshaw Rd	100	0	60.6	0	0	0	0	24	51	109			
Rock Creek Pkwy East	Excelsior Road	Collector WJ-16	100	0	65.0	0	0	0	0	46	100	215			
Rock Creek Pkwy	Collector WJ-16	Jackson Road	100	0	66.5	0	0	0	0	58	126	271			

**TABLE 12
PREDICTED CUMULATIVE AND CUMULATIVE + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + Original Project (L _{dn})		
							70	65	60	70	65	60
East												
Vineyard Rd	Jackson Road	New Collector	100	0	65.8	0	0	0	0	53	113	244
Vineyard Rd	New Collector	Collector WJ-18	100	0	66.6	0	0	0	0	60	128	277
Vineyard Rd	Collector WJ-18	Elder Creek Road	100	0	66.6	0	0	0	0	59	128	275
Vineyard Rd	Elder Creek Road	Florin Road	100	0	65.1	0	0	0	0	47	102	219
Routier Ext	Old Placerville Road	Happy Lane	100	0	69.5	0	0	0	0	93	199	430
Routier Ext	Happy Lane	Kiefer Boulevard	100	0	68.9	0	0	0	0	85	182	392
Routier Ext	Kiefer Boulevard	Mayhew Road	100	0	70.5	0	0	0	0	108	233	502
Collector WJ-16	Rock Creek Pkwy	Collector WJ-6	100	0	53.3	0	0	0	0	8	17	36
Collector WJ-17	Rock Creek Pkwy	Collector WJ-6	100	0	53.0	0	0	0	0	7	16	34
Collector WJ-6	Collector WJ-16/WJ-17	Jackson Road	100	0	58.1	0	0	0	0	16	35	75
Collector WJ-6	Jackson Road	Collector WJ-18	100	0	59.7	0	0	0	0	21	45	96
Collector WJ-2	Excelsior Road	Collector WJ-6	100	0	58.5	0	0	0	0	17	37	80
Collector WJ-18	Vineyard Rd	Collector WJ-6	100	0	59.9	0	0	0	0	21	46	99
Collector WJ-18	Collector WJ-6	Excelsior Road	100	0	59.9	0	0	0	0	21	46	99
Collector WJ-19	Bradshaw Road	Vineyard Road	100	0	63.8	0	0	0	0	39	83	179
Collector JT-1	Excelsior Rd	Collector JT-3	100	0	62.0	0	0	0	0	29	64	137
Collector JT-1	Collector JT-3	Tree View Ln	100	0	57.4	0	0	0	0	14	31	67
Collector JT-3	Kiefer Blvd	Collector JT-1	100	0	55.6	0	0	0	0	11	24	51
Collector JT-3	Collector JT-1	Collector JT-6	100	0	56.8	0	0	0	0	13	28	61
Collector JT-3	Collector JT-6	Collector JT-5	100	0	59.3	0	0	0	0	19	42	90
Collector JT-3	Collector JT-5	Jackson Rd	100	0	65.9	0	0	0	0	53	115	247
Collector JT-4	Jackson Rd	Bridgewater Dr	100	0	58.9	0	0	0	0	18	39	85
Collector JT-5	Collector JT-3	Tree View Ln	100	0	63.0	0	0	0	0	34	74	159
Collector JT-6	Excelsior Rd	Collector JT-3	100	0	61.6	0	0	0	0	27	59	127
Collector JT-6	Collector JT-3	Tree View Ln	100	0	54.2	0	0	0	0	9	19	41
Kiefer Blvd	Excelsior Rd	Tree View Ln	100	0	67.7	0	0	0	0	70	151	324
Tree View Ln	Kiefer Blvd	Collector JT-1	100	0	65.3	0	0	0	0	49	105	226
Tree View Ln	Collector JT-1	Collector JT-6	100	0	65.3	0	0	0	0	48	104	225

TABLE 12
PREDICTED CUMULATIVE AND CUMULATIVE + (ORIGINAL) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP

Roadway	Segment		Noise Levels (L_{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + Project	Δ	Distance to Contours (feet)			Distance to Contours (feet)		
							Cumulative (Ldn)			Cumulative + Original Project (Ldn)		
70	65	60	70	65	60							
Tree View Ln	Collector JT-6	Collector JT-5	100	0	62.5	0	0	0	0	32	69	148
Tree View Ln	Collector JT-5	Jackson Rd	100	0	61.2	0	0	0	0	26	56	121

¹ Distances to traffic noise contours are measured in feet from the centerlines of the Roadways.
² Traffic noise levels do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.
Source: DKS & j.c. brendan 2017 \$ 2018.
NA = Not Available
Bold indicates a significant increase in traffic noise levels

**TABLE 13
PREDICTED CUMULATIVE AND CUMULATIVE + (ALT-2) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)												
			Distance (feet)	Cumulative	Cumulative + ALT-2 Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + ALT-2 Project (L _{dn})					
							Cumulative (L _{dn})			70	65	60	70	65	60
							70	65	60						
Bradshaw Rd	Folsom Blvd	US 50	100	68.2	68.3	0.1	76	164	353	78	167	360			
Bradshaw Rd	US 50	Lincoln Village Dr	100	72.6	72.7	0.1	148	319	687	152	328	708			
Bradshaw Rd	Lincoln Village Dr	Old Placerville Rd	100	72.1	72.3	0.2	137	295	636	143	308	663			
Bradshaw Rd	Old Placerville Rd	Goethe Rd	100	71.8	72.1	0.3	132	285	613	139	299	643			
Bradshaw Rd	Goethe Rd	Collector WJ-8	100	71.0	71.4	0.4	117	251	541	124	267	576			
Bradshaw Rd	Collector WJ-8	Kiefer Blvd	100	70.7	71.2	0.5	111	238	513	119	257	554			
Bradshaw Rd	Kiefer Blvd	Collector WJ-9	100	70.9	70.8	-0.1	114	246	530	113	243	523			
Bradshaw Rd	Collector WJ-9	Mayhew Rd	100	70.9	70.8	-0.1	114	246	531	113	244	525			
Bradshaw Rd	Mayhew Rd	Jackson Rd	100	71.1	71.1	0	118	254	548	118	254	547			
Bradshaw Rd	Jackson Rd	Rock Creek Pkwy	100	70.5	70.4	-0.1	108	233	502	106	229	493			
Bradshaw Rd	Rock Creek Pkwy	Collector WJ-10	100	70.7	70.6	-0.1	111	240	516	110	236	509			
Bradshaw Rd	Collector WJ-10	Collector WJ-11	100	70.3	70.2	-0.1	104	224	483	103	223	480			
Bradshaw Rd	Collector WJ-11	Elder Creek Rd	100	68.8	68.7	-0.1	83	178	383	82	177	382			
Bradshaw Rd	Elder Creek Rd	Florin Rd	100	69.4	69.5	0.1	91	196	422	93	200	432			
Bradshaw Rd	Florin Rd	Gerber Rd	100	70.5	70.6	0.1	109	234	505	110	237	511			
Bradshaw Rd	Gerber Rd	Calvine Rd	100	69.1	69.2	0.1	87	188	405	88	190	408			
Calvine Rd	Waterman Rd	Bradshaw Rd	100	67.1	67.2	0.1	64	139	298	65	140	301			
Calvine Rd	Bradshaw Rd	Vineyard Rd	100	66.2	66.2	0	56	121	261	56	120	259			
Calvine Rd	Vineyard Rd	Excelsior Rd	100	65.1	65.2	0.1	47	102	220	48	104	223			
Chrysanthy Blvd	Sunrise Blvd	Rancho Cordova Pkwy	100	63.2	63.3	0.1	35	76	164	36	77	166			
Douglas Rd	Mather Blvd	Zinfandel Dr	100	69.0	68.7	-0.3	86	185	400	82	177	381			
Douglas Rd	Zinfandel Dr	Sunrise Blvd	100	72.6	72.4	-0.2	148	319	687	145	312	672			
Douglas Rd	Sunrise Blvd	Rancho Cordova Pkwy	100	70.1	69.9	-0.2	101	218	470	98	211	454			
Douglas Rd	Rancho Cordova Pkwy	Americanos Blvd	100	69.9	69.8	-0.1	98	212	456	97	209	451			
Douglas Rd	Americanos Blvd	Grant Line Rd	100	68.6	68.5	-0.1	81	174	375	80	172	371			
Eagles Nest Rd	Kiefer Blvd	N Bridgewater Dr	100	67.4	66.7	-0.7	67	144	311	60	130	281			
Eagles Nest Rd	N Bridgewater Dr	S Bridgewater Dr	100	67.8	66.9	-0.9	72	154	332	62	133	287			
Eagles Nest Rd	S Bridgewater Dr	Jackson Rd	100	67.1	65.6	-1.5	64	137	296	51	110	238			
Eagles Nest Rd	Jackson Rd	Florin Rd	100	65.4	65.8	0.4	49	106	227	53	113	244			

**TABLE 13
PREDICTED CUMULATIVE AND CUMULATIVE + (ALT-2) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + ALT-2 Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + ALT-2 Project (L _{dn})		
							70	65	60	70	65	60
Eagles Nest Rd	Florin Rd	Grant Line Rd	100	60.0	61.0	1	22	47	101	25	54	117
Elder Creek Rd	65th St	Power Inn Rd	100	70.6	70.7	0.1	110	237	510	111	239	515
Elder Creek Rd	Power Inn Rd	Florin-Perkins Rd	100	70.7	70.8	0.1	112	241	519	112	242	521
Elder Creek Rd	Florin Perkins Rd	South Watt Ave	100	71.1	71.1	0	118	254	548	119	256	552
Elder Creek Rd	South Watt Ave	Hedge Ave	100	74.2	74.2	0	191	411	885	191	412	888
Elder Creek Rd	Hedge Ave	Mayhew Rd	100	73.3	72.3	-1	166	358	772	142	305	657
Elder Creek Rd	Mayhew Rd	Bradshaw Rd	100	67.5	69.6	2.1	68	147	317	94	202	434
Elder Creek Rd	Bradshaw Rd	Vineyard Rd	100	67.6	68.4	0.8	69	149	321	78	168	362
Elder Creek Rd	Vineyard Rd	Excelsior Rd	100	65.8	67.5	1.7	52	112	242	69	148	318
Elk Grove-Florin Rd	Florin Rd	Gerber Rd	100	71.3	71.3	0	122	263	566	122	262	565
Excelsior Rd	Kiefer Blvd	Douglas Rd	100	57.5	62.0	4.5	15	32	68	29	63	136
Excelsior Rd	Douglas Rd	Collector WJ-1/ Collector JT-1	100	68.4	68.9	0.5	78	168	362	84	181	389
Excelsior Rd	Collector WJ-1/ Collector JT-1	Collector WJ-2/ Collector JT-2	100	68.1	68.7	0.6	75	162	349	82	176	379
Excelsior Rd	Collector WJ-2/ Collector JT-2	Jackson Rd	100	68.1	68.6	0.5	75	161	347	81	174	374
Excelsior Rd	Jackson Rd	Collector WJ-6	100	68.6	70.2	1.6	81	174	374	103	223	480
Excelsior Rd	Collector WJ-6	Elder Creek Rd	100	67.5	69.1	1.6	68	146	314	87	187	403
Excelsior Rd	Elder Creek Rd	Florin Rd	100	62.0	63.0	1	29	63	135	34	73	158
Excelsior Rd	Florin Rd	Gerber Rd	100	62.5	63.2	0.7	32	68	147	35	75	162
Excelsior Rd	Gerber Rd	Calvine Rd	100	61.9	62.7	0.8	29	62	134	33	70	152
Excelsior Rd	Calvine Rd	Sheldon Rd	100	62.3	63.1	0.8	30	66	141	35	75	162
Florin Rd	Stockton Blvd	Power Inn Rd	100	70.2	70.3	0.1	104	223	481	104	224	484
Florin Rd	Power Inn Rd	Florin-Perkins Rd	100	69.8	69.9	0.1	97	209	451	98	212	457
Florin Rd	Florin-Perkins Rd	So Watt Ave/ Elk Grove Florin Rd	100	69.0	69.1	0.1	86	186	400	87	188	405
Florin Rd	South Watt Ave	Hedge Ave	100	64.2	64.3	0.1	41	88	190	42	90	193
Florin Rd	Hedge Ave	Mayhew Rd	100	64.6	64.7	0.1	44	95	204	45	96	207
Florin Rd	Mayhew Rd	Bradshaw Rd	100	69.4	69.5	0.1	91	196	423	93	201	432
Florin Rd	Bradshaw Rd	Vineyard Rd	100	67.6	67.7	0.1	70	150	323	70	150	324
Florin Rd	Vineyard Rd	Excelsior Rd	100	67.3	67.5	0.2	66	142	305	68	146	314
Florin Rd	Excelsior Rd	Sunrise Blvd	100	65.9	65.8	-0.1	53	115	247	52	113	244
Folsom Blvd	Howe Ave	Jackson Rd	100	70.9	71.0	0.1	115	248	534	116	249	537
Fruitridge Rd	65th St	Power Inn Rd	100	67.9	67.9	0	72	155	334	72	156	335

**TABLE 13
PREDICTED CUMULATIVE AND CUMULATIVE + (ALT-2) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + ALT-2 Project	Δ	Distance to Contours (feet) Cumulative (Ldn)			Distance to Contours (feet) Cumulative + ALT-2 Project (Ldn)		
							70	65	60	70	65	60
Fruitridge Rd	Power Inn Rd	Florin Perkins Rd	100	68.3	68.4	0.1	77	165	357	78	169	363
Fruitridge Rd	Florin Perkins Rd	South Watt Ave	100	67.8	67.9	0.1	71	153	330	73	156	337
Fruitridge Rd	South Watt Ave	Hedge Ave	100	67.1	67.3	0.2	64	137	296	66	143	308
Fruitridge Rd	Hedge Ave	Collector WJ-12	100	69.2	69.5	0.3	89	191	411	92	198	427
Fruitridge Rd	Collector WJ-12	Mayhew Rd	100	68.7	69.0	0.3	81	175	378	86	184	397
Grant Line Rd	White Rock Rd	Douglas Rd	100	71.6	71.7	0.1	129	278	598	131	282	607
Grant Line Rd	Douglas Rd	Chrysanthy Blvd	100	75.4	75.3	-0.1	228	491	1057	227	490	1055
Grant Line Rd	Chrysanthy Blvd	Kiefer Blvd	100	70.2	70.3	0.1	103	221	477	104	224	483
Grant Line Rd	Kiefer Blvd	Rancho Cordova Pkwy	100	69.2	69.2	0	89	191	411	88	190	409
Grant Line Rd	Rancho Cordova Pkwy	Jackson Rd	100	70.9	70.7	-0.2	115	247	533	112	242	520
Grant Line Rd	Jackson Rd	Sunrise Blvd	100	68.4	68.3	-0.1	78	168	362	77	166	357
Grant Line Rd	Sunrise Blvd	Calvine Rd	100	68.8	68.8	0	83	179	385	83	179	385
Grant Line Rd	Calvine Rd	Sheldon Rd	100	68.0	68.0	0	74	159	343	74	159	343
Grant Line Rd	Sheldon Rd	Wilton Rd	100	68.0	68.9	0.9	74	159	343	85	183	395
Grant Line Rd	Wilton Rd	Bond Rd	100	68.8	68.4	-0.4	83	179	385	79	169	365
Happy Lane	Old Placerville Road	Routier Ext	100	73.3	68.8	-4.5	165	356	768	83	179	386
Happy Lane	Routier Ext	Kiefer Boulevard	100	69.7	71.1	1.4	96	206	444	118	254	547
Hedge Ave	Jackson Rd	Rock Creek Pkwy	100	70.2	68.6	-1.6	104	224	482	81	175	377
Hedge Ave	Rock Creek Pkwy	Fruitridge Rd	100	68.7	66.8	-1.9	82	177	382	61	132	284
Hedge Ave	Fruitridge Rd	Elder Creek Rd	100	66.5	67.4	0.9	58	125	269	67	145	312
Hedge Ave	Elder Creek Rd	Florin Rd	100	67.4	70.9	3.5	67	144	309	115	248	534
Howe Ave	US 50	Folsom Blvd	100	70.9	75.9	5	115	247	533	249	536	1155
International Dr	Mather Field Rd	Zinfandel Dr	100	75.9	74.1	-1.8	248	534	1149	188	406	875
International Dr	Zinfandel Dr	Sunrise Blvd	100	74.1	73.2	-0.9	189	406	876	163	351	757
Jackson Rd	Folsom Blvd	Florin Perkins Rd	100	72.5	72.0	-0.5	146	315	679	135	291	628
Jackson Rd	Florin Perkins Rd	14th Ave	100	71.1	72.0	0.9	119	256	552	137	295	636
Jackson Rd	14th Ave	Rock Creek Pkwy	100	71.9	73.5	1.6	134	289	622	172	370	797
Jackson Rd	Rock Creek Pkwy	Aspen 1 Dwy	100	71.3	71.1	-0.2	122	262	565	118	255	550
Jackson Rd	Aspen 1 Dwy	South Watt Ave	100	69.8	69.8	0	98	210	453	97	209	450
Jackson Rd	South Watt Ave	Hedge Ave	100	69.7	70.6	0.9	95	205	441	109	236	508
Jackson Rd	Hedge Ave	Collector WJ-3	100	70.5	69.9	-0.6	109	234	505	98	212	457
Jackson Rd	Collector WJ-3	Mayhew Rd	100	69.8	70.0	0.2	97	209	451	100	215	464

TABLE 13
PREDICTED CUMULATIVE AND CUMULATIVE + (ALT-2) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP

Roadway	Segment		Noise Levels (L _{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + ALT-2 Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + ALT-2 Project (Ldn)		
							70	65	60	70	65	60
Jackson Rd	Mayhew Rd	Bradshaw Rd	100	69.9	69.9	0	99	213	460	98	211	455
Jackson Rd	Bradshaw Rd	Collector WJ-4	100	70.9	71.2	0.3	115	247	533	120	259	559
Jackson Rd	Collector WJ-4	Happy Ln	100	71.0	71.3	0.3	117	252	543	121	261	562
Jackson Rd	Happy Ln	Rock Creek Pkwy	100	71.0	69.7	-1.3	117	251	541	95	205	442
Jackson Rd	Rock Creek Pkwy	Collector WJ-5	100	69.8	70.1	0.3	97	210	452	101	218	470
Jackson Rd	Collector WJ-5	Collector WJ-6	100	69.8	69.8	0	97	209	449	98	210	453
Jackson Rd	Collector WJ-6	Excelsior Rd	100	69.5	69.9	0.4	92	199	428	98	212	456
Jackson Rd	Excelsior Rd	Collector JT-3	100	69.5	71.9	2.4	92	199	428	133	287	619
Jackson Rd	Collector JT-3	Tree View Ln	100	70.8	70.6	-0.2	114	245	529	110	236	510
Jackson Rd	Tree View Ln	Collector JT-4	100	70.8	70.1	-0.7	114	245	529	102	219	471
Jackson Rd	Collector JT-4	Eagles Nest Rd	100	70.2	69.2	-1	103	221	477	89	192	413
Jackson Rd	Eagles Nest Rd	Rockbridge Dr	100	70.6	70.2	-0.4	110	236	509	104	224	482
Jackson Rd	Rockbridge Dr	Sunrise Blvd	100	69.6	69.3	-0.3	95	204	440	90	193	416
Jackson Rd	Sunrise Blvd	Grant Line Rd	100	69.0	68.9	-0.1	86	185	399	85	183	394
Kiefer Blvd	Florin Perkins Rd	South Watt Ave	100	58.7	59.2	0.5	18	38	82	19	41	89
Kiefer Blvd	South Watt Ave	Mayhew Rd	100	66.8	67.4	0.6	62	133	286	67	145	313
Kiefer Blvd	Mayhew Rd	Bradshaw Rd	100	67.9	68.6	0.7	73	156	337	81	175	376
Kiefer Boulevard	Bradshaw Road	Collector WJ-14	100	73.2	74.5	1.3	162	350	754	199	428	922
Kiefer Boulevard	Collector WJ-14	Routier Ext	100	73.0	74.7	1.7	160	344	741	205	441	950
Kiefer Boulevard	Routier Ext	Happy Lane	100	73.2	74.9	1.7	163	352	758	212	458	986
Kiefer Blvd	Eagles Nest Rd	W Collector MS-1	100	68.0	73.0	5	73	157	339	158	340	732
Kiefer Blvd	W Collector MS-1	Northbridge Dr	100	67.6	72.1	4.5	69	148	319	139	299	644
Kiefer Blvd	Northbridge Dr	E Collector MS-1	100	68.6	72.4	3.8	81	174	374	144	311	670
Kiefer Blvd	E Collector MS-1	Sunrise Blvd	100	71.4	73.4	2	123	265	571	169	363	782
Kiefer Blvd	Sunrise Blvd	Rancho Cordova Pkwy	100	71.3	72.7	1.4	123	264	570	150	324	698
Mather Blvd / Norden Ave	Von Karman St	Bleckely St	100	69.0	68.9	-0.1	86	184	397	85	182	392
Mather Blvd	Bleckely St	Femoyer St	100	68.2	68.1	-0.1	76	164	353	75	162	348
Mather Blvd	Femoyer St	Douglas Rd	100	67.4	67.3	-0.1	67	145	311	66	143	308
Mather Blvd-Excelsior Rd	Douglas Rd	Kiefer Blvd	100	63.6	63.7	0.1	37	80	173	38	82	176
Mather Field Rd	US 50	Rockingham Dr	100	71.6	71.5	-0.1	127	274	591	127	273	588
Mather Field Rd	Rockingham Dr	International Dr	100	71.1	71.0	-0.1	118	254	547	117	252	543
Mather Field Rd	International Dr	Peter A McCuen	100	64.4	64.7	0.3	42	91	196	44	95	204

TABLE 13
PREDICTED CUMULATIVE AND CUMULATIVE + (ALT-2) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP

Roadway	Segment		Noise Levels (L _{dn} , dB)												
			Distance (feet)	Cumulative	Cumulative + ALT-2 Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + ALT-2 Project (L _{dn})					
							Cumulative (L _{dn})			70	65	60	70	65	60
							70	65	60						
		Blvd													
Mayhew Rd	Folsom Blvd	Goethe Rd	100	63.5	63.9	0.4	37	79	171	39	85	183			
Mayhew Rd	Goethe Rd	Kiefer Blvd	100	63.5	63.7	0.2	37	79	171	38	82	177			
Mayhew Rd	Jackson Rd	Rock Creek Pkwy	100	69.2	69.2	0	88	189	408	88	189	408			
Mayhew Rd	Rock Creek Pkwy	Fruitridge Rd	100	70.2	70.2	0	103	221	477	103	222	477			
Old Placerville Rd	Bradshaw Rd	Granby Dr	100	67.2	67.1	-0.1	65	141	304	64	137	296			
Old Placerville Rd	Granby Dr	Happy Ln	100	66.7	66.7	0	60	129	279	60	129	278			
Old Placerville Rd	Happy Ln	Routier Rd	100	66.8	66.5	-0.3	62	133	286	59	126	272			
Old Placerville Rd	Routier Rd	Rockingham Dr	100	69.5	69.5	0	92	198	427	93	201	432			
Power Inn Rd	Folsom Blvd	14th Ave	100	70.6	70.7	0.1	110	238	512	111	239	515			
Rockingham Dr	Old Placerville Rd	Mather Field Rd	100	69.9	70.0	0.1	99	213	459	100	215	463			
South Watt Ave	Folsom Blvd	Kiefer Blvd	100	73.0	73.1	0.1	158	340	732	160	345	743			
South Watt Ave	Kiefer Blvd	Jackson Rd	100	72.5	72.4	-0.1	148	318	686	146	313	675			
South Watt Ave	Jackson Rd	Rock Creek Pkwy	100	70.2	70.1	-0.1	103	222	478	102	220	475			
South Watt Ave	Rock Creek Pkwy	Fruitridge Rd	100	70.2	70.2	0	103	223	480	102	221	476			
South Watt Ave	Fruitridge Rd	Elder Creek Rd	100	69.8	69.7	-0.1	97	208	448	96	207	445			
South Watt Ave	Elder Creek Rd	Florin Rd	100	72.3	72.3	0	142	306	659	142	307	661			
Sunrise Blvd	US 50	Folsom Blvd	100	72.6	72.5	-0.1	148	319	688	148	318	686			
Sunrise Blvd	Folsom Blvd	Trade Center Dr	100	71.3	71.3	0	123	265	570	122	263	567			
Sunrise Blvd	Trade Center Dr	White Rock Rd	100	69.3	69.2	-0.1	90	194	418	89	191	413			
Sunrise Blvd	White Rock Rd	International Dr	100	70.5	70.5	0	108	233	502	107	231	498			
Sunrise Blvd	International Dr	Rio Del Oro Pkwy	100	70.9	70.8	-0.1	114	246	531	113	244	526			
Sunrise Blvd	Rio Del Oro Pkwy	Douglas Rd	100	71.5	71.5	0	126	271	583	127	273	588			
Sunrise Blvd	Douglas Rd	Kiefer Blvd	100	70.0	69.9	-0.1	101	217	467	99	213	458			
Sunrise Blvd	Kiefer Blvd	Jackson Rd	100	69.3	68.8	-0.5	90	194	418	83	179	386			
Sunrise Blvd	Jackson Rd	Florin Rd	100	68.4	68.3	-0.1	78	168	363	77	166	359			
Sunrise Blvd	Florin Rd	Grant Line Rd	100	66.2	66.1	-0.1	55	120	258	55	119	256			
Vineyard Rd	Gerber Rd	Calvine Rd	100	62.4	62.6	0.2	31	67	145	32	70	150			
Watt Ave	US 50	Folsom Blvd	100	73.7	73.7	0	177	380	820	178	383	825			
White Rock Rd	International Rd	Quality Dr	100	61.0	60.9	-0.1	25	54	117	25	53	114			
White Rock Rd	Quality Dr	Zinfandel Dr	100	67.2	67.0	-0.2	65	139	300	63	136	294			
White Rock Rd	Zinfandel Dr	Kilgore Rd	100	69.4	69.4	0	91	197	424	91	196	423			
White Rock Rd	Kilgore Rd	Sunrise Blvd	100	70.5	70.4	-0.1	107	231	498	107	230	496			
White Rock Rd	Sunrise Blvd	Fitzgerald Rd	100	70.0	70.0	0	100	216	465	100	215	462			

**TABLE 13
PREDICTED CUMULATIVE AND CUMULATIVE + (ALT-2) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + ALT-2 Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + ALT-2 Project (L _{dn})		
							70	65	60	70	65	60
White Rock Rd	Fitzgerald Rd	Rancho Cordova Pkwy	100	72.0	71.9	-0.1	136	292	629	134	290	624
White Rock Rd	Rancho Cordova Pkwy	Americanos Blvd	100	67.8	67.7	-0.1	71	153	329	70	151	326
White Rock Rd	Americanos Blvd	Grant Line Rd	100	67.6	67.6	0	69	149	320	69	149	320
White Rock Rd	Grant Line Rd	Prairie City Rd	100	70.9	71.0	0.1	115	247	533	116	249	537
Zinfandel Dr	US 50	White Rock Rd	100	72.6	72.6	0	150	323	695	149	320	690
Zinfandel Dr	White Rock Rd	International Rd	100	69.8	69.8	0	96	208	447	96	208	447
Zinfandel Dr	International Rd	Baroque Dr	100	70.6	70.6	0	110	237	511	110	238	512
Zinfandel Dr	Baroque Dr	City Limit	100	69.7	69.7	0	95	206	443	96	206	444
Zinfandel Dr	City Limit	Douglas Rd	100	70.6	70.6	0	110	237	511	110	238	512
Zinfandel Dr	Douglas Rd	Collector MS-2	100	69.9	69.7	-0.2	98	211	454	96	207	446
Zinfandel Dr	Collector MS-2	Collector MS-3	100	67.4	67.7	0.3	67	145	313	70	150	324
Zinfandel Dr	Collector MS-3	Collector MS-4	100	65.0	65.8	0.8	46	100	214	53	114	245
Zinfandel Dr	Collector MS-4	Kiefer Blvd	100	65.9	67.7	1.8	53	115	248	70	151	326
14th Ave	Power Inn Rd	Florin Perkins Rd	100	66.6	66.8	0.2	60	129	277	61	132	285
14th Ave	Florin Perkins Rd	Jackson Rd	100	64.8	64.9	0.1	45	97	208	46	98	212
Chrysanthy Blvd	Rancho Cordova Pkwy	Americanos Blvd	100	65.8	65.7	-0.1	53	113	244	52	111	240
Chrysanthy Blvd	Americanos Blvd	Grant Line Rd	100	64.3	64.4	0.1	42	90	194	42	91	195
Douglas Rd (Extension)	Mather Blvd	Kiefer Blvd	100	68.1	67.7	-0.4	75	161	346	70	151	325
International Dr	Sunrise Blvd	Rancho Cordova Pkwy	100	69.5	69.5	0	93	201	433	92	198	427
International Dr	Rancho Cordova Pkwy	Americanos Blvd	100	67.2	67.2	0	65	140	301	65	140	301
Kiefer Blvd	Rancho Cordova Pkwy	Americanos Blvd	100	63.0	64.3	1.3	34	74	159	42	90	195
Kiefer Blvd	Americanos Blvd	Grant Line Rd	100	68.2	69.1	0.9	75	162	350	87	188	405
Rancho Cordova Pkwy	US 50	Easton Valley Pkwy	100	76.8	76.8	0	285	614	1323	286	616	1327
Rancho Cordova Pkwy	Easton Valley Pkwy	White Rock Rd	100	70.9	71.0	0.1	115	249	535	116	250	538
Rancho Cordova Pkwy	White Rock Rd	International Dr	100	69.3	69.4	0.1	90	193	416	91	195	420

**TABLE 13
PREDICTED CUMULATIVE AND CUMULATIVE + (ALT-2) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment		Noise Levels (L _{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + ALT-2 Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + ALT-2 Project (L _{dn})		
							70	65	60	70	65	60
Rancho Cordova Pkwy	International Dr	Rio Del Oro Pkwy	100	71.2	71.2	0	121	260	561	121	261	562
Rancho Cordova Pkwy	Rio Del Oro Pkwy	Villagio Dr	100	69.4	69.3	-0.1	91	195	420	89	193	415
Rancho Cordova Pkwy	Villagio Dr	Douglas Rd	100	68.7	68.5	-0.2	82	176	379	80	172	371
Rancho Cordova Pkwy	Douglas Rd	Chrysanthy Blvd	100	68.9	68.7	-0.2	85	183	394	82	177	382
Rancho Cordova Pkwy	Chrysanthy Blvd	Kiefer Blvd	100	66.8	66.3	-0.5	61	131	282	57	123	265
Rancho Cordova Pkwy	Kiefer Blvd	Grant Line Rd	100	64.4	65.0	0.6	42	91	197	46	100	216
Americanos Blvd	White Rock Rd	Douglas Rd	100	61.3	61.4	0.1	26	56	121	27	57	124
Americanos Blvd	Douglas Rd	Chrysanthy Blvd	100	63.1	63.1	0	35	75	162	34	74	160
Americanos Blvd	Chrysanthy Blvd	Kiefer Blvd	100	63.5	63.1	-0.4	37	79	171	35	74	160
Vineyard Rd	Florin Rd	Gerber Rd	100	63.5	64.0	0.5	37	79	171	40	85	184
Rio Del Oro Pkwy	Sunrise Blvd	Rancho Cordova Pkwy	100	68.4	68.5	0.1	78	168	363	80	172	371
Rio Del Oro Pkwy	Rancho Cordova Pkwy	White Rock Rd	100	62.9	62.8	-0.1	34	72	156	33	72	155
Kiefer Blvd	Tree View Ln	Eagles Nest Rd	100	70.2	70.2	0	104	224	482	104	224	482
Douglas Rd	Excelsior Rd	Rock Creek Pkwy	100	67.3	67.8	0.5	66	142	307	72	155	333
Douglas Rd	Rock Creek Pkwy	Kiefer Blvd	100	68.9	69.2	0.3	85	183	393	88	190	409
Kiefer Blvd	Happy Ln	Douglas Rd	100	68.6	70.4	1.8	81	174	375	106	228	492
Kiefer Blvd	Douglas Rd	Excelsior Rd	100	61.7	68.7	7	28	60	130	82	176	380
Mayhew Rd	Routier Ext	Bradshaw Rd	100	69.4	69.5	0.1	91	196	423	92	198	427
Mayhew Rd	Bradshaw Rd	Jackson Rd	100	69.6	69.6	0	94	202	435	94	203	438
Mayhew Rd	Fruitridge Rd	Collector WJ-13	100	68.5	68.3	-0.2	79	171	367	77	165	356
Mayhew Rd	Collector WJ-13	Elder Creek Rd	100	68.8	68.6	-0.2	83	179	385	81	174	376
Rock Creek Pkwy	South Watt Ave	Hedge Ave	100	61.8	62.2	0.4	28	61	132	30	65	141
Rock Creek Pkwy	Hedge Ave	Mayhew Rd	100	63.9	63.9	0	39	84	182	39	84	182
Rock Creek Pkwy	Mayhew Rd	Bradshaw Rd	100	60.2	60.2	0	22	48	104	22	48	104
Rock Creek Pkwy East	Excelsior Road	Collector WJ-16	100	64.8	64.8	0	45	97	209	45	97	209
Rock Creek Pkwy	Collector WJ-16	Jackson Road	100	66.3	66.3	0	57	123	264	57	123	264

TABLE 13
PREDICTED CUMULATIVE AND CUMULATIVE + (ALT-2) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP

Roadway	Segment		Noise Levels (L _{dn} , dB)									
			Distance (feet)	Cumulative	Cumulative + ALT-2 Project	Δ	Distance to Contours (feet)			Distance to Contours (feet) Cumulative + ALT-2 Project (L _{dn})		
							70	65	60	70	65	60
East												
Vineyard Rd	Jackson Road	New Collector	100	65.7	65.7	0	52	111	240	52	111	240
Vineyard Rd	New Collector	Collector WJ-18	100	66.6	66.6	0	59	127	274	59	127	274
Vineyard Rd	Collector WJ-18	Elder Creek Road	100	66.5	66.5	0	58	125	269	58	125	269
Vineyard Rd	Elder Creek Road	Florin Road	100	65.1	65.1	0	47	101	217	47	101	217
Routier Ext	Old Placerville Road	Happy Lane	100	69.7	69.7	0	95	205	441	95	205	441
Routier Ext	Happy Lane	Kiefer Boulevard	100	68.9	68.9	0	84	182	392	84	182	392
Routier Ext	Kiefer Boulevard	Mayhew Road	100	70.5	70.5	0	107	231	499	107	231	499
Collector WJ-16	Rock Creek Pkwy	Collector WJ-6	100	53.3	53.3	0	8	17	36	8	17	36
Collector WJ-17	Rock Creek Pkwy	Collector WJ-6	100	52.8	52.8	0	7	15	33	7	15	33
Collector WJ-6	Collector WJ-16/WJ-17	Jackson Road	100	57.9	57.9	0	16	33	72	16	33	72
Collector WJ-6	Jackson Road	Collector WJ-18	100	59.1	59.1	0	19	40	87	19	40	87
Collector WJ-2	Excelsior Road	Collector WJ-6	100	58.1	58.1	0	16	34	74	16	34	74
Collector WJ-18	Vineyard Rd	Collector WJ-6	100	59.8	59.8	0	21	45	97	21	45	97
Collector WJ-18	Collector WJ-6	Excelsior Road	100	59.7	59.7	0	21	44	95	21	44	95
Collector WJ-19	Bradshaw Road	Vineyard Road	100	63.5	63.5	0	37	79	170	37	79	170
Collector JT-1	Excelsior Rd	Collector JT-3	100	60.1	60.1	0	22	47	101	22	47	101
Collector JT-1	Collector JT-3	Tree View Ln	100	55.4	55.4	0	11	23	49	11	23	49
Collector JT-3	Kiefer Blvd	Collector JT-1	100	56.1	56.1	0	12	26	55	12	26	55
Collector JT-3	Collector JT-1	Collector JT-6	100	54.6	54.6	0	9	20	44	9	20	44
Collector JT-3	Collector JT-6	Collector JT-5	100	56.6	56.6	0	13	27	59	13	27	59
Collector JT-3	Collector JT-5	Jackson Rd	100	65.4	65.4	0	49	106	229	49	106	229
Collector JT-4	Jackson Rd	Bridgewater Dr	100	58.8	58.8	0	18	39	84	18	39	84
Collector JT-5	Collector JT-3	Tree View Ln	100	62.4	62.4	0	31	67	145	31	67	145
Collector JT-6	Excelsior Rd	Collector JT-3	100	58.8	58.8	0	18	38	83	18	38	83
Collector JT-6	Collector JT-3	Tree View Ln	100	51.7	51.7	0	6	13	28	6	13	28
Kiefer Blvd	Excelsior Rd	Tree View Ln	100	67.4	67.4	0	0	0	0	67	144	309
Tree View Ln	Kiefer Blvd	Collector JT-1	100	63.8	63.8	0	0	0	0	38	83	178
Tree View Ln	Collector JT-1	Collector JT-6	100	63.6	63.6	0	0	0	0	38	81	175
Tree View Ln	Collector JT-6	Collector JT-5	100	60.9	60.9	0	0	0	0	25	53	115
Tree View Ln	Collector JT-5	Jackson Rd	100	59.5	59.5	0	0	0	0	20	43	92

¹ Distances to traffic noise contours are measured in feet from the centerlines of the Roadways.

**TABLE 13
PREDICTED CUMULATIVE AND CUMULATIVE + (ALT-2) PROJECT TRAFFIC NOISE LEVELS
JACKSON TOWNSHIP**

Roadway	Segment	Noise Levels (L _{dn} , dB)									
		Distance (feet)	Cumulative	Cumulative + ALT-2 Project	Δ	Distance to Contours (feet) Cumulative (Ldn)			Distance to Contours (feet) Cumulative + ALT-2 Project (Ldn)		
						70	65	60	70	65	60
² Traffic noise levels do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding. Source: DKS & j.c. brennan 2017 \$ 2018. NA = Not Available Bold indicates a significant increase in traffic noise levels											

Sacramento Raceway Park Noise Impact Methodology

Noise levels associated with the Sacramento Raceway Park will be evaluated based upon the noise measurements and modeling of noise levels presented earlier in this report.

Mather Airport Noise Impact Methodology

Noise impacts associated with aircraft operations associated with Mather Airport were based upon noise contours developed for the Mather Airport Master Plan Final EIR, and Policies NO-2, NO-3, and NO-4 contained within the Sacramento County General Plan Noise Element. The analysis includes the location of the project site relative to the future 60 dBA CNEL contour, and an analysis of the potential for sleep disturbance due to single noise events due to aircraft. Since the project is located outside of the 60 dBA CNEL contour, the project complies with the Sacramento County General Plan Noise Element standards, and Policy NO-4 which applies to new residential development within the adopted Airport Policy Area boundaries, but outside the 60 CNEL.

In 2008, the American National Standards Institute (ANSI) published a procedure for predicting sleep disturbance in terms of percent awakening based upon various field studies, including the previous research. The Mather Airport Master Plan Final EIR used the ANSI procedures for evaluating the potential for sleep disturbance due to interior noise from aircraft operations in an overall area of approximately 150 square miles around the Mather Airport environs. A grid analysis in the area was developed and all areas which contained residential uses was evaluated. Land uses that were not residential or areas which were not developed were removed from the analysis area. Therefore, the Jackson Township project site was not included in the analysis of potential sleep disturbance. However, residential locations in close proximity to the project site were analyzed. Based upon the grid analysis for the existing residential area directly north of the project site, the percent of awakening is expected to range between 7% and 10% at the Jackson Township project site.

Construction Noise Impact Methodology

Construction noise was analyzed using data compiled by the US Environmental Protection Agency that lists typical noise levels at 50 feet for construction equipment and various construction activities.

Noise would also be generated during the construction phase by increased truck traffic on area roadways and on-site grading. A significant project-generated noise source would include truck traffic associated with transport of heavy materials and equipment to and from construction sites and the movement of heavy construction equipment on the project site, especially during site grading. This noise increase would be of short duration, and would likely occur primarily during daytime hours.

Construction Vibration Impact Methodology

The types of construction vibration impact include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural. Table 14 shows the typical vibration levels produced by construction equipment.

**TABLE 14
VIBRATION LEVELS FOR VARYING CONSTRUCTION EQUIPMENT**

Type of Equipment	Peak Particle Velocity @ 25 feet	Approximate Velocity Level @ 25 feet
Large Bulldozer	0.089 (inches/second)	87 (VdB)
Loaded Trucks	0.076 (inches/second)	86 (VdB)
Small Bulldozer	0.003 (inches/second)	58 (VdB)
Auger/drill Rigs	0.089 (inches/second)	87 (VdB)
Jackhammer	0.035 (inches/second)	79 (VdB)
Vibratory Hammer	0.070 (inches/second)	85 (VdB)
Vibratory Compactor/roller	0.210 (inches/second)	94 (VdB)

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006

Stationary Noise Source Noise Impact Methodology

Noise impacts associates with future commercial, park land uses and school uses were analyzed using previously collected file data for the various types of uses proposed. These uses were compared to the County stationary noise source criteria.

STANDARDS OF SIGNIFICANCE

CEQA Guidelines state that implementation of the project would result in significant noise impacts if the project would result in either of the following:

- a. Exposure of persons to or generation of noise levels in excess of standards established in the Sacramento County General Plan Noise Element or the Sacramento County Noise Control Ordinance.
- b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Sacramento County has established some standards for roadway noise ranging from 1.5 dB to 5 dB Ldn, depending upon the existing noise environment. For stationary noise sources, this document considers a substantial increase in noise levels is defined as being 5 dB if the resulting total noise level would exceed that considered “normally acceptable” for a given land use category. Based upon the General Plan Noise Element, the recommendations by FICON indicate that when pre-project traffic noise levels are less than 60 dB Ldn, a 5+ dB increase is required before the change is significant. When pre-project noise levels are between 60 dB and 65 dB Ldn, an increase of 3+ dB is required before the change is significant. When pre-project noise levels are above 65 dB Ldn, an increase of 1.5+ dB is required before the change is considered significant.
- d. A substantial temporary or periodic increase in ambient noise levels in

the project vicinity above levels existing without the project. A substantial increase in noise levels is defined as being 5 dB if the resulting total noise level would exceed that considered “normally acceptable” for a given land use category. Increases of 6 dB or greater are considered a significant adverse impact due to the potential for adverse community response.

- e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, where the project would expose people residing or working in the area to excessive noise levels.
- f. For a project within the vicinity of a private airstrip, where the project would expose people residing or working in the project area to excessive noise levels.

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

Impact 1 Construction noise at sensitive receptors

Construction of the Proposed Project would temporarily increase noise levels during construction.

Noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in typical construction would generate maximum noise levels, as indicated in Table 15, ranging from 80 to 89 dB at a distance of 50 feet. Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration, and would likely occur primarily during daytime hours.

**TABLE 15
NOISE LEVELS OF TYPICAL CONSTRUCTION EQUIPMENT**

Equipment Type	Typical Equipment Level (dBA)- 50 ft from Source
Air Compressor	81
Backhoe	85
Concrete Pump	82
Concrete Breaker	82
Truck Crane	88
Dozer	87
Generator	78
Loader	84
Paver	88
Pneumatic Tools	85
Water Pump	76
Power Hand Saw	78
Shovel	82
Trucks	88

Source: Bolt, Beranek and Newman, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, U.S. EPA, 1971.

The Sacramento County noise ordinance exempts construction activities from the specified noise ordinance standards during the hours of 6:00 a.m. to 8:00 p.m. Monday through Friday, and Saturday and Sunday from 7:00 a.m. to 8:00 p.m. Generally, if a construction project adheres to the construction times identified in the noise ordinance, construction noise is exempted. However, to ensure that construction activities comply with the County's noise ordinance, the following mitigation measures are recommended to reduce the impact of construction noise levels.

Mitigation Measures for Impact 1

The following mitigation measures are required for the Proposed Project to minimize construction noise impacts.

- MM1a Construction activities shall comply with the Sacramento County Noise Ordinance.
- MM1b Locate fixed construction equipment such as compressors and generators as far as possible from sensitive receptors. Shroud or shield all impact tools, and muffle or shield all intakes and exhaust ports on power construction equipment.
- MM1c To the extent possible, minimize construction during Saturdays and Sundays and Holidays.

Impact 2 Construction vibration at sensitive receptors

Construction of the Proposed Project could result in temporarily vibration levels during construction.

The primary construction activities associated with the project would occur when the infrastructure such as buildings and utilities are constructed. Some construction could occur during occupancy of existing and future residential units, however, it is expected that they would occur at considerable distances from existing occupied residences and would be removed from future on-site uses. Comparing Table 7 which contains the criteria for acceptable vibration levels to Table 14, which shows potential vibration impacts, it is not expected that vibration impacts would occur which would cause any structural damage at existing residences, and at future residences, provided that construction does not occur within 50 feet of occupied buildings.

Mitigation for Impact 2

None required

Impact 3 The Proposed Project could expose existing receptors to increases in traffic noise levels

Traffic generated by the Proposed Project could result in significant increases in roadway traffic noise. Based upon the General Plan Noise Element, the recommendations by FICON indicate that when pre-project traffic noise levels are less than 60 dB Ldn, a 5+ dB increase is required before the change is significant. When pre-project noise levels are between 60 dB and 65 dB Ldn, an increase of 3+ dB is required before the change is significant. When pre-project noise levels are above 65 dB Ldn, an increase of 1.5+ dB is required before the change is considered significant. Tables 10 through 13 indicate where the proposed project does result in increases in traffic noise levels, and where the increases in noise levels may be considered significant based upon the FICON criteria. Table 16 summarizes the roadways and segments which potentially will result in a significant increase in traffic noise levels, based upon the FICON criteria. Based upon Table 14, all identified roadway segments are located within the unincorporated areas of Sacramento County.

**TABLE 16
ROADWAY SEGMENTS WITH SIGNIFICANT INCREASES IN NOISE LEVELS**

Roadway	Segment	Δ	Scenario
Eagles Nest Rd	Jackson to Florin	+5.5 dB	Existing + Original Project
	Florin to Grantline	+8.8 dB	Existing + Original Project
	Florin to Grantline	+8.2 dB	Existing + Alt 2
Elder Creek Rd	Bradshaw to Excelsior	+6.8 dB	Existing + Original Project
	Bradshaw to Excelsior	+6.6 dB	Existing + Alt 2
	Vineyard to Excelsior	+2.2 dB	Cum + Original Project
	Mayhew to Bradshaw	+2.1 dB	Cum + Alt 2
	Vineyard to Excelsior	+1.7 dB	Cum + Alt 2
Excelsior Rd	Collector WJ1 to Collector WJ2	+5.6 dB	Existing + Original Project
	Collector WJ2 to JT2	+6.1 dB	Existing + Original Project
	Jackson to Elder Creek	+5.2 dB	Existing + Original Project

TABLE 16
ROADWAY SEGMENTS WITH SIGNIFICANT INCREASES IN NOISE LEVELS

	Collector WJ1 to Collector WJ2	+5.2 dB	Existing + Alt 2
	Collector WJ2 to JT2	+5.7 dB	Existing + Alt 2
	Jackson to Elder Creek	+4.9 dB	Existing + Alt 2
	Kiefer to Douglas	+5.3 dB	Cum + Original Project
Jackson Rd	Excelsior to Collector JT-3	+4.8 dB	Existing + Original Project
	Collector JT-4 to Tree View	+1.7 dB	Existing + Original Project
	Eagles Nest to JT4	+1.6 dB	Existing + Original Project
	South Watt to Hedge	+1.4 dB	Existing + Alt 2
	Excelsior to Collector JT3	+4.9 dB	Existing + Alt 2
	Excelsior to Collector JT-3	+2.4 dB	Cum + Alt 2
Kiefer Blvd	WJ14 to Routier Ext.	+1.9 dB	Cum + Original Project
	Routier Ext. to Happy Lane	+1.9 dB	Cum + Original Project
	Eagles Nest to W Collector MS1	+5.1 dB	Cum + Original Project
	W Collector MS1 to Northridge	+4.6 dB	Cum + Original Project
	Northridge to E Collector MS1	+3.9 dB	Cum + Original Project
	E Collector MS1 to Sunrise	+2.1 dB	Cum + Original Project
	Happy Lane to Douglas	+2.1 dB	Cum + Original Project
	Douglas to Excelsior	+7.3 dB	Cum + Original Project
	Collector WJ14 to Routier Ext.	+1.7 dB	Cum + Alt 2
	Routier Ext. to Happy Lane	+1.7 dB	Cum + Alt 2
	Eagles Nest to W Collector MS1	+5.0 dB	Cum + Alt 2
	W Collector MS1 to Northridge	+4.5 dB	Cum + Alt 2
	Northridge to E Collector MS1	+3.8 dB	Cum + Alt 2
	E Collector MS1 to Sunrise	+2.0 dB	Cum + Alt 2
	Happy Lane to Douglas	+1.8 dB	Cum + Alt 2
Hedge	Elder Creek to Florin	+3.5 dB	Cum + Original Project
		+3.5 dB	Cum + Alt 2
Howe	U.S. 50 to Folsom	+5.1 dB	Cum + Original Project
Zinfandel	Collector MS4 to Kiefer	+2.2 dB	Cum + Original Project

Mitigation for Impact 3

MM3a The project should consider repaving roadway segments which result in significant increases in traffic noise with alternative pavements. However, these repaving projects should only occur where existing residential uses are adjacent to the roadways, and they are located inside of the 65 dB Ldn contours shown in Tables 10 through 13. 65 dB Ldn is considered an acceptable exterior noise level standard.

Assuming that a minimum noise level reduction of 3 dB can be achieved through the use of alternative pavement, only one roadway segment (Eagles Nest Road from Florin Road to Grantline Road) would continue to experience a substantial increase in traffic noise levels under the Existing + Original Project and Existing + Alt 2 Scenarios. Furthermore, given the number of affected roadways, it may not be economically feasible to repave all affected roadways. Also, there are situations where the project contribution is less than the minimum 3 dB of traffic noise reduction that would come from the use of alternative pavements and, thus, the project would be “over mitigating” its impacts.

Impact 4 *The Proposed Project could expose new noise-sensitive receptors to excessive exterior traffic noise levels.*

The Proposed Project could expose new noise sensitive uses to exterior noise levels in excess of the Sacramento County transportation noise level standards.

The Sacramento County General Plan Noise Element specifies an acceptable exterior noise level of 65 dB Ldn for exterior areas of residential uses, including common use areas. Outdoor areas for the residential portions of the project would include backyards. Since the Master Plans do not currently have tentative maps, grading plans or site designs, specific mitigation measures cannot be formalized at this time. Based upon the analysis, internal streets for the Jackson Township site will not result in traffic noise levels which exceed 65 dB Ldn at a distance of 100 feet from the roadway centerlines. However, any residences adjacent to Kiefer Boulevard, Excelsior Road, Jackson Highway and Tree View Lane will exceed the 65 dB Ldn noise level standard at 100 feet from the roadway centerlines. The following are mitigation measures for future tentative maps:

Mitigation for Impact 4

MM4a The future residential uses adjacent to Kiefer Boulevard, Excelsior Road, Jackson Highway and Tree View Lane will be required to comply with the 65 dB Ldn exterior noise level standard at the residential outdoor activity areas. Therefore, when tentative maps are available, a noise analysis will be required to determine the appropriate noise mitigation measures to comply with the exterior noise level standard of 65 dB Ldn.

Barrier Design:

Assuming that grades are relatively flat, and the elevations of the roadways, bases of barriers and building foundations are similar, a typical 6-foot tall barrier will generally provide a 5 dB reduction in overall traffic noise levels. Each additional foot of barrier height will result in an additional reduction of 1 dB, up to 10 feet. At some point barriers provide diminishing reductions in noise levels, depending upon site geometry, heavy truck percentages and roadway elevations.

Site Design:

Buildings can be placed on a project site to shield other structures or areas, to remove them from noise-impacted areas, and to prevent an increase in noise level caused by reflections. The use of one building to shield another can significantly reduce overall project noise control costs, particularly if the shielding structure is insensitive to noise.

Site design should guard against the creation of reflecting surfaces which may increase onsite noise levels. For example, two buildings placed at an angle facing a noise source may cause noise levels within that angle to increase by up to 3 dB. The open end of "U"-shaped buildings should point away from noise sources for the same reason. Landscaping walls or noise barriers located within a development may inadvertently reflect noise back to a noise-sensitive area unless carefully located. Avoidance of these problems while attaining an aesthetic site design requires close coordination between local agencies, the project engineer and architect, and the noise consultant.

Use of Setbacks:

Noise exposure may be reduced by increasing the distance between the noise source and the receiving use. Setback areas can take the form of open space, frontage roads, recreational areas, storage yards, etc. The available noise attenuation from this technique is limited by the characteristics of the noise source, but is generally about 4 to 6 dB per doubling of distance from the source.

Impact 5 *The Proposed Project could be exposed to excessive noise due to the Sacramento Raceway.*

The Proposed Project could expose new noise sensitive uses to exterior noise levels in excess of the Sacramento County stationary noise source standards. This would be **a potentially significant** impact.

The Sacramento County General Plan Noise Element specifies acceptable daytime exterior hourly noise levels of 55 dB L50 and 75 dB Lmax. Based upon the modeled noise levels described earlier in this report, a significant portion of the project site will be exposed to the drag strip noise levels in excess of the standards. In addition, the 75 dB Lmax noise level contour extends off of the project site to the east.

Mitigation for Impact 5

MM5a Based upon the project design, the only practical method of mitigating the raceway noise levels is to have the raceway removed from the project site.

Impact 6: *The proposed project could result in impacts from commercial, retail and office uses on proposed noise-sensitive uses in the project area.*
Noise levels associated with loading docks, truck circulation and HVAC equipment could exceed the Sacramento County General Plan Noise Element and Noise ordinance noise level standards.

Mitigation for Impact 6

MM 6a Planned retail commercial and light industrial and office uses shall be required to comply with the requirements of Table 2 of the Noise Element (Table 5 of this report). Potential mitigation measures should include the following:

Barrier Design:

Assuming that grades are relatively flat, barrier should block line-of-sight to the noise sources. For loading docks or truck delivery areas, the noise source is generally considered to be at 8-feet above the ground level. HVAC units or cooling towers can vary in height, and should be evaluated at the time that equipment is specified.

Site Design:

Buildings can be placed on a project site to shield other structures or areas, to remove them from noise-impacted areas, and to prevent an increase in

noise level caused by reflections. The use of one building to shield another can significantly reduce overall project noise control costs, particularly if the shielding structure is insensitive to noise.

HVAC equipment can be located at ground level to reduce visibility and receive shielding from barriers which may be located between residential areas and office or commercial uses. HVAC systems located on roof tops can be shielded with parapets or located in mechanical rooms.

Use of Setbacks:

Noise exposure may be reduced by increasing the distance between the noise source and the receiving use. Setback areas can take the form of open space, frontage roads, recreational areas, storage yards, etc. The available noise attenuation from this technique is limited by the characteristics of the noise source, but is generally about 4 to 6 dB per doubling of distance from the source.

MM 6b When tentative maps for the commercial, retail and office developments are available, a detailed noise analysis shall be completed to ensure compliance with the Sacramento County noise level criteria.

Impact 7: **The proposed project could result in noise levels associated with neighborhood parks at proposed residential uses.** The Sacramento County General Plan Noise Ordinance provides exemptions for park activity noise. However, extended hours of park use could result in annoyance to residential uses.

Mitigation for Impact 7

MM 7a Park activities should be limited to the hours of 7:00 a.m. to 10:00 p.m.

Impact 8: **The proposed project could result in noise levels associated with high school, elementary school and middle school play areas on proposed residential uses.** The Sacramento County Noise Ordinance provides exemptions for activities at schools. However, noise levels associated with play areas and organized sporting activities can produce noise levels which can exceed the general plan noise element standards and could create annoyance.

Mitigation for Impact 8

MM 8a Outdoor school playgrounds and sporting activities should be limited to the hours of 7:00 a.m. to 10:00 p.m.

MM 8b Activities associated with play areas and sporting activities such as football fields, soccer fields, etc., shall be required to comply with the requirements of Table 2 of the Noise Element (Table 5 of this report).

Impact 9: The proposed project could result in noise levels due to aircraft overflights from Mather Airport.

The proposed project is located outside of the 60 dB CNEL Mather Airport noise contour. However, the project may be affected by aircraft noise due to occasional aircraft overflights.

Mitigation for Impact 9

MM9a Implementation of Policy NO-4 of the Sacramento County General Plan Noise Element shall be included. This policy is outlined below:

NO-4 *New residential development within adopted Airport Policy Area boundaries, but outside the 60 CNEL, shall be subject to the following conditions:*

- A. *Provide minimum noise insulation to 45 dB CNEL within new residential dwellings, including detached single family dwellings, with windows closed in any habitable room.*
- B. *Notification in the Public Report prepared by the California Department of Real Estate disclosing the fact to prospective buyers that the parcel is located within an Airport Policy Area.*
- C. *An Avigation Easement prepared by the Sacramento County Counsel's Office granted to the County of Sacramento, recorded with the Sacramento County Recorder, and filed with Department of Airports. Such Avigation Easement shall acknowledge the property location within an Airport Planning Policy Area and shall grant the right of flight and unobstructed passage of all aircraft into and out of the subject Airport.*

CUMULATIVE NOISE IMPACTS

Impact 10 The Proposed Project would add to cumulative noise levels in the project vicinity.

The cumulative context for noise impacts associated with the Proposed Project consists of the existing and future noise sources that could affect the project or surrounding uses. Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context.

Non-Traffic Noise

The Proposed Project is not expected to create substantial non-traffic noise. Non-traffic noise includes outdoor play or sports activities which will occur at school and park sites which are internal to the project site.

Traffic

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the Proposed Project and other projects within the area. Table 11 above shows cumulative traffic noise levels with and without the Proposed Project. As shown, the Proposed Project would contribute no more than 6 dB Ldn to noise levels on local roadways. Assuming that mitigation measure 3A is implemented, no substantial increases in traffic noise levels would occur under the cumulative scenario. However, repaving all affected roadway segments may not be economically feasible.

Mitigation for Impact 10

MM 10a Implementation of Mitigation Measure 3A

Appendix A

Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.
RT₆₀	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B

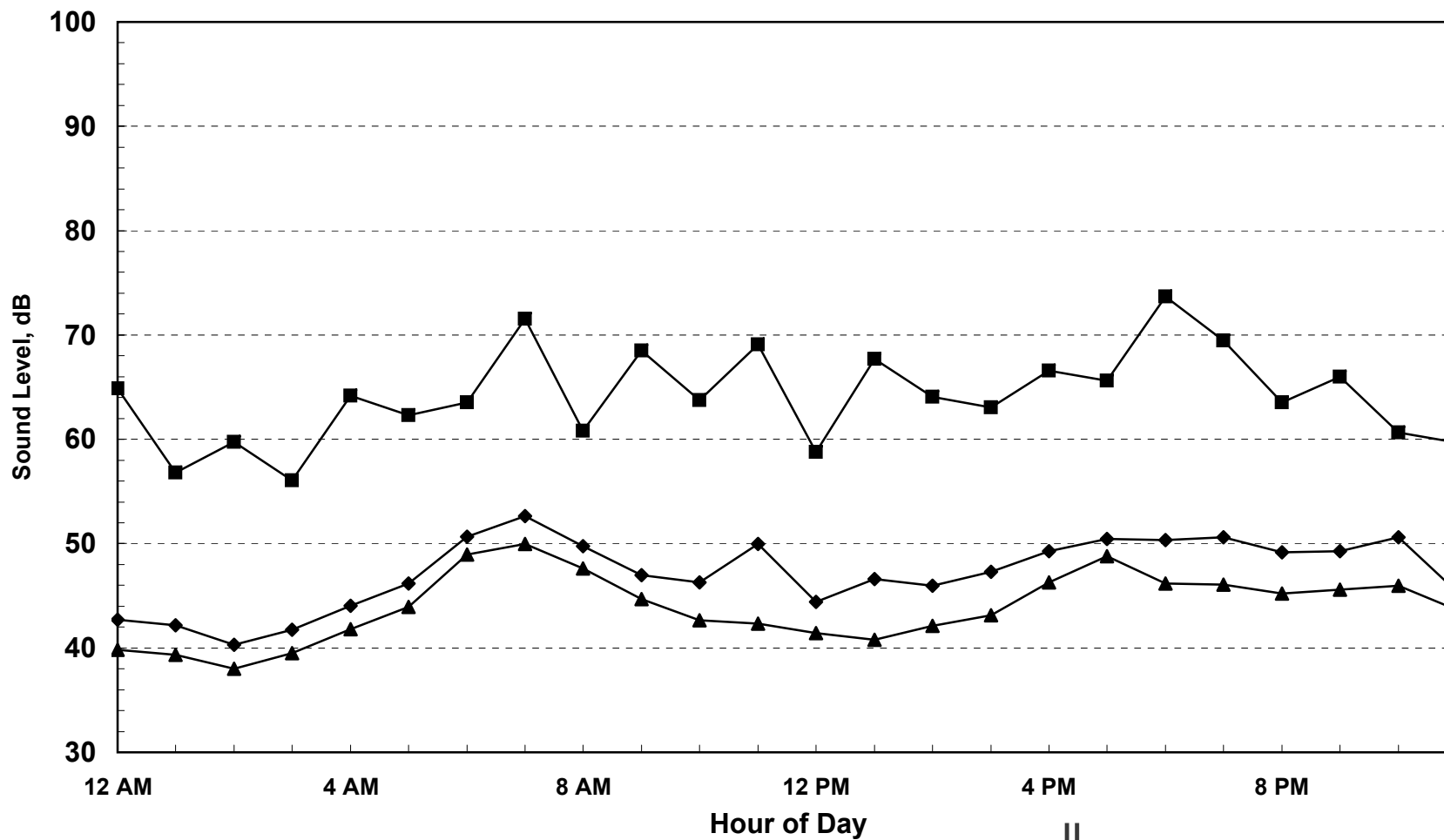
Jackson Township Specific Plan EIR
 24hr Continuous Noise Monitoring - Site A
 Monday, August 05, 2013

Hour	Leq	Lmax	L50	L90
0:00	43	65	40	38
1:00	42	57	39	38
2:00	40	60	38	36
3:00	42	56	40	36
4:00	44	64	42	39
5:00	46	62	44	41
6:00	51	64	49	46
7:00	53	72	50	46
8:00	50	61	48	44
9:00	47	69	45	42
10:00	46	64	43	40
11:00	50	69	42	39
12:00	44	59	41	38
13:00	47	68	41	38
14:00	46	64	42	38
15:00	47	63	43	38
16:00	49	67	46	42
17:00	50	66	49	43
18:00	50	74	46	41
19:00	51	69	46	41
20:00	49	64	45	40
21:00	49	66	46	44
22:00	51	61	46	42
23:00	45	60	44	41

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	52.6	44.4	49.1	50.7	40.3	46.4
Lmax (Maximum)	73.7	58.8	66.1	64.8	56.1	60.9
L50 (Median)	50.0	40.8	44.9	49.0	38.0	42.3
L90 (Background)	45.9	37.5	40.9	45.6	36.3	39.7

Computed Ldn, dB	53.3
% Daytime Energy	76%
% Nighttime Energy	24%

Appendix B
Jackson Township Specific Plan EIR
24hr Continuous Noise Monitoring - Site A
Monday, August 05, 2013



Ldn = 53.3 dB

◆ Leq ■ Lmax ▲ L50

Appendix B

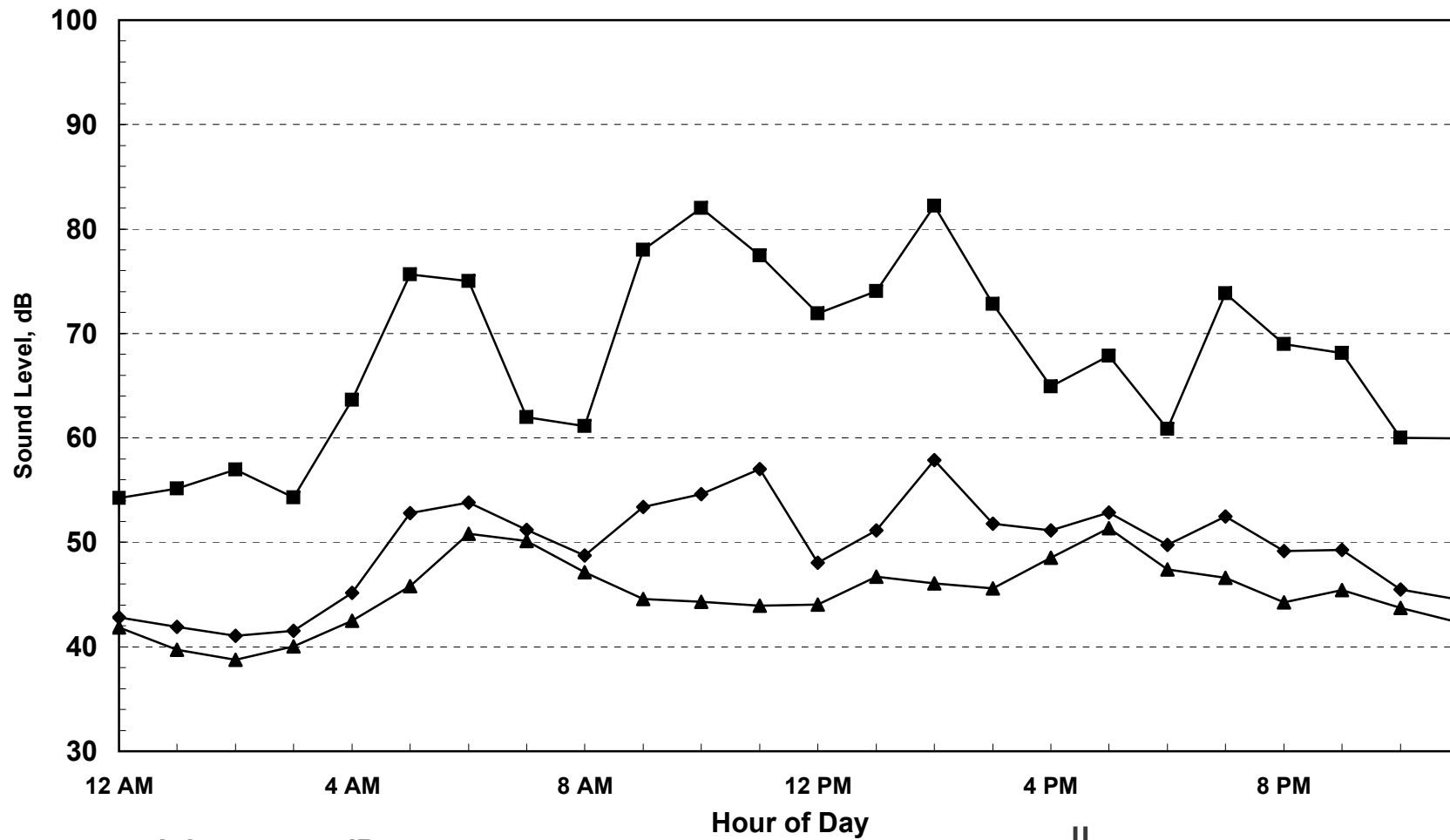
Jackson Township Specific Plan EIR
 24hr Continuous Noise Monitoring - Site A
 Tuesday, August 06, 2013

Hour	Leq	Lmax	L50	L90
0:00	43	54	42	39
1:00	42	55	40	37
2:00	41	57	39	36
3:00	42	54	40	38
4:00	45	64	43	39
5:00	53	76	46	43
6:00	54	75	51	48
7:00	51	62	50	47
8:00	49	61	47	44
9:00	53	78	45	42
10:00	55	82	44	41
11:00	57	77	44	40
12:00	48	72	44	40
13:00	51	74	47	44
14:00	58	82	46	41
15:00	52	73	46	41
16:00	51	65	49	43
17:00	53	68	51	45
18:00	50	61	47	43
19:00	52	74	47	42
20:00	49	69	44	41
21:00	49	68	45	43
22:00	46	60	44	42
23:00	45	60	42	40

Statistical Summary						
Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)			
	High	Low	Average	High	Low	Average
Leq (Average)	57.9	48.0	52.9	53.8	41.0	48.2
Lmax (Maximum)	82.2	60.9	71.1	75.6	54.2	61.7
L50 (Median)	51.4	44.0	46.4	50.9	38.7	42.8
L90 (Background)	46.8	39.5	42.5	48.2	36.3	40.3

Computed Ldn, dB	55.7
% Daytime Energy	83%
% Nighttime Energy	17%

Appendix B
Jackson Township Specific Plan EIR
24hr Continuous Noise Monitoring - Site A
Tuesday, August 06, 2013



Ldn = 55.7 dB

◆ Leq ■ Lmax ▲ L50

Appendix B

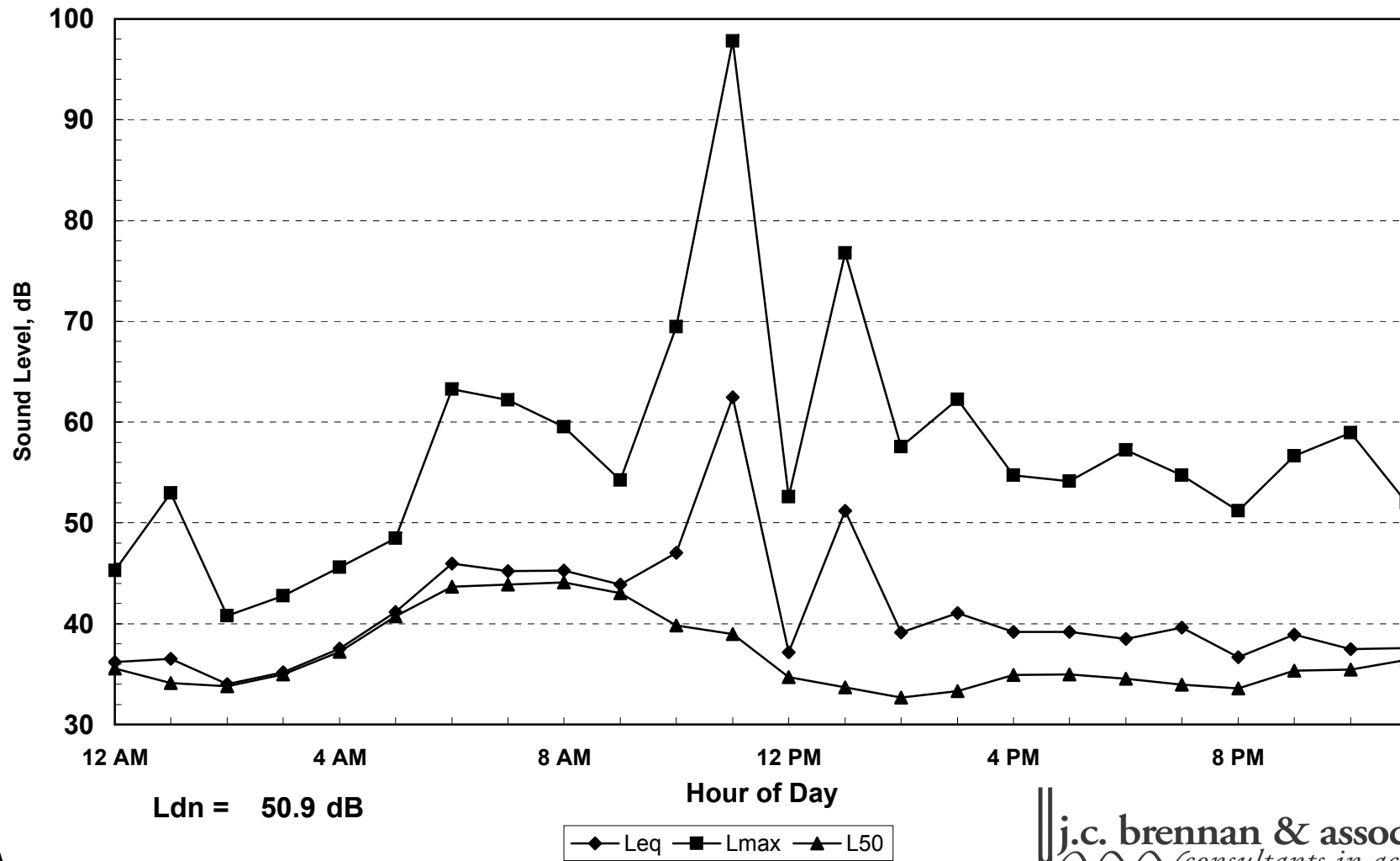
Jackson Township Specific Plan EIR
 24hr Continuous Noise Monitoring - Site B
 Monday, August 05, 2013

Hour	Leq	Lmax	L50	L90
0:00	36	45	36	34
1:00	37	53	34	33
2:00	34	41	34	32
3:00	35	43	35	34
4:00	38	46	37	35
5:00	41	48	41	39
6:00	46	63	44	42
7:00	45	62	44	43
8:00	45	60	44	43
9:00	44	54	43	41
10:00	47	69	40	38
11:00	62	98	39	36
12:00	37	53	35	31
13:00	51	77	34	30
14:00	39	58	33	28
15:00	41	62	33	28
16:00	39	55	35	30
17:00	39	54	35	28
18:00	38	57	35	29
19:00	40	55	34	30
20:00	37	51	34	30
21:00	39	57	35	33
22:00	37	59	35	34
23:00	38	52	36	35

	Statistical Summary					
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	62.5	36.7	51.5	46.0	34.0	39.7
Lmax (Maximum)	97.8	51.2	61.4	63.2	40.8	50.0
L50 (Median)	44.1	32.7	36.8	43.7	33.8	36.9
L90 (Background)	43.0	28.4	33.2	42.2	32.3	35.4

Computed Ldn, dB	50.9
% Daytime Energy	96%
% Nighttime Energy	4%

Appendix B
Jackson Township Specific Plan EIR
24hr Continuous Noise Monitoring - Site B
Monday, August 05, 2013



Appendix B

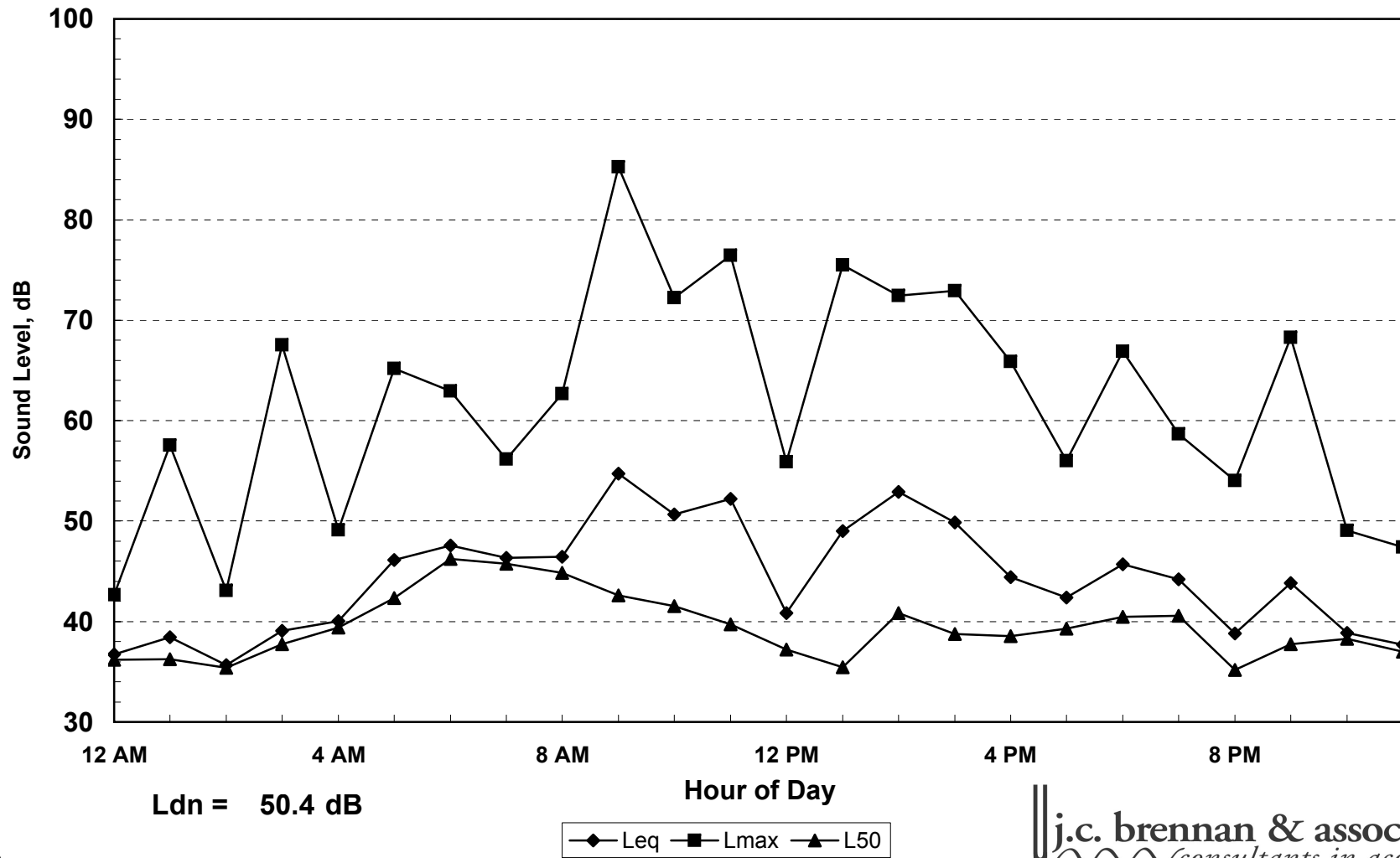
Jackson Township Specific Plan EIR
 24hr Continuous Noise Monitoring - Site B
 Tuesday, August 06, 2013

Hour	Leq	Lmax	L50	L90
0:00	37	43	36	35
1:00	38	58	36	35
2:00	36	43	35	34
3:00	39	68	38	36
4:00	40	49	39	38
5:00	46	65	42	40
6:00	48	63	46	45
7:00	46	56	46	45
8:00	46	63	45	43
9:00	55	85	43	41
10:00	51	72	42	38
11:00	52	76	40	36
12:00	41	56	37	34
13:00	49	75	35	33
14:00	53	72	41	33
15:00	50	73	39	31
16:00	44	66	39	32
17:00	42	56	39	33
18:00	46	67	40	34
19:00	44	59	41	35
20:00	39	54	35	33
21:00	44	68	38	36
22:00	39	49	38	37
23:00	38	47	37	35

Statistical Summary						
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	54.7	38.8	49.0	47.6	35.7	42.1
Lmax (Maximum)	85.3	54.0	66.6	67.5	42.6	53.8
L50 (Median)	45.7	35.2	39.9	46.3	35.4	38.8
L90 (Background)	44.6	30.8	35.8	44.6	34.0	37.2

Computed Ldn, dB	50.4
% Daytime Energy	89%
% Nighttime Energy	11%

Appendix B
Jackson Township Specific Plan EIR
24hr Continuous Noise Monitoring - Site B
Tuesday, August 06, 2013



Ldn = 50.4 dB

◆ Leq ■ Lmax ▲ L50

Appendix B

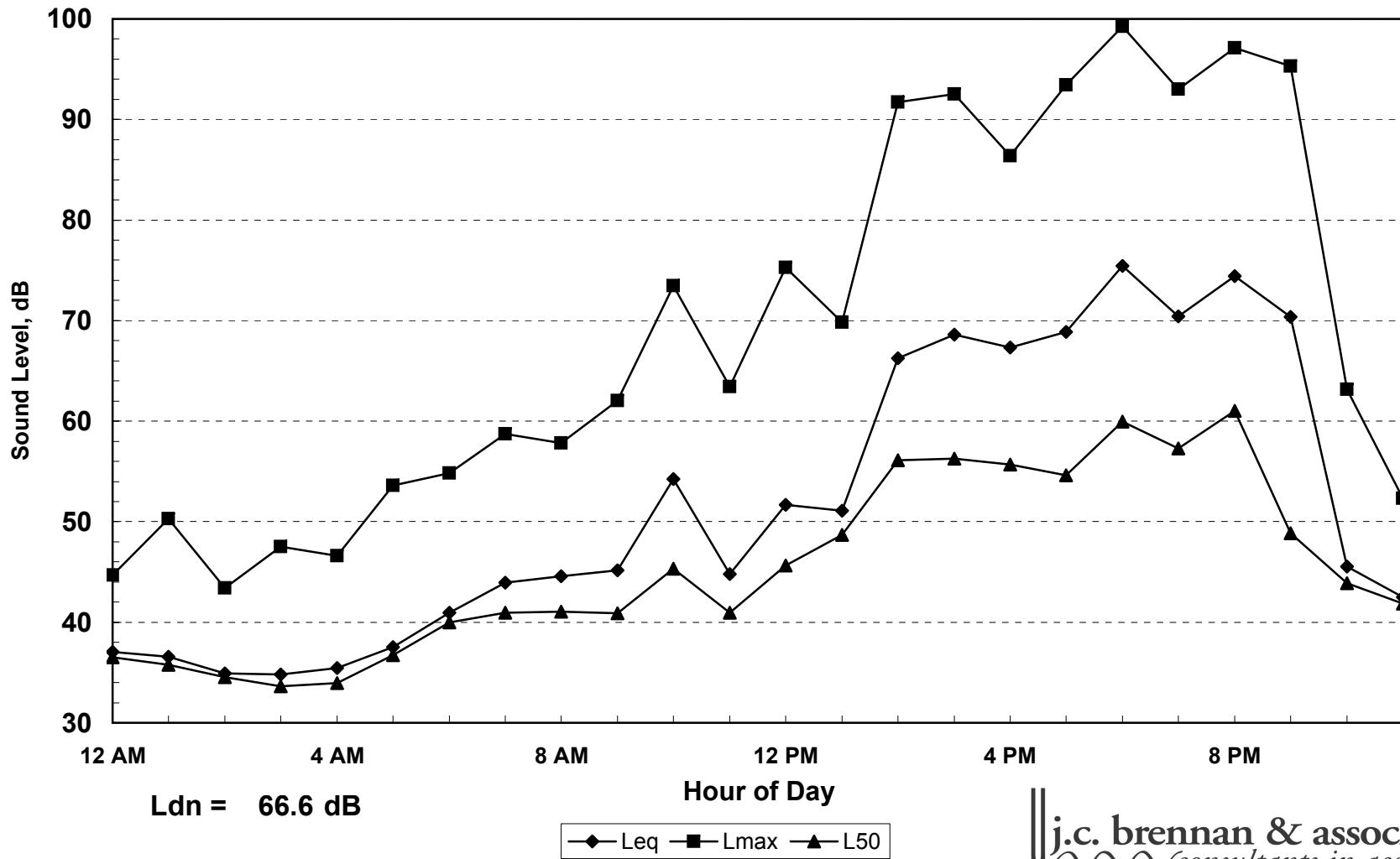
Jackson Township Specific Plan EIR
 24hr Continuous Noise Monitoring - Site C Race Event
 Saturday, August 10, 2013

Hour	Leq	Lmax	L50	L90
0:00	37	45	37	35
1:00	37	50	36	33
2:00	35	43	35	33
3:00	35	48	34	32
4:00	35	47	34	32
5:00	38	54	37	33
6:00	41	55	40	36
7:00	44	59	41	39
8:00	45	58	41	39
9:00	45	62	41	39
10:00	54	73	45	40
11:00	45	63	41	38
12:00	52	75	46	39
13:00	51	70	49	43
14:00	66	92	56	48
15:00	69	93	56	46
16:00	67	86	56	46
17:00	69	93	55	46
18:00	75	99	60	49
19:00	70	93	57	47
20:00	74	97	61	50
21:00	70	95	49	45
22:00	46	63	44	42
23:00	42	52	42	39

Statistical Summary						
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	75.4	43.9	68.6	45.5	34.8	40.0
Lmax (Maximum)	99.3	57.8	80.6	63.2	43.4	50.7
L50 (Median)	61.0	40.9	50.2	43.9	33.7	37.4
L90 (Background)	49.6	37.8	43.6	41.8	31.9	35.1

Computed Ldn, dB	66.6
% Daytime Energy	100%
% Nighttime Energy	0%

Appendix B
Jackson Township Specific Plan EIR
24hr Continuous Noise Monitoring - Site C Race Event
Saturday, August 10, 2013



Ldn = 66.6 dB

◆ Leq ■ Lmax ▲ L50

Appendix B

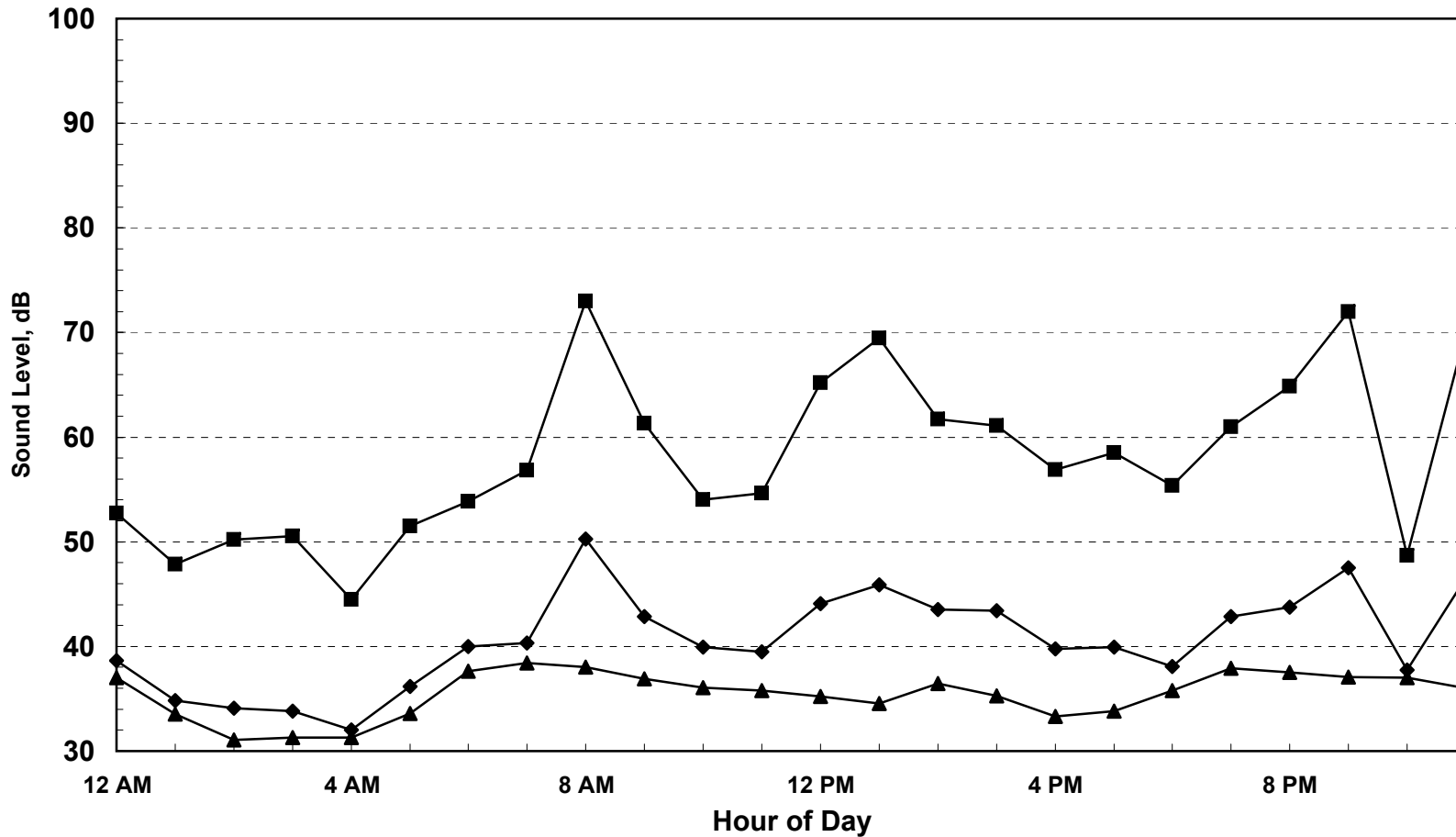
Jackson Township Specific Plan EIR
 24hr Continuous Noise Monitoring - Site C
 Sunday, August 11, 2013

Hour	Leq	Lmax	L50	L90
0:00	39	53	37	35
1:00	35	48	34	31
2:00	34	50	31	30
3:00	34	51	31	29
4:00	32	45	31	30
5:00	36	51	34	31
6:00	40	54	38	35
7:00	40	57	38	36
8:00	50	73	38	36
9:00	43	61	37	35
10:00	40	54	36	34
11:00	40	55	36	33
12:00	44	65	35	31
13:00	46	69	35	30
14:00	44	62	36	30
15:00	43	61	35	30
16:00	40	57	33	29
17:00	40	59	34	30
18:00	38	55	36	32
19:00	43	61	38	34
20:00	44	65	38	35
21:00	48	72	37	35
22:00	38	49	37	35
23:00	47	70	36	34

Statistical Summary						
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	50.3	38.1	44.1	46.6	32.0	39.6
Lmax (Maximum)	73.0	54.0	61.7	70.1	44.5	52.2
L50 (Median)	38.4	33.3	36.1	37.6	31.1	34.3
L90 (Background)	36.0	29.0	32.8	35.4	29.0	32.2

Computed Ldn, dB	47.0
% Daytime Energy	83%
% Nighttime Energy	17%

Appendix B
Jackson Township Specific Plan EIR
24hr Continuous Noise Monitoring - Site C
Sunday, August 11, 2013



Ldn = 47.0 dB

◆ Leq ■ Lmax ▲ L50

Appendix B

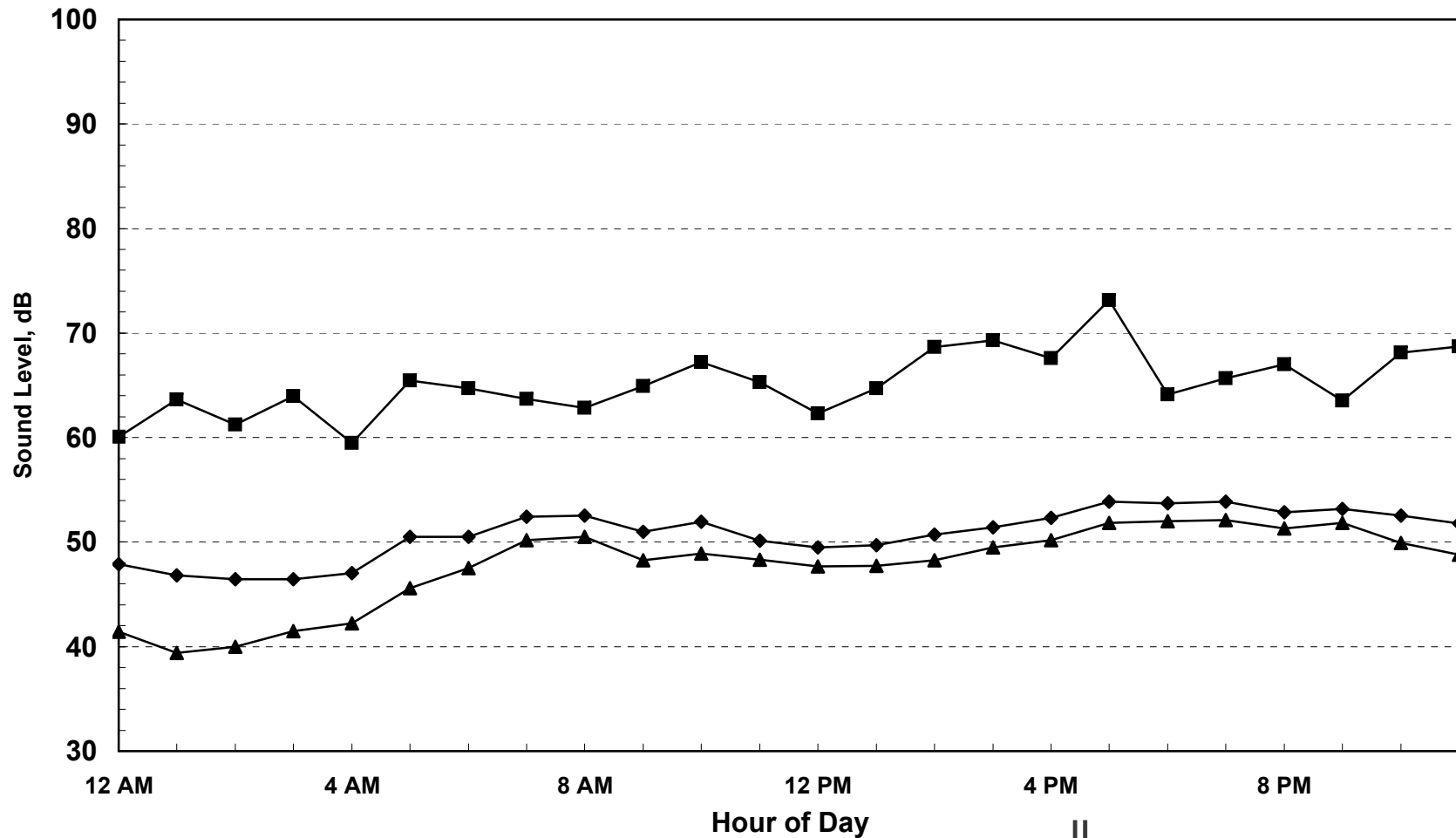
Jackson Township Specific Plan EIR
 24hr Continuous Noise Monitoring - Site D Race Event
 Saturday, August 10, 2013

Hour	Leq	Lmax	L50	L90
0:00	48	60	41	39
1:00	47	64	39	37
2:00	46	61	40	38
3:00	46	64	41	38
4:00	47	59	42	39
5:00	50	65	46	42
6:00	51	65	48	44
7:00	52	64	50	48
8:00	53	63	51	48
9:00	51	65	48	46
10:00	52	67	49	47
11:00	50	65	48	46
12:00	49	62	48	46
13:00	50	65	48	46
14:00	51	69	48	46
15:00	51	69	50	48
16:00	52	68	50	48
17:00	54	73	52	50
18:00	54	64	52	50
19:00	54	66	52	50
20:00	53	67	51	49
21:00	53	64	52	50
22:00	53	68	50	46
23:00	52	69	49	45

Statistical Summary						
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	53.9	49.5	52.2	52.6	46.4	49.5
Lmax (Maximum)	73.1	62.3	66.0	68.7	59.5	63.9
L50 (Median)	52.1	47.7	49.9	49.9	39.4	44.0
L90 (Background)	49.9	45.8	47.8	46.3	37.5	41.1

Computed Ldn, dB	56.4
% Daytime Energy	75%
% Nighttime Energy	25%

Appendix B
Jackson Township Specific Plan EIR
24hr Continuous Noise Monitoring - Site D Race Event
Saturday, August 10, 2013



Ldn = 56.4 dB

◆ Leq ■ Lmax ▲ L50

Appendix B

Jackson Township Specific Plan EIR
 24hr Continuous Noise Monitoring - Site D
 Sunday, August 11, 2013

Hour	Leq	Lmax	L50	L90
0:00	49	61	44	39
1:00	46	60	39	36
2:00	44	60	35	34
3:00	46	68	35	33
4:00	44	63	34	33
5:00	47	64	39	36
6:00	50	63	46	42
7:00	49	62	45	42
8:00	51	69	46	44
9:00	48	64	45	42
10:00	47	61	45	43
11:00	48	60	45	43
12:00	50	72	46	43
13:00	50	71	46	44
14:00	50	64	48	45
15:00	49	69	46	44
16:00	49	66	47	45
17:00	50	63	48	46
18:00	52	64	50	47
19:00	53	65	51	48
20:00	52	63	50	47
21:00	53	71	49	45
22:00	50	63	46	41
23:00	49	61	43	40

Statistical Summary						
	Daytime (7 a.m. - 10 p.m.)			Nighttime (10 p.m. - 7 a.m.)		
	High	Low	Average	High	Low	Average
Leq (Average)	53.1	47.4	50.5	50.3	43.6	47.9
Lmax (Maximum)	71.6	59.6	65.5	68.3	59.7	62.6
L50 (Median)	51.1	45.0	47.2	46.0	34.5	40.0
L90 (Background)	48.1	41.9	44.7	41.8	32.7	37.1

Computed Ldn, dB	54.8
% Daytime Energy	75%
% Nighttime Energy	25%

Appendix B
Jackson Township Specific Plan EIR
24hr Continuous Noise Monitoring - Site D
Sunday, August 11, 2013

