

Date: March 1, 2025

To: In-N-Out Burger
13502 Hamburger Lane
Baldwin Park, CA 91706

From: Christ Kirikian
Partner | Director of Air Quality & Acoustics

Subject: In-N-Out Burger Restaurant Project Noise Supplemental Memorandum
972 El Camino Real, South San Francisco, CA 94080

This memorandum is being provided regarding the Noise Study (dated July 2024) for the In-N-Out Burger Restaurant project located at 972 El Camino Real, South San Francisco, CA 94080. Meridian Consultants (Meridian) prepared the Noise and Vibration study utilizing the information provided in the Memorandum of Understanding (MOU) prepared by Ganddini dated February 26, 2024 for the Transportation Study Scoping Agreement.

Turning movement counts were conducted in April 2024 and provided in the Transportation Impact Assessment (TIA) prepared by Ganddini dated December 12, 2024. As a result, this memorandum evaluates potential roadway noise impacts based on the recent TIA.

All other aspects of the July 2024 Noise Study remain unchanged.

Methodology

Traffic noise levels were modeled using the FHWA TNM. The FHWA TNM calculates noise associated with a specific line source and the results characterize noise generated by motor vehicle travel along a specific roadway segment. The traffic noise impact analysis is based on the 24-hour CNEL noise descriptor and incorporates traffic volumes, vehicle mix, posted speed limits, roadway geometry, and site conditions. Noise levels were evaluated with respect to the following traffic scenarios:

- Existing (2024) Peak Hour Conditions; and
- Existing (2024) plus Project Peak Hour Conditions

Noise impacts due to off-site motor vehicle travel were analyzed by comparing the projected increase in traffic noise levels from without Project conditions to plus proposed Project to the applicable significance criteria.

Threshold of Significance

The City has not adopted thresholds of significance for analysis of impacts from operational noise. For purposes of this analysis, the criteria for noise-compatible land use from the Noise Element Guidelines of the Office of Planning and Research (OPR) is utilized.¹ Normally acceptable noise ranges for residential uses range between 50 to 60 dBA CNEL and conditionally acceptable within 55 to 70 dBA CNEL. Additionally, to evaluate whether the proposed Project will generate a substantial periodic increase in long-term noise levels at off-site sensitive receptor locations, Project-related operational (i.e., roadway) noise levels that would cause any ambient noise levels to increase by 5 dBA CNEL or more and the resulting noise falls on a noise-sensitive land use within an area categorized as either “clearly incompatible” or “normally incompatible;” or cause ambient noise levels to increase by 3 dBA CNEL or more and the resulting noise falls on a noise-sensitive land use within an area categorized as either “clearly incompatible” or “normally incompatible” would be considered significant.

Additionally, Project-related operational (i.e., nonroadway) noise sources such as outdoor activities, building mechanical/electrical equipment, etc., increase ambient noise level by 5 dBA, would also be considered significant.

Roadway Noise

Table 1: Existing plus Project Roadway Noise Levels, illustrates the change in noise levels from traffic volumes and from traffic generated by the Project. The difference in traffic noise between existing conditions and existing plus Project conditions represents the increase in noise attributable to Project-related traffic. As shown in **Table 1**, the maximum noise level increase along the analyzed roadways is 1.4 dBA CNEL along Southwood Drive/1st Street east of El Camino Real (Intersection 3). Consequently, Project-related traffic would not cause noise levels along the analyzed roadways to increase by more than 3.0 dBA. Thus, the proposed Project would not result in a permanent increase in noise levels above ambient levels in the vicinity of the Project Site. Roadway noise impacts would not be considered significant.

¹ Office of Planning and Research, *Appendix D: Noise Element Guidelines*, https://opr.ca.gov/docs/OPR_Appendix_D_final.pdf, accessed February 2025.

TABLE 1: EXISTING PLUS PROJECT ROADWAY NOISE LEVELS

Intersection No.	Roadway Segment	Existing	Existing plus Project	Difference
		dBA CNEL		
Chestnut Avenue				
1	East of Antoinette Lane	67.6	67.6	0.0
1	West of Antoinette Lane	68.1	68.2	+0.1
Antoinette Lane				
1	North of Chestnut Avenue	57.5	57.5	0.0
1	South of Chestnut Avenue	60.6	60.6	0.0
Westborough Blvd				
2	East of El Camino Real	68.2	68.2	0.0
2	West of El Camino real	68.6	68.7	+0.1
El Camino Real				
2	North of Westborough Blvd	70.3	70.3	0.0
2	South of Westborough Blvd	72.0	72.1	+0.1
3	North of 1 st Street/Southwood Drive	71.9	72.0	+0.1
3	South of 1 st Street/Southwood Drive	71.8	71.8	0.0
4	North of Orange Avenue	71.8	71.8	0.0
4	South of Orange Avenue	71.5	71.5	0.0
5	North of Project North Driveway	71.8	71.9	+0.1
5	South of Project North Driveway	71.8	71.9	+0.1
6	North of Project South Driveway	71.8	71.9	+0.1
6	South of Project South Driveway	71.8	71.9	+0.1
Southwood Drive/1 st Street				
3	East of El Camino Real	53.0	54.4	+1.4
3	West of El Camino Real	50.6	50.7	+0.1
Orange Avenue				
4	East of El Camino Real	61.8	61.9	+0.1
4	West of El Camino Real	57.7	57.7	0.0

Source: Refer to **Appendix 1.0** for roadway noise worksheets.

CERTIFICATION

The contents of this Memorandum represent an accurate depiction of the roadway noise environment and impacts associated with the proposed In-N-Out Burger Restaurant Project. The information contained in this study is based on the best available information at the time of preparation. If you have any questions, please contact me directly at (818) 415-7274.



Christ Kirikian

Partner | Director of Air Quality & Acoustics

ckirikian@meridianconsultantsllc.com



APPENDIX 1.0

Roadway Noise Worksheets

Project Name
Weekday Peak Hour Volumes

rev. (Date)

Intersection: 1
Antoinette Ln & Chestnut Ave

Chestnut Ave

Eastbound			
	<u>left</u>	<u>through</u>	<u>right</u>
Existing (MD) Pe	62	562	135
Existing (PM)	98	832	153
Existing plus Pro	62	569	135
Existing plus Pro	98	837	153

Antoinette Ln			
Southbound			
	<u>right</u>	<u>through</u>	<u>left</u>
Existing (M	77	3	17
Existing (P	93	3	50
Existing plu	77	3	17
Existing plu	93	3	50

Northbound			
	<u>left</u>	<u>through</u>	<u>right</u>
Existing (M	129	8	21
Existing (P	135	10	19
Existing plu	129	8	21
Existing plu	135	10	19

Westbound			
	<u>right</u>	<u>through</u>	<u>left</u>
Existing (MD) Pe	74	525	66
Existing (PM)	52	780	102
Existing plus Pro	31	530	74
Existing plus Pro	52	784	102

ADT				
Road	Antoinette Ln		Chestnut Ave	
Leg	North of	South of	East of	West of
Cross Street	Chestnut Ave		Antoinette Ln	
Existing (MD) Pe	1,928.0	2,896.0	10,120.0	11,920.0
Existing (PM)	2,448.0	3,376.0	14,680.0	16,728.0
Existing plus Pro	1,584.0	2,960.0	9,936.0	12,016.0
Existing plus Pro	2,448.0	3,376.0	14,752.0	16,800.0

2
NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes								Ref. Energy Levels Dist				Ld				Le				Ln				
ROADWAY NAME			Median	ADT	Design	Dist. from	Barrier	Vehicle Mix																												
Segment	Land Use	Lanes	Width	Volume	Speed (mph)	Center to Receptor	Alpha Factor (1'	Attn. dB(A)	Medium Trucks	Heavy Trucks	CNEL	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total
Antionette Ln n/o Chestnut Ave																																				
Existing (MD) Peak Hour		1	0	1,928	25	25	0	0	1.8%	0.7%	56.4	1,498	245	185	30	12	2	0	3	1	59.4	71.1	78.7	2.9	53.9	48.8	52.4	57.0	50.9	41.2	42.2	51.9	37.8	39.3	43.2	45.5
Existing (PM)		1	0	2,448	25	25	0	0	1.8%	0.7%	57.5	1,902	311	235	39	15	2	0	3	1	59.4	71.1	78.7	2.9	55.0	49.8	53.4	58.0	52.0	42.2	43.3	52.9	38.8	40.3	44.2	46.5
Existing plus Project (MD)		1	0	1,584	25	25	0	0	1.8%	0.7%	55.6	1,231	201	152	25	10	1	0	2	1	59.4	71.1	78.7	2.9	53.1	47.9	51.5	56.1	50.1	40.3	41.4	51.0	36.9	38.5	42.3	44.6
Existing plus Project (PM)		1	0	2,448	25	25	0	0	1.8%	0.7%	57.5	1,902	311	235	39	15	2	0	3	1	59.4	71.1	78.7	2.9	55.0	49.8	53.4	58.0	52.0	42.2	43.3	52.9	38.8	40.3	44.2	46.5
Antionette Ln s/o Chestnut Ave																																				
Existing (MD) Peak Hour		2	0	2,896	30	25	0	0	1.8%	0.7%	59.9	2,250	368	278	46	18	3	1	4	2	62.5	73.1	80.3	3.1	58.1	51.9	55.0	60.5	55.1	44.3	44.9	55.8	41.9	42.4	45.8	48.5
Existing (PM)		2	0	3,376	30	25	0	0	1.8%	0.7%	60.6	2,623	429	324	53	21	3	1	5	2	62.5	73.1	80.3	3.1	58.8	52.6	55.7	61.2	55.8	45.0	45.5	56.5	42.6	43.1	46.5	49.2
Existing plus Project (MD)		2	0	2,960	30	25	0	0	1.8%	0.7%	60.0	2,300	376	284	47	18	3	1	4	2	62.5	73.1	80.3	3.1	58.2	52.0	55.1	60.6	55.2	44.4	45.0	55.9	42.0	42.5	45.9	48.6
Existing plus Project (PM)		2	0	3,376	30	25	0	0	1.8%	0.7%	60.6	2,623	429	324	53	21	3	1	5	2	62.5	73.1	80.3	3.1	58.8	52.6	55.7	61.2	55.8	45.0	45.5	56.5	42.6	43.1	46.5	49.2
Chestnut Ave e/o Antionette Ln																																				
Existing (MD) Peak Hour		2	15	10,120	30	25	0	0	1.8%	0.7%	66.0	7,863	1,285	972	159	63	9	2	14	6	62.5	73.1	80.3	3.7	64.2	58.0	61.1	66.5	61.2	50.4	50.9	61.9	48.0	48.5	51.8	54.6
Existing (PM)		2	15	14,680	30	25	0	0	1.8%	0.7%	67.6	#####	1,864	1,409	231	92	13	3	20	8	62.5	73.1	80.3	3.7	65.8	59.6	62.7	68.2	62.8	52.0	52.5	63.5	49.6	50.1	53.5	56.2
Existing plus Project (MD)		2	15	9,936	30	25	0	0	1.8%	0.7%	65.9	7,720	1,262	954	156	62	9	2	13	6	62.5	73.1	80.3	3.7	64.1	57.9	61.0	66.5	61.1	50.3	50.8	61.8	47.9	48.4	51.8	54.5
Existing plus Project (PM)		2	15	14,752	30	25	0	0	1.8%	0.7%	67.6	#####	1,874	1,416	232	92	13	3	20	8	62.5	73.1	80.3	3.7	65.8	59.6	62.7	68.2	62.8	52.0	52.5	63.5	49.6	50.1	53.5	56.2
Chestnut Ave w/o Antionette Ln																																				
Existing (MD) Peak Hour		2	15	11,920	30	25	0	0	1.8%	0.7%	66.7	9,262	1,514	1,144	188	74	11	2	16	7	62.5	73.1	80.3	3.7	64.9	58.7	61.8	67.3	61.9	51.1	51.6	62.6	48.7	49.2	52.6	55.3
Existing (PM)		2	15	16,728	30	25	0	0	1.8%	0.7%	68.1	#####	2,124	1,606	263	104	15	3	23	9	62.5	73.1	80.3	3.7	66.3	60.1	63.3	68.7	63.4	52.5	53.1	64.1	50.2	50.7	54.0	56.8
Existing plus Project (MD)		2	15	12,016	30	25	0	0	1.8%	0.7%	66.7	9,336	1,526	1,154	189	75	11	2	16	7	62.5	73.1	80.3	3.7	64.9	58.7	61.8	67.3	61.9	51.1	51.7	62.6	48.7	49.2	52.6	55.3
Existing plus Project (PM)		2	15	16,800	30	25	0	0	1.8%	0.7%	68.2	#####	2,134	1,613	264	105	15	3	23	9	62.5	73.1	80.3	3.7	66.4	60.2	63.3	68.7	63.4	52.6	53.1	64.1	50.2	50.7	54.0	56.8

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as asphalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name

Weekday Peak Hour Volumes

rev. (Date)

Intersection: 2

El Camino Real & Westborough Blvd

Westborough Blvd

Eastbound

	left	through	right
Existing (MD) Pe	138	381	292
Existing (PM)	149	560	346
Existing plus Pro	138	381	297
Existing plus Pro	149	560	350

El Camino Real

Southbound

	right	through	left
Existing (MD) Pe	106	561	159
Existing (PM)	147	625	177
Existing plus Pro	106	568	159
Existing plus Pro	147	630	177

W N E

S

Northbound

	left	through	right
Existing (MD) Pe	390	546	243
Existing (PM)	557	768	355
Existing plus Pro	445	553	250
Existing plus Pro	596	773	360

Westbound

	right	through	left
Existing (MD) Pe	126	362	208
Existing (PM)	137	573	300
Existing plus Pro	126	362	213
Existing plus Pro	137	573	304

ADT

Road	El Camino Real		Westborough Blvd	
Leg	North of	South of	East of	West of
Cross Street	Westborough Blvd		El Camino Real	
Existing (MD) Pe	13,088.0	17,920.0	11,832.0	13,352.0
Existing (PM)	16,024.0	23,608.0	16,816.0	18,656.0
Existing plus Pro	13,200.0	18,608.0	11,928.0	13,832.0
Existing plus Pro	16,104.0	24,104.0	16,888.0	19,000.0

2
NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

											Traffic Volumes										Ref. Energy Levels Dist				Ld				Le				Ln							
ROADWAY NAME		Land Use	Median Lanes	ADT Width	Volume	Design Dist. from		Barrier Alpha	Vehicle Mix		dB(A) CNEL	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total				
Segment	Speed (mph)					Center to Receptor	Factor (1'		Trucks	Heavy Trucks																														
EI Camino Real n/o Westborough Blvd																																								
Existing (MD) Peak Hour		3	15	13,088	35	25	0	0	1.8%	0.7%	69.4	####	####	####	206	82	12	3	18	7	65.1	74.8	80.0	5.0	68.5	61.4	62.6	70.1	65.5	53.8	52.4	66.0	52.3	51.9	53.4	57.4				
Existing (PM)		3	15	16,024	35	25	0	0	1.8%	0.7%	70.3	####	####	####	252	100	15	3	22	9	65.1	74.8	80.0	5.0	69.4	62.3	63.5	71.0	66.4	54.7	53.3	66.9	53.2	52.8	54.2	58.2				
Existing plus Project (MD)		3	15	13,200	35	25	0	0	1.8%	0.7%	69.5	####	####	####	208	82	12	3	18	7	65.1	74.8	80.0	5.0	68.5	61.4	62.6	70.2	65.6	53.9	52.5	66.0	52.4	52.0	53.4	57.4				
Existing plus Project (PM)		3	15	16,104	35	25	0	0	1.8%	0.7%	70.3	####	####	####	253	100	15	3	22	9	65.1	74.8	80.0	5.0	69.4	62.3	63.5	71.0	66.4	54.7	53.3	66.9	53.2	52.8	54.3	58.3				
EI Camino Real s/o Westborough Blvd																																								
Existing (MD) Peak Hour		3	15	17,920	35	25	0	0	1.8%	0.7%	70.8	####	####	####	282	112	16	4	24	10	65.1	74.8	80.0	5.0	69.9	62.8	64.0	71.5	66.9	55.2	53.8	67.4	53.7	53.3	54.7	58.7				
Existing (PM)		3	15	23,608	35	25	0	0	1.8%	0.7%	72.0	####	####	####	372	147	21	5	32	13	65.1	74.8	80.0	5.0	71.1	64.0	65.2	72.7	68.1	56.4	55.0	68.6	54.9	54.5	55.9	59.9				
Existing plus Project (MD)		3	15	18,608	35	25	0	0	1.8%	0.7%	70.9	####	####	####	293	116	17	4	25	10	65.1	74.8	80.0	5.0	70.0	62.9	64.1	71.6	67.0	55.3	54.0	67.5	53.8	53.5	54.9	58.9				
Existing plus Project (PM)		3	15	24,104	35	25	0	0	1.8%	0.7%	72.1	####	####	####	379	150	22	5	33	14	65.1	74.8	80.0	5.0	71.1	64.1	65.3	72.8	68.2	56.5	55.1	68.6	55.0	54.6	56.0	60.0				
Westborough Blvd e/o EI Camino Real																																								
Existing (MD) Peak Hour		2	15	11,832	30	25	0	0	1.8%	0.7%	66.6	####	####	####	186	74	11	2	16	7	62.5	73.1	80.3	3.7	64.8	58.6	61.8	67.2	61.9	51.0	51.6	62.6	48.7	49.2	52.5	55.2				
Existing (PM)		2	15	16,816	30	25	0	0	1.8%	0.7%	68.2	####	####	####	265	105	15	3	23	9	62.5	73.1	80.3	3.7	66.4	60.2	63.3	68.7	63.4	52.6	53.1	64.1	50.2	50.7	54.0	56.8				
Existing plus Project (MD)		2	15	11,928	30	25	0	0	1.8%	0.7%	66.7	####	####	####	188	74	11	2	16	7	62.5	73.1	80.3	3.7	64.9	58.7	61.8	67.3	61.9	51.1	51.6	62.6	48.7	49.2	52.6	55.3				
Existing plus Project (PM)		2	15	16,888	30	25	0	0	1.8%	0.7%	68.2	####	####	####	266	105	15	3	23	10	62.5	73.1	80.3	3.7	66.4	60.2	63.3	68.8	63.4	52.6	53.1	64.1	50.2	50.7	54.1	56.8				
Westborough Blvd w/o EI Camino Real																																								
Existing (MD) Peak Hour		2	15	13,352	30	25	0	0	1.8%	0.7%	67.2	####	####	####	210	83	12	3	18	8	62.5	73.1	80.3	3.7	65.4	59.2	62.3	67.7	62.4	51.6	52.1	63.1	49.2	49.7	53.0	55.8				
Existing (PM)		2	15	18,656	30	25	0	0	1.8%	0.7%	68.6	####	####	####	294	116	17	4	25	11	62.5	73.1	80.3	3.7	66.8	60.6	63.7	69.2	63.8	53.0	53.6	64.5	50.6	51.2	54.5	57.2				
Existing plus Project (MD)		2	15	13,832	30	25	0	0	1.8%	0.7%	67.3	####	####	####	218	86	13	3	19	8	62.5	73.1	80.3	3.7	65.5	59.3	62.4	67.9	62.5	51.7	52.3	63.2	49.3	49.9	53.2	55.9				
Existing plus Project (PM)		2	15	19,000	30	25	0	0	1.8%	0.7%	68.7	####	####	####	299	119	17	4	26	11	62.5	73.1	80.3	3.7	66.9	60.7	63.8	69.3	63.9	53.1	53.6	64.6	50.7	51.2	54.6	57.3				

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as asphalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name
Weekday Peak Hour Volumes

rev. (Date)

Intersection: 3
El Camino Real & Southwood Dr

Southwood Dr

Eastbound

	left	through	right
Existing (MD) Pe	5	0	12
Existing (PM)	5	0	12
Existing plus Pro	5	0	12
Existing plus Pro	5	0	12

El Camino Real

Southbound

	right	through	left
Existing (MD)	19	985	64
Existing (PM)	11	1,183	88
Existing plus	21	998	116
Existing plus	12	1,192	127

N
W E
S

Northbound

	left	through	right
Existing (MD)	27	1,135	15
Existing (PM)	35	1,574	11
Existing plus	27	1,153	15
Existing plus	35	1,586	11

Westbound

	right	through	left
Existing (MD) Pe	6	0	3
Existing (PM)	10	0	1
Existing plus Pro	6	0	3
Existing plus Pro	10	0	1

ADT

Road	El Camino Real		Southwood Dr	
Leg	North of	South of	East of	West of
Cross Street	Southwood Dr		El Camino Real	
Existing (MD) Pe	17,712.0	17,416.0	704.0	504.0
Existing (PM)	22,968.0	22,528.0	880.0	504.0
Existing plus Pro	18,392.0	17,664.0	1,120.0	520.0
Existing plus Pro	23,456.0	22,696.0	1,192.0	512.0

2
NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes								Ref. Energy Levels Dist				Ld				Le				Ln							
ROADWAY NAME			Median	ADT	Design	Dist. from	Barrier	Vehicle Mix				Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total			
Segment	Land Use	Lanes	Width	Volume	Speed (mph)	Center to Receptor (ft)	Alpha Factor (1'	Attn. dB(A)	Medium Trucks	Heavy Trucks	dB(A) CNEL																												
EI Camino Real n/o Southwood Dr																																							
Existing (MD) Peak Hour		3	15	17,712	35	25	0	0	1.8%	0.7%	70.7	####	2,249	1,700	279	110	16	4	24	10	65.1	74.8	80.0	5.0	69.8	62.7	63.9	71.4	66.8	55.1	53.7	67.3	53.6	53.3	54.7	58.7			
Existing (PM)		3	15	22,968	35	25	0	0	1.8%	0.7%	71.9	####	2,917	2,205	361	143	21	5	31	13	65.1	74.8	80.0	5.0	70.9	63.8	65.0	72.6	68.0	56.3	54.9	68.4	54.8	54.4	55.8	59.8			
Existing plus Project (MD)		3	15	18,392	35	25	0	0	1.8%	0.7%	70.9	####	2,336	1,766	289	115	17	4	25	10	65.1	74.8	80.0	5.0	70.0	62.9	64.1	71.6	67.0	55.3	53.9	67.5	53.8	53.4	54.8	58.8			
Existing plus Project (PM)		3	15	23,456	35	25	0	0	1.8%	0.7%	72.0	####	2,979	2,252	369	146	21	5	32	13	65.1	74.8	80.0	5.0	71.0	63.9	65.1	72.6	68.0	56.4	55.0	68.5	54.9	54.5	55.9	59.9			
EI Camino Real s/o Southwood Dr																																							
Existing (MD) Peak Hour		3	15	17,416	35	25	0	0	1.8%	0.7%	70.7	####	2,212	1,672	274	109	16	3	24	10	65.1	74.8	80.0	5.0	69.7	62.6	63.8	71.4	66.8	55.1	53.7	67.2	53.6	53.2	54.6	58.6			
Existing (PM)		3	15	22,528	35	25	0	0	1.8%	0.7%	71.8	####	2,861	2,163	355	141	20	4	30	13	65.1	74.8	80.0	5.0	70.9	63.8	65.0	72.5	67.9	56.2	54.8	68.4	54.7	54.3	55.7	59.7			
Existing plus Project (MD)		3	15	17,664	35	25	0	0	1.8%	0.7%	70.7	####	2,243	1,696	278	110	16	4	24	10	65.1	74.8	80.0	5.0	69.8	62.7	63.9	71.4	66.8	55.1	53.7	67.3	53.6	53.2	54.7	58.7			
Existing plus Project (PM)		3	15	22,696	35	25	0	0	1.8%	0.7%	71.8	####	2,882	2,179	357	142	21	5	31	13	65.1	74.8	80.0	5.0	70.9	63.8	65.0	72.5	67.9	56.2	54.8	68.4	54.7	54.3	55.8	59.7			
Southwood Dr e/o EI Camino Real																																							
Existing (MD) Peak Hour		1	0	704	25	25	0	0	1.8%	0.7%	52.1	547	89	68	11	4	1	0	1	0	59.4	71.1	78.7	2.9	49.6	44.4	48.0	52.6	46.6	36.8	37.9	47.5	33.4	34.9	38.8	41.1			
Existing (PM)		1	0	880	25	25	0	0	1.8%	0.7%	53.0	684	112	84	14	5	1	0	1	0	59.4	71.1	78.7	2.9	50.5	45.4	49.0	53.5	47.5	37.8	38.8	48.5	34.3	35.9	39.8	42.1			
Existing plus Project (MD)		1	0	1,120	25	25	0	0	1.8%	0.7%	54.1	870	142	108	18	7	1	0	2	1	59.4	71.1	78.7	2.9	51.6	46.4	50.0	54.6	48.6	38.8	39.9	49.5	35.4	37.0	40.8	43.1			
Existing plus Project (PM)		1	0	1,192	25	25	0	0	1.8%	0.7%	54.4	926	151	114	19	7	1	0	2	1	59.4	71.1	78.7	2.9	51.8	46.7	50.3	54.9	48.9	39.1	40.1	49.8	35.7	37.2	41.1	43.4			
Southwood Dr w/o EI Camino Real																																							
Existing (MD) Peak Hour		1	0	504	25	25	0	0	1.8%	0.7%	50.6	392	64	48	8	3	0	0	1	0	59.4	71.1	78.7	2.9	48.1	42.9	46.6	51.1	45.1	35.4	36.4	46.1	31.9	33.5	37.3	39.6			
Existing (PM)		1	0	504	25	25	0	0	1.8%	0.7%	50.6	392	64	48	8	3	0	0	1	0	59.4	71.1	78.7	2.9	48.1	42.9	46.6	51.1	45.1	35.4	36.4	46.1	31.9	33.5	37.3	39.6			
Existing plus Project (MD)		1	0	520	25	25	0	0	1.8%	0.7%	50.8	404	66	50	8	3	0	0	1	0	59.4	71.1	78.7	2.9	48.2	43.1	46.7	51.3	45.3	35.5	36.5	46.2	32.1	33.6	37.5	39.8			
Existing plus Project (PM)		1	0	512	25	25	0	0	1.8%	0.7%	50.7	398	65	49	8	3	0	0	1	0	59.4	71.1	78.7	2.9	48.2	43.0	46.6	51.2	45.2	35.4	36.5	46.1	32.0	33.6	37.4	39.7			

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as asphalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name
Weekday Peak Hour Volumes

rev. (Date)

Intersection: 4
El Camino Real & Orange Ave

Orange Ave

Eastbound

	left	through	right
Existing (MD) Pe	68	45	36
Existing (PM)	80	57	38
Existing plus Pro	70	45	36
Existing plus Pro	81	57	38

El Camino Real

Southbound

	right	through	left
Existing (MD) Pe	36	834	141
Existing (PM)	58	943	203
Existing plus Pro	36	842	146
Existing plus Pro	58	949	206

W N E
S

Northbound

	left	through	right
Existing (MD) Pe	17	933	101
Existing (PM)	30	1,313	162
Existing plus Pro	17	942	101
Existing plus Pro	30	1,319	162

Westbound

	right	through	left
Existing (MD) Pe	162	26	115
Existing (PM)	208	59	147
Existing plus Pro	169	26	115
Existing plus Pro	213	59	147

ADT

Road	El Camino Real		Orange Ave	
Leg	North of	South of	East of	West of
Cross Street	Orange Ave		El Camino Real	
Existing (MD) Pe	17,392.0	16,288.0	4,720.0	1,824.0
Existing (PM)	22,440.0	21,064.0	6,688.0	2,576.0
Existing plus Proj	17,640.0	16,424.0	4,816.0	1,840.0
Existing plus Proj	22,608.0	21,160.0	6,752.0	2,584.0

2
NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes								Ref. Energy Levels Dist				Ld				Le				Ln								
ROADWAY NAME		Land Use	Median Lanes	ADT Width	Design Dist. from		Alpha	Barrier Attn.	Vehicle Mix		dB(A) CNEL	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total				
Segment	Speed (mph)				Center to Receptor (ft)	Medium Trucks			Heavy Trucks																															
El Camino Real n/o Orange Ave																																								
Existing (MD) Peak Hour		3	15	17,392	35	25	0	0	1.8%	0.7%	70.7	####	####	####	274	108	16	3	24	10	65.1	74.8	80.0	5.0	69.7	62.6	63.8	71.3	66.7	55.1	53.7	67.2	53.6	53.2	54.6	58.6				
Existing (PM)		3	15	22,440	35	25	0	0	1.8%	0.7%	71.8	####	####	####	353	140	20	4	30	13	65.1	74.8	80.0	5.0	70.8	63.7	64.9	72.5	67.9	56.2	54.8	68.3	54.7	54.3	55.7	59.7				
Existing plus Project (MD)		3	15	17,640	35	25	0	0	1.8%	0.7%	70.7	####	####	####	278	110	16	4	24	10	65.1	74.8	80.0	5.0	69.8	62.7	63.9	71.4	66.8	55.1	53.7	67.3	53.6	53.2	54.7	58.7				
Existing plus Project (PM)		3	15	22,608	35	25	0	0	1.8%	0.7%	71.8	####	####	####	356	141	21	4	31	13	65.1	74.8	80.0	5.0	70.9	63.8	65.0	72.5	67.9	56.2	54.8	68.4	54.7	54.3	55.7	59.7				
El Camino Real s/o Orange Ave																																								
Existing (MD) Peak Hour		3	15	16,288	35	25	0	0	1.8%	0.7%	70.4	####	####	####	256	102	15	3	22	9	65.1	74.8	80.0	5.0	69.4	62.4	63.5	71.1	66.5	54.8	53.4	66.9	53.3	52.9	54.3	58.3				
Existing (PM)		3	15	21,064	35	25	0	0	1.8%	0.7%	71.5	####	####	####	331	131	19	4	29	12	65.1	74.8	80.0	5.0	70.6	63.5	64.7	72.2	67.6	55.9	54.5	68.1	54.4	54.0	55.4	59.4				
Existing plus Project (MD)		3	15	16,424	35	25	0	0	1.8%	0.7%	70.4	####	####	####	258	102	15	3	22	9	65.1	74.8	80.0	5.0	69.5	62.4	63.6	71.1	66.5	54.8	53.4	67.0	53.3	52.9	54.3	58.3				
Existing plus Project (PM)		3	15	21,160	35	25	0	0	1.8%	0.7%	71.5	####	####	####	333	132	19	4	29	12	65.1	74.8	80.0	5.0	70.6	63.5	64.7	72.2	67.6	55.9	54.5	68.1	54.4	54.0	55.5	59.4				
Orange Ave e/o El Camino Real																																								
Existing (MD) Peak Hour		1	0	4,720	25	25	0	0	1.8%	0.7%	60.3	####	599	453	74	29	4	1	6	3	59.4	71.1	78.7	2.9	57.8	52.7	56.3	60.8	54.8	45.1	46.1	55.8	41.6	43.2	47.1	49.4				
Existing (PM)		1	0	6,688	25	25	0	0	1.8%	0.7%	61.8	####	849	642	105	42	6	1	9	4	59.4	71.1	78.7	2.9	59.3	54.2	57.8	62.4	56.4	46.6	47.6	57.3	43.2	44.7	48.6	50.9				
Existing plus Project (MD)		1	0	4,816	25	25	0	0	1.8%	0.7%	60.4	####	612	462	76	30	4	1	7	3	59.4	71.1	78.7	2.9	57.9	52.7	56.4	60.9	54.9	45.2	46.2	55.9	41.7	43.3	47.1	49.4				
Existing plus Project (PM)		1	0	6,752	25	25	0	0	1.8%	0.7%	61.9	####	858	648	106	42	6	1	9	4	59.4	71.1	78.7	2.9	59.4	54.2	57.8	62.4	56.4	46.6	47.7	57.3	43.2	44.8	48.6	50.9				
Orange Ave w/o El Camino Real																																								
Existing (MD) Peak Hour		1	0	1,824	25	25	0	0	1.8%	0.7%	56.2	####	232	175	29	11	2	0	2	1	59.4	71.1	78.7	2.9	53.7	48.5	52.2	56.7	50.7	40.9	42.0	51.6	37.5	39.1	42.9	45.2				
Existing (PM)		1	0	2,576	25	25	0	0	1.8%	0.7%	57.7	####	327	247	41	16	2	1	3	1	59.4	71.1	78.7	2.9	55.2	50.0	53.7	58.2	52.2	42.4	43.5	53.1	39.0	40.6	44.4	46.7				
Existing plus Project (MD)		1	0	1,840	25	25	0	0	1.8%	0.7%	56.2	####	234	177	29	11	2	0	2	1	59.4	71.1	78.7	2.9	53.7	48.6	52.2	56.8	50.7	41.0	42.0	51.7	37.6	39.1	43.0	45.3				
Existing plus Project (PM)		1	0	2,584	25	25	0	0	1.8%	0.7%	57.7	####	328	248	41	16	2	1	3	1	59.4	71.1	78.7	2.9	55.2	50.0	53.7	58.2	52.2	42.5	43.5	53.2	39.0	40.6	44.4	46.7				

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as asphalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name
Weekday Peak Hour Volumes

rev. (Date)

Intersection: 5
El Camino Real & Project North Driveway

Project North Driveway

Eastbound

	left	through	right
Existing (MD) Peak Hour			
Existing (PM)			
Existing plus Project (MD)			
Existing plus Project (PM)			

El Camino Real

Southbound

	right	through	left
Existing (MD) Peak Hour		1,057	
Existing (PM)		1,265	
Existing plus Project (MD)		1,089	
Existing plus Project (PM)		1,288	

W N E
S

Northbound

	left	through	right
Existing (MD) Peak Hour		1,146	
Existing (PM)		1,589	
Existing plus Project (MD)		1,110	70
Existing plus Project (PM)		1,561	52

Westbound

	right	through	left
Existing (MD) Peak Hour			
Existing (PM)			
Existing plus Pro	70		
Existing plus Pro	51		

ADT

Road	El Camino Real		Project North Driveway	
Leg	North of	South of	East of	West of
Cross Street	Project North Driveway		El Camino Real	
Existing (MD) Peak Hour	17,624.0	17,624.0	0.0	0.0
Existing (PM)	22,832.0	22,832.0	0.0	0.0
Existing plus Project (MD)	18,152.0	18,152.0	1,120.0	0.0
Existing plus Project (PM)	23,200.0	23,208.0	824.0	0.0

Project Name
Weekday Peak Hour Volumes

rev. (Date)

Intersection: 6
El Camino Real & Project South Dwy

Project South Dwy

Eastbound

	left	through	right
Existing (MD) Peak Hour			
Existing (PM)			
Existing plus Project (MD)			
Existing plus Project (PM)			

El Camino Real

Southbound

	right	through	left
Existing (MD) Peak Hour		1,057	
Existing (PM)		1,265	
Existing plus Project (MD)		1,089	
Existing plus Project (PM)		1,288	

W N E
S

Northbound

	left	through	right
Existing (MD) Peak Hour		1,146	
Existing (PM)		1,589	
Existing plus Project (MD)		1,109	72
Existing plus Project (PM)		1,561	53

Westbound

	right	through	left
Existing (MD) Peak Hour			
Existing (PM)			
Existing plus Pro	71		
Existing plus Pro	52		

ADT

Road	El Camino Real		Project South Dwy	
Leg	North of	South of	East of	West of
Cross Street	Project South Dwy		El Camino Real	
Existing (MD) Peak Hour	17,624.0	17,624.0	0.0	0.0
Existing (PM)	22,832.0	22,832.0	0.0	0.0
Existing plus Project	18,152.0	18,160.0	1,144.0	0.0
Existing plus Project	23,208.0	23,216.0	840.0	0.0

2
NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

												Traffic Volumes								Ref. Energy Levels Dist				Ld			Le			Ln							
ROADWAY NAME			Median	ADT	Design Dist. from		Barrier	Vehicle Mix		dB(A) CNEL	Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total		
Segment	Land Use	Lanes	Width	Volume	(mph)	Center to Receptor	Attn. (1')	Medium Trucks	Heavy Trucks		Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	A	MT	HT	Adj	A	MT	HT	Total	A	MT	HT	Total	A	MT	HT	Total		
EI Camino Real n/o Project South Driveway																																					
Existing (MD) Peak Hour		3	15	17,624	35	25	0	0	1.8%	0.7%	70.7	####	2,238	1,692	277	110	16	4	24	10	65.1	74.8	80.0	5.0	69.8	62.7	63.9	71.4	66.8	55.1	53.7	67.3	53.6	53.2	54.7	58.6	
Existing (PM)		3	15	22,832	35	25	0	0	1.8%	0.7%	71.8	####	2,900	2,192	359	142	21	5	31	13	65.1	74.8	80.0	5.0	70.9	63.8	65.0	72.5	67.9	56.2	54.9	68.4	54.7	54.4	55.8	59.8	
Existing plus Project (MD)		3	15	18,152	35	25	0	0	1.8%	0.7%	70.8	####	2,305	1,743	286	113	17	4	25	10	65.1	74.8	80.0	5.0	69.9	62.8	64.0	71.5	66.9	55.2	53.9	67.4	53.7	53.4	54.8	58.8	
Existing plus Project (PM)		3	15	23,208	35	25	0	0	1.8%	0.7%	71.9	####	2,947	2,228	365	145	21	5	31	13	65.1	74.8	80.0	5.0	71.0	63.9	65.1	72.6	68.0	56.3	54.9	68.5	54.8	54.4	55.9	59.8	
EI Camino Real s/o Project South Driveway																																					
Existing (MD) Peak Hour		3	15	17,624	35	25	0	0	1.8%	0.7%	70.7	####	2,238	1,692	277	110	16	4	24	10	65.1	74.8	80.0	5.0	69.8	62.7	63.9	71.4	66.8	55.1	53.7	67.3	53.6	53.2	54.7	58.6	
Existing (PM)		3	15	22,832	35	25	0	0	1.8%	0.7%	71.8	####	2,900	2,192	359	142	21	5	31	13	65.1	74.8	80.0	5.0	70.9	63.8	65.0	72.5	67.9	56.2	54.9	68.4	54.7	54.4	55.8	59.8	
Existing plus Project (MD)		3	15	18,160	35	25	0	0	1.8%	0.7%	70.8	####	2,306	1,743	286	113	17	4	25	10	65.1	74.8	80.0	5.0	69.9	62.8	64.0	71.5	66.9	55.2	53.9	67.4	53.7	53.4	54.8	58.8	
Existing plus Project (PM)		3	15	23,216	35	25	0	0	1.8%	0.7%	71.9	####	2,948	2,229	365	145	21	5	31	13	65.1	74.8	80.0	5.0	71.0	63.9	65.1	72.6	68.0	56.3	54.9	68.5	54.8	54.4	55.9	59.8	
Project South Driveway e/o EI Camino Real																																					
Existing (MD) Peak Hour		2	0	0	25	25	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	59.4	71.1	78.7	3.1	####	####	####	####	####	####	####	####	####	####	####	####	####
Existing (PM)		2	0	0	25	25	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	59.4	71.1	78.7	3.1	####	####	####	####	####	####	####	####	####	####	####	####	####
Existing plus Project (MD)		2	0	1,144	25	25	0	0	1.8%	0.7%	54.3	889	145	110	18	7	1	0	2	1	59.4	71.1	78.7	3.1	51.8	46.6	50.3	54.8	48.8	39.0	40.1	49.7	35.6	37.2	41.0	43.3	
Existing plus Project (PM)		2	0	840	25	25	0	0	1.8%	0.7%	53.0	653	107	81	13	5	1	0	1	0	59.4	71.1	78.7	3.1	50.4	45.3	48.9	53.5	47.5	37.7	38.8	48.4	34.3	35.8	39.7	42.0	
Project South Driveway w/o EI Camino Real																																					
Existing (MD) Peak Hour		2	0	0	25	25	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	59.4	71.1	78.7	3.1	####	####	####	####	####	####	####	####	####	####	####	####	####
Existing (PM)		2	0	0	25	25	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	59.4	71.1	78.7	3.1	####	####	####	####	####	####	####	####	####	####	####	####	####
Existing plus Project (MD)		2	0	0	25	25	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	59.4	71.1	78.7	3.1	####	####	####	####	####	####	####	####	####	####	####	####	####
Existing plus Project (PM)		2	0	0	25	25	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	59.4	71.1	78.7	3.1	####	####	####	####	####	####	####	####	####	####	####	####	####

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as asphalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%