4.9 NOISE

The purpose of this Section is to analyze Project-related noise impacts on-site and surrounding land uses. This section evaluates short-term construction related impacts as well as future buildout conditions.

Information in this section was obtained from the *County of Orange General Plan* (July 2003); *City of Dana Point General Plan Master Environmental Assessment* (March 1991); and the *County of Orange Zoning Code*. For mobile source noise modeling and contour distribution, traffic information contained in the *Dana Point Harbor Revitalization Project Traffic and Parking Analysis* (September 2005) was used; refer to Section 4.5 (Traffic and Parking), and Appendix J (Traffic and Parking Study). Refer to Appendix E (Noise Data) for the assumptions used in this analysis.

4.9.1 EXISTING CONDITIONS

4.9.1.1 NOISE SOURCES

Transportation noise is the single dominant noise source in the Project area. Other noise sources include typical coastal and harbor-related activities, such as boater activities and conversation. The existing noise environment is defined as the ambient noise levels presently experienced in the Project area. The existing acoustical environment around the Project is typical of urban and suburban communities. The primary sources of noise throughout the community are stationary and mobile sources. Mobile sources include the various modes of transportation, such as automobiles, trucks, motorcycles, trains, and aircraft. The community locations directly adjacent to the roadways experience noise dominated by vehicles and boat usage.

4.9.1.2 AMBIENT NOISE MEASUREMENTS

To quantify existing ambient noise levels in the Project area, RBF Consulting conducted noise surveys on January 22, 2004; refer to Exhibit 4.9-1 (Noise Monitoring Locations). The noise measurement sites represent existing noise exposure in a given time period (15 minutes) within the project area.

Noise monitoring equipment used for the ambient noise survey consisted of a Larson Davis Laboratories Model 820 sound level analyzer equipped with a Larson Davis Type 2561 random incidence microphone. The instrumentation was calibrated prior to use with a Larson Davis CAL 250 acoustical calibrator to ensure the accuracy of the measurements, and complies with applicable requirements of the American National Standards Institute (ANSI) for Type I (precision) sound level meters. The accuracy of the calibrator is maintained through a program established by the manufacturer, and is traceable to the National Bureau of Standards. All instrumentation meets the requirements of ANSI S1.4-1971.

The results of the field noise level measurements are in Table 4.9-1 (Ambient Noise Measurements). The highest noise level measurement (58.1 dBA) was taken at Site 2, within Fisherman's Alley. On the other hand, the lowest noise level measurement (49.9 dBA) occurred at Site 7, at the Youth and Group Facility.

Scale : N.T.S.
Source: RBF Consulting, February 4, 2004.

NOISE MONITORING LOCATIONS

DANA POINT HARBOR REVITALIZATION PROJECT
PROGRAM ENVIRONMENTAL IMPACT REPORT

EXHIBIT 4.9-1

RBF CONSULTING — PLANNING ■ DESIGN ■ CONSTRUCTION

Table 4.9-1
AMBIENT NOISE MEASUREMENTS

Site No.	Location	L_{eq} dBA	Time	Peak Noise Source
1	Embarcadero Boatyard	57.7	1:15 p.m.	Boat engine.
2	Fisherman's Alley	58.1	1:31 p.m.	Pedestrian conversation.
3	Walkway behind Harpoon Henry's	57.3	1:40 p.m.	Pedestrian conversation.
4	Mariners Alley – in front of JW Jewelry Store	54.9	1:50 p.m.	Pedestrian conversation.
5	Island	54.8	2:10 p.m.	Vehicles driving by.
6	Ocean Institute	57.4	2:25 p.m.	Pedestrian conversation.
7	Youth and Group Facility	49.9	2:40 p.m.	Pedestrian conversation.

Source: Noise Monitoring Survey conducted by RBF Consulting, January 22, 2004.

4.9.1.3 EXISTING AND PROJECTED TRAFFIC NOISE LEVELS

For this proposed Project, vehicular noise along five major roadways was modeled to estimate existing and projected (with-Project) noise levels from mobile traffic. The existing and projected future (with-Project) roadway noise levels in the vicinity of the Project site were modeled using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (RD-77-108), together with several roadway and site parameters. This FHWA computer model is based upon reference energy mean emission levels (REMELs) for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

To predict CNEL values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The Calveno traffic noise emission curves were used, as recommended by the California Department of Transportation (Caltrans), to more accurately calculate noise levels generated by California traffic.

Traffic volumes used in the FHWA model were obtained from the *Dana Point Harbor Revitalization Plan Traffic Impact and Parking Analysis*, prepared by RBF Consulting (September 2005). Other traffic inputs into the model were obtained from field observations or from the City and County *General Plans*. These traffic inputs determine the projected impact of vehicular traffic noise and include the roadway cross-section (e.g., number of lanes), roadway width, average daily trips (ADT), vehicle travel speed, percentages of automobile and truck traffic, roadway grade, angle of view, and site conditions (hard or soft). The model does not take into account ambient noise levels (i.e., noise from adjacent land uses) or topographical differences between the roadway and adjacent land uses.

In accordance with the *Project Traffic Analysis*, each of three scenarios was analyzed for both weekdays and weekends: existing conditions (without Project); existing conditions with the Project's Commercial Core component; and existing conditions with the Project's Harborwide component. Table 4.9-2a (Existing and Existing plus Project's Harborwide Component [Weekdays]), Table 4.9-2b (Existing and Existing plus Project's Harborwide Component [Weekends]), Table 4.9-3a (Modeled Noise Levels: Existing and Plus Project's Commercial Core Component

[Weekdays]), Table 4.9-3b (Modeled Noise Levels: Existing and Existing plus Project's Commercial Core Component [Weekends]) indicate the location of the 60-, 65-, and 70-CNEL noise contours associated with vehicular traffic along local roadways, as modeled with the FHWA computer model.

Table 4.9-2a
EXISTING AND EXISTING PLUS PROJECT'S HARBORWIDE COMPONENT (WEEKDAYS)

Existing Weekday (Without Project)						Existing Weekday plus Project's Harborwide Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Camino Capistrano											
North of Stonehill Dr.	18,815	67.0	586	185	59	18,815	67.0	586	185	59	0
Casitas Place											
South of Dana Point Harbor Dr.	1,210	47.0	15	7	3	2105	46.4	21	10	5	2
Dana Point Harbor Drive											
Between PCH and Street of Park Lantern	8,430	56.5	68	31	15	11205	57.8	82	38	18	1
Between Street of Park Lantern and Puerto Pl.	7,708	56.1	64	30	14	10485	57.5	79	36	17	1
Between Puerto Pl. and Street of Golden Lantern	7,485	56.0	63	29	13	9188	56.9	72	33	15	1
Between Street of Golden Lantern and Casitas Pl.	5,760	53.3	41	19	9	6858	54.1	46	22	10	1
Between Casitas Pl. and Island Way	5,128	52.8	38	18	8	5328	53.0	39	18	8	0
West of Island Way	3,415	51.0	29	14	6	3250	50.8	28	13	6	0
Del Obispo Street											
North of Stonehill Dr.	13,890	63.2	240	76	24	14040	63.2	242	76	24	0
Between PCH and Stonehill Dr.	8,695	61.1	150	47	15	8985	61.3	155	49	16	0
Del Prado											
West of Street of Golden Lantern	10,125	60.6	125	39	13	10210	60.6	126	40	13	0
East of Street of Golden Lantern	12,595	61.5	155	49	16	12,595	61.5	155	49	16	0
Doheny Park Rd.											
South of Stonehill Dr.	19,150	67.1	595	188	60	19,150	67.1	595	188	60	0
Island Way											
South of Dana Pt. Harbor Dr.	2,815	50.7	26	12	6	3180	51.2	28	13	6	1
Pacific Coast Highway (PCH)											
East of I-5 NB Ramps	9,160	62.7	215	68	21	9,160	62.7	215	68	21	0
Between I-5 NB Ramps and I-5 SB Ramps	12,150	63.9	285	90	28	13195	64.3	309	98	31	0
Between I-5 SB Ramps and Doheny	30,350	67.9	711	225	71	36853	68.7	864	273	86	0
Between Doheny Park Plaza and Del Obispo St./Dana Point Harbor Dr.	34,368	68.4	805	254	80	36650	68.2	765	242	76	0

Table 4.9-2a [continued]
EXISTING AND EXISTING PLUS PROJECT'S HARBORWIDE COMPONENT (WEEKDAYS)

Existing Weekday (Without Project)						Existing Weekday plus Project's Harborwide Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Between Del Obispo St./Dana Point Harbor Dr. and Street of the Golden Lantern	21,410	66.4	502	159	50	36853	68.7	864	273	86	0
Between Street of the Golden Lantern and Street of the Blue Lantern	15,310	64.9	359	113	36	21410	66.4	502	159	50	0
West of Street of Blue Lantern	23,250	66.7	545	172	55	23410	66.8	549	174	55	0
Puerto Place											
South of Dana Pt. Harbor Dr.	1,365	50.4	12	4	1	2715	53.1	22	7	2	3
Street of the Blue Lantern											
North of PCH	1,080	49.4	9	3	1	1,080	49.4	9	3	1	0
South of PCH	1,725	51.4	15	5	1	1,725	51.4	15	5	1	0
Street of the Golden Lantern											
North of Stonehill Dr.	15,300	61.9	189	60	19	15,400	61.9	190	60	19	0
Between Stonehill and PCH	10,458	57.1	78	36	17	10608	57.2	79	37	17	0
Between PCH and Del Prado	9,558	59.9	118	37	12	9785	60.0	121	38	12	0
Between Del Prado and Dana Pt Harbor Dr	5,428	57.4	67	21	7	5745	57.7	71	22	7	0
South of Dana Point Harbor Dr.	3,695	51.4	31	14	7	4350	52.1	34	16	7	1
Street of the Park Lantern											
North of Dana Point Harbor Dr.	625	44.2	9	4	2	625	44.2	9	4	2	0
South of Dana Point Harbor Dr.	825	45.0	11	5	2	825	45.0	11	5	2	0
Stonehill											
West of Street of Golden Lantern	9,350	64.0	291	92	29	9,350	64.0	291	92	29	0
Between Street of Golden Lantern and Del Obispo St.	17,090	66.6	532	168	53	17,090	66.6	532	168	53	0
Between Del Obispo St. and Camino Capistrano	22,515	67.8	701	222	70	22,610	67.8	702	222	70	0

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level
Traffic modeling is based upon data contained within the *Project Traffic and Parking Report* prepared by RBF Consulting, September 2005.

Table 4.9-2b
EXISTING AND EXISTING PLUS PROJECT'S HARBORWIDE COMPONENT (WEEKENDS)

Existing Weekend (Without Project)						Existing Weekend Plus Project's Harborwide Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet) 60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet) 60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Camino Capistrano											
North of Stonehill Dr.	22,260	67.8	693	219	69	22,260	67.8	693	219	69	0
Casitas Place											
South of Dana Point Harbor Dr.	2,215	49.7	22	10	5	3,110	51.1	27	13	6	1.4
Dana Point Harbor Drive											
Between PCH and Street of Park Lantern	13,250	58.5	92	43	20	16,025	59.3	104	48	22	0.8
Between Street of Park Lantern and Puerto Pl.	13,733	58.6	94	44	20	16,510	59.4	106	49	23	0.8
Between Puerto Pl. and Street of Golden Lantern	13,693	58.6	94	44	20	15,395	59.1	101	47	22	0.5
Between Street of Golden Lantern and Casitas Pl.	10,130	55.7	60	28	13	11,228	56.2	65	30	14	0.5
Between Casitas Pl. and Island Way	8,950	55.2	55	26	12	9,150	55.3	56	26	12	0.1
West of Island Way	6,485	53.8	45	21	10	6,320	53.7	44	20	9	-0.1
Del Obispo Street											
North of Stonehill Dr.	14,380	63.3	248	78	25	14,530	63.4	250	79	25	0.1
Between PCH and Stonehill Dr.	11,185	62.2	193	61	19	11,475	62.3	198	63	20	0.1
Del Prado Street											
West of Street of Golden Lantern	16,285	62.6	201	64	20	16,370	62.6	202	64	20	0
East of Street of Golden Lantern	17,655	63.0	218	69	2	17,655	63.0	218	62	22	0
Doheny Park Road											
South of Stonehill Dr.	27,105	68.6	843	266	84	25,685	68.4	799	253	80	-0.2
Island Way											
South of Dana Pt. Harbor Dr.	3,870	52.1	32	15	7	4,235	52.5	34	16	7	0.4
Pacific Coast Highway (PCH)											
East of I-5 NB Ramps	6,845	61.4	161	51	16	6,845	61.4	161	51	16	0
Between I-5 NB Ramps and I-5 SB Ramps	10,955	63.5	257	81	26	12,000	63.9	282	89	28	0.4
Between I-5 SB Ramps and Doheny	29,943	67.8	702	222	70	32,243	68.2	756	239	76	0.4
Between Doheny Park Plaza and Del Obispo St./Dana Point Harbor Dr.	32,410	68.2	760	240	76	34,895	68.5	818	259	82	0.3
Between Del Obispo St./Dana Point Harbor Dr. and Street of the Golden Lantern	19,393	65.9	455	144	45	19,393	65.9	455	144	45	0
Between Street of the Golden Lantern and Street of the Blue Lantern	12,580	64.1	295	93	29	12,655	64.1	297	94	30	0

Table 4.9-2b [continued]
EXISTING AND EXISTING PLUS PROJECT'S HARBORWIDE COMPONENT (WEEKENDS)

Existing Weekend (Without Project)						Existing Weekend Plus Project's Harborwide Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
West of Street of Blue Lantern	27,555	67.5	647	204	65	27,715	67.5	650	205	65	0
Puerto Place											
South of Dana Pt. Harbor Dr.	1,835	51.7	16	5	2	3,185	54.1	27	9	3	2.4
Street of the Blue Lantern											
North of PCH	1,150	49.7	10	3	1	1,150	49.7	10	3	1	0
South of PCH	2,875	53.6	25	8	2	2,875	53.6	25	8	2	0
Street of the Golden Lantern											
North of Stonehill Dr.	19,575	63.0	242	76	24	19,725	63.0	243	77	24	0
Between Stonehill and PCH	15,365	58.8	101	47	22	15,515	58.9	102	47	22	0.1
Between PCH and Del Prado	16,003	62.1	198	63	20	16,230	62.2	201	63	20	0.1
Between Del Prado and Dana Pt Harbor Dr	9,730	59.9	120	38	12	10,048	60.1	124	39	12	0.2
South of Dana Point Harbor Dr.	10,075	55.7	60	28	13	10,730	56.0	63	29	13	0.3
Street of the Park Lantern											
North of Dana Point Harbor Dr.	1,975	49.2	20	9	4	1,975	49.2	20	9	4	0
South of Dana Point Harbor Dr.	2,320	49.5	23	10	5	2,320	49.5	23	10	5	0
Stonehill											
West of Street of Golden Lantern	7,760	63.2	241	76	24	7,760	63.2	241	76	24	0
Between Street of Golden Lantern and Del Obispo St.	13,838	65.7	430	136	43	13,838	65.7	430	136	43	0
Between Del Obispo St. and Camino Capistrano	18,665	67.0	580	183	58	18,805	67.0	584	185	58	0

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level
Traffic modeling is based upon data contained within the *Project Traffic and Parking Report* prepared by RBF Consulting, September 2005.

Table 4.9-3a
MODELED NOISE LEVELS: EXISTING AND EXISTING PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKDAYS)

Existing Weekday (Without Project)						Existing Weekday plus Project's Commercial Core Component					Difference in dBA @100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Camino Capistrano											
North of Stonehill Dr.	18,815	67.0	586	185	59	18,815	67.0	586	185	59	0
Casitas Place											
South of Dana Point Harbor Dr.	1,210	47.0	15	7	3	1,210	47.0	15	7	3	0
Dana Point Harbor Drive											
Between PCH and Street of Park Lantern	8,430	56.5	68	31	15	10,253	57.4	77	36	17	0.9
Between Street of Park Lantern and Puerto Pl.	7,708	56.1	64	30	14	9,535	57.1	74	34	16	1.0
Between Puerto Pl. and Street of Golden Lantern	7,485	56.0	63	29	13	8,215	56.4	67	31	14	0.4
Between Street of Golden Lantern and Casitas Pl.	5,760	53.3	41	19	9	5,760	53.3	41	19	9	0
Between Casitas Pl. and Island Way	5,128	52.8	38	18	8	5,128	52.8	38	18	8	0
West of Island Way	3,415	51.0	29	14	6	3,415	51.0	29	14	6	0
Del Obispo Street											
North of Stonehill Dr.	13,890	63.2	240	76	24	13,990	63.2	241	76	24	0
Between PCH and Stonehill Dr.	8,695	61.1	150	47	15	8,890	61.2	153	48	15	0
Del Prado											
West of Street of Golden Lantern	10,125	60.6	125	39	13	10,180	60.6	126	40	13	0
East of Street of Golden Lantern	12,595	61.5	155	49	16	12,595	61.5	155	49	16	0
Doheny Park Rd.											
South of Stonehill Dr.	19,150	67.1	595	188	60	19,150	67.1	595	188	60	0
Island Way											
South of Dana Pt. Harbor Dr.	2,815	50.7	26	12	6	2,815	50.7	26	12	6	0
Pacific Coast Highway (PCH)											
East of I-5 NB Ramps	9,160	62.7	215	68	21	9,160	62.7	215	68	21	0
Between I-5 NB Ramps and I-5 SB Ramps	12,150	63.9	285	90	28	12,845	64.2	301	95	30	0.3
Between I-5 SB Ramps and Doheny	30,350	67.9	711	225	71	31,855	68.1	746	236	75	0.2
Between Doheny Park Plaza and Del Obispo St./Dana Point Harbor Dr.	34,368	68.4	805	254	80	35,993	68.6	844	267	84	0.2
Between Del Obispo St./Dana Point Harbor Dr. and Street of the Golden Lantern	21,410	66.4	502	159	50	21,410	66.4	502	159	50	0

Table 4.9-3a [continued]
MODELED NOISE LEVELS: EXISTING AND EXISTING PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKDAYS)

Existing Weekday (Without Project)						Existing Weekday plus Project's Commercial Core Component					Difference in dBA @100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Between Street of the Golden Lantern and Street of the Blue Lantern	15,310	64.9	359	113	36	15,355	64.9	360	114	36	0
West of Street of Blue Lantern	23,250	66.7	545	172	55	23,350	66.8	548	173	55	0.1
Puerto Place											
South of Dana Pt. Harbor Dr.	1,365	50.4	12	4	1	2,745	53.4	24	7	2	3.0
Street of the Blue Lantern											
North of PCH	1,080	49.4	9	3	1	1,080	49.4	9	3	1	0
South of PCH	1,725	51.4	15	5	1	1,725	51.4	15	5	1	0
Street of the Golden Lantern											
North of Stonehill Dr.	15,300	61.9	189	60	19	15,400	61.9	190	60	19	0
Between Stonehill and PCH	10,458	57.1	78	36	17	10,558	57.2	79	37	17	0
Between PCH and Del Prado	9,558	59.9	118	37	12	9,705	59.9	120	38	12	0
Between Del Prado and Dana Pt Harbor Dr	5,428	57.4	67	21	7	5,633	57.6	70	22	7	0.2
South of Dana Point Harbor Dr.	3,695	51.4	31	14	7	4,350	52.1	34	16	7	0.7
Street of the Park Lantern											
North of Dana Point Harbor Dr.	625	44.2	9	4	2	625	44.2	9	4	2	0
South of Dana Point Harbor Dr.	825	45.0	11	5	2	825	45.0	11	5	2	0
Stonehill											
West of Street of Golden Lantern	9,350	64.0	291	92	29	9,350	64.0	291	92	29	0
Between Street of Golden Lantern and Del Obispo St.	17,090	66.6	532	168	53	17,090	66.6	532	168	53	0
Between Del Obispo St. and Camino Capistrano	22,515	67.8	701	222	70	22,610	67.8	702	222	70	0

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level
Traffic modeling is based upon data contained within the *Project Traffic and Parking Report* prepared by RBF Consulting, September 2005.

Table 4.9-3b
MODELED NOISE LEVELS: EXISTING AND EXISTING PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKENDS)

Existing Weekend (Without Project)						Existing Weekend Plus Project's Commercial Core					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Camino Capistrano											
North of Stonehill Dr.	22,260	67.8	693	219	69	22,260	67.8	693	219	69	0.0
Casitas Place											
South of Dana Point Harbor Dr.	2,215	49.7	22	10	5	2,215	49.7	22	10	5	0.0
Dana Point Harbor Drive											
Between PCH and Street of Park Lantern	13,250	58.5	92	43	20	15,073	59.0	100	46	22	0.5
Between Street of Park Lantern and Puerto Pl.	13,733	58.6	94	44	20	15,560	59.2	102	47	22	0.6
Between Puerto Pl. and Street of Golden Lantern	13,693	58.6	94	44	20	14,423	58.9	97	45	21	0.3
Between Street of Golden Lantern and Casitas Pl.	10,130	55.7	60	28	13	10,130	55.7	60	28	13	0
Between Casitas Pl. and Island Way	8,950	55.2	55	26	12	8,950	55.2	55	26	12	0
West of Island Way	6,485	53.8	45	21	10	6,485	53.8	45	21	10	0
Del Obispo Street											
North of Stonehill Dr.	14,380	63.3	248	78	25	14,480	63.3	250	79	25	0
Between PCH and Stonehill Dr.	11,185	62.2	193	61	19	11,380	62.3	196	62	20	0.1
Del Prado Street											
West of Street of Golden Lantern	16,285	62.6	201	64	20	16,340	62.6	202	64	20	0
East of Street of Golden Lantern	17,655	63.0	218	69	2	17,655	63.0	218	62	22	0
Doheny Park Road											
South of Stonehill Dr.	27,105	68.6	843	266	84	25,685	68.4	799	253	80	-0.2
Island Way											
South of Dana Pt. Harbor Dr.	3,870	52.1	32	15	7	3,870	52.1	2	15	7	0.0
Pacific Coast Highway (PCH)											
East of I-5 NB Ramps	6,845	61.4	161	51	16	6,845	61.4	161	51	16	0
Between I-5 NB Ramps and I-5 SB Ramps	10,955	63.5	257	81	26	11650	63.7	273	86	27	0.2
Between I-5 SB Ramps and Doheny	29,943	67.8	702	222	70	31448	68.0	737	233	74	0.2
Between Doheny Park Plaza and Del Obispo St./Dana Point Harbor Dr.	32,410	68.2	760	240	76	34035	68.4	797	252	80	0.2
Between Del Obispo St./Dana Point Harbor Dr. and Street of the Golden Lantern	19,393	65.9	455	144	45	19,393	65.9	455	144	45	0.0

Table 4.9-3b [continued]
MODELED NOISE LEVELS: EXISTING AND EXISTING PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKENDS)

Existing Weekend (Without Project)						Existing Weekend Plus Project's Commercial Core					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Between Street of the Golden Lantern and Street of the Blue Lantern	12,580	64.1	295	93	29	12625	64.1	296	94	30	0
West of Street of Blue Lantern	27,555	67.5	647	204	65	27655	67.5	648	205	65	0
Puerto Place											
South of Dana Pt. Harbor Dr.	1,835	51.7	16	5	2	3215	54.1	28	9	3	2.4
Street of the Blue Lantern											
North of PCH	1,150	49.7	10	3	1	1,150	49.7	10	3	1	0
South of PCH	2,875	53.6	25	8	2	2,875	53.6	25	8	2	0
Street of the Golden Lantern											
North of Stonehill Dr.	19,575	63.0	242	76	24	19,675	63.0	243	77	24	0
Between Stonehill and PCH	15,365	58.8	101	47	22	15,465	58.8	102	47	22	0
Between PCH and Del Prado	16,003	62.1	198	63	20	16,150	62.2	200	63	20	0.1
Between Del Prado and Dana Pt Harbor Dr	9,730	59.9	120	38	12	9,935	60.0	123	39	12	0.1
South of Dana Point Harbor Dr.	10,075	55.7	60	28	13	10,730	56.0	63	29	13	0.3
Street of the Park Lantern											
North of Dana Point Harbor Dr.	1,975	49.2	20	9	4	1,975	49.2	20	9	4	0
South of Dana Point Harbor Dr.	2,320	49.5	23	10	5	2,320	49.5	23	10	5	0
Stonehill											
West of Street of Golden Lantern	7,760	63.2	241	76	24	7,760	63.2	241	76	24	0
Between Street of Golden Lantern and Del Obispo St.	13,838	65.7	430	136	43	13,838	65.7	430	136	43	13,838
Between Del Obispo St. and Camino Capistrano	18,665	67.0	580	183	58	18,665	67.0	580	183	58	18,665

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level
Traffic modeling is based upon data contained within the *Project Traffic and Parking Report* prepared by RBF Consulting, September 2005.

4.9.1.4 APPLICABLE REGULATIONS

It is difficult to specify noise levels that are generally acceptable to everyone; what is annoying to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels, or based on studies of the ability of people to sleep, talk, or work under various noise conditions. All such studies, however, recognize that individual responses vary considerably. Standards usually address the needs of most of the general population. This section describes the laws, ordinances, regulations, and standards that are applicable to the proposed Project. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, Federal and State agencies provide standards and guidelines to the local jurisdictions.

STATE OF CALIFORNIA GUIDELINES

California Environmental Quality Act

Under CEQA, a project has a potentially significant noise impact if the project exposes people to noise levels in excess of standards established in the local general plan or noise ordinance. Additionally, under CEQA, a project has a potentially significant impact if the project substantially increases the ambient noise levels in the project vicinity above levels existing without the project.

If a project has a potentially significant impact, Mitigation Measures must be considered. If Mitigation Measures to reduce the impact to less than significant are not feasible because of economic, social, environmental, legal, or other conditions, the most feasible Mitigation Measures must be considered.

California Government Code

California Government Code Section 65302 (f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services, Table 4.9-4a (Land Use Compatibility Noise Guidelines – California).

In evaluating noise land use compatibility, the guidelines classify noise levels as normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable levels for various land use types. For single-family homes, a normally acceptable exterior noise environment is up to 60 CNEL; conditionally acceptable, up to 70 CNEL. For multiple-family residential uses, normally acceptable is up to 65 CNEL; conditionally acceptable, up to 70 CNEL. For schools, libraries, churches, office buildings, and business, commercial, and professional uses, noise levels of up to 70 CNEL are normally acceptable.

Table 4.9-4a
LAND USE COMPATIBILITY NOISE GUIDELINES — CALIFORNIA

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density, Single-Family, Duplex, Mobile Homes	50 - 60	55 - 70	70-75	75-85
Residential - Multiple Family	50 - 65	60 - 70	70 - 75	70 - 85
Transient Lodging - Motel, Hotels	50 - 65	60 - 70	70 - 80	80 - 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	80 - 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 - 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 - 85
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 - 75	72.5 - 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 70	NA	70 - 80	80 - 85
Office Buildings, Business Commercial and Professional	50 - 70	67.5 - 77.5	75 - 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	75 - 85	NA

NA: Not Applicable

Source: General Plan Guidelines, Office of Planning and Research, California, October 2003.

Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable – New construction or development should generally not be undertaken.

LOCAL REQUIREMENTS

County of Orange

As mandated by Section 65302(f) of the California Government Code, the County of Orange (County) has adopted a noise element as a component of the *Orange County General Plan*. The scope of the element includes the unincorporated areas of the County. The Noise Element establishes noise criteria to ensure that high noise levels do not adversely affect the quality of life of County residents. The noise criteria are based on land use compatibility and are specified in Table 4.9-4b (Land Use Compatibility Standards – County). In general, all outdoor living areas are compatible with noise levels of less than CNEL 65 dBA. Similarly, indoor living spaces are compatible with interior noise levels of less than CNEL 45 dBA.

The County has also adopted a noise ordinance that is intended to control unnecessary, excessive, and annoying sound emanating from unincorporated areas of the County. Section 4-6-7 of the County's Noise Ordinance provides exemptions to the County's noise standards. It specifies that noise associated with construction activity is prohibited between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, Saturday, and at any time on Sunday or a Federal holiday.

Table 4.9-4b
LAND USE COMPATIBILITY NOISE STANDARDS — COUNTY

Type of Use	65 + decibels CNEL	60 – 65 decibels CNEL
Residential	3a, b, e	2a, e
Commercial/Employment	2c	2c
Open Space (Local, Community/Regional)	2c	2c
Educational Facilities	2c, d, e	2c, d, e
Places of Worship	2c, d, e	2c, d, e
Hospitals (General/Convalescent)	2a, c, d, e	2a, c, d, e
Group Quarters/Caretakers	1a, b, c, e	2a, c, e
Hotels/Motels	2a, c	2a, c
Executive Apartments	1a, b, c	2a, e

Explanations and Definitions
Action Required To Ensure Compatibility Between Land Use and Noise from External Sources:
1 = Allowed if interior and exterior community noise can be mitigated.
2 = Allowed if interior levels can be mitigated.
3 = New residential uses are prohibited in areas within the 65-decibel CNEL contour from any airport of air station; allowed in other areas if interior and exterior community noise levels can be mitigated. The prohibition against new residential development excludes limited "infill" development within an established neighborhood.

Standards Required for Compatibility of Land Use and Noise:
a = Interior Standard: CNEL of less than 45 decibels (habitable rooms only).
b = Exterior Standard: CNEL of less than 65 decibels in outdoor living areas.
c = Interior Standard: Leq (h) = 45-65 decibels interior noise level, depending on interior use.
d = Exterior Standard: Leq (h) = of less than 65 decibels in outdoor living areas.
e = Interior Standard: As approved by the County Board of Supervisors for sound events of short duration, such as aircraft flyovers or individual passing railroad trains.

Source: County of Orange, *County of Orange General Plan,* Table 5.4-4 and Table 5.4-5, March 27, 1984.

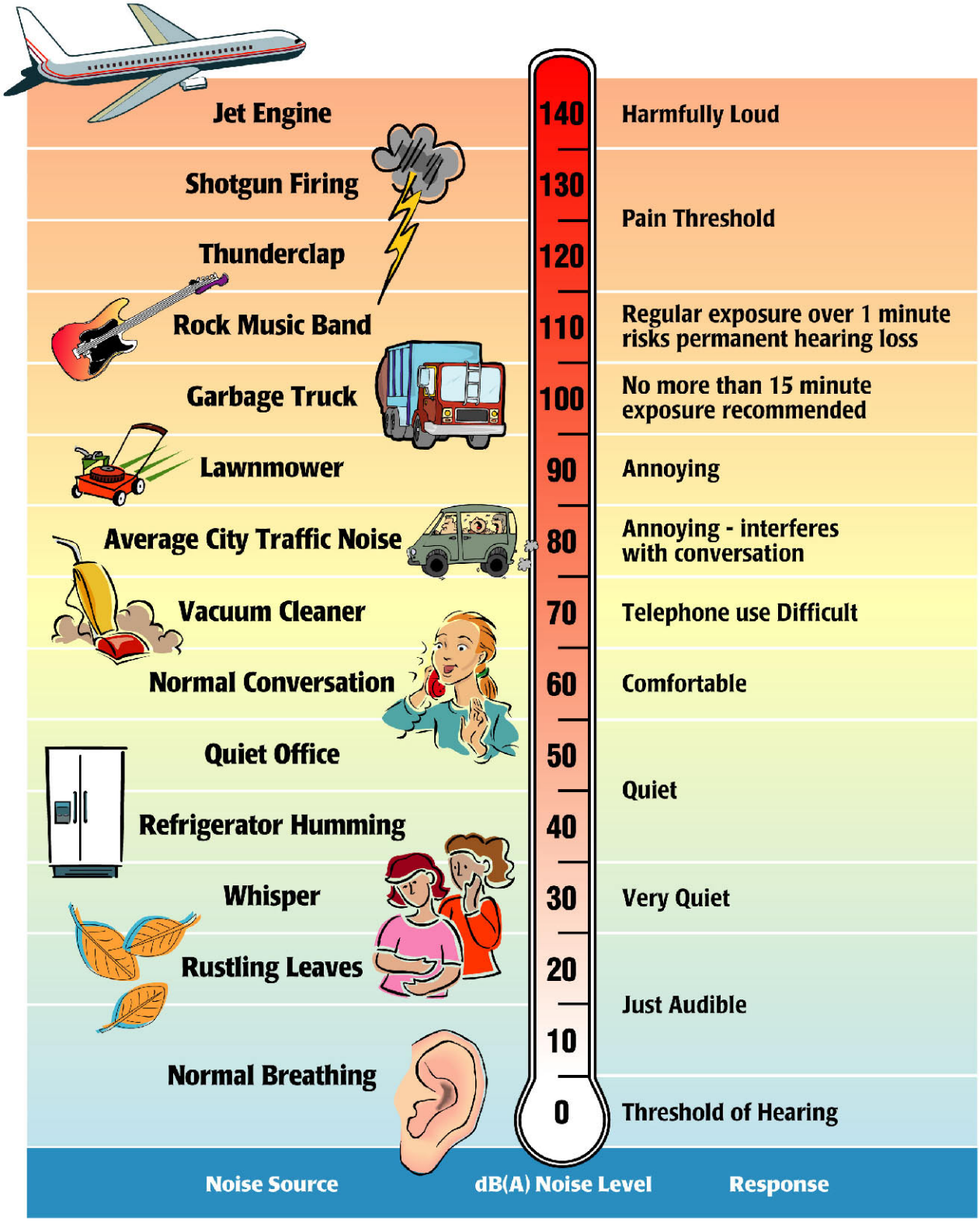
4.9.2 METHODOLOGY

4.9.2.1 NOISE

ACOUSTICAL TERMINOLOGY AND DEFINITIONS

Sound is technically described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. Noise is typically described as any unwanted or objectionable sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against sound frequencies in a manner approximating the sensitivity of the human ear.

The decibel scale is logarithmic. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range, similar to how the Richter scale measures earthquake magnitudes. In terms of human response to noise, a sound 10 dBA higher than another is perceived to be twice as loud; 20 dBA higher, four times as loud; and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are shown in Exhibit 4.9-2 (Common Environmental Noise Levels).



Source:

Melville C. Branch and R. Dale Beland, *Outdoor Noise in the Metropolitan Environment*, 1970.

Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004)*, March 1974.

COMMON ENVIRONMENTAL NOISE LEVELS

DANA POINT HARBOR REVITALIZATION PROJECT
PROGRAM ENVIRONMENTAL IMPACT REPORT

RBF CONSULTING PLANNING ■ DESIGN ■ CONSTRUCTION

EXHIBIT 4.9-2

In most situations, a 3-dBA change in sound pressure level is considered a "just-detectable" difference. A 5-dBA change (either louder or quieter) is readily noticeable, and a 10-dBA change is a doubling (if louder) or a halving (if quieter) of the subjective loudness. Sound from a small localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (drops off) at a rate of 6 dBA for each doubling of the distance (6 dBA/DD). This decrease, due to the geometric spreading of the energy over an ever-increasing area, follows the *inverse square law*. However, highway traffic noise is not a single, stationary point source of sound. The movement of the vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. Since the change in surface area of a cylinder increases by only two times for each doubling of the radius instead of the four times associated with spheres, the decrease in sound level is 3 dBA (half of 6 dBA) per doubling of distance.

NOISE MEASUREMENT SCALES

Numerous methods have been developed to measure sound over a period of time. These methods include (1) the community noise equivalent level (CNEL); (2) the equivalent sound level (L_{eq}); and (3) the day/night average sound level (L_{dn}). These methods are described below.

Equivalent Sound Level (L_{eq}). The L_{eq} is the sound level containing the same total energy over a given sampling time period. The L_{eq} is the steady sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same period. L_{eq} is typically computed over sampling periods of 1, 8 and 24 hours.

Community Noise Equivalent Level (CNEL). The predominant community noise rating scale used in California for land use compatibility assessments is the community noise equivalent level (CNEL). The CNEL reading represents the average of 24 hourly readings of equivalent levels (L_{eq}) based on an A-weighted decibel and adjusted upward to account for increased noise sensitivity in the evening and at night. These adjustments are +5 dBA for the evening (7:00 PM to 10:00 PM) and +10 dBA for the night (10:00 PM to 7:00 AM). CNEL may be indicated by "dBA CNEL" or just "CNEL."

Day Night Average (L_{dn}). Another commonly used method is the day/night average level (L_{dn}). The L_{dn} measures the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the L_{eq} (the average noise level over a given time period). The L_{dn} is calculated by averaging the L_{eqs} for each hour of the day at a given location after adjusting "sleeping hours" (defined as 10:00 PM to 7:00 AM) by adding 10 dBA to compensate the increased sensitivity of people to noises that occur at night.

L_{max} and L_n. The maximum noise level recorded during a noise event is expressed as L_{max}. The sound level exceeded over a specified time frame is expressed as L_n (e.g., L_{90}, L_{50}, L_{10}, etc.). L_{50} is the level exceeded 50 percent of the time; L_{10}, ten percent of the time; etc.

NOISE ATTENUATION

A noise barrier attenuates (reduces) noise by approximately 5 dBA; additional noise reduction may be achieved, depending on the barrier's height, material, location, and length. A row of buildings reduces noise by up to 5 dBA; each additional row further reduces noise by 1.5 dBA, up to a maximum reduction of approximately 10 dBA. The exact degree of noise attenuation depends on the nature and orientation of the structure and intervening barriers.

VIBRATION CHARACTERISTICS

Vibration is a unique form of noise because its energy is carried through structures and the earth, whereas other noise is carried through the air. Thus, vibration is generally felt rather than heard. Some vibration effects can be caused by noise, such as the rattling of windows from passing trucks. The vibration phenomenon is related to the coupling of the acoustic energy at frequencies that are close to the resonant frequency of the material being vibrated. Typically, groundborne vibration generated by man-made activities attenuates rapidly as distance from the source of the vibration increases. Vibration, which spreads through the ground rapidly, diminishes in amplitude with distance from the source. The ground motion caused by vibration is measured as particle velocity in inches per second and, in the U.S., is referenced as vibration decibels (VdB).

The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration comes from sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is barely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity, to 100 VdB, which is the general threshold at which minor damage can occur to fragile buildings.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of noise impacts than are the general population. Sensitive populations (sensitive receptors) that are near to localized sources of noise are of particular concern. Land uses considered sensitive receptors are residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent center, and retirement homes. The Project area is surrounded by a number of sensitive receptors within a one-mile radius; refer to Table 4.9-5 (Sensitive Receptors).

Table 4.9-5
SENSITIVE RECEPTORS

Sensitive Receptor	Name	Distance (miles)	Direction
Residential	Live aboard boats*	NA	NA
	Various	0.4 – 1.0	North
Schools	Dana Hills High School	1.0	North
	R. H. Dana Elementary School	0.4	West
	Ocean Institute*	NA	NA
	Youth and Group Facility*	NA	NA
Parks	Strand Vista Park	0.5	West
	Headlands Conservation Park	0.25	West
	Harbor Point Park	0.2	West
	Hilltop Park and Greenbelt Linkages	0.25	West
	Salt Creek Beach Park	0.7	Northwest
	Sea Terrace Community Park	0.8	Northwest
	Community Gardens Park	0.8	North
	Stonehill/Selva Park	0.8	North
	La Plaza Park	0.3	North
	Shipwreck Park	0.35	North
	Crystal Knoll Cove Park	0.3	North
	Sea View Park	0.35	North
	Heritage Park	0.1	North
	Lantern Bay County Park	0.1	North
	Del Obispo Park	0.3	East
	Beach Park	0.8	East

* Sensitive receptor within the Project area.
Sources: www.mapquest.com; Thomas Brothers, *The Thomas Guide – Los Angeles and Orange Counties*, 2004.

4.9.3 SIGNIFICANCE CRITERIA

4.9.3.1 CEQA REQUIREMENTS

Appendix G of the *CEQA Guidelines* contains analysis guidelines related to the assessment of noise impacts. These guidelines have been utilized as thresholds of significance for this analysis. As stated in Appendix G, a project may create a significant environmental impact if it would:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; refer to Impact Statements 4.9-1 through 4.9-3 (Short-Term (Construction) Noise Impacts, Long-Term (Mobile) Noise Impacts, and Long-Term (Stationary) Noise Impacts);

- Expose persons to or generate excessive groundborne vibration or groundborne noise levels; refer to Impact Statement 4.9-1 (Short-Term (Construction) Noise Impacts);

- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; refer to Impact

Statements 4.9-2 (Long-Term (Mobile) Noise Impacts) through 4.9-3 (Long-Term (Stationary) Noise Impacts);

- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project; refer to Impact Statements 4.9-1 through 4.9-3 (Short-Term (Construction) Noise Impacts, Long-Term (Mobile) Noise Impacts, and Long-Term (Stationary) Noise Impacts);

- 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, expose people residing or working in the project area to excessive noise levels; refer to Section 7 (Effects Found Not To Be Significant; and

- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels; refer to Section 7 (Effects Found Not To Be Significant).

Based on these standards, the effects of the proposed Project have been categorized as either a "less than significant impact" or a "potentially significant impact." Mitigation is recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact. The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

4.9.3.2 SIGNIFICANCE OF CHANGES IN AMBIENT NOISE LEVELS

An increase in noise of more than 5 dBA may be noticed by some individuals, and therefore may be considered an environmental impact, since under these conditions sporadic complaints may occur. Based on this information, the following threshold has been utilized for this analysis:

- An increase of 5 dBA or greater in noise levels occurring from Project-related traffic would be significant when the "No Project" noise level is below 65 dBA CNEL. Additionally, an increase of 3 dBA or greater in noise levels occurring from Project-related traffic would be significant when the No-Project noise level is above 65 dBA CNEL.

4.9.4 PROJECT IMPACTS

4.9.4.1 SHORT-TERM (CONSTRUCTION) NOISE IMPACTS

4.9-1 *Grading and construction within the Project area would result in temporary noise and/or vibration impacts on nearby noise-sensitive receptors. Although construction noise and vibration impacts would comply with Standard Conditions of Approval and Mitigation Measures, impacts would be significant and unavoidable due to the duration of construction activities.*

HARBORWIDE

Construction Related Noise

Construction activities generally would be of short and temporary duration, lasting from a few days to a period of months. However, buildout of the Harborwide improvements are anticipated to occur incrementally over the next 10 years, and as a result cannot be considered a short-term impact. Groundborne vibration, noise and other types of construction-related noise impacts would typically occur during the initial site preparation, which can create the highest levels of noise. Activities that occur during this phase include earth-moving, pile-driving, and soils compaction. High groundborne noise levels and other miscellaneous noise levels can be created during this phase by the operation of heavy-duty trucks, backhoes, and front-end loaders.

In addition to construction noise from a Project site, the movement of equipment and workers to the site would have an incremental noise increase. The primary heavy construction equipment and vehicles are expected to be moved on-site during the initial construction period and would have a less than significant short-term noise impact effect on nearby roadways, as they would be staged on-site for the duration of the construction activities. Daily transportation of construction workers is not expected to cause a significant effect, since this traffic would not be a substantial percentage of current daily volumes in the area and would not be anticipated to increase traffic noise levels by more than 1 dBA.

A reasonable worst-case assumption is that the three loudest pieces of equipment would operate simultaneously and continuously over at least one hour within a focused area of 15 yards of each other. The combined sound level of a scraper, bulldozer, and heavy truck is 92 dBA measured at 50 feet from the noise source. Table 4.9-6 (Estimated Construction Noise in the Project Area), which assumes this combined source level, summarizes predicted noise levels at various distances from an active construction site. These estimations of noise levels take into account the distance-to-receptor attenuation, attenuation from molecular absorption, and anomalous excess attenuation.[1] Construction noise would be most noticeable during the initial months of site-intensive grading. The primary sources of acoustical disturbance would be random incidents, which would last less than one minute, such as dropping large pieces of equipment or the hydraulic movement of machinery lifts.

Construction activities would be limited to the hours of 7:00 a.m. to 8:00 p.m. Monday through Saturday (refer to Standard Condition of Approval [SCA] 4.9-1). Additionally, construction activities would not be allowed on Sundays or Federal holidays. Stockpiling and staging areas would also be required to be located as far as practical from residential uses, and all equipment would be required to use original equipment manufacturers (OEM) noise control devices (refer to SCAs 4.9-3 and 4.9-4). As noted above, these construction impacts are typically short-term. However, since the Harborwide improvements will likely be built out over a period of 10 years or more, construction impacts are concluded to be significant and unavoidable, even with implementation of the SCAs.

[1] Hoover, R. M., and R. H. Keith, *Noise Control for Buildings, Manufacturing Plants, Equipment and Products,* 1996.

Table 4.9-6
ESTIMATED CONSTRUCTION NOISE IN THE PROJECT AREA

Distance Attenuation	
Distance to Receptor (Feet)	Sound Level at Receptor (dBA)
50	92
100	86
200	80
400	73
600	69
800	67
1,000	64
1,500	60
2,000	57
2,500	54
3,000	51
4,000	47
5,280	43

The following assumptions were utilized:
- Basic sound level drop-off rate: 6.0 dB per doubling distance
- Molecular absorption coefficient: 0.7 dB per 1,000 feet
- Analogous excess attenuation: 1.0 dB per 1,000 feet
- Reference sound level: 92 dBA
- Distance for reference sound level: 50 feet
- Simultaneous operation of 1 scraper, 1 heavy truck, and 1 bulldozer

Construction Related Vibration

Construction of the parking deck and podium structure would require pile-driving for the foundation piles. Pile-driving noise is greater than normal construction noise characteristics; it is a very loud, impulsive sound, resulting from a large hammer dropping on reinforced concrete piles. The impact of the pile driver is short in duration (under one second). However, the impacts are repetitive, occurring approximately once every two seconds. Typical pile drivers are driven by a diesel engine and produce a maximum hammer energy of 55,000 feet to pound per hit (ft-lb/blow).

Typical noise levels associated with pile-driving activities are illustrated in Table 4.9-7a (Measured Pile-Driving Noise Levels). Although, the pile-driving activities would be temporary, noise from the use would be noticeable in the residential areas located north of the site, as well as on-site merchants and visitors to the Harbor. Pile driving could occur at any location in the Harbor where a multi-story structure would be placed.

Table 4.9-7a
MEASURED PILE-DRIVING NOISE LEVELS

Activity	A-L_{max}	A-SEL	C-L_{max}	C-SEL
Tapping	95 – 99	87 – 91	96 – 101	90 – 95
Driving	95 – 99	88 – 92	99 – 101	92 – 95
A-L_{max} = A-weighted Maximum; A-SEL = A-weighted Single Event Level; C-L_{max} = C-weighted Maximum; C-SEL = C-weighted Single Event Level Noise levels are indicative of noise levels experienced 100 feet from the source.				
Source: Brown-Buntin Associates, Inc.				

Caltrans has specific criteria for evaluating the effects of various vibration levels on people and buildings; refer to Table 4.9-7b (Effects of Vibration on People and Buildings). Caltrans has adopted 0.2-inches per second as the threshold for architectural damage for traffic and construction noise sources. Pile-driver vibrations associated with typical parking structure columns typically have a peak particle velocity between 0.055 and 0.077 inches per second. The nearest structure that may use pile driving would be the Marina Inn (located approximately 500 feet south of the nearest residences). By using the inverse square law of propagation for a noise source, the c-weighted L_{max} at 500 feet would be approximately 85 dB.[2] Thus, Mitigation Measures would be required to minimize any potential impact.

Table 4.9-7b
EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity Inches/Second	Human Reaction	Effect on Building
0.0 – 0.0059	Imperceptible by People	Vibrations unlikely to cause damage of any type
0.0059 – 0.0188	Threshold of perception possibility of intrusion	Vibrations unlikely to cause damage of any type
0.0787	Vibrations perceptible	Recommended upper level of which ruins and ancient monuments should be subjected
0.0984	Level at which continuous vibrations begin to annoy people	Virtually no risk of architectural damage to normal buildings
0.1968	Vibrations annoying to people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings
Source: Brown-Buntin Associates, Inc. from a survey of earth-borne vibrations due to highway construction and highway traffic, 1976.		

Mitigation Measure 4.9-1 would require that any residence located within 1,000 feet of a construction activity be notified prior to such activities taking place. The mitigation also requires a noise disturbance coordinator to monitor construction noise activities, and to take appropriate action to rectify the complaint. Mitigation Measures 4.9-2 and 4.9-3 are directly related to vibration control, as they require the preferred use of pneumatic impact equipment and sonic pile drivers. Additional controls include the preferred use of pre-drilled piles and mufflers on the exhausts of the equipment. Although the Mitigation Measures would reduce the level of annoyance to the

[2] The inverse square law for the change in noise between any two distances due to spherical spreading can be calculated as follows: dB2= dB1 + 20 Log10 (D1/D2). For this equation, dB1 is the noise level at distance D1, and dB2 is the noise level at distance D2.

residences north of the Harbor, on-site merchants and visitors to the Harbor would still be impacted. Additionally, the extended duration of the Harbor buildout poses a concern regarding the prolonged exposure to individual projects that may require pile-driving. Thus, the impact would be significant and unavoidable.

COMMERCIAL CORE

Construction Related Noise

Noise impacts are typically associated with demolition, grading, and on-site construction activities. Construction-related noise levels are higher than existing ambient levels in the immediate vicinity. Construction related noise impacts in the Commercial Core are anticipated to occur over an approximate 36-month-long schedule. Please refer to Section 3 (Project Description) for a detailed discussion of project phasing.

Construction-related noise activities have the potential to temporarily exceed noise standards. The nearest existing noise-sensitive receptors to future construction activity are the residences situated to the north on the bluffs overlooking the Project site. By assuming a distance of 2,100 feet for the residents on the bluff to the nearest point of construction within the Commercial Core, noise levels would be in the range of 64 dBA. However, users of the Marina Inn and patrons of the Harbor would likely be exposed to significant noise levels in excess of approximately 86 dBA.

As noted above in the Harborwide discussion, construction activities throughout the Commercial Core would be generated by three primary sources: the transport of workers and equipment to the construction site, the import/export of soil, and noise related to construction itself. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow noise to be categorized according to three work phases. The first work phase category, earth-moving equipment, usually includes excavation machinery (backfillers, bulldozers, draglines, front loaders, etc.). As noted in Table 4.9-6, the combined sound level of three of the loudest pieces of equipment (scraper, bulldozer and heavy truck) is 92 dBA measured at 50 feet from the noise source.

Adherence to the SCAs (4.9-1, 4.9-3, and 4.9-4) would lessen construction-related noise impacts. Additionally, the estimated construction noise levels do not take into account any noise attenuation due to existing walls, berms, intervening structures or topography. Overall, adherence to the County requirements and implementation of the recommended SCAs would reduce the intensity of the short-term construction noise impacts.

Construction Related Vibration

Refer to the Harborwide discussion above.

OFF-SITE AREAS

Selva Parking Lot – As a result of construction activities associated with the proposed Project, the Selva Parking Lot would be utilized for overflow parking and boat storage. Typical parking lot noise from conversation and door slamming is estimated at 60 dBA L_{max} at 50 feet.[3] Because these events occur intermittently and last only a very short time period (i.e., a few seconds), they are compared to the maximum noise level standard. The maximum noise level standard is 70 dBA L_{max} during daytime hours and 65 dBA L_{max} during nighttime hours (for events lasting more than one minute but equal to or less than five minutes). Therefore, typical parking lot noise generated at the Selva Parking Lot would be below both the daytime and nighttime noise standards at the nearest residential uses located east of Selva Road and north of Dana Strand Road.

SCWD Parcel – As a result of construction activities associated with the proposed Project, the SCWD Parcel would be utilized for boat storage, with limited access only provided to Vintage Marina Partners to retrieve the boats. Therefore, only a limited amount of trips would be diverted to the SCWD Parcel in which boats would be loaded and unloaded throughout the day. Because access provided to the SCWD Parcel is limited and there are some sensitive receptors in the vicinity (surrounded by industrial and commercial uses, with one mobile home park located approximately 1.5 miles northeast of the SCWD Parcel), less than significant short-term impacts are anticipated in this regard.

4.9.4.2 LONG-TERM (MOBILE) NOISE IMPACTS

4.9-2 *The proposed Project would increase vehicular activity along roadways within the Project vicinity. Analysis has concluded that long-term mobile noise impacts would be less than significant for roadway segments under buildout traffic scenarios.*

HARBORWIDE

In accordance with the Project *Traffic and Parking Study*, mobile source noise impacts on the surrounding street network were modeled for weekdays and weekends in the future (2030) and future (2030) plus Project. The Year 2030 was assumed for buildout conditions because of the Project's long construction period and individual projects would be implemented only as funding is identified to complete the improvements. These two scenarios were modeled to demonstrate the Project's net acoustical increase over future ambient (no project) conditions. As noted above, an increase of 5 dBA or greater in noise levels occurring from Project-related activities would be significant when the "No Project" noise level is below 65 dBA CNEL. Additionally, an increase of 3 dBA or greater in noise levels occurring from Project-related activities would be significant when the "No Project" noise level is above 65 dBA CNEL.

In Table 4.9-8a (Modeled Noise Levels: 2030 and 2030 plus Project's Harborwide Component [Weekdays]), and Table 4.9-8b (Modeled Noise Levels: 2030 and 2030 plus Project's Harborwide Component [Weekends]), the first contour (at 100 feet

[3] Brown-Buntin & Associates.

from centerline) depicts the noise level that would be heard 100 feet perpendicular to the roadway centerline. This is the typical distance to the midpoint of a rear yard for a receptor adjacent to a roadway. The second contour (distance from roadway centerline) illustrates the distances for which various noise levels would be encountered. Note that the tables also reference the increase in traffic noise, which is assessed against the thresholds identified in Section 4.9.3.2.

According to Table 4.9-8a, under the "2030 Without Project" scenario for weekday conditions, noise levels at a distance of 100 feet from the roadway centerline would range from 45.2 dBA to 69.6 dBA. The highest of the noise levels would occur along Pacific Coast Highway, between Doheny Park Plaza and Del Obispo Street/Dana Point Harbor Drive; the lowest noise levels would occur along Street of the Park Lantern, north of Dana Point Harbor Drive.

Under the "2030 with Harborwide Project" scenario, noise levels at a distance of 100 feet from centerline would also range from approximately 44.9 to 70.0 dBA. Similar to the "2020 Without Project" scenario, the highest noise levels would occur along Pacific Coast Highway, between Doheny Park Plaza and Del Obispo Street/Dana Point Harbor Drive. The lowest noise levels would occur along Street of the Park Lantern, south of Dana Point Harbor Drive.

Table 4.9-8a also compares the "2030 Without Project" scenario with the "2030 With Project" scenario. The highest noise increase (3 dBA) would occur along Pacific Coast Highway (PCH), between Interstate 5 (I-5) northbound and southbound ramps.

As noted previously, an increase of 5 dBA or less is considered less than significant when the "No Project" noise levels are less than 65 dBA CNEL. Additionally, an increase of 3 dBA or greater in noise levels occurring from Project-related activities would be significant when the "No Project" noise level is above 65 dBA CNEL. Since the largest traffic noise increase due to Project related traffic is 3 dBA (along PCH), a less than significant impact would occur as a result of Project implementation.

According to Table 4.9-8b, under the "2030 Without Project" scenario for weekend conditions, noise levels at a distance of 100 feet from centerline would range from approximately 50.2 to 69.5 dBA. The highest noise level would occur along Doheny Park road, south of Stonehill Drive. The lowest noise level would occur along Street of the Park Lantern, north of Dana Point Harbor Drive.

Under the "2030 with Project" scenario, noise levels at a distance of 100 feet from centerline would range from approximately 50.2 to 69.8 dBA. Similar to the "2030 Without Project" scenario, the lowest noise level would occur along both: Street of the Park Lantern, north of Dana Point Harbor Drive and Street of the Park Lantern, south of Dana Point Harbor Drive. However, the highest noise level would occur along PCH between Doheny Park Plaza and Del Obispo Street/Dana Point Harbor Drive.

Table 4.9-8a
MODELED NOISE LEVELS: 2030 AND 2030 PLUS PROJECT'S HARBORWIDE COMPONENT (WEEKDAYS)

Roadway Segment	2030 Weekday (Without Project)					2030 Weekday plus Project's Harborwide Component					Difference in dBA @ 100 Feet from Roadway
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet) 60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet) 60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Camino Capistrano											
North of Stonehill Dr.	24,120	68.1	749	237	75	24,120	68.1	749	237	75	0
Casitas Place											
South of Dana Point Harbor Dr.	1,545	48.1	17	8	4	2,240	49.7	22	10	5	1.6
Dana Point Harbor Drive											
Between PCH and Street of Park Lantern	10,838	57.6	80	37	17	15,568	59.2	102	47	22	1.6
Between Street of Park Lantern and Puerto Pl.	9,938	57.2	76	35	16	14,788	59.0	99	46	21	1.8
Between Puerto Pl. and Street of Golden Lantern	9,655	57.1	74	34	16	13,348	58.5	92	43	20	1.4
Between Street of Golden Lantern and Casitas Pl.	7,463	54.4	49	23	11	8,373	54.9	53	25	11	0.5
Between Casitas Pl. and Island Way	6,630	53.9	45	21	10	6,845	54.0	46	22	10	0.1
West of Island Way	4,440	52.2	35	16	7	4,315	52.0	34	16	7	-0.2
Del Obispo Street											
North of Stonehill Dr.	17,855	64.3	308	97	31	18,125	64.3	312	99	31	0
Between PCH and Stonehill Dr.	11,218	62.2	193	61	19	11,723	62.4	202	64	20	0.2
Del Prado											
West of Street of Golden Lantern	13,505	61.8	167	53	17	13,660	61.9	169	53	17	0.1
East of Street of Golden Lantern	16,390	62.7	203	64	20	16,200	62.6	200	63	20	-0.1
Doheny Park Rd.											
South of Stonehill Dr.	24,550	68.2	763	241	76	24,550	68.2	763	241	76	0
Island Way											
South of Dana Pt. Harbor Dr.	3,605	51.8	30	14	7	3,945	52.2	32	15	7	0.4
Pacific Coast Highway (PCH)											
East of I-5 NB Ramps	11,735	63.8	275	87	28	11,735	63.8	275	87	28	0
Between I-5 NB Ramps and I-5 SB Ramps	15,910	61.1	373	118	37	13,668	64.4	320	101	32	3.3
Between I-5 SB Ramps and Doheny	39,598	69.0	928	293	93	30,800	68.0	722	228	72	-1.0
Between Doheny Park Plaza and Del Obispo St./Dana Point Harbor Dr.	44,975	69.6	1053	333	105	49,135	70.0	1152	364	115	0.4
Between Del Obispo St./Dana Point Harbor Dr. and Street of the Golden Lantern	28,090	67.6	659	208	66	28,090	67.6	659	208	66	0
Between Street of the Golden Lantern and Street of the Blue Lantern	20,245	66.1	475	150	47	20,365	66.2	477	151	48	0.1

Table 4.9-8a [continued]
MODELED NOISE LEVELS: 2030 AND 2030 PLUS PROJECT'S HARBORWIDE COMPONENT (WEEKDAYS)

2030 Weekday (Without Project)						2030 Weekday plus Project's Harborwide Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
West of Street of Blue Lantern	31215	68.0	732	232	73	31,490	68.0	737	233	74	0
Puerto Place											
South of Dana Pt. Harbor Dr.	1,745	51.5	15	5	2	3,185	54.1	27	9	3	2.3
Street of the Blue Lantern											
North of PCH	1,625	51.2	14	4	1	1,625	51.2	14	4	1	0
South of PCH	2,515	53.1	22	7	2	2,515	53.1	22	7	2	0
Street of the Golden Lantern											
North of Stonehill Dr.	19,760	63.0	244	77	24	20,030	63.1	247	78	25	0.1
Between Stonehill and PCH	13,558	58.3	93	43	20	13,828	58.4	94	44	20	0.1
Between PCH and Del Prado	12,388	61.0	153	48	15	12,780	61.1	158	50	16	0.1
Between Del Prado and Dana Pt Harbor Dr	7,018	58.5	87	27	9	7,365	58.7	91	29	9	0.2
South of Dana Point Harbor Dr.	4,825	52.5	37	17	8	7,865	54.6	51	24	11	2.1
Street of the Park Lantern											
North of Dana Point Harbor Dr.	800	45.2	11	5	2	800	45.2	11	5	2	0
South of Dana Point Harbor Dr.	1,050	46.0	13	6	3	815	44.9	11	5	2	-1.1
Stonehill											
West of Street of Golden Lantern	11,985	65.1	373	118	37	11,985	65.1	373	118	37	0
Between Street of Golden Lantern and Del Obispo St.	21,910	67.7	682	216	68	21,910	67.7	682	216	68	0
Between Del Obispo St. and Camino Capistrano	28,888	68.9	899	284	90	29,123	68.9	905	286	90	0

ADT = average daily trips; dBA = A-weighted decibels; CNEL =- Community Noise Equivalent Level; PCH = Pacific Coast Highway
Traffic modeling is based upon data contained within the *Project Traffic and Parking Report* prepared by RBF Consulting, September 2005.

Table 4.9-8b
MODELED NOISE LEVELS: 2030 AND 2030 PLUS PROJECT'S HARBORWIDE COMPONENT (WEEKENDS)

2030 Weekend (Without Project)						2030 Weekend plus Project's Harborwide Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Camino Capistrano											
North of Stonehill Dr.	28540	68.9	888	281	89	28,540	68.9	888	281	89	0
Casitas Place											
South of Dana Point Harbor Dr.	2840	50.7	26	12	6	3,535	51.7	30	14	6	1
Dana Point Harbor Drive											
Between PCH and Street of Park Lantern	17,018	59.6	108	50	23	21,743	60.6	128	59	28	1
Between Street of Park Lantern and Puerto Pl.	17,665	59.7	111	52	24	22,515	60.8	131	61	28	1.1
Between Puerto Pl. and Street of Golden Lantern	17,613	59.7	111	51	24	21,305	60.6	126	58	27	0.9
Between Street of Golden Lantern and Casitas Pl.	13,058	56.8	71	33	15	13,968	57.1	75	35	16	0.3
Between Casitas Pl. and Island Way	11,533	56.3	66	30	14	11,748	56.4	66	31	14	0.1
West of Island Way	8,370	54.9	53	25	11	8,245	54.8	52	24	11	-0.1
Del Obispo Street											
North of Stonehill Dr.	18455	64.4	318	101	32	18,715	64.5	323	102	32	0.1
Between PCH and Stonehill Dr.	23075	64.1	285	90	28	14,880	63.5	257	81	26	-0.6
Del Prado Street											
West of Street of Golden Lantern	21450	63.8	265	84	27	21,065	63.7	260	82	26	-0.1
East of Street of Golden Lantern	23075	64.1	285	90	28	22,460	64.0	278	88	28	-0.1
Doheny Park Road											
South of Stonehill Dr.	32925	69.5	1025	324	102	32,925	69.5	1025	324	102	0
Island Way											
South of Dana Pt. Harbor Dr.	4965	53.2	37	17	8	5,305	53.5	39	18	8	0.3
Pacific Coast Highway (PCH)											
East of I-5 NB Ramps	8785	62.5	206	65	21	8,785	62.5	206	65	21	0
Between I-5 NB Ramps and I-5 SB Ramps	14380	64.6	337	107	34	12,133	63.9	284	90	28	-0.7
Between I-5 SB Ramps and Doheny	39078	69.0	915	289	92	29,393	67.8	690	218	69	-1.2
Between Doheny Park Plaza and Del Obispo St./Dana Point Harbor Dr.	42288	69.3	992	314	99	46,628	69.8	1093	346	109	0.5
Between Del Obispo St./Dana Point Harbor Dr. and Street of the Golden Lantern	25495	67.1	598	189	60	25,495	67.1	598	189	60	0

Table 4.9-8b [continued]
MODELED NOISE LEVELS: 2030 AND 2030 PLUS PROJECT'S HARBORWIDE COMPONENT (WEEKENDS)

2030 Weekend (Without Project)						2030 Weekend plus Project's Harborwide Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Between Street of the Golden Lantern and Street of the Blue Lantern	16735	65.3	392	124	39	16,855	65.3	395	125	40	0
West of Street of Blue Lantern	39725	67.3	626	198	63	37,00	68.8	868	275	87	1.5
Puerto Place											
South of Dana Pt. Harbor Dr.	2355	52.8	20	6	2	3,795	54.8	33	10	3	2
Street of the Blue Lantern											
North of PCH	1715	51.4	15	5	1	1,715	51.4	15	5	1	0
South of PCH	4040	55.1	35	11	3	4,040	55.1	35	11	3	0
Street of the Golden Lantern											
North of Stonehill Dr.	25250	64.1	312	99	31	25,520	64.1	315	100	31	0
Between Stonehill and PCH	19850	59.9	120	56	26	20,120	60.0	121	56	26	0.1
Between PCH and Del Prado	20650	63.2	255	81	25	21,043	63.3	260	82	26	0.1
Between Del Prado and Dana Pt Harbor Dr	12565	61.1	155	49	16	12,800	61.1	158	50	16	0
South of Dana Point Harbor Dr.	13010	56.8	71	33	15	16,050	57.7	82	38	18	0.9
Street of the Park Lantern											
North of Dana Point Harbor Dr.	2530	50.2	24	11	5	2,530	50.2	24	11	5	0
South of Dana Point Harbor Dr.	2975	50.6	27	12	6	2,730	50.2	25	12	5	-0.4
Stonehill Drive											
West of Street of Golden Lantern	9950	64.3	309	98	31	9,950	64.3	309	98	31	0
Between Street of Golden Lantern and Del Obispo St.	17745	66.8	552	174	55	17,745	66.8	521	174	55	0
Between Del Obispo St. and Camino Capistrano	23938	68.1	774	235	74	24,173	68.1	751	237	75	0

ADT = average daily trips; dBA = A-weighted decibels; CNEL =- Community Noise Equivalent Level; PCH = Pacific Coast Highway
Traffic modeling is based upon data contained within the *Project Traffic and Parking Report* prepared by RBF Consulting, September 2005.

Table 4.9-8b also compares the "2030 Without Project" scenario with the "2030 with Project" scenario. The highest noise increase at 100 feet from the centerline (2.0 dBA) would occur along Puerto Place. Under the "2030 Without Project Scenario," this roadway segment would be 52.8 dBA at 100 feet from the roadway centerline. Since the largest traffic noise increase due to Project-related traffic is less than 3 dBA (2.0 dBA), impacts are anticipated to be less than significant. In general, a 3 dBA change in sound pressure level is considered a "just detectable" difference in most situations.

To provide a conservative analysis, existing weekday conditions, as shown in Table 4.9-2a (Modeled Noise Levels: Existing and Existing plus Project's Harborwide Components [Weekdays]) are compared to existing plus Harborwide Weekday conditions. Noise levels range from 44.2 dBA to 68.7 for the existing weekday scenario. The highest noise level occurs along both: PCH, between Interstate 5 (I-5) southbound ramps and Doheny Park Plaza and PCH, between Del Obispo Street/Dana Point Harbor Dr. and Street of the Golden Lantern. The lowest noise level occurs at Street of the Park Lantern, north of Dana Point Harbor Drive. Comparing existing weekday roadway noise levels with Harborwide show that the proposed Harborwide improvements would increase the noise level a maximum of 2.7 dBA. This increase would occur along Puerto Place, south of Dana Point Harbor Drive, where existing weekday levels are at 50.4 dBA. With Harborwide improvements, noise levels would increase to 53.1 dBA. Per the significance criteria, this increase would be a less than significant impact.

Existing weekend conditions and existing conditions with the Project's Harborwide improvements were also compared; refer to Table 4.9-2b (Modeled Noise Levels: Existing and Existing plus Project's Harborwide Component [Weekends]). Similar to the weekday conditions, the proposed Harborwide improvements would not be significantly increased by the Project's added traffic. The proposed Project would increase noise levels by a maximum of 2.7 dBA along Puerto Place, south of Dana Point Harbor Drive. Since the largest traffic noise increase from existing weekend conditions to weekend Harborwide conditions is less than 3 dBA, a less than significant impact would occur as a result of Project implementation.

COMMERCIAL CORE

Mobile source noise impacts on the surrounding street network were modeled for both weekdays and weekends for Future (2012) (without Project) and Future (2012) plus Project and for Future Year (2030) (without Project) and Future Year (2030) plus Project. Year 2012 is being used for this comparative analysis, since it is anticipated that the Commercial Core would be completed by then. Year 2030 conditions have also been analyzed in order to take into account any delayed completion of the Harborwide improvements. Note that the tables also reference the increase in traffic noise, which is assessed against the thresholds identified in Section 4.9.3.2.

Future Year 2012 Scenario. In Table 4.9-9a (Modeled Noise Levels: 2012 and 2012 plus Project's Commercial Core [Weekdays]), and Table 4.9-9b (Modeled Noise Levels: 2012 and 2012 plus Project's Commercial Core [Weekends]), the first contour (dBA at 100 feet from centerline) depicts the noise level that would be heard 100 feet perpendicular to the roadway centerline. Note that the tables also reference the increase in traffic noise, which is assessed against the thresholds identified in Section 4.9.3.2.

Table 4.9-9a
MODELED NOISE LEVELS: 2012 AND 2012 PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKDAYS)

2012 Weekday (Without Project)						2012 Weekday plus Project's Commercial Core Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Camino Capistrano											
North of Stonehill Dr.	20,170	67.3	627	198	63	20,170	67.3	627	198	63	0
Casitas Place											
South of Dana Point Harbor Dr.	1,300	47.4	15	7	3	1,300	47.4	15	7	3	0
Dana Point Harbor Drive											
Between PCH and Street of Park Lantern	9,070	56.8	71	33	15	12,948	58.4	90	42	19	1.6
Between Street of Park Lantern and Puerto Pl.	8,325	56.5	67	31	15	12,303	58.2	87	41	19	1.7
Between Puerto Pl. and Street of Golden Lantern	8,085	56.3	66	31	14	10,965	57.7	81	38	17	1.4
Between Street of Golden Lantern and Casitas Pl.	6,253	53.6	44	20	9	6,253	53.6	44	20	9	0
Between Casitas Pl. and Island Way	5,553	53.1	40	19	9	5,553	53.1	40	19	9	0
West of Island Way	3,720	51.4	31	14	7	3,720	51.4	31	14	7	0
Del Obispo Street											
North of Stonehill Dr.	14,935	63.5	257	81	26	15,155	63.5	262	83	26	0
Between PCH and Stonehill Dr.	9,388	61.5	162	51	16	9,803	61.6	169	53	17	0.1
Del Prado											
West of Street of Golden Lantern	11,380	61.1	140	44	14	11,500	61.1	142	45	14	0
East of Street of Golden Lantern	13,935	61.9	172	54	17	13,610	61.8	168	53	17	-0.1
Doheny Park Rd.											
South of Stonehill Dr.	20,530	67.4	638	202	64	20,530	67.4	638	202	64	0
Island Way											
South of Dana Pt. Harbor Dr.	3,015	51.0	27	12	6	3,015	51.0	27	12	6	0
Pacific Coast Highway (PCH)											
East of I-5 NB Ramps	9,820	63.0	230	73	23	9,820	63.0	230	73	23	0
Between I-5 NB Ramps and I-5 SB Ramps	13,355	64.3	313	99	31	11,440	63.7	268	85	27	-0.6
Between I-5 SB Ramps and Doheny	33,228	68.3	779	246	78	25,795	67.2	605	191	60	-1.1
Between Doheny Park Plaza and Del Obispo St./Dana Point Harbor Dr.	37,583	68.8	880	278	88	41,143	69.2	965	305	97	0.4
Between Del Obispo St./Dana Point Harbor Dr. and Street of the Golden Lantern	23,593	66.8	553	175	55	23,593	66.8	553	175	55	0

Table 4.9-9a [continued]
MODELED NOISE LEVELS: 2012 AND 2012 PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKDAYS)

2012 Weekday (Without Project)						2012 Weekday plus Project's Commercial Core Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Between Street of the Golden Lantern and Street of the Blue Lantern	17,030	65.4	400	126	40	17,130	65.4	401	127	40	0
West of Street of Blue Lantern	26,340	67.3	617	195	62	26,560	67.3	623	197	62	0
Puerto Place											
South of Dana Pt. Harbor Dr.	1,465	50.7	13	4	1	2,845	53.6	24	8	2	2.9
Street of the Blue Lantern											
North of PCH	1,400	50.5	12	4	1	1,400	50.5	12	4	1	0
South of PCH	2,155	52.4	19	6	2	2,155	52.4	19	6	2	0
Street of the Golden Lantern											
North of Stonehill Dr.	16,545	62.3	204	65	20	16,765	62.3	207	65	21	0
Between Stonehill and PCH	11,358	57.5	83	38	18	11,578	57.6	84	39	18	0.1
Between PCH and Del Prado	10,385	60.2	128	41	13	10,705	60.4	132	42	13	0.2
Between Del Prado and Dana Pt Harbor Dr	5,883	57.8	73	23	7	6,160	58.0	76	24	8	0.2
South of Dana Point Harbor Dr.	4,050	51.8	33	15	7	7,090	54.2	47	22	10	2.4
Street of the Park Lantern											
North of Dana Point Harbor Dr.	675	44.5	10	5	2	675	44.5	10	5	2	0
South of Dana Point Harbor Dr.	875	45.3	12	5	3	680	44.2	10	5	2	-1.1
Stonehill											
West of Street of Golden Lantern	10,015	64.3	312	99	31	10,015	64.3	312	99	31	0
Between Street of Golden Lantern and Del Obispo St.	18,315	66.9	570	180	57	18,315	66.9	570	180	57	0
Between Del Obispo St. and Camino Capistrano	24,163	68.1	751	237	75	24,358	68.2	758	240	76	0.1

ADT = average daily trips; dBA = A-weighted decibels; CNEL =- Community Noise Equivalent Level; PCH = Pacific Coast Highway
Traffic modeling is based upon data contained within the *Project Traffic and Parking Report* prepared by RBF Consulting, September 2005.

According to Table 4.9-9a, under the "2012 Without Project" scenario for weekday conditions, noise levels at a distance of 100 feet from centerline would range from approximately 44.5 dBA to 68.8 dBA. The highest noise level would occur along PCH, between Doheny Park Plaza and Del Obispo Street/Dana Point Harbor Drive. The lowest noise level would occur along Street of the Park Lantern, north Dana Point Harbor Drive.

Under the "2012 with Project" scenario, noise levels at a distance of 100 feet from centerline would range from approximately 44.2 to 69.2 dBA. Similar to the "2012 Without Project" scenario, the highest noise level would occur along PCH, between Doheny Park Plaza and Del Obispo Street/Dana Point Harbor Drive, and the lowest, at Street of the Park Lantern, south of Dana Point Harbor Drive.

The highest noise increase would occur along Puerto Place, south of Dana Point Harbor Drive, which would have a noise increase of 2.9 dBA. Under the "2012 Without Project" scenario, this roadway segment would be 50.7 dBA at 100 feet from the roadway centerline. Since the largest traffic noise increase due to Project related traffic is 2.9 dBA, a less than significant impact would occur as a result of Project implementation.

According to Table 4.9-9b, under the "2012 Without Project" scenario for weekend conditions, noise levels at a distance of 100 feet from centerline would range from approximately 49.5 dBA to 68.7 dBA. The highest noise levels would occur along Doheny Park Road, south of Stonehill Drive. The lowest noise levels would occur along Street of the Park Lantern, north Dana Point Harbor Drive.

Under the "2012 with Project" scenario, noise levels at a distance of 100 feet from centerline would also range from approximately 49.4 to 69.0 dBA. Similar to the "2012 Without Project" scenario, the highest noise levels would occur along PCH, between Doheny Park Plaza and Del Obispo Street/Dana Point Harbor Drive while the lowest noise levels would be at Street of the Park Lantern, south Dana Point Harbor Drive. The highest noise increase (2.3 dBA) would occur along Puerto Place, south of Dana Point Harbor Drive. For "2012 Future Without Project," noise levels at this particular roadways segment would be 52.0 dBA; the proposed Project would increase noise levels to 54.3 dBA. Per the significance criteria discussed above, impacts from vehicular traffic are anticipated to be less than significant. Additionally, as indicated within Table 4.9-9b, noise levels would not increase more than 1 dBA on any roadway section other than Puerto Place.

Future Year 2030 Scenario. Table 4.9-10a (Modeled Noise Levels: 2030 and 2030 plus Project's Commercial Core Component [Weekdays]) and 4.9-10b (Modeled Noise Levels: 2030 and 2030 plus Project's Commercial Core Component [Weekends]) illustrates the anticipated noise levels for Future Year 2030 during the weekday and weekend. The highest noise levels along study intersections for "Future (2030) Without Project" would be at PCH, between Doheny Park Plaza and Del Obispo Street/Dana Point Harbor Drive on weekdays (69.6 dBA), and on Doheny Park Road, south of Stonehill Drive, on weekends (69.5 dBA). Similar to Year 2012, the lowest noise levels would be at Street of the Park Lantern, north of Dana Point Harbor Drive, with noise levels of 45.2 dBA on weekdays and 50.2 dBA on weekends.

Table 4.9-9b
MODELED NOISE LEVELS: 2012 AND 2012 PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKENDS)

2012 Weekend (Without Project)						2012 Weekend Plus Project's Commercial Core Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Camino Capistrano											
North of Stonehill Dr.	23,870	68.1	742	235	74	23,870	68.1	742	235	74	0
Casitas Place											
South of Dana Point Harbor Dr.	2,375	50.0	23	11	5	2,375	50.0	23	11	5	0
Dana Point Harbor Drive											
Between PCH and Street of Park Lantern	14,238	58.8	96	45	21	18,110	59.3	113	52	24	1.0
Between Street of Park Lantern and Puerto Pl.	14,785	59.0	99	46	21	18,763	60.0	116	54	25	1.0
Between Puerto Pl. and Street of Golden Lantern	14,738	59.0	99	46	21	17,618	59.7	111	51	24	0.7
Between Street of Golden Lantern and Casitas Pl.	10,933	56.1	63	29	14	10,933	56.1	63	29	14	0
Between Casitas Pl. and Island Way	9,658	55.5	58	27	13	9,658	55.5	58	27	13	0
West of Island Way	7,020	54.2	47	22	10	7,020	54.2	47	22	10	0
Del Obispo Street											
North of Stonehill Dr.	15,440	63.6	266	84	27	15,660	63.7	270	85	27	0.1
Between PCH and Stonehill Dr.	12,035	62.5	207	66	21	12,450	62.7	215	68	21	0.2
Del Prado											
West of Street of Golden Lantern	18,035	63.1	223	70	22	18,155	63.1	224	71	22	0
East of Street of Golden Lantern	19,365	63.4	239	76	24	18,850	63.3	232	74	23	-0.1
Doheny Park Rd.											
South of Stonehill Dr.	27,535	68.7	856	271	86	27,535	68.7	856	271	86	0
Island Way											
South of Dana Pt. Harbor Dr.	4,150	52.4	33	15	7	4,150	52.4	33	15	7	0
Pacific Coast Highway (PCH)											
East of I-5 NB Ramps	7,335	61.7	172	54	17	7,335	61.7	172	54	17	0
Between I-5 NB Ramps and I-5 SB Ramps	12,075	63.9	283	59	28	10,155	63.1	238	75	24	-0.8
Between I-5 SB Ramps and Doheny	32,790	68.2	768	243	77	24,615	67.0	578	183	58	-1.2
Between Doheny Park Plaza and Del Obispo St./Dana Point Harbor Dr.	35,480	68.6	831	263	83	39,040	69.0	915	289	92	0.4
Between Del Obispo St./Dana Point Harbor Dr. and Street of the Golden Lantern	21,425	66.4	502	159	50	21,425	66.4	502	159	50	0

Table 4.9-9b [continued]
MODELED NOISE LEVELS: 2012 AND 2012 PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKENDS)

2012 Weekend (Without Project)						2012 Weekend Plus Project's Commercial Core Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Between Street of the Golden Lantern and Street of the Blue Lantern	14,100	64.6	331	105	33	14,200	64.6	333	105	33	0
West of Street of Blue Lantern	30,950	68.0	725	229	73	31,170	68.0	730	231	73	0
Puerto Place											
South of Dana Pt. Harbor Dr.	1,965	52.0	17	5	2	3,345	54.3	29	9	3	2.3
Street of the Blue Lantern											
North of PCH	1,480	50.8	13	4	1	1,480	50.8	13	4	1	0
South of PCH	3,430	54.4	29	9	3	3,430	54.4	29	9	3	0
Street of the Golden Lantern											
North of Stonehill Dr.	21,140	63.3	261	82	26	21,360	63.4	264	83	26	0.1
Between Stonehill and PCH	16,623	59.2	107	50	23	16,843	59.2	108	50	23	0
Between PCH and Del Prado	17,290	62.4	213	67	21	17,610	62.5	217	69	22	0.1
Between Del Prado and Dana Pt Harbor Dr	10,523	60.3	130	41	13	10,705	60.4	132	42	13	0.1
South of Dana Point Harbor Dr.	10,885	56.1	63	29	14	13,925	57.1	74	35	16	1.0
Street of the Park Lantern											
North of Dana Point Harbor Dr.	2,125	49.5	21	10	5	2,125	49.5	21	10	5	0
South of Dana Point Harbor Dr.	2,485	49.8	24	11	5	2,280	49.4	22	10	5	-0.4
Stonehill Drive											
West of Street of Golden Lantern	8,320	63.5	259	82	26	8,320	63.5	259	82	26	0
Between Street of Golden Lantern and Del Obispo St.	14,835	66.0	461	146	46	14,835	66.0	461	146	46	0
Between Del Obispo St. and Camino Capistrano	20,033	67.3	623	197	62	20,228	67.4	629	199	63	0.1

ADT = average daily trips; dBA = A-weighted decibels; CNEL =- Community Noise Equivalent Level; PCH = Pacific Coast Highway
Traffic modeling is based upon data contained within the *Project Traffic and Parking Report* prepared by RBF Consulting, September 2005.

Table 4.9-10a
MODELED NOISE LEVELS: 2030 AND 2030 PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKDAYS)

2030 Weekday (Without Project)						2030 Weekday plus Project's Commercial Core Component					Difference in dBA @100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Camino Capistrano											
North of Stonehill Dr.	24,120	68.1	749	237	75	24,120	68.1	749	237	75	0
Casitas Place											
South of Dana Point Harbor Dr.	1,545	48.1	17	8	4	1,545	48.1	17	8	4	0
Dana Point Harbor Drive											
Between PCH and Street of Park Lantern	10,838	57.6	80	37	17	14,695	58.9	98	46	21	1.3
Between Street of Park Lantern and Puerto Pl.	9,938	57.2	76	35	16	13,915	58.7	95	44	20	1.5
Between Puerto Pl. and Street of Golden Lantern	9,655	57.1	74	34	16	12,535	58.2	88	41	19	1.1
Between Street of Golden Lantern and Casitas Pl.	7,463	54.4	49	23	11	7,463	54.4	49	23	11	0
Between Casitas Pl. and Island Way	6,630	53.9	45	21	10	6,630	53.9	45	21	10	0
West of Island Way	4,440	52.2	35	16	7	4,440	52.2	35	16	7	0
Del Obispo Street											
North of Stonehill Dr.	17,855	64.3	308	97	31	18,075	64.3	312	99	31	0
Between PCH and Stonehill Dr.	11,218	62.2	193	61	19	11,633	62.4	201	63	20	0.2
Del Prado											
West of Street of Golden Lantern	13,505	61.8	167	53	17	13,625	61.8	168	53	17	0
East of Street of Golden Lantern	16,390	62.7	203	64	20	16,200	62.6	200	63	20	-0.1
Doheny Park Rd.											
South of Stonehill Dr.	24,550	68.2	763	241	76	24,550	68.2	763	241	76	0
Island Way											
South of Dana Pt. Harbor Dr.	3,605	51.8	30	14	7	3,605	51.8	30	14	7	0
Pacific Coast Highway (PCH)											
East of I-5 NB Ramps	11,735	63.8	275	87	28	11,735	63.8	275	87	28	0
Between I-5 NB Ramps and I-5 SB Ramps	15,910	61.1	373	118	37	13,465	64.4	316	100	32	3.3
Between I-5 SB Ramps and Doheny	39,598	69.0	928	293	93	30,250	67.9	709	224	71	-1.1
Between Doheny Park Plaza and Del Obispo St./Dana Point Harbor Dr.	44,975	69.6	1053	333	105	48,355	69.9	1134	359	113	0.3
Between Del Obispo St./Dana Point Harbor Dr. and Street of the Golden Lantern	28,090	67.6	659	208	66	28,090	67.6	659	208	66	0

Table 4.9-10a [continued]
MODELED NOISE LEVELS: 2030 AND 2030 PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKDAYS)

2030 Weekday (Without Project)						2030 Weekday plus Project's Commercial Core Component					Difference in dBA @100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Between Street of the Golden Lantern and Street of the Blue Lantern	20,245	66.1	475	150	47	20,345	66.2	477	151	48	0.1
West of Street of Blue Lantern	31,215	68.0	732	232	73	31,435	68.0	737	233	74	0
Puerto Place											
South of Dana Pt. Harbor Dr.	1,745	51.5	15	5	2	3,125	54.0	27	8	3	2.5
Street of the Blue Lantern											
North of PCH	1,625	51.2	14	4	1	1,625	51.2	14	4	1	0
South of PCH	2,515	53.1	22	7	2	2,515	53.1	22	7	2	0
Street of the Golden Lantern											
North of Stonehill Dr.	19,760	63.0	244	77	24	19,980	63.1	247	78	25	0.1
Between Stonehill and PCH	13,558	58.3	93	43	20	13,778	58.3	94	44	20	0
Between PCH and Del Prado	12,388	61.0	153	48	15	12,708	61.1	157	50	16	0.1
Between Del Prado and Dana Pt Harbor Dr	7,018	58.5	87	27	9	7,263	58.7	90	28	9	0.2
South of Dana Point Harbor Dr.	4,825	52.5	37	17	8	7,865	54.6	51	24	11	2.1
Street of the Park Lantern											
North of Dana Point Harbor Dr.	800	45.2	11	5	2	800	45.2	11	5	2	0
South of Dana Point Harbor Dr.	1,050	46.0	13	6	3	815	44.9	11	5	2	-1.1
Stonehill											
West of Street of Golden Lantern	11,985	65.1	373	118	37	11,985	65.1	373	118	37	0
Between Street of Golden Lantern and Del Obispo St.	21,910	67.7	682	216	68	21,910	67.7	682	216	68	0
Between Del Obispo St. and Camino Capistrano	28,888	68.9	899	284	90	29,083	68.9	905	286	90	0

ADT = average daily trips; dBA = A-weighted decibels; CNEL =- Community Noise Equivalent Level; PCH = Pacific Coast Highway
Traffic modeling is based upon data contained within the *Project Traffic and Parking Report* prepared by RBF Consulting, September 2005.

As shown in Table 4.9-10a, implementation of the proposed Commercial Core would not significantly increase noise levels along roadways within the Project area. The greatest increase in noise level would occur along PCH, between I-5 northbound ramps and I-5 southbound ramps. However, existing noise is currently below 65 dBA and, per the significance criteria specified in Section 4.9.3.2 (Changes in Ambient Noise Levels), impacts would be less than significant. As shown in Table 4.9-10a, roadway noise levels are not anticipated to greatly increase due to the proposed Commercial Core.

Noise levels for Future Year 2030 weekends have been listed within Table 4.9-10b. Noise impacts for the future weekend scenario is similar to those for the Future Year 2030 Weekday scenario. The Future Year 2030 "Without Project " scenario indicates noise levels would range between 50.2 dBA and 69.5 dBA. For Future Year 2030 "with Project," noise levels would also range between 50.2 dBA and 69.7 dBA. The highest noise levels would be experienced along Doheny Park Road, south of Stonehill Drive for Future Year 2030 "Without Project" and along PCH, between Doheny Del Obispo Street/Dana Point Harbor Drive and Street of the Golden Lantern "With Project" scenario.

The proposed Project is not anticipated to increase vehicular noise levels to significant levels. As demonstrated within Table 4.9-10b, 2.0 dBA is the maximum increase in noise. This increase would occur along a roadway segment with noise levels at less than 60 dBA. As previously specified in Section 4.9.3.2 (Changes in Ambient Noise Levels), an increase of this magnitude would not be perceptible to the human ear, and would therefore be considered less than significant.

In order to provide a conservative analysis, existing weekday conditions; refer to Table 4.9-3a (Modeled Noise Levels: Existing and Existing plus Project's Commercial Core [Weekdays]) are compared to existing plus Commercial Core weekday conditions. Noise levels range from 44.2 dBA to 68.4 for the existing weekday scenario. The highest noise levels occur along PCH, between Doheny Park Plaza and Del Obispo Street/Dana Point Harbor Drive. The lowest noise levels occur at Street of the Park Lantern, north of Dana Point Harbor Drive. Comparing existing weekday roadway noise levels with Commercial Core development show that the proposed improvements would increase a maximum of 3.0 dBA. The 3.0 dBA increase would occur along Puerto Place, south of Dana Point Harbor Drive, where existing weekday levels are at 50.4 dBA. With Commercial Core improvements, noise levels would increase to 53.4 dBA. Per the significance criteria, this increase would be a less than significant impact since the existing noise level is currently below 65 dBA.

Existing weekend conditions and existing conditions with Harborwide improvements were also compared; refer to Table 4.9-3b (Modeled Noise Levels: Existing and Existing Plus Project's Commercial Core Component [Weekends]). Similar to the weekday conditions, the proposed Harborwide improvements would not significantly increase noise levels due to the added traffic generated by the proposed developments. The proposed Project would increase noise levels a maximum of 2.4 dBA along Puerto Place, south of Dana Point Harbor Drive. Since the largest traffic noise increase from existing weekend conditions to weekend plus Project's Commercial Core conditions is less than 3 dBA, a less than significant impact would occur as a result of Project implementation.

Table 4.9-10b
MODELED NOISE LEVELS: 2030 AND 2030 PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKENDS)

2030 Weekend (Without Project)						2030 Weekend plus Project's Commercial Core Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Camino Capistrano											
North of Stonehill Dr.	28,540	68.9	888	281	89	28,540	68.9	888	281	89	0
Casitas Place											
South of Dana Point Harbor Dr.	2,840	50.7	26	12	6	2,840	50.7	26	12	6	0
Dana Point Harbor Drive											
Between PCH and Street of Park Lantern	17,018	59.6	108	50	23	20,870	60.5	124	58	27	0.9
Between Street of Park Lantern and Puerto Pl.	17,665	59.7	111	52	24	21,643	60.2	127	59	27	0.9
Between Puerto Pl. and Street of Golden Lantern	17,613	59.7	111	51	24	20,493	60.4	123	57	26	0.7
Between Street of Golden Lantern and Casitas Pl.	13,058	56.8	71	33	15	13,058	56.8	71	33	15	0
Between Casitas Pl. and Island Way	11,533	56.3	66	30	14	11,533	56.3	66	30	14	0
West of Island Way	8,370	54.9	53	25	11	8,370	54.9	53	25	11	0
Del Obispo Street											
North of Stonehill Dr.	18,445	64.4	318	101	32	18,665	64.4	322	102	32	0
Between PCH and Stonehill Dr.	14,375	63.3	248	78	25	14,790	63.4	255	81	25	0.1
Del Prado											
West of Street of Golden Lantern	21,450	63.8	265	84	27	21,570	63.8	266	84	27	0
East of Street of Golden Lantern	23,075	64.1	285	90	28	22,460	64.0	278	88	28	-.01
Doheny Park Rd.											
South of Stonehill Dr.	32,925	69.5	1025	324	102	32,925	69.5	1025	324	102	0
Island Way											
South of Dana Pt. Harbor Dr.	4,965	53.2	37	17	8	4,965	53.2	37	17	8	0
Pacific Coast Highway (PCH)											
East of I-5 NB Ramps	8,785	62.5	206	65	21	8,785	62.5	206	65	21	0
Between I-5 NB Ramps and I-5 SB Ramps	14,380	64.6	337	107	34	11,930	63.8	280	88	28	-0.8
Between I-5 SB Ramps and Doheny	39,078	69.0	915	289	92	28,843	67.7	675	214	68	-1.3
Between Doheny Park Plaza and Del Obispo St./Dana Point Harbor Dr.	42,288	69.3	992	314	99	45,848	69.7	1075	340	108	0.4
Between Del Obispo St./Dana Point Harbor Dr. and Street of the Golden Lantern	25,495	67.1	598	189	60	25,495	67.1	598	189	60	0

Table 4.9-10b [continued]
MODELED NOISE LEVELS: 2030 AND 2030 PLUS PROJECT'S COMMERCIAL CORE COMPONENT (WEEKENDS)

2030 Weekend (Without Project)						2030 Weekend plus Project's Commercial Core Component					Difference in dBA @ 100 Feet from Roadway
Roadway Segment	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline to: (Feet)			
			60 CNEL Noise contour	65 CNEL Noise Contour	70 CNEL Noise Contour			60 CNEL Noise Contour	65 CNEL Noise Contour	70 CNEL Noise Contour	
Between Street of the Golden Lantern and Street of the Blue Lantern	16,735	65.3	392	124	39	16,835	65.3	395	125	40	0
West of Street of Blue Lantern	36,725	67.3	626	198	63	36,945	68.7	866	274	87	1.4
Puerto Place											
South of Dana Pt. Harbor Dr.	2,355	52.8	20	6	2	3,735	54.8	32	10	3	2.0
Street of the Blue Lantern											
North of PCH	1,715	51.4	15	5	1	1,715	51.4	15	5	1	0
South of PCH	4,040	55.1	35	11	3	4,040	55.1	35	11	3	0
Street of the Golden Lantern											
North of Stonehill Dr.	25,250	64.1	312	99	31	25,470	64.1	314	99	31	0
Between Stonehill and PCH	19,850	59.9	120	56	26	20,070	60.0	121	56	26	0.1
Between PCH and Del Prado	20,650	63.2	255	81	25	20,970	63.3	259	82	26	0.1
Between Del Prado and Dana Pt Harbor Dr	12,565	61.1	155	49	16	12,698	61.1	157	50	16	0
South of Dana Point Harbor Dr.	13,010	56.8	71	33	15	16,050	57.7	82	38	18	0.9
Street of the Park Lantern											
North of Dana Point Harbor Dr.	2,530	50.2	24	11	5	2,530	50.2	24	11	5	0
South of Dana Point Harbor Dr.	2,975	50.6	27	12	6	2,730	50.2	25	12	5	-0.4
Stonehill Drive											
West of Street of Golden Lantern	9,950	64.3	309	98	31	9,950	64.3	309	98	31	0
Between Street of Golden Lantern and Del Obispo St.	17,745	66.8	552	174	55	17,745	66.8	552	174	55	0
Between Del Obispo St. and Camino Capistrano	23,938	68.1	744	235	74	24,133	68.1	751	237	75	0

ADT = average daily trips; dBA = A-weighted decibels; CNEL =- Community Noise Equivalent Level; PCH = Pacific Coast Highway
Traffic modeling is based upon data contained within the *Project Traffic and Parking Report* prepared by RBF Consulting, September 2005.

OFF-SITE AREAS

Selva Parking Lot - The Selva Parking Lot would not be impacted by roadway noise. In addition, traffic to the Selva Parking Lot is not expected to be significant. Therefore, noise impacts would be less than significant.

SCWD Parcel - The SCWD Parcel would not be impacted by roadway noise. In addition, traffic to the SCWD Parcel is not expected to be significant. Therefore, noise impacts would be less than significant.

4.9.4.3 LONG-TERM (STATIONARY) NOISE IMPACTS

4.9-3 *Implementation of the proposed Project would generate on-site noise associated with commercial activities, which include loading and unloading activities, mechanical equipment operation, and activity in parking lots. Analysis has concluded that stationary source impacts would be reduced to less than significant levels with adherence to the County of Orange Zoning Code requirements relating to noise level standards.*

HARBORWIDE

The Project would be required to comply with County noise standards and demonstrate adherence to Division 6, *Noise Control*, of the County's Municipal Code, including Section 4-6-7, Special Provisions, which limits the allowable construction hours. Compliance with County Noise Standards would reduce stationary noise impacts to a less than significant level.

Parking Lot Noise

The most noticeable noise associated with parking lot activity is car door slamming. Typical car door slamming generates a maximum sound level (L_{max}) of 73 dBA when measured at a distance of 50 feet. Car-door-slamming would not be expected to be experienced at the nearest residential receptors because of their considerable distance from the Project site and the sound-shielding provided by existing structures, the bluff, and other topographic features. Due to the extremely short-term nature of this activity, car door noise would not exceed the noise ordinance standards and would not result in a significant noise impact.

Mechanical Equipment Noise

Mechanical equipment such as air conditioners, fans, blowers, compressors, pumps, electric winches, and related equipment often generate noise levels that may exceed local noise standards. Mechanical equipment associated with the fuel dock and sewage pump-out facilities, boat maintenance and repair facilities at the dry stacked-boat storage area, and commercial and retail facilities would be expected to be located within the buildings, underground, or on rooftops shielded from line-of-sight view (by barriers or parapets) from nearby noise-sensitive receptors. Dry-dock travel lifts are typically powered by electric or gas motors and generate noise levels ranging from 60 to 65 dBA when measured at a distance of 25 feet from the center of activity. The nearest boat slips with "live aboards" would be located approximately 200 feet

away from the travel lifts, and their operational noise level would be expected to be between 42 to 47 dBA. This would comply with County noise ordinance standards and no noise impact would be expected. Receptors located farther away from the travel lifts would experience little to no noise contribution from the travel lifts, and therefore no noise impacts would be expected to occur at any sensitive receptor locations.

Marina and Boat Slip Noise

The proposed Project would reassign the number of boat slips. Currently, there are 2,493 boat slips within the East and West Marinas. The proposed Project may decrease the number of boat slips by 505, resulting in 1,988 slips. In addition, other reconfigurations are anticipated (i.e., visitor slips, end ties, channel side ties); refer to Table 3-3 (Boat Slip and Dock Summary). The proposed Project would therefore decrease noise slightly by decreasing marina uses, launch ramp activities, and boat idling. Impacts associated with boat slips are not anticipated to be significant.

COMMERCIAL CORE

Development and operation of the commercial core area is included in the buildout of the Harborwide Project. Refer to the Harborwide discussion, above.

OFF-SITE AREAS

Selva Parking Lot - Noise levels associated with the Selva lot would include typical parking lot noise activities. The Project would not alter the current configuration of the Selva Lot, but would increase activity and vehicle visitations to the lot. Therefore, noise levels would be similar to those that currently exist on the site and would be less than significant.

SCWD Parcel - The SCWD Parcel would be used as a temporary boat storage lot. The lot is currently utilized for staging activities. However, activity and vehicle visitations to the lot will increase. Therefore, there would be no impacts in this regard.

4.9.5 CUMULATIVE IMPACTS

4.9-4 *Implementation of the proposed Project, combined with cumulative projects, would increase the ambient noise levels in the site vicinity. Analysis has concluded that these noise impacts would be significant and unavoidable.*

TRAFFIC NOISE IMPACTS

Tables 4.9-8a through 4.9-10b list the noise levels along roadway links in the Project vicinity under the cumulative baseline (without Project) conditions, and under "with Project" conditions, for weekdays and weekends, for existing, Year 2012 and 2030. Most of the land uses along these roads would be exposed to significant future cumulative baseline traffic noise levels. Noise increase would not exceed allowable thresholds for any of the Project buildout scenarios. This increase in noise is not

perceptible by the human ear. Therefore, the proposed Project would not result in any significant traffic noise impact on off-site sensitive uses.

The Final EIR for the *City General Plan* identifies several of the local roadway segments as having significant cumulative noise impacts due to buildout of the General Plan.[4] Relevant sections of the *General Plan Final EIR* are excerpted below:

> *". . . residential areas adjacent to Street of the Golden Lantern between Pacific Coast Highway and Stonehill will be exposed to noise levels between 65 and 70 CNEL at build-out. . . . Homes front onto Street of the Golden Lantern with driveway access. Sound walls in this area would be ineffective since sizeable gaps in the sound wall would be necessary to accommodate the driveways."* (p. 5.5-8)

The *General Plan Final EIR* includes the following Mitigation Measures to reduce traffic noise impacts on sensitive receptors:

1. The City of Dana Point shall coordinate with and support Caltrans efforts to complete the installation of freeway noise barriers along the San Diego Freeway to attenuate freeway noise for existing noise-sensitive land uses. Noise Mitigation Measures also must be included in the design and construction of major roadways to protect sensitive land uses.

2. The City of Dana Point shall periodically evaluate assigned truck routes and bus routes (in cooperation with the Orange County Transportation Authority) in the City to ensure effective separation from residential and other noise-sensitive land uses.

3. The City of Dana Point shall encourage the California Highway Patrol and County Sheriff to enforce State noise standards for cars, trucks, and motorcycles.

4. The City of Dana Point shall adopt noise standards presented in Table N-2 of the Noise Element of the *General Plan* or other acceptable standards, except where preempted by State or Federal law.

5. The City of Dana Point shall identify noise impacts affecting development projects enforce noise standards, and encourage acoustical design for new construction.

6. The City of Dana Point shall adopt and enforce a Noise Ordinance protecting inhabitants from non-transportation related noise sources. The Ordinance shall include limits on the hours of construction activity. (p. 5.5-9)

None of the above Mitigation Measures is expected to reduce these cumulative traffic noise impacts to below the level of significance. However, other possible

[4] Cotton Beland and Associates, *Final Environmental Impact report for the General Plan, Local Coastal Program and Zoning Ordinance*, June 12, 1991.

mitigation is discussed below. Analysis of the proposed Project has shown that the Project contribution to the existing noise environment is less than significant.

The Project would contribute to the cumulative noise impact; soundwalls would be infeasible as mitigation for the impacted sensitive uses because adequate driveway access must be maintained; thus, cumulative noise exposure would remain a significant and unavoidable impact.

4.9.6 PROJECT DESIGN FEATURES

There are no applicable Project Design Features for this environmental topic.

4.9.7 STANDARD CONDITIONS OF APPROVAL

Controls are imposed on new developments through the permitting process via the adoption of conditions of approval or through enforcement of existing ordinances and regulations. The County has developed extensive guidelines for development that will be implemented as the proposed Project is carried out. Existing applicable County of Orange Standard Conditions of Approval (SCAs) are identified below.

SCA 4.9-1 Prior to approval of the Project plans and specifications by the DPHD, Chief Engineer, or his designee, in consultation with the Manager, RDMD/Environmental Planning, shall confirm that the plans and specifications stipulate that construction activities shall be limited to 7:00 a.m. to 8:00 p.m. on weekdays, including Saturdays, and no construction on Sundays and holidays. The County inspector will be responsible for ensuring that contractors comply with this measure during construction.

SCA 4.9-2 Prior to the issuance of any building or grading permits, the County of Orange Dana Point Harbor Department shall prepare or obtain an acoustical analysis report and appropriate plans which demonstrate that the noise levels generated by this Project during its operation shall be controlled in compliance with the Orange County Codified Ordinance, Division 6 (Noise Control). The report shall be prepared under the supervision of a County-certified Acoustical Consultant and shall describe the noise generation potential of the Project during its operation and the noise Mitigation Measures, if needed, which shall be included in the plans and specifications of the Project to assure compliance with Orange County Codified Ordinance, Division 6 (Noise Control).

SCA 4.9-3 Prior to approval of the Project plans and specifications by the DPHD, Chief Engineer, or his designee, in consultation with the Manager, RDMD /Environmental Planning and County of Orange Dana Point Harbor Department, shall confirm that the plans and specifications stipulate that stockpiling and vehicle staging areas shall be located as far as practical from noise-sensitive receptors during construction activities.

SCA 4.9-4 The County of Orange Dana Point Harbor Department shall submit a grading and drainage plan with a geotechnical soils report for review and approval by the Manager, RDMD/Subdivisions and Grading. The following notes shall be included:

a. All construction vehicles and equipment, fixed or mobile operated within 1,000 feet of a dwelling, shall be equipped with properly operating and maintained mufflers.
b. All operations shall comply with the County's Noise Ordinance.
c. Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings.

4.9.8 MITIGATION MEASURES

4.9.8.1 HARBORWIDE

Short-Term Construction Impacts

MM 4.9-1 Residences within 1,000 feet of a construction area shall be notified of the construction schedule in writing, prior to construction. The contractor shall designate a noise disturbance coordinator who would be responsible for responding to complaints regarding construction noise. The coordinator shall determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact number for the noise disturbance coordinator shall be conspicuously placed on construction site fences and written into the construction notification schedule sent to nearby residences.

MM 4.9-2 For projects within 1,000 feet of sensitive receptors, impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrical powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used.

MM 4.9-3 For projects within 1,000 feet sensitive receptors, sonic or vibratory pile drivers shall be used instead of impact pile drivers (sonic pile drivers are only effective in some soils) whenever possible. If sonic or vibratory pile drivers are not feasible, acoustical enclosures shall be provided as necessary to ensure that pile-driving noise does not exceed speech interference criterion at the closest sensitive receptor. Engine and pneumatic exhaust controls on pile drivers shall be required as necessary to ensure that exhaust noise from pile driver engines is minimized to the extent feasible. Where feasible, pile holes shall be pre-drilled to reduce potential noise and vibration impacts.

Long-Term Mobile Noise Impacts

No mitigation is required.

Long-Term Stationary Noise Impacts

No mitigation is required.

Cumulative Impacts

No feasible mitigation within the purview of the lead agency exists to reduce this impact to a less than significant level.

4.9.8.2 COMMERCIAL CORE

Short-Term Construction Impacts

MM 4.9-4 Refer to Mitigation Measures 4.9-1 through 4.9-3.

Long-Term Mobile Noise Impacts

No mitigation is required.

Long-Term Stationary Noise Impacts

No mitigation is required.

Cumulative Impacts

No feasible mitigation within the purview of the lead agency exists to reduce this impact to a less than significant level.

4.9.8.3 OFF-SITE AREAS

No mitigation is required.

4.9.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Despite compliance with Standard Conditions of Approval and Mitigation Measures, the proposed Project would result in significant and unavoidable impacts regarding exposure to construction noise and cumulative noise.