impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours traveled.

2.2.7 Noise

Regulatory Setting

The National Environmental Policy Act of 1969 and the California Environmental Quality Act provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between the California Environmental Quality Act and the National Environmental Policy Act.

California Environmental Quality Act

The California Environmental Quality Act requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, then the act dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. The rest of this section focuses on the National Environmental Policy Act—23 Code of Federal Regulations 772 noise analysis. See Chapter 3 of this document for further information on noise analysis under the California Environmental Quality Act.

National Environmental Policy Act and 23 Code of Federal Regulations 772

For highway transportation projects with Federal Highway Administration (and the Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise impacts.

The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the noise abatement criterion for residences (67 dBA) is lower than the noise abatement criterion for commercial areas (72 dBA).

Table 2.35 lists the noise abatement criteria used in the National Environmental Policy Act—23 Code of Federal Regulations 772 analysis. Figure 2-20 shows the noise levels of common activities.

Table 2.35 Activity Categories and Noise Abatement Criteria

Activity Category	Noise Abatement Criteria Hourly A-Weighted Noise Level, dBA $L_{eq}(h)$	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above
D	–	Undeveloped lands
E	52 Interior	Residence, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

In accordance with the Caltrans Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, August 2006, a noise impact occurs when the predicted noise level in the design year approaches or exceeds the Noise Abatement Criteria (NAC) specified in 23 Code of Federal Regulations 772, or a predicted noise level substantially exceeds the existing noise level. Approaching the noise abatement criteria is defined as coming within 1 dBA of the noise abatement criteria (see Table 2.35).

If it is determined that the project would have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be used in the project.

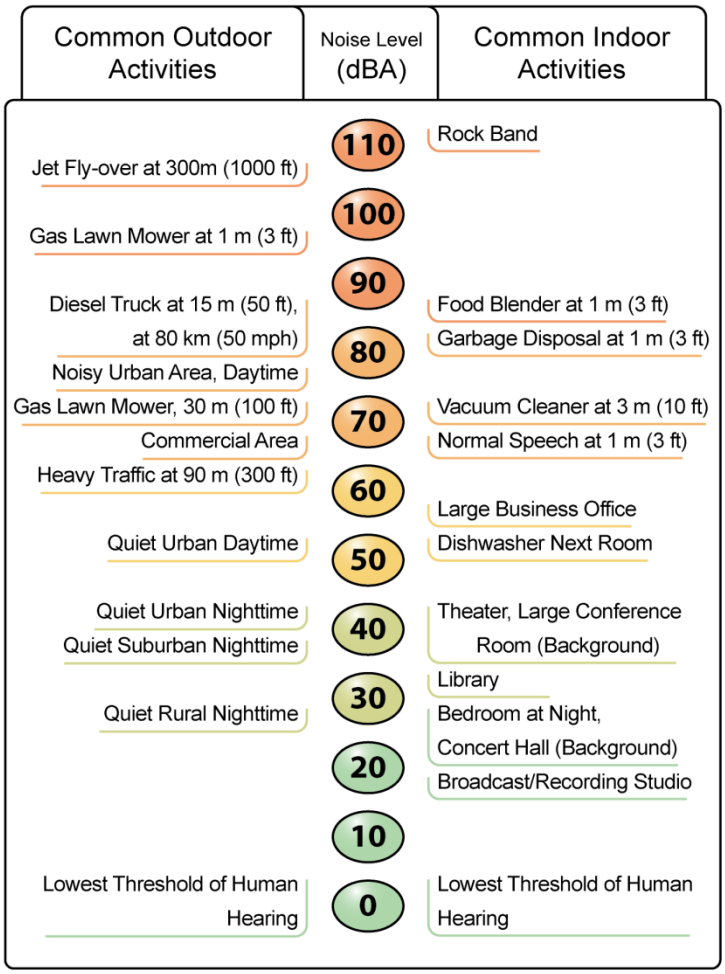

Figure 2-21 Typical Noise Levels

The Caltrans Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an acoustical and engineering concern. A minimum 5-dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources and safety considerations.

The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance, the absolute noise level, build noise versus existing noise, environmental impacts of abatement, engineering constraints, public and local agencies input, newly built development versus development pre-dating 1978, and the cost per benefited residence.

Affected Environment

A Noise Study Report was completed for this project in March 2010. An addendum to the Noise Study Report was prepared in December 2010. A Noise Abatement Decision Report was completed in August 2011. After release of the draft environmental document, based on public comment, further studies were done. These findings are presented in an addendum to the Noise Study Report prepared in September 2013.

The highway corridor contains mainly residences with pockets of commercial, agricultural, and recreational uses. Except for Summerland, the terrain through the corridor is relatively flat. U.S. 101 through the project limits is currently two lanes in each direction. Traffic on U.S. 101 is the main source of noise through the corridor. Also, the railroad and local roadways such as Via Real and Jameson Lane contribute a substantial amount of noise to the ambient environment, especially during morning and afternoon commute hours.

Soundwalls stand on the northbound side of the freeway from post miles 6.5 to 6.7 and from post miles 11.8 to 12.3. On the southbound side of the freeway, only one soundwall exists from post miles 9.6 to 9.7. More soundwalls on the northbound side of the freeway (from post miles 2.7 to 3.0 and from post miles 3.1 to 3.3) are proposed for construction with the Linden Casitas project and are expected to be completed before this project.

The project corridor can be largely divided into six segments based on major local interchanges, similar or like topographies, and separate or unique neighborhoods. The following describes groups of neighborhoods in six segments.

East of Bailard Avenue to Carpinteria Creek—North of U.S. 101 are mobile homes and pockets of vacant or agricultural lots. The Rancho Granada Mobile Home Park and the San Roque Mobile Home Park (Activity Category B) are the only receptor locations with frequent outdoor use areas within these limits. An existing 5- to 6-foot-high private property wall provides some traffic noise reduction.

Franklin Creek to South Padaro Lane—North from Franklin Creek, the adjacent areas on both sides of the corridor are mainly residential, with single-family residences, mobile homes, townhouses, and apartments (Activity Category B). Some multi-family residential developments have masonry property walls, but most of the residential receptors are exposed to highway traffic noise without any form of

existing barrier. Motel 6, Sandy Reef Inn, and the Best Western Hotel sit within these limits along the corridor, but do not have frequent outdoor use areas directly facing the freeway and are not subject to the outdoor use threshold. As the highway approaches South Padaro Lane, the surrounding areas become more agricultural and commercial. Past Santa Monica Road, the Union Pacific Railroad track reaches U.S. 101 from the south and then runs parallel to it.

South Padro Lane to North Padaro Lane—Homes south of U.S. 101 are mainly beachfront homes, and there is dense vegetation between these homes and the highway. Trains blow their horns before approaching the at-grade crossing at South Padaro Lane. North of U.S. 101 is single-family homes and multi-family residences (Activity Category B) in an area known as "Serena Park." Caltrans recently built a soundwall ranging from 10 to 14 feet covering most of these residences. Other land uses along U.S. 101 in the area include the Santa Barbara Polo Club, vacant lots, commercial buildings, and a religious institution.

North Padaro Lane to Sheffield Drive—This area is known as Summerland. The Union Pacific Railroad track runs parallel to U.S. 101; there are at-grade crossings at Finney Street and Evans Avenue, and trains blow their horns as they approach the crossing. This creates a short-term spike in ambient noise at some residences near the crossing. Most of the first-row residences (Activity Category B) north of the highway have been converted into commercial use or appear to be in the process of conversion to a commercial use. Many of the second- or third-row houses (Activity Category B) north of U.S. 101 sit on the hillside, with a deck or a multi-level terraced backyard overlooking the ocean; these structural features can be considered as frequent outdoor use areas. There are beachfront homes south of U.S. 101, and most of these homes have no frequent outdoor use areas directly facing the freeway.

Other Activity Category B land uses include Summerland Elementary School, Lookout Park, and a basketball court. The Summerland Inn (Activity Category E) is also here, but does not have a frequent outdoor use area facing the freeway.

Sheffield Drive to San Ysidro Road/Eucalyptus Lane—The land use on both sides of U.S. 101 is mainly residential. The Union Pacific Railroad track runs parallel to the highway before diverging near Posilipo Lane. When trains approach the at-grade crossing at Posilipo Lane, they blow their horns. While most of the first-row (Activity Category B) homes north of U.S. 101 are directly exposed to freeway noise, residences south of U.S. 101 are buffered by heavy vegetation. The old Miramar

Hotel site sits south of U.S. 101 and east of Eucalyptus Lane. According to Santa Barbara County, this parcel is planned for a future hotel and resort development. An existing 12-foot-high soundwall stands on the right-of-way line just east of Posilipo Lane and south of U.S. 101.

San Ysidro Road/Eucalyptus Lane to Butterfly Lane—U.S. 101 is slightly depressed relative to the surrounding residences between Eucalyptus Lane and Olive Mill Road. The highway starts ascending past Olive Mill Road and stays elevated relative to the surrounding residences. The Montecito Inn is in this segment; it has a pool (Activity Category B). The Union Pacific Railroad track approaches U.S. 101 in this segment and runs parallel to it. The dominant land use north of U.S. 101 transitions to commercial past Olive Mill Road. A few residences south of U.S. 101 have 6- to 8-foot-high private property walls that provide some noise reduction; however, most of the residences next to the highway are exposed to the highway without any solid barrier.

Environmental Consequences

A Traffic Noise Analysis was done for 104 receptor sites. Each receptor site represents a group of sensitive noise receivers that share a like or similar orientation to the highway, topography, elevation, and so on. Receptor sites also represent numerous residents, commercial areas, and recreation/open space areas. Predictions for existing and future traffic noise levels on these receptors were made using the Caltrans Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects. For this analysis, the noise descriptor used was L_{eq}, which is an A-weighted peak hour noise level in decibels and is also the basis for noise abatement criteria used by Caltrans and the Federal Highway Administration.

Each receptor was evaluated for abatement where future predicted noise levels would approach or exceed the noise abatement criteria (67 dBA for Activity Category B). Each noise barrier has been evaluated for feasibility based on achievable noise reduction (5 decibels or more). For each noise barrier found to be acoustically feasible, reasonable cost allowances were calculated. The reasonable cost allowance calculations at critical design receivers were based on the allowance calculation procedure identified in the protocol.

A design receiver is a location where a receptor(s) is affected and for which the absolute noise levels—build versus existing noise levels—or achievable noise reduction would be at a maximum when noise abatement is considered. Except where noted, all the build alternatives in the noise analysis identified the same number and location of noise barriers. Noise sensitive receptor sites in the project area and their existing and future predicted peak hour noise levels are presented in Table 2.36.

Table 2.36 Predicted Future Noise Levels and Noise Barrier Analysis

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	State Route 101 South Coast HOV Future Worst Hour Noise Levels - Leq(h), dBA[1,6]														Reasonable and Feasible (Yes/No)
									Noise Prediction with Barrier										
									8 feet		10 feet		12 feet		14 feet		16 feet		
					Design Year Noise Level without Project Leq(h), dBA[1]	Inside Design Year Noise Level with Project Leq(h), dBA[1]	Outside Design Year Noise Level with Project Leq(h), dBA[1]	Impact Type[4]	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	
R 1 W	S90 R/W	MH	1	68 MOD	70	71	71	A/E	68	68	68	68	67 T	67 T	**66** R	**66** R	66	66	Yes
R 1A Z		--	--	73 M,ST1	75	76	76	N/A	--	--	--	--	--	--	--	--	--	--	
R 2 C,W		MH	5	70 MOD	72	72	73	A/E	71	71	69	69	67 T	68 T	**66** R,5	**67** R,5	66	66	
R 3 W	S98 R/W	MH	11	67 MOD	69	70	70	A/E	69	70	69	69	67 T	67 T	**65** R	66	65	**65** R	Yes
R 3A C,W		REC	1	69 MOD	71	72	72	A/E	70	70	69	69	67	67	**65** T,R	**65** T,R	64	64	
R 3B W		MH	6	67 MOD	69	70	70	A/E	69	69	67	67	66 T	66 T	**65** R	**65** R	65	64	
R 3C W		MH	2	62 MOD	64	65	65	NONE	64	64	63	63	63	62	62	62	61	61	
R 4 K1	S158 R/W & Shoulder	SFR	2	72 MOD	72	74	74	A/E	66	67	**64** T,R	**64** T,R	63	63	62	62	61	61	Yes
R 4A K1		SFR	2	66 M,LT1	68	70	70	A/E	65	65	**62** T,R	**62** T,R	61	61	61	61	60	60	
R 5 K1		SFR	12	70 MOD	72	73	73	A/E	66	66	**63** T,R	**64** T,R	62	62	61	61	61	61	
R 6 K1,C		SFR	4	71 M,ST3	72	74	74	A/E	65	66	64 T	64 T	**63** R,5	**63** R,5	62	62	61	61	
R 7		MFR	5	61 MOD	63	65	64	NONE	62	62	62	62	61	60	60	59	59	59	
R 7A		MFR	6	67	69	70	70	A/E	67	67	66	66	**64** T,R	**64** T,R	63	63	63	62	
R 8 G	--	MFR	16	63 M,ST2	64	65	65	NONE	--	--	--	--	--	--	--	--	--	--	
R 9 G		MFR	14	60 MOD	61	62	62	NONE	--	--	--	--	--	--	--	--	--	--	
R 10 W,H		MOT	--	70 MOD	71	73	73	N/A	--	--	--	--	--	--	--	--	--	--	
R 10 W		MOT	2	45 MOD/INT	46	48	48	NONE	--	--	--	--	--	--	--	--	--	--	
R 11 K2,W	S174 R/W	SFR	2	67 MOD	68	69	70	A/E	67 T	67 T	65	65	**64** R	**64** R	63	62	62	61	Yes
R 12 K2		SFR	6	71 M,ST4	72	74	74	A/E	67	67	64 T	64 T	**63** R,5	**63** R,5	62	62	61	61	
R 13 C		SFR	2	72 MOD	73	75	75	A/E	68	68	66 T	66 T	**64** R,5	**65** R,5	63	63	62	62	
R 13A N		SFR	3	69 MOD	71	72	72	A/E	67	67	65	65	**64** T,R	**65** T,R	63	63	63	63	
R 14 C	S182	SFR	1	63 MOD	65	66	65	A/E	64	--	63	--	62	--	62 T	--	**61** R	--	No

Notes:

Bold - Recommended Wall Height

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.

2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - School; REC - recreational/park; REL - religious institution.

3 - M - Measured noise level; STxx or LTxx - measurement site number; INT - Interior; MOD - Modeled noise level using TNM.

4 - A/E = Approach or exceed NAC.; S = Substantial Increase (12 dBA or more)

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

C - Critical design receiver.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

W - Existing private property wall or soundwall.

Z - Measurement or modeling purpose only: no outdoor use area.

K1 - A calibration factor of -3.5 dB is applied for this receptor and adjacent receptors with similar topographic features.

K2 - A calibration factor of -2.5 dB is applied for this receptor and adjacent receptors with similar topographic features.

* Retained for severe receptors

** Retained portion for severe receptors

*** Portions not reasonable

G - Garages providing traffic noise reduction.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

H - Exterior modeling point for a motel: interior noise estimated using the modeled noise level at this point.

N - Non first row residences.

NN - Beachfront frequent outdoor use area.

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	State Route 101 South Coast HOV Future Worst Hour Noise Levels - Leq(h), dBA[1,6]																Reasonable and Feasible (Yes/No)
					Design Year Noise Level without Project Leq(h), dBA[1]	Inside Design Year Noise Level with Project Leq(h), dBA[1]	Outside Design Year Noise Level with Project Leq(h), dBA[1]	Impact Type[4]	Noise Prediction with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
									Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside		
R 15 C	S188 R/W	MOT	1	63 MOD	65	66	65	A/E	63	63	63	62	**61** T,R	61	61 D	60 D	60	59		No
R 17		REC	1	64 M,ST6	65	67	66	A/E	64	64	63	63	**62** T,R	62 T	63 D	63 D	62	62		
R 17A		MFR	4	69 MOD	70	72	71	A/E	68	67	67	67	**64** T,R	**65** T,R	63	63	62	62		
R 18 W		MFR	3	68 MOD	69	71	70	A/E	68	68	67	68	66 T	66 T	**65** R,5	**65** R	64	64		
R 18A W	S210 R/W	MFR	7	69 MOD	70	71	71	A/E	69	69	69	69	67 T	67 T	**66** R	**66** R	64	64		No**
R 19		MFR	4	72 MOD	73	74	74	A/E	68	69	**66** T,R	**66** T,R	64	65	64	64	63	63		
R 20 Z		--	--	72 M,ST7	73	75	75	N/A	--	--	--	--	--	--	--	--	--	--		
R 21 C		MH	14	74 MOD	75	76	76	A/E	70	71	**68** T,R	**69** T,R	67	67	66	66	65	66		
R 22 W		MFR	2	68 MOD	69	70	70	A/E	--	--	--	--	--	--	68	67	67	67		
R 23 C		SFR	9	76 MOD	77	78	78	A/E	70	70	**68** T,R	**68** T,R	66	66	65	65	64	64		
R 24	S181 R/W	MH	28	74 M,ST5	76	77	76	A/E	70	70	**67** T,R	**67** T,R	66	66	65	65	64	64		Yes
R 25		SFR	4	74 MOD	76	77	77	A/E	70	71	**68** T,R	**68** T,R	66	66	65	65	64	64		
R 26 W		MFR	8	70 MOD	72	73	73	A/E	70	71	**68** T,R	**68** T,R	67	67	66	66	65	65		
R 27 W		MFR	6	70 MOD	72	73	73	A/E	69	70	**67** T,R	**68** T,R	66	66	65	65	64	64		
R 28		SFR	3	66 MOD	67	67	67	A/E	64	64	63 T	63 T	**62** R	**62** R	62	61	61	61		
R 28A ***	S257 Shoulder	SFR	3	61 MOD	62	62	62	NONE	60	60	60 T	60 T	59	59	59	59	59	59		No
R 29 C		SFR	9	66 M,ST8	67	67	67	A/E	64	64	63 T	63 T	**61** R	**61** R	60	60	59	59		
R 29A ***		SFR	9	54 MOD	55	56	56	NONE	54	54	53 T	53 T	52	52	51	51	51	50		

Notes:

Bold - Recommended Wall Height

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.

2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - School; REC - recreational/park; REL - religious institution.

3 - M - Measured noise level; STxx or LTxx - measurement site number; INT - Interior; MOD - Modeled noise level using TNM.

4 - A/E = Approach or exceed NAC.; S = Substantial Increase (12 dBA or more)

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

C - Critical design receiver.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

W - Existing private property wall or soundwall.

Z - Measurement or modeling purpose only: no outdoor use area.

K1 - A calibration factor of -3.5 dB is applied for this receptor and adjacent receptors with similar topographic features.

K2 - A calibration factor of -2.5 dB is applied for this receptor and adjacent receptors with similar topographic features.

* Retained for severe receptors

** Retained portion for severe receptors

*** Portions not reasonable

G - Garages providing traffic noise reduction.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

H - Exterior modeling point for a motel: interior noise estimated using the modeled noise level at this point.

N - Non first row residences.

NN - Beachfront frequent outdoor use area.

Receiver I.D.		Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]		State Route 101 South Coast HOV Future Worst Hour Noise Levels - Leq(h), dBA[1,6]														Reasonable and Feasible (Yes/No)
							Design Year Noise Level without Project Leq(h), dBA[1]	Inside Design Year Noise Level with Project Leq(h), dBA[1]	Outside Design Year Noise Level with Project Leq(h), dBA[1]	Impact Type[4]	Noise Prediction with Barrier										
											8 feet		10 feet		12 feet		14 feet		16 feet		
											Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	
R	30		S281 R/W & Shoulder	SFR	17	68 MOD	69	70	70	A/E	65	65	63	64	**62** T,R	**62** T,R	61	61	60	60	Yes***
R	30A	***		SFR	17	56 MOD	57	58	58	NONE	56	56	55	55	54	54	53	52	52	51	
R	31	C		SFR	7	69 MOD	70	71	71	A/E	66	66	65	65	**63** T,R	**63** T,R	62	62	61	61	
R	31A	N		SFR	1	63 MOD	64	65	65	NONE	65	65	61	61	**59** 5	**59** 5	58	58	58	57	
R	31B	N		SFR	7	62 MOD	63	64	63	NONE	61	60	60	60	**58** 5	**58** 5	58	57	57	57	
R	31C	N		SFR	1	63 MOD	64	65	65	NONE	63	63	62	62	61	61	59	59	58	57	
R	32	K3,Z		--	--	67 M,ST9	68	68	68	N/A	--	--	--	--	--	--	--	--	--	--	
R	32A	K3		SFR	11	65 MOD	66	67	66	A/E	64	63	63	63	**62** T,R	**61** T,R	59	59	58	58	
R	32B	K3,N		SFR	2	59 MOD	60	62	61	NONE	59	59	58	58	**56** 5	**56** 5	55	54	54	53	
R	33	K4		SFR	12	64 MOD	65	66	66	A/E	62	62	61	61	**59** T,R	**59** T,R	58	58	57	57	
R	34	K4		SFR	6	64 MOD	66	66	66	A/E	63	63	62	62	**60** T,R	**60** T,R	59	59	58	58	
R	34A	K4,N		SFR	1	59 MOD	61	62	62	NONE	60	60	60	60	58	59	57	57	56	56	
R	35A	K4,N		SFR	2	59 MOD	60	62	61	NONE	59	59	59	59	**57** 5	57	56	55	55	55	
R	35			SFR	9	68 M,ST10	69	69	69	A/E	64	64	62	62	**61** T,R	**61** T,R	60	60	59	59	
R	36		--	SFR	3	63 MOD	64	65	65	NONE	--	--	--	--	--	--	--	--	--	--	
R	37			SFR	3	59 M,ST11	60	61	61	NONE	--	--	--	--	--	--	--	--	--	--	
R	38			SFR	2	59 MOD	61	62	62	NONE	--	--	--	--	--	--	--	--	--	--	
R	39A	C	S238	SFR	1	64 MOD	66	67	67	A/E	66	65	65	65	63	63	**62** T,R	**62** T,R	62	62	No
R	39B		--	SFR	1	61 MOD	64	64	63	NONE	--	--	--	--	--	--	--	--	--	--	

Notes:

Bold - Recommended Wall Height

1 - Leq(h) are A-weighted, peak hour noise levels in decibels.

2 - Land Use: SFR - single-family residence; MFR - multi-family residence; MH - mobile Home; MOT - motel/hotel; SCH - School; REC - recreational/park; REL - religious institution.

3 - M - Measured noise level; STxx or LTxx - measurement site number; INT - Interior; MOD - Modeled noise level using TNM.

4 - A/E = Approach or exceed NAC.; S = Substantial Increase (12 dBA or more)

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

C - Critical design receiver.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

W - Existing private property wall or soundwall.

Z - Measurement or modeling purpose only: no outdoor use area.

K1 - A calibration factor of -3.5 dB is applied for this receptor and adjacent receptors with similar topographic features.

K2 - A calibration factor of -2.5 dB is applied for this receptor and adjacent receptors with similar topographic features.

* Retained for severe receptors

** Retained portion for severe receptors

*** Portions not reasonable

G - Garages providing traffic noise reduction.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

H - Exterior modeling point for a motel: interior noise estimated using the modeled noise level at this point.

N - Non first row residences.

NN - Beachfront frequent outdoor use area.

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	State Route 101 South Coast HOV Future Worst Hour Noise Levels - Leq(h), dBA[1,6]																Reasonable and Feasible (Yes/No)
					Design Year Noise Level without Project Leq(h), dBA[1]	Inside Design Year Noise Level with Project Leq(h), dBA[1]	Outside Design Year Noise Level with Project Leq(h), dBA[1]	Impact Type[4]	Noise Prediction with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
									Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside		
R 39		MFR	8	69 MOD	70	72	72	A/E	68	68	67	68	**66** R,5	**66** R,5	65	65	65	65		
R 39C Z		--	--	73 M,ST12	75	76	76	N/A	--	--	--	--	--	--	--	--	--	--		Yes
R 40 W		SFR	5	64 M,ST13	65	66	66	A/E	63	63	62	62	**60** T,R	**60** T,R	59	59	59	59		
R 41 C	S310	REL	1	71 MOD	72	74	74	A/E	69	69	67	67	**65** T,R	**65** T,R	64	64	63	63		
R 41A N	R/W	SFR	1	63 MOD	64	66	65	A/E	63	63	63	63	**61** R	61	60	60	60	59		
R 42		SFR	3	69 MOD	70	71	71	A/E	66	66	64 T	65	**63** R,5	**63** R,5	62	61	61	61		
R 42A W,N		SFR	1	64 MOD	65	66	66	A/E	64	64	63	63	62	62	62	62	62	62		
R 43 W		SFR	1	68 MOD	69	70	70	A/E	67	68	66	67	66	66	66	66	66	66		
R 43A K5,W	--	SFR	4	66 MOD	67	69	69	A/E	--	--	--	--	--	--	--	--	67	67		
R 44 K5,W		SFR	9	66 M,ST14	68	69	69	A/E	--	--	--	--	--	--	--	--	68	68		
R 45 C, W	S334	SFR	1	72 MOD	73	74	74	A/E	70	70	69	69	**68** T,R	**68** T,R	68	68	67	68		No
R 45A W	R/W	SFR	1	64 MOD	65	67	66	A/E	66	66	66	65	65	65	65	65	65	65		
R 46	--	SFR	1	71 MOD	72	74	73	A/E	73	73	73	73	73	73	73	73	73	72		
R 47A		SFR	2	65 MOD	66	68	68	A/E	65	64	64	64	63 T	62 T	**62** R,5	**62** R,5	62	61		
R 47		SFR	4	65 M,ST15	66	68	68	A/E	65	65	64	64	63	63	**62** T,R	**62** T,R	62	61		No
R 47B K6,N		SFR	3	57 MOD	58	60	60	NONE	60	59	59	58	58	58	58	58	58	57		
R 47C K6,N		SFR	3	59 MOD	60	62	62	NONE	61	61	61	61	60	59	58	58	58	57		
R 47D K6,N		SFR	3	56 M,ST15A	57	59	58	NONE	58	58	57	57	57	56	56	56	55	55		
R 48A	S374	SFR	3	67 MOD	68	70	70	A/E	68	68	67	66	66	65	**65** T,R	**64** T,R	64	64		
R 48	R/W	SFR	2	67 MOD	68	70	69	A/E	69	69	69	68	68	67	67	66	66	65		
R 48B		MFR	4	63 MOD	64	66	66	A/E	66	66	66	65	65	65	64	64	64	64		
R 48C K6,N		MFR	6	56 MOD	57	59	58	NONE	58	58	58	58	58	57	58	57	56	56		
R 49A C		REC	3	71 MOD	71	73	73	A/E	71	71	69	69	68	68	**66** T,R	**66** T,R	65	65		
R 49		REC	1	70 MOD	71	72	72	A/E	72	72	71	71	70	70	70	69	69	69		

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R 50		SFR	2	74 MOD	75	76	76	A/E	76	76	76	75 T	75	75	74	74	73 L	73 L		
R 51		MOT	2	72 MOD	72	74	74	A/E	68	67	66 T	66 T	65	65	**64** R,5	64	63	**63** R,5		Yes
R S1.1 N		SFR	1	69 MOD	70	72	71	A/E	71	71	71	71	71	70	70	70	70	70		
R S1.2 N		SFR	2	67 M,CS1	68	70	68	A/E	68	68	68	67	67	67	67	67	67	66		
R S1.3 N		SFR	2	62 MOD	63	65	64	NONE	63	63	62	62	62	62	61	61	60	60		
R S1.4 N		SFR	1	66 MOD	67	69	68	A/E	67	67	66	66	65	65	**64** R	64	63	**63** R		
R S1.5 KS1,N		SFR	3	63 MOD	63	65	65	NONE	65	65	65	64	65	64	64	64	64	64		
R S1.6 KS1,N		SFR	2	60 M,CS2	61	63	62	NONE	62	62	62	61	62	61	61	61	61	60		
R S1.7 KS1,N		MFR	4	61 MOD	61	64	63	NONE	62	62	62	61	61	61	61	60	60	60		
R S1.8 KS1,N		SFR	2	63 MOD	63	65	65	NONE	64	64	63	63	63	62	62	62	61	61		
R 52 C	S392 R/W	SFR	6	72 M,ST16	73	74	74	A/E	66 T	66 T	65	65	64	64	63	63	**62** R,5	**62** R,5		
R S2.1 **		SFR	1	66 MOD	67	69	68	A/E	66	66	65	65	65	65	64	64	**64** R	**63** R		
R S2.2 **		SFR	1	67 MOD	68	70	69	A/E	68	67	67	66	66	66	65	65	**64** R	**64** R		
R S2.3 **		SFR	2	63 M,CS3	64	66	65	A/E	65	65	64	64	64	64	63	63	63	62		
R S2.4 **		SFR	2	64 M,ST16A	65	67	67	A/E	65	65	64	64	63	63	63	62	**62** R	**62** R		
R S2.5 KS2,N		SFR	2	63 MOD	64	66	65	A/E	65	64	64	64	63	63	62	62	62	61		
R S2.6 KS2,N		SFR	2	64 MOD	64	66	66	A/E	65	65	64	64	64	63	63	63	62	62		
R S2.7 KS2,N		SFR	2	61 M,CS4	62	64	63	NONE	63	62	62	62	61	61	61	61	60	60		
R 53		SFR	2	70 MOD	70	72	72	A/E	66 T	66 T	65	65	64	64	63	63	**62** R,5	**62** R,5		
R S3.1 N		SFR	1	64 M,CS5	65	67	67	A/E	63	63	62	62	61	61	60	59	**59** R,5	**59** R,5		
R S3.2 N		SFR	1	66 MOD	66	68	68	A/E	66	66	65	65	65	64	64	63	**63** R	**63** R,5		
R S3.3 N		SFR	1	66 MOD	67	68	68	A/E	66	66	65	65	65	64	64	63	**63** R	**63** R,5		
R S3.4 N		SFR	3	60 MOD	61	62	62	NONE	61	61	60	60	59	59	59	59	58	58		
R S3.5 N		SFR	1	60 M,CS6	60	62	62	NONE	60	60	59	59	58	58	58	58	**57** 5	**57** 5		
R S3.6 N		SFR	2	61 MOD	62	64	63	NONE	62	62	62	62	61	61	61	60	60	60		
R S3.7 N		MFR	2	66 MOD	67	68	68	A/E	67	67	66	66	65	65	64	64	**63** R	**63** 5		

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Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	State Route 101 South Coast HOV Future Worst Hour Noise Levels - Leq(h), dBA[1,6]														Reasonable and Feasible (Yes/No)
					Design Year Noise Level without Project Leq(h), dBA[1]	Inside Design Year Noise Level with Project Leq(h), dBA[1]	Outside Design Year Noise Level with Project Leq(h), dBA[1]	Impact Type[4]	Noise Prediction with Barrier										
									8 feet		10 feet		12 feet		14 feet		16 feet		
									Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	
R 55		MFR	7	67 MOD	68	69	69	A/E	66	66	65	65	63	63	62 T	62 T	**60** R,5	**60** R,5	
R 56 W		SFR	2	62 MOD	62	64	63	NONE	61	61	60	60	59	59	58	58	**58** 5	**58** 5	
R S4.1 N		SCH	3	66 M,ST17	66	68	68	A/E	66	65	65	65	64	64	63	63	**62** R,5	**62** R,5	
R S4.2 N		SFR	1	64 M,CS7	65	66	66	A/E	65	65	64	64	63	62	61	61	**60** R,5	**60** R,5	
R S4.3 N		SFR	1	64 MOD	65	66	65	A/E	64	64	63	63	62	62	61	61	**60** R,5	**60** 5	
R S4.4 N	S392	SFR	1	64 MOD	65	66	65	A/E	64	63	63	63	62	62	61	61	**60** R,5	**59** 5	
R S4.5 N	R/W	MFR	3	65 MOD	66	67	67	A/E	66	66	65	65	65	65	64	64	63	63	
R S4.6 N		SFR	1	66 M,CS8	66	68	68	A/E	67	66	66	66	65	65	65	64	64	64	
R S4.7 N		MFR	4	65 MOD	66	67	67	A/E	66	66	65	65	64	64	64	64	63	63	
R S4.8 N		SFR	2	66 MOD	67	68	68	A/E	67	67	66	66	66	66	65	65	64	64	
R S4.9 N		MFR	2	66 MOD	67	68	68	A/E	67	67	66	66	66	66	65	65	64	**63** R	
R S4.10 N		SFR	1	65 M,CS10	66	67	67	A/E	66	66	65	65	65	65	63	63	**62** R	**62** R	
R 57		SFR	4	68 MOD	68	70	69	A/E	65	65	64	64	62 T	62 T	61	61	**60** R,5	**60** R,5	
R S5.1 N		SFR	6	63 M,CS9	64	65	64	NONE	63	63	62	62	61	61	60	60	**59** 5	**59** 5	Yes
R S5.2 KS3,N		SFR	2	66 MOD	67	67	67	A/E	64	64	63	63	62	62	61	61	**60** R,5	**60** R,5	
R S5.3 KS3,N		SFR	1	62 MOD	63	64	63	NONE	60	60	59	59	59	59	57	57	**56** 5	**56** 5	
R S5.4 KS3,N	S414	SFR	4	53 M,CS11	54	55	55	NONE	53	52	52	52	50	50	50	49	**49** 5	**49** 5	
R S5.5 N	Shoulder	MFR	5	66 MOD	67	68	68	A/E	67	66	66	66	65	65	64	64	**63** R	**63** R	
R S5.6 N		SFR	2	66 MOD	67	68	68	A/E	67	66	66	66	65	65	64	64	**63** R	**63** R	
R S5.7 KS4,N		SFR	2	62 MOD	63	64	64	NONE	63	63	63	63	62	62	62	62	61	61	
R S5.8 KS4,N		MFR	2	62 MOD	62	64	63	NONE	61	61	61	61	60	60	59	59	**58** 5	**58** 5	
R S5.9 KS4,N		SFR	2	63 M,CS12	64	65	64	NONE	61	61	61	60	60	60	59	58	**58** 5	**57** 5	
R S5.10 KS4,N		SFR	3	53 MOD	54	55	55	NONE	53	52	52	52	51	51	49	49	**48** 5	**48** 5	

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					Design Year Noise Level without Project Leq(h), dBA[1]	Inside Design Year Noise Level with Project Leq(h), dBA[1]	Outside Design Year Noise Level with Project Leq(h), dBA[1]	Impact Type[4]	Noise Prediction with Barrier										
									8 feet		10 feet		12 feet		14 feet		16 feet		
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R 58 C		SFR	4	72 M,ST20	73	74	73	A/E	68	67	66	66	64	64	63	63	**62** R,5	**62** R,5	
R S6.1 N		MFR	4	72 MOD	73	74	73	A/E	71	71	70	70	69	69	68	68	**67** R,5	**67** R,5	
R S6.2 N		SFR	2	70 MOD	71	72	72	A/E	70	70	69	69	68	68	67	67	**67** R,5	**66** R,5	
R S6.3 N		SFR	2	69 M,CS13	69	71	70	A/E	69	69	69	68	68	68	67	66	**66** R	66	
R S6.4 N		SFR	2	69 MOD	70	71	71	A/E	70	70	69	69	68	68	67	67	67	**66** R	
R S6.5 N		SFR	1	67 MOD	68	69	69	A/E	68	68	68	67	67	67	66	66	65	65	
R S6.6 N		MFR	3	60 MOD	61	62	62	NONE	61	61	61	60	60	60	59	59	59	58	
R S6.7 N	S414	SFR	1	67 MOD	68	69	68	A/E	64	64	64	63	63	63	61	61	**60** R,5	**60** R,5	
R S6.8 N	Shoulder	MFR	2	68 MOD	69	69	69	A/E	66	66	64	64	64	64	62	62	**61** R,5	**61** R,5	
R S6.9 N		MFR	2	67 M,CS15	68	69	69	A/E	67	67	65	65	64	65	63	63	**62** R,5	**62** R,5	
R S6.10 N		SFR	1	68 MOD	69	70	70	A/E	69	68	68	68	67	67	66	66	**65** R	**65** R	
R S6.11 N		SFR	3	70 MOD	71	72	72	A/E	71	71	71	70	70	70	69	69	68	68	
R S6.12 N		SFR	3	69 M,CS14	70	71	71	A/E	70	70	70	70	69	69	68	68	67	67	
R S6.13 N		SFR	1	68 MOD	69	70	70	A/E	69	69	69	68	68	68	67	67	66	66	
R S6.14 N		MFR	3	63 MOD	64	66	65	A/E	65	65	65	64	64	64	64	63	62	62	
R S6.15 N		SFR	3	68 MOD	69	70	70	A/E	69	69	69	69	69	68	68	68	67	67	
R 58A		MFR	2	67 MOD	67	69	69	A/E	66	66	66	65	64	64	**62** R,5	**62** R,5	61	61	
R 59		MOT	1	70 MOD	71	72	72	N/A	68	68	67	67	65	64	**63**	63	62	62	Yes
R 59	S424	MOT	1	50 MOD	51	52	52	A/E	48	48	47	47	45	44	**43** R,5	**43** R,5	42	42	
R 60 C	Shoulder	MH	7	74 MOD	74	75	75	A/E	74	74	73	72	71	71	**69** R	**69** R	67 L	67 L	
R 61		MH	1	73 MOD	74	75	75	A/E	75	74	74	73	73	72	71	71	**70** R,L	**69** R,L	
R 61A N		MH	2	66 MOD	66	68	67	A/E	68	67	67	67	67	66	65	65	64 L	63 L	
R 61B		REC	1	63 MOD	64	65	65	NONE	64	64	64	64	63	63	62	62	61	61	
R 62 K7		SFR	3	54 MOD	55	56	56	NONE	--	--	--	--	--	--	--	--	--	--	
R 63 K7		SFR	3	58 M,ST18	59	61	61	NONE	--	--	--	--	--	--	--	--	--	--	No
R 64	S405	SFR	5	58 MOD	59	60	60	NONE	--	--	--	--	--	--	--	--	--	--	
R 64A Z	Shoulder	SFR	5	66 M,LT2	67	68	68	N/A	--	--	--	--	--	--	--	--	--	--	
R 65 C		SFR	2	66 MOD	66	68	68	A/E	64	64	**62** T,R	**63** T,R	62	62	62	62	61	61	
R 66 K8	--	REC	4	61 M,ST19	62	63	63	NONE	--	--	--	--	--	--	--	--	--	--	

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Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	State Route 101 South Coast HOV Future Worst Hour Noise Levels - Leq(h), dBA1,6																Reasonable and Feasible (Yes/No)
					Design Year Noise Level without Project Leq(h), dBA[1]	Inside Design Year Noise Level with Project Leq(h), dBA[1]	Outside Design Year Noise Level with Project Leq(h), dBA[1]	Impact Type[4]	Noise Prediction with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
									Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside		
R 67 C	S446	SFR	1	66 MOD	68	69	69	A/E	64	64	63	63	**61** T,R	**61** T,R	60	61	60	60		No
R 68A		SFR	1	64 MOD	66	67	68	A/E	64	64	62	63	**60** T,R	**60** T,R	60	60	59	59		
R 68	S452 Shoulder	SFR	2	65 MOD	66	68	69	A/E	64	64	63	64	**61** T,R	**61** T,R	60	60	60	60		No
R 69		MFR	8	65 MOD	66	68	68	A/E	64	64	63	64	**61** T,R	**61** T,R	60	60	60	60		
R 70 C		SFR	3	67 MOD	68	69	70	A/E	65	65	63	64	**61** T,R	**62** T,R	61	61	60	60		
R 70A		SFR	2	71 MOD	73	73	73	A/E	67	67	66	66	**63** T,R	**63** T,R	62	62	61	61		
R 71	S464 Shoulder & R/W	SFR	3	74 M,ST21	75	76	76	A/E	69	69	66	66	**65** T,R	**65** T,R	64	64	63	63		No**
R 71A		SFR	1	70 MOD	72	74	73	A/E	68	68	66 T	67 T	**64** R,5	**64** R,5	63	63	62	62		
R 72 C		SFR	3	74 MOD	75	76	76	A/E	70	70	68	68	**66** T,R	**66** T,R	65	65	64	64		
R 73		SFR	4	75 MOD	76	77	76	A/E	70	70	**68** T,R	**67** T,R	67	67	66	66	66	65		
R 83	S498 R/W	SFR	1	69 MOD	71	72	72	A/E	68	68	**66** T,R	**66** T,R	65	65	64	64	64	63		
R 84 C		SFR	6	73 M,ST24	75	76	76	A/E	69	69	**67** T,R	**67** T,R	66	66	65	65	65	65		No**
R 85		SFR	9	70 MOD	72	73	73	A/E	67	67	**65** T,R	**65** T,R	64	64	63	63	62	62		
R 86		SFR	2	68 MOD	69	71	71	A/E	65	64	**64** T,R	**63** T,R	63	63	62	62	61	61		
R 86A		SFR	2	62 MOD	63	65	64	NONE	61	61	61	61	61	61	61	60	60	60		
R 74	S471 Shoulder	SFR	1	59 MOD	61	62	64	NONE	60	62	60	61	60	61	60	61	59	61		
R 74B		SFR	1	70 MOD	71	72	72	A/E	**66** T,R	68 T	65	**67** R	64	66	64	66	63	66		No
R 74A		SFR	2	63 MOD	64	65	67	NONE	62	64	62	**61** T,R	61	61	60	60	60	60		
R 75 C		SFR	5	71 MOD	72	73	72	A/E	67	67	66	66	**64** T,R	**64** T,R	63	63	62	62		
R 76 K2		SFR	4	64 M,ST22	65	66	66	A/E	61	61	61	61	**59** T,R	**59** T,R	57	57	57	57		
R 77		SFR	3	67 MOD	68	69	69	A/E	65	65	63	64	**61** T,R	**61** T,R	60	60	59	59		
R 77A		SFR	2	67 MOD	68	68	68	A/E	65	65	64	64	62 T	63 T	**62** R,5	**62** R,5	60	60		
R 78		SFR	2	63 MOD	65	66	66	A/E	65	65	63	63	62 T	62 T	**61** R	**61** R	61	60		
R 78A		SFR	1	62 MOD	63	64	64	NONE	64	64	63	63	63	63	62	62	62	62		
R 79 W	--	SFR	3	64 MOD	65	66	67	A/E	--	--	--	--	--	--	65	65	64	64		
R 80 W		SFR	1	68 M,ST23	69	70	70	A/E	--	--	--	--	--	--	69	69	69	68		

Notes:

Bold - Recommended Wall Height

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4 - A/E = Approach or exceed NAC.; S = Substantial Increase (12 dBA or more)

5 - Barrier height needed to meet requirements at adjacent receptor(s).

6 - Traffic noise from the freeway only; other local noise sources are not included.

C - Critical design receiver.

R - The minimum height to meet feasibility requirements of Caltrans' Noise Abatement Criteria.

W - Existing private property wall or soundwall.

Z - Measurement or modeling purpose only: no outdoor use area.

K1 - A calibration factor of -3.5 dB is applied for this receptor and adjacent receptors with similar topographic features.

K2 - A calibration factor of -2.5 dB is applied for this receptor and adjacent receptors with similar topographic features.

* Retained for severe receptors

** Retained portion for severe receptors

*** Portions not reasonable

G - Garages providing traffic noise reduction.

T - Minimum height required to block the line-of-sight from the receptor to truck exhaust stacks.

H - Exterior modeling point for a motel: interior noise estimated using the modeled noise level at this point.

N - Non first row residences.

NN - Beachfront frequent outdoor use area.

Receiver I.D.	Barrier I.D. and Location	Land Use[2]	Number of Dwelling Units	Existing Noise Level Leq(h), dBA[1,3]	State Route 101 South Coast HOV Future Worst Hour Noise Levels - Leq(h), dBA1,6																Reasonable and Feasible (Yes/No)
					Design Year Noise Level without Project Leq(h), dBA[1]	Inside Design Year Noise Level with Project Leq(h), dBA[1]	Outside Design Year Noise Level with Project Leq(h), dBA[1]	Impact Type[4]	Noise Prediction with Barrier												
									8 feet		10 feet		12 feet		14 feet		16 feet				
									Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside		
R 81 C	S489 Private Property	SFR	1	73 MOD	74	74	74	A/E	70 T	70 T	69	69	**69** R,5	**69** R,5	69	69	68	68		
R 82		MFR	3	67 MOD	68	69	69	A/E	66	66	65 T	65 T	**64** R	**64** R	63	64	63	63		No
R 82A		MFR	2	67 MOD	68	68	68	A/E	66	66	66	66 T	65	65	65	65	65	65		
R 87B	S520 R/W	SFR	1	62 MOD	62	64	64	NONE	61	61	61	61	61	60	60	60	60	60		
R 87A		SFR	1	63 MOD	64	65	65	NONE	62	61	61	61	61	60	60	60	60	60		No**
R 87		SFR	1	66 M,ST26	66	68	68	A/E	63	63	**62** T,R	**62** T,R	61	61	60	60	60	59		
R 88 C		SFR	6	73 MOD	73	75	75	A/E	67	68	**65** T,R	**66** T,R	64	64	63	63	62	62		
R 89		SFR	4	74 MOD	74	75	75	A/E	68	69	**66** T,R	**67** T,R	65	65	64	64	63	63		
R 90		SFR	5	70 MOD	70	72	72	A/E	66	66	**64** T,R	**64** T,R	64	63	63	63	62	62		
R 90A		SFR	4	66 MOD	66	68	68	A/E	63	63	**62** T,R	**62** T,R	61	61	61	61	60	60		
R 91		SFR	2	60 MOD	61	62	62	NONE	59	58	58	58	58	58	58	57	57	57		
R 92	S519 R/W	SFR	4	63 MOD	64	66	65	A/E	62	62	62 T	62 T	62	61	**61** R	61	61	61		
R 92A		MFR	4	69 MOD	70	71	71	A/E	65	65	64	64	63 T	**62** T,R	**62** R,5	62	61	61		No**
R 93 C		SFR	5	73 MOD	73	75	75	A/E	68	68	66 T	66 T	**65** R,5	**65** R,5	64	64	63	63		
R 94		SFR	6	75 M,ST25	75	76	76	A/E	70	70	68	68	**67** T,R	**67** T,R	66	65	65	65		
R 95		SFR	3	72 MOD	73	74	74	A/E	64 T	66 T	**64** R,5	**64** R,5	63	63	62	62	61	62		
R 96A		SFR	4	65 MOD	65	67	67	A/E	61 T	61 T	**61** R,5	**61** R,5	60	60	60	60	59	59		
R 96		SFR	5	63 MOD	64	65	65	NONE	61	61	**60** 5	**60** 5	60	59	59	59	59	58		
R 97		SFR	3	63 M,LT3	64	66	65	A/E	64	63	62 T	61	**60** R	**59** 5	59	58	58	58		
R 97A		SFR	4	65 MOD	66	68	68	A/E	64	64	64	64	**63** T,R	64 T	63	**63** R	63	63		
R 97B		MFR	1	69 MOD	70	72	71	A/E	70	70	70	70	70	69	70	69	70	69		

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					Design Year Noise Level without Project Leq(h), dBA[1]	Inside Design Year Noise Level with Project Leq(h), dBA[1]	Outside Design Year Noise Level with Project Leq(h), dBA[1]	Impact Type[4]	Noise Prediction with Barrier										
									8 feet		10 feet		12 feet		14 feet		16 feet		
									Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	Leq(h) - Inside	Leq(h) - Outside	
R 98 C	S535 R/W	SFR	1	73 MOD	74	76	76	A/E	68 T	66 T	67	65	**66** R,5	**64** R,5	66	62	65	62	
R 98A **		MFR	3	66 MOD	66	68	68	A/E	65 T	65 T	64	64	**63** R	**63** R	62	62	61	61	No*
R 99 W		MFR	2	68 M,ST27	69	70	70	A/E	67 T	67 T	65	66	**65** R,5	**65** R	63	63	62	62	
R 100A	S549 Shoulder	SFR	2	65 MOD	66	67	67	A/E	62	62	**62** T,R	**61** T,R	60	60	60	60	59	59	
R 100		MFR	8	65 MOD	66	67	67	A/E	62	62	**61** T,R	**62** T,R	61	61	60	61	60	60	No
R 101		SFR	2	65 MOD	66	67	67	A/E	62	63	**60** T,R	**60** T,R	60	60	59	59	58	58	
R 102		SFR	5	67 M,ST28	67	69	69	A/E	64	64	63	63	**61** T,R	**61** T,R	60	60	60	60	
R 103 C		SFR	6	69 MOD	69	70	71	A/E	65	66	64	65	**63** T,R	**63** T,R	62	62	62	62	
R 104	--	MOT	1	62 MOD	62	64	64	None	--	--	--	--	--	--	--	--	--	--	

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Receptor Group 1 (R1-R3C)

Measurements taken at Receptors R1through R3 along Via Real on the west side of U.S. 101 indicate that the existing noise level ranges between 62 and 73 decibels. The predicted future noise level at these receptor locations with the project is predicted to range between 65 and 76 decibels. Six mobile homes in Rancho Granada Mobile Home Park are represented by Receptors R1 and R2. Receptors R3 through R3B cover 17 mobile homes and a community pool in San Roque Mobile Home Park. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the homes represented by Receptors R1 through R3B would be adversely affected by noise.

Receptor Group 2 (R4-R7A)

Receptors R4 through R7A represent 31 dwellings extending from the Nipomo Drive neighborhood to the proposed Dahlia Court Apartment complex. Receptors R4 through R6 include 20 single-family residences. Receptor R7 includes five multi-family residences in the proposed Dahlia Court Apartment complex, and Receptor R7A represents six multi-family residences. Measurements taken at these receptors indicate existing noise levels range between 61 and 72 decibels. The future noise level at these receptors with the project is predicted to range between 64 and 74 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the homes represented by Receptors R4 through R7A would be adversely affected by noise.

Receptor Group 3 (R8-R10)

Receptors R8 through R10 sit on the south side of U.S. 101 along Carpinteria Avenue between Franklin Creek and Santa Ynez Avenue. Receptor R8 represents 16 multi-family residences. Receptors R9 and R10 represent 14 multi-family residences, two commercial lots, and a Best Western Motel, respectively. Measurements taken at Receptors R8 through R10 indicate existing noise levels at that location range from 60 to 70 decibels. The future noise levels at these receptors with the project are predicted to be between 62 and 73 decibels. Receptors R8 and R9 are below the noise abatement criterion of 67 decibels. Because the predicted future noise level of 65 decibels does not approach or exceed the noise abatement criterion of 67 decibels, Receptor R8 and R9 would not be adversely affected by noise levels. Receptor R10 would exceed the noise abatement criteria of 67 decibels; however, it does not have a frequent outdoor use area directly facing the freeway and is not subject to the outdoor use threshold. No additional abatement is required.

Receptor Group 4 (R11-R13A)

Receptors R11 through R13A sit on the north side of U.S. 101 between Santa Ynez Avenue and Santa Monica Road. Thirteen single-family residences along Cramer Circle represented by Receptors R11 through R13A indicate existing noise levels range between 67 and 72 decibels. The future noise levels at these receptors with the project are predicted to be between 69 and 75 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the homes represented by Receptors R11 through R13A would be adversely affected by noise.

Receptor Group 5 (R14)

Receptor R14 sits on the north side of U.S. 101 near the corner of Via Real and Santa Monica Road. Measurements taken at this single-family residence indicate existing noise levels at 63 decibels. The highest future noise level at this receptor with the project is predicted to be 66 decibels for the inside widening option. Because the predicted future noise level (66 decibels) approaches the noise abatement criterion (67 decibels) for residential uses, this receptor would be adversely affected by noise.

Receptor Group 6 (R15 and R17)

Receptors R15 and R17 sit north of U.S. 101 and west of Santa Monica Road. Receptor 15 is a Motel 6 and Receptor R17 is the Motel 6 swimming pool. Measurements indicate existing noise levels between 63 and 64 decibels. The future noise levels at these receptors with the project are predicted to be between 65 and 67 decibels. Because the predicted future noise level approaches and meets the noise abatement criterion for residential uses (67 decibels), these receptors would be adversely affected by noise.

Receptor Group 7 (R17A-R21)

Receptors 17A through R21 sit north of U.S. 101 and along Via Real to just west of Cravens Lane. Receptors 17A through R21 represent 18 multi-family residences and 14 mobile homes of the Sandpiper Mobile Village. Measurements taken for these receptors indicate existing noise levels between 68 and 74 decibels. The future noise levels at these receptors with the project are predicted to be between 70 and 76 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), these receptors would be adversely affected by noise.

Receptor Group 8 (R22-R27)

Receptors R22 through R27 sit on the south side of U.S. 101 and north of Santa Ynez Road. Thirteen single-family residences, 16 multi-family residences, and 28 mobile homes of the Sea Breeze Mobile Home Park are represented by Receptors R23 through R27. The Camino Real Apartments are represented by Receptor R22. Measurements taken between Receptors R22 and R27 indicated existing noise levels between 68 and 76 decibels. The future noise levels at these receptors with the project are predicted to be between 70 and 78 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), these receptors would be adversely affected by noise.

Receptor Group 9 (R28-R29A)

Receptors R28 though R29A sit on the south side of U.S. 101 near the intersection of Santa Claus Lane and South Padaro Lane. These receptors represent 24 single-family homes. Measurements taken between these receptors indicated existing noise levels between 54 and 66 decibels. The future noise levels at these receptors, with the project, are predicted to be between 56 and 67 decibels. Receptors R28A and R29A would not approach the exterior noise abatement criterion of 67 dBA. However, the homes represented by Receptors R28 and R29 meet the predicted future noise-level abatement criterion (67 decibels) for residential uses. These receptors would be adversely affected by noise.

Receptor Group 10 (R30-R35)

Receptors R30 through R35 represent 93 single-family homes on the south side of U.S. 101 along Padaro Lane. Measurements taken at these receptors indicated existing noise levels between 56 and 69 decibels. The future noise levels at these receptors with the project are predicted to be between 58 and 71 decibels. Because the predicted future noise level approaches (66 decibels) and exceeds the noise abatement criterion for residential uses (67 decibels), the homes represented by Receptors R30, R31, R32, R32A, R34, and R35 would be adversely affected by noise.

Receptor Group 11 (R36-R38)

Receptors R36, R37 and R38 represent eight residences along Padaro Lane south of U.S. 101. Measurements taken at these receptors indicated existing noise levels between 59 and 63 decibels. Future noise levels at these receptors with the project are predicted to be between 61 and 65 decibels. Because the predicted future noise levels of 65 decibels do not meet or exceed the noise abatement criteria, these receptors would not be affected by noise levels. No additional abatement is required.

Receptor Group 12 (R39A)

Receptor 39A is north of U.S. 101 along Via Real and represents one single-family residence. Measurements taken at this receptor indicated the existing noise level at 61 decibels. Future noise levels at this location with the project are predicted to be 67 decibels. Because the predicted future noise level meets the noise abatement criterion for residential uses (67 decibels), Receptor 39A would be adversely affected by noise.

Receptor Group 13 (39B)

Receptor 39B is on the north side of U.S. 101 just east of Nidever Road and represents one single-family residence. Measurements taken at this receptor indicated the existing noise level at 61 decibels. Future noise levels at this location, with the project, are predicted to be 64 decibels. Because the predicted future noise levels of 64 decibels does not approach or exceed the noise abatement criteria, Receptor R64 would not be adversely affected by noise levels.

Receptor Group 14 (R39-R43)

Receptors R39 through R43 north of U.S. 101 near the Serena Park Area represent 11 single-family residences, eight multi-family residences, and one frontage unit of a religious institution along Via Real. Measurements taken at these receptors indicated the existing noise levels between 63 to 73 decibels. Future noise levels at this location, with the project, are predicted to be between 66 and 72 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), residents represented by Receptors R39 through R42 would be adversely affected by noise.

Receptor Group 15 (R43A-R44)

Receptors R43A and R44 north of U.S. 101 near the intersection of Via Real and Ocean View Avenue represent 13 single-family residences. Measurements taken between these receptors indicated existing noise levels at 66 decibels. The future noise levels at these receptors, with the project, are predicted to be 69 decibels. Receptors R43A and R44 would approach or exceed the exterior noise impact criterion of 67 dBA. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the homes represented by Receptors R43A and R44 would be adversely affected by noise. However, these receptors have an existing 10- to 14-foot-high soundwall providing abatement. This area was modeled for a 16-foot-high soundwall, but would not achieve a 5-decibel reduction required by the protocol. Therefore, the soundwall is not feasible and would not be built.

Receptor Group 16 (R45-R45A)

Receptors R45 and 45A are north of U.S. 101 near the intersection of Via Real and Toro Canyon Road. These receptors represent two single-family residences. Measurements taken at these receptors indicate that the existing noise levels are between 64 and 72 decibels. The future noise levels at these receptors, with the project, are predicted to be 66 and 74 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), these two residences would be adversely affected by noise.

Receptor Group 17 (R46)

Receptor R46 is north of U.S. 101 just west of Toro Canyon Road and represents one single-family residence. Measurements taken at this receptor indicated an existing noise level of 71 decibels. Future noise levels at this location, with the project, are predicted to be 74 decibels. Because the predicted future noise level meets the noise abatement criterion for residential uses (67 decibels), this receptor would be adversely affected by noise. Because this receptor has an existing soundwall providing abatement, no additional abatement is required.

Receptor Group 18 (R47A-R49)

Receptors R47 through R49 are north of U.S. 101 near the Southern California Substation. These receptors represent 20 single-family residences, 10 multi-family residences, and four frontage units of Oceanview Park. Measurements taken at these receptors indicate that existing noise levels between 56 and 71 decibels. Future noise levels at these receptors, with the project, are predicted to be between 58 and 73 decibels. Because the predicted future noise level either approaches or meets the noise abatement criterion for residential uses (67 decibels), receptors R47A, R47, R48A, R48, R48B, R49A, and R49 would be adversely affected by noise.

Second-row residences represented by Receptors R47B through R47D and R48C would neither approach nor exceed the noise abatement criteria of 67 decibels, so no noise abatement would be required for these receptors.

Receptor Group 19 (R50-RS4.10)

Receptors R50 through R53 are north of U.S. 101 in the neighborhood of Summerland Elementary School. These receptors represent a basketball court, 10 single-family residences, and two frontage units of Inn of Summer Hill. Measurements taken at these receptors indicate existing noise levels between 70 and 74 decibels. Future noise levels at these receptors, with the project, are predicted to be

between 72 and 76 decibels. There are a few non-first-row residences on Varley Street and Banner Avenue where future predicted peak hour traffic noise levels would approach or exceed the noise abatement criteria of 67 decibels. Because the predicted future noise level approaches or meets the noise abatement criterion for residential uses (67 decibels), Receptors R50 through RS1.1, RS1.2, RS1.4, R52, RS2.1-RS2.3, RS2.4, RS2.5, RS2.6, R53, RS3.1, RS3.2, RS3.3, RS3.7, R55, and RS4.1-RS4.10 would be adversely affected by noise. Receptor locations noted by "RS" indicate a second visit to the project site area for more measurements.

Severely Affected Receptors—The future exterior peak hour noise levels at 2535 and 2549 Varley Street that are represented by Receptor R50 would exceed 75 dBA; thus, these two residences would be considered severely affected. Soundwall S392 at the right-of-way line would not provide the 5-decibel reduction for these two severely affected receptors. Noise reduction would not meet the feasibility criterion because of the receptor's high elevations relative to U.S. 101. Therefore, either a soundwall on private property or acoustical treatment would still be considered for these two severely affected residences.

Receptor Group 20 (R57-RS6.15)

Receptors R57 and R58 are north of U.S. 101 near the intersection of Evans Avenue and Ortega Hill Road. These receptors represent 18 single-family and 14 multi-family residences. Measurements taken at these receptors indicate that the existing noise levels at these locations range between 53 to 72 decibels. The future noise levels at these receptors, with the project, are predicted to be between 55 and 74 decibels. Because the predicted future noise level approaches or exceeds the noise abatement criterion for residential uses (67 decibels), these residences would be adversely affected by noise.

Receptor Group 21 (R58A-R61B)

Receptors R58A to 61B are north of U.S. 101 near the Summerland Inn. These receptors represent 10 mobile homes, one frontage unit of Summerland Inn, and two multi-family residences. Measurements taken at these receptors indicate that the existing noise levels at that location are between 50 to 74 decibels. The future noise levels with the project are predicted to be between 52 and 75 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the residences would be adversely affected by noise.

Receptor Group 22 (R62-R65)

Receptors R62 to R65 are south of U.S. 101 just east of Lookout Park on Finney Street. These receptors represent seven single-family residences. Measurements taken at these receptors indicate existing noise levels are between 54 to 66 decibels. Future noise levels, with the project, are predicted to be between 56 and 68 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), five single-family residences represented by R64A and two single-family residences represented by Receptor R65 would be adversely affected by noise. However, since the five single-family residences represented by R64A have garages and no frequent outdoor use areas directly facing the highway, these residences would be below the noise abatement criterion of 67 decibels.

Receptor Group 23 (R66)

Receptor R66 is south of U.S. 101 in the Lookout Park at Evans Avenue. Measurements taken at this receptor indicate an existing noise level of 61 decibels. The future noise level at Receptor R66, with the project, is predicted to be 63 decibels. Because the predicted future noise level of 63 decibels does not meet or exceed the noise abatement criteria, Receptor R66 would not be adversely affected by noise levels. No additional abatement is required.

Receptor Group 24 (R67)

Receptor R67 is north of U.S. 101 near the Sheffield off-ramp and represents one single-family residence. Measurements taken at this receptor indicate an existing noise level of 66 decibels. Future noise level, with the project, is predicted to be 69 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the single-family residence represented by Receptor R67 would be adversely affected by noise.

Receptor Group 25 (R68A-R70)

Receptors R68A though 70 are north of U.S. 101 between Sheffield Drive and Loureyro Road. These receptors represent six single-family residences and eight multi-family residences of Villa de Montecito Apartments. Measurements taken at these receptor locations indicate the existing noise levels to be between 64 to 67 decibels. The future noise levels with the project are predicted to be between 67 and 70 decibels. Because the predicted future noise level for Receptors R68A through R70 exceeds the noise abatement criterion for residential uses (67 decibels), these receptors would be adversely affected by noise.

Receptor Group 26 (R70A-R73)

Receptors R70A though 73 are north of U.S. 101 between Loureyro Road and La Vuelta Road. Thirteen single-family residences are represented by Receptors R70A through R73. Measurements taken at these receptor locations indicate the existing noise levels to be between 70 to 75 decibels. The future noise levels with the project are predicted to be between 73 and 77 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the residences would be adversely affected by noise.

Receptor Group 27 (R83-R86A)

Receptors R83 to R86A are the north of U.S. 101 near the orange grove at San Ysidro Road along North Jameson Lane. Twenty single-family residences are represented by Receptors R83 through R86. Measurements taken at these receptor locations indicate the existing noise levels to be between 62 to 73 decibels. The future noise levels with the project are predicted to be between 65 and 76 decibels. Because the predicted future noise level, except for those receptors represented by R86A, exceeds the noise abatement criterion for residential uses (67 decibels), the residences would be adversely affected by noise.

Receptor Group 29 (R74-R80)

Receptors R74 though R80 are south of U.S. 101 along Fernald Point Lane. Twenty-five single-family residences are represented by Receptors R74 through R80. Measurements taken at these receptor locations indicate the existing noise levels to be between 59 to 71 decibels. The future noise levels with the project are predicted to be between 62 and 73 decibels. Because the predicted future noise level approaches or exceeds the noise abatement criterion for residential uses (67 decibels), the residences would be adversely affected by noise.

Receptor Group 30 (R81-R82A)

Receptors R81 to R82A are south of U.S. 101 and just west of Posilipo Lane. One single-family residence is represented by Receptor R81, and five multi-family units are represented by Receptors R82 and R82A. Measurements taken at these receptors indicate that the existing noise levels at these locations are between 67 and 73 decibels. The future noise levels at these receptors with the project are predicted to be between 68 and 74 decibels. Because the predicted future noise level exceeds the noise abatement criterion for residential uses (67 decibels), the residences would be adversely affected by noise.

Receptor Group 31 (R87B-R91)

Receptors R87B though R91 are north of U.S. 101 along North Jameson Lane from San Ysidro Road to Olive Mill Road. Twenty-four single-family residences are represented by Receptors R87B through R91. Measurements taken at these receptors indicate that the existing noise levels at these locations are between 60 and 74 decibels. The future noise levels at these receptors with the project are predicted to be between 62 and 75 decibels. Because the predicted future noise levels for Receptors R87, R88, R89, R90, and R90A exceed the noise abatement criterion for residential uses (67 decibels), the residences would be adversely affected by noise.

Receptor Group 32 (R92-R97B)

Receptors R92 through R 97B are south of U.S. 101 from Eucalyptus Lane to Olive Mill Road. Thirty-four single-family and five multi-family residences are represented by Receptors R92 through R97A. Measurements taken at these receptors indicate that the existing noise levels at these locations are between 63 and 75 decibels. The future noise levels at these receptors with the project are predicted to be between 65 and 76 decibels. Because the predicted future noise levels for all receptors, except for R96, approach or exceed the noise abatement criterion for residential uses (67 decibels), the residences would be adversely affected by noise.

Receptor Group 33 (R98-R99)

Receptors R98, R98A, and R99 are south of U.S. 101 and immediately west of Olive Mill Road. These receptors represent one single-family and five multi-family residential units. Measurements taken at these receptors indicate that the existing noise levels at these locations are between 66 and 73 decibels. The future noise levels at these receptors with the project are predicted to be between 68 and 76 decibels. Because the predicted future noise levels exceed the noise abatement criterion for residential uses (67 decibels), the residences would be adversely affected by noise.

Receptor Group 34 (R100A-R103)

Receptors R100A through R103 are south of U.S. 101 and west of Olive Mill Road to Butterfly Lane. Fifteen single-family and eight multi-family residences are represented by Receptors R100A through R103. Measurements taken at these receptors indicate that the existing noise levels at these locations are between 65 and 69 decibels. The future noise levels at these receptors with the project are predicted to be between 67 and 71 decibels. Because the predicted future noise levels exceed the noise abatement criterion for residential uses (67 decibels), the residences would be adversely affected by noise.

Receptor Group 35 (R104)

Receptor R104 is north of the U.S. 101 on Coast Village Road and west of Olive Mill Road and represents the Montecito Inn. Measurements taken at this receptor indicate the existing noise level at this location is 62 decibels. Future noise levels at this receptor with the project are predicted to be 64 decibels. Because the predicted future noise levels of 64 decibels do not approach or exceed the noise abatement criteria, the Montecito Inn would not be affected by noise levels. No additional abatement is required.

Soundwall Mapping

Figures 2-22 to 2-32 show the locations of proposed soundwalls. The figures also show whether or not the soundwalls are recommended for construction based on financial reasonableness or feasibility.

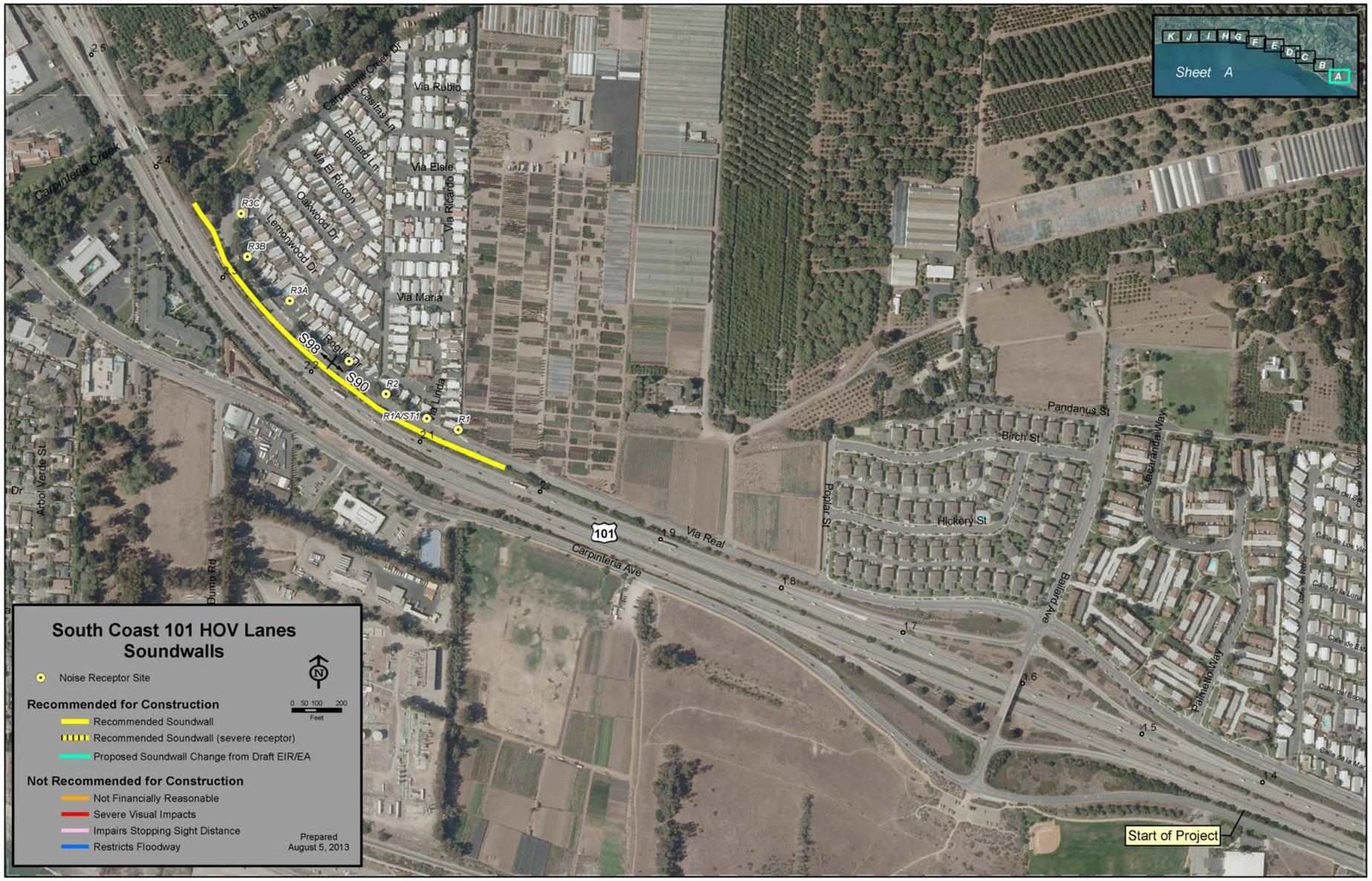

Figure 2-22 Proposed Soundwall Locations

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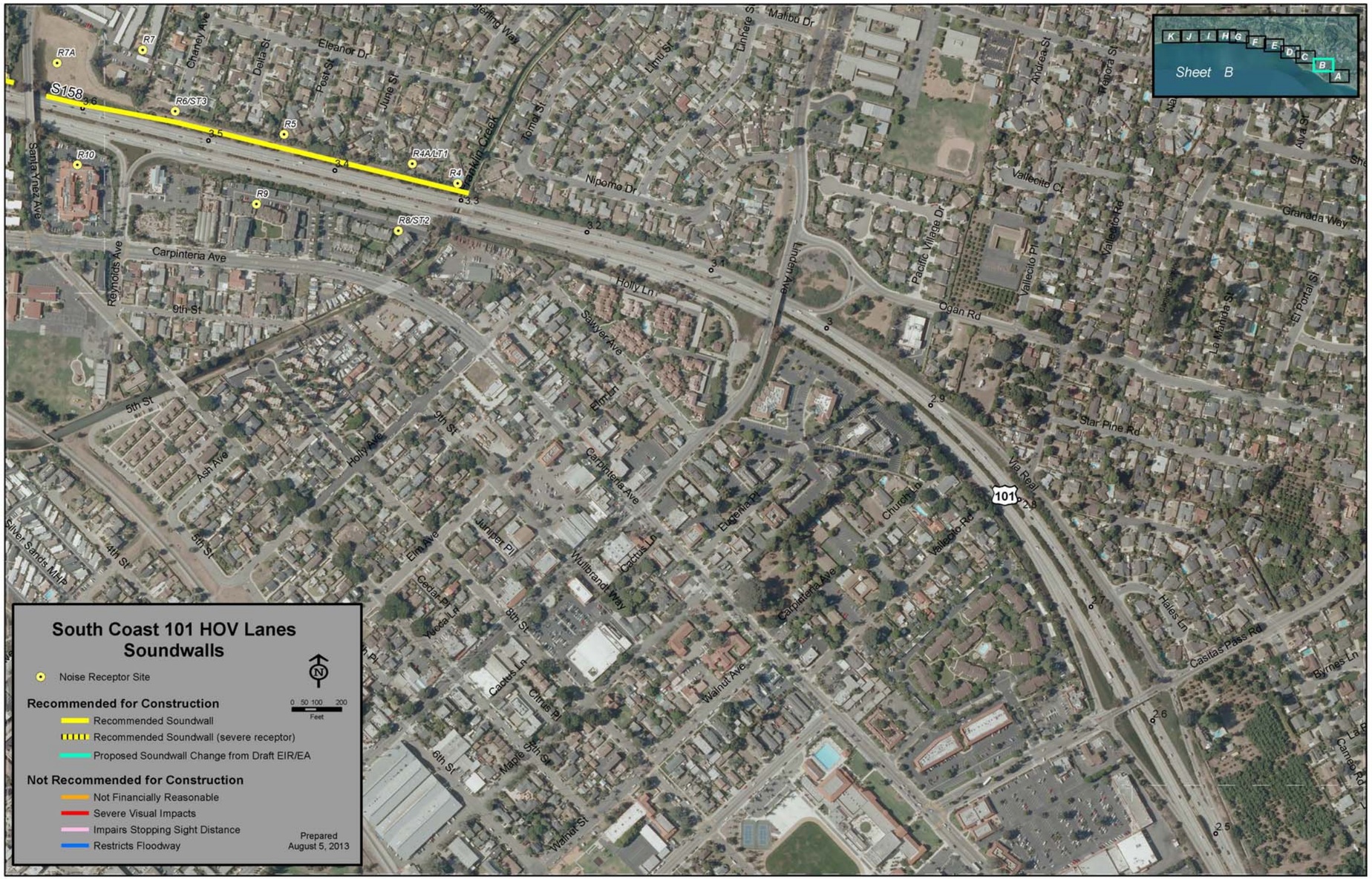

Figure 2-23 Proposed Soundwall Locations

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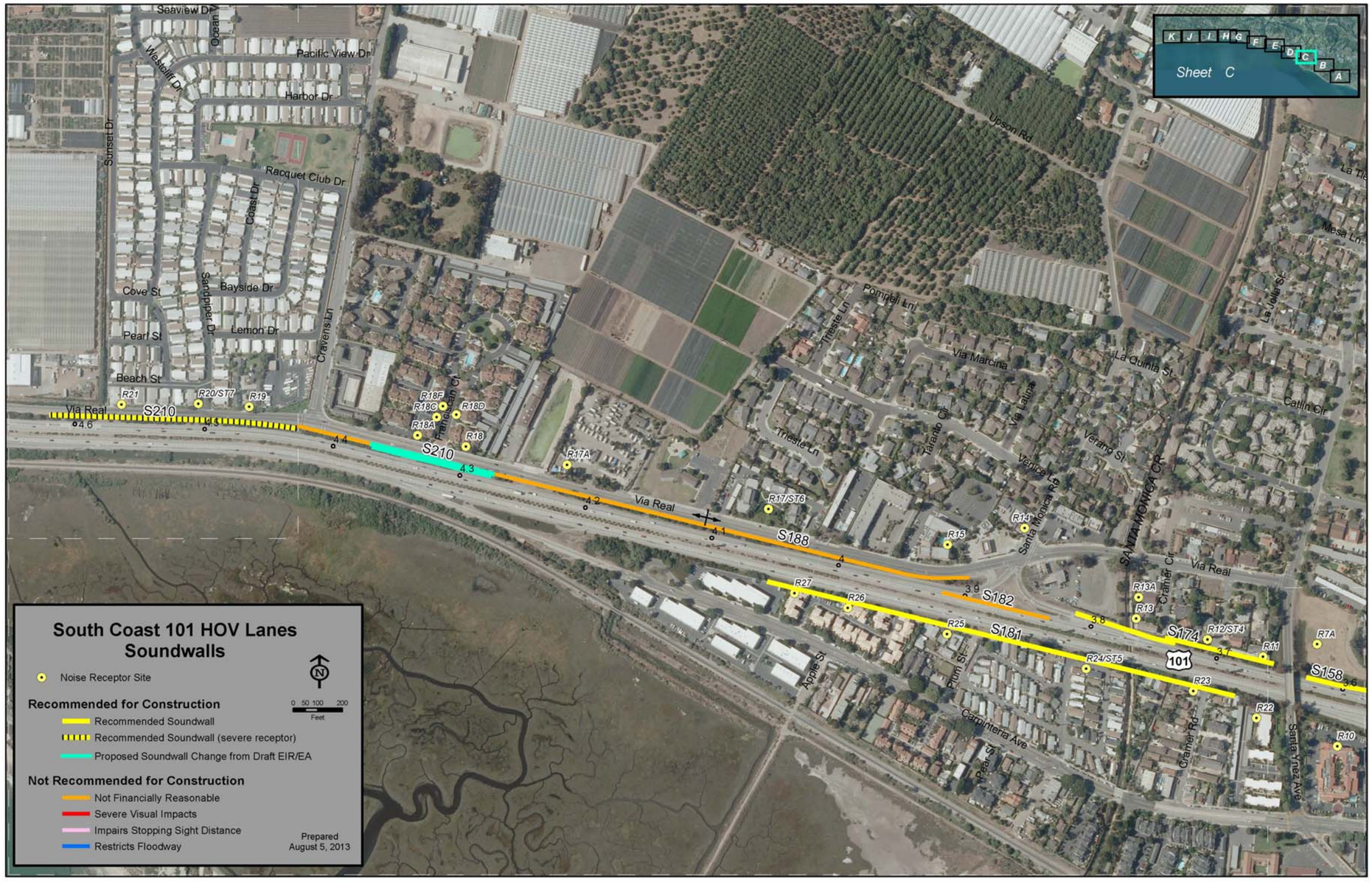

Figure 2-24 Proposed Soundwall Locations

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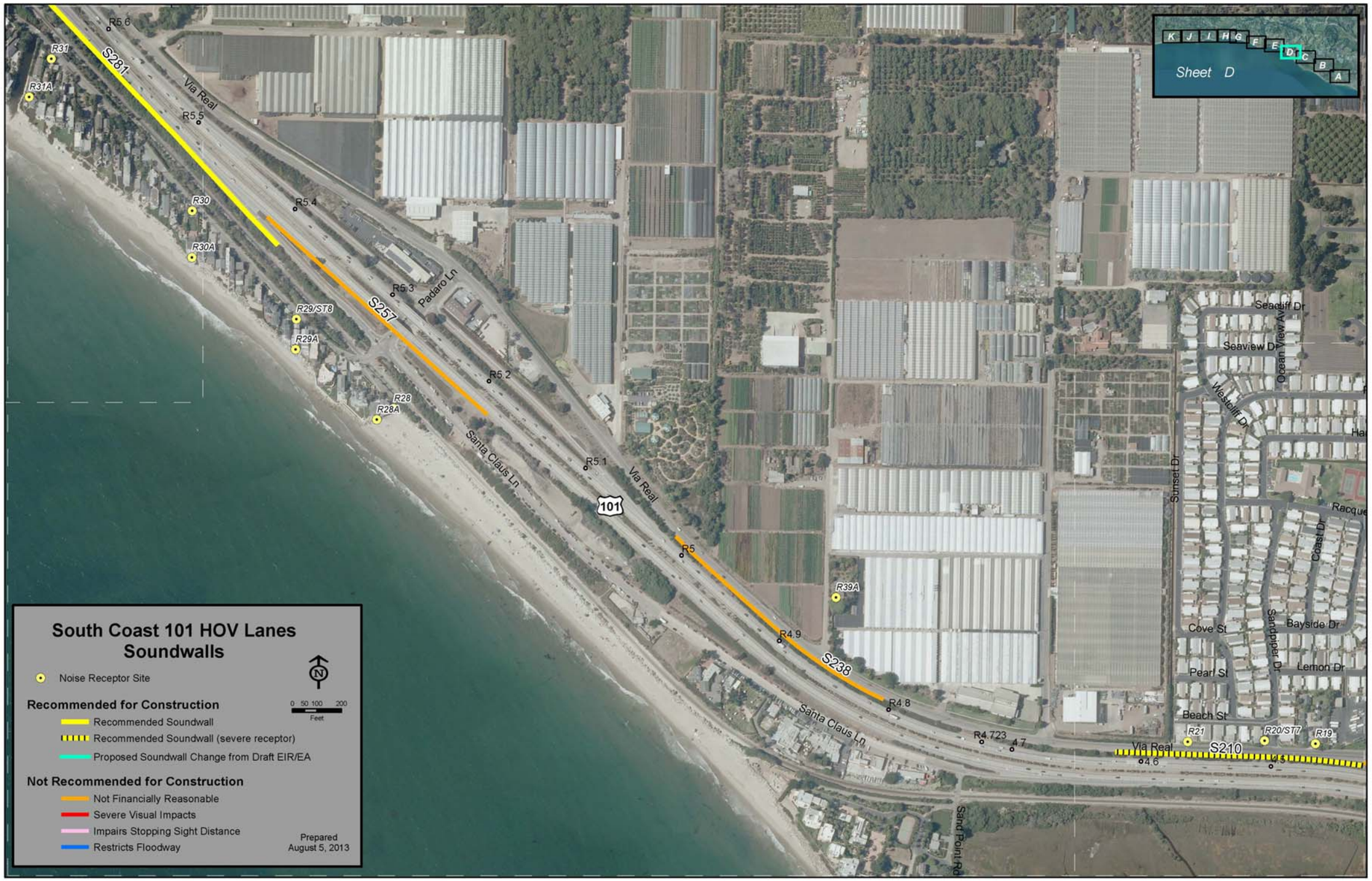

Figure 2-25 Proposed Soundwall Locations

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Figure 2-26 Proposed Soundwall Locations

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Figure 2-27 Proposed Soundwall Locations

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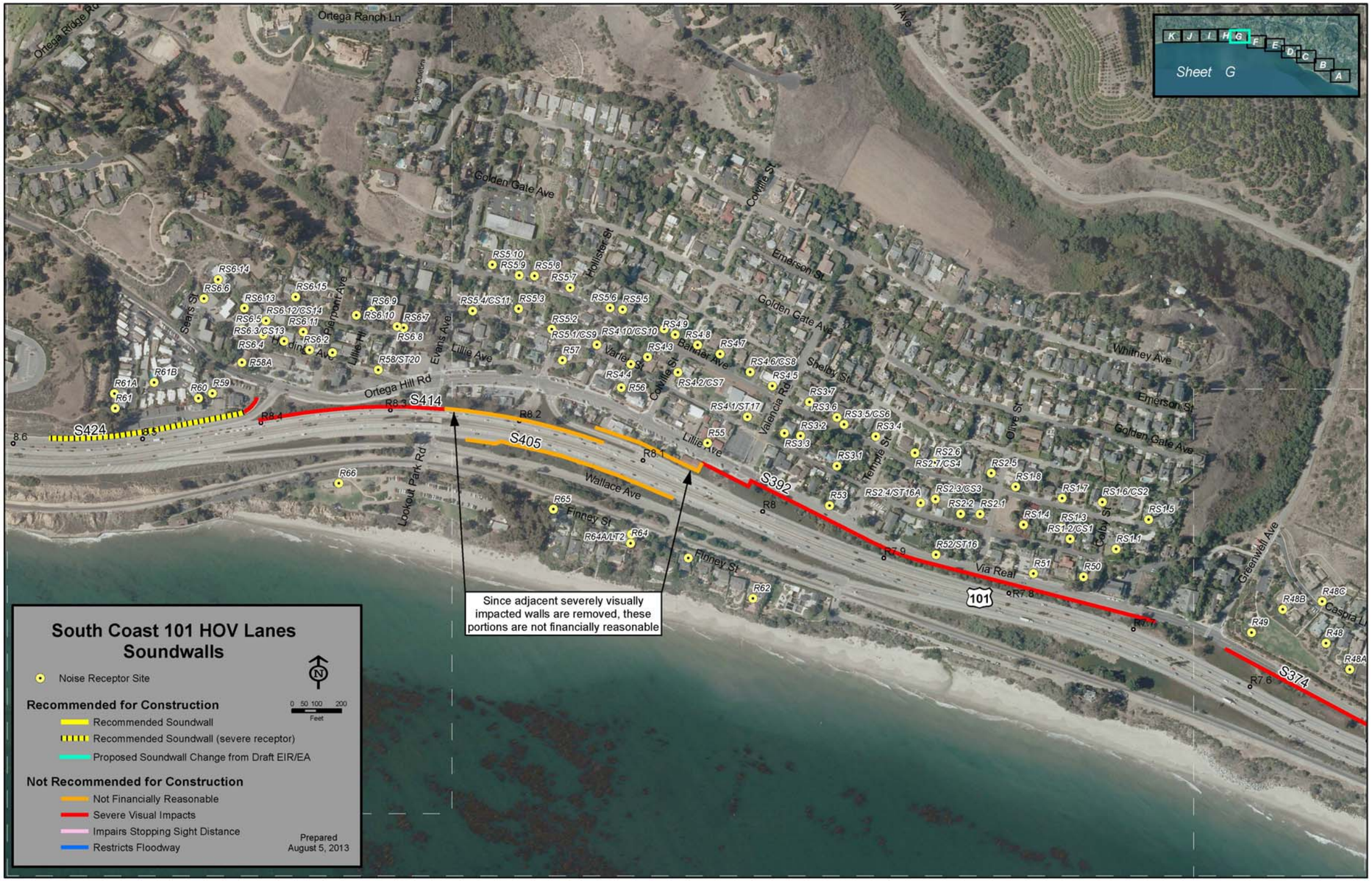

Figure 2-28 Proposed Soundwall Locations

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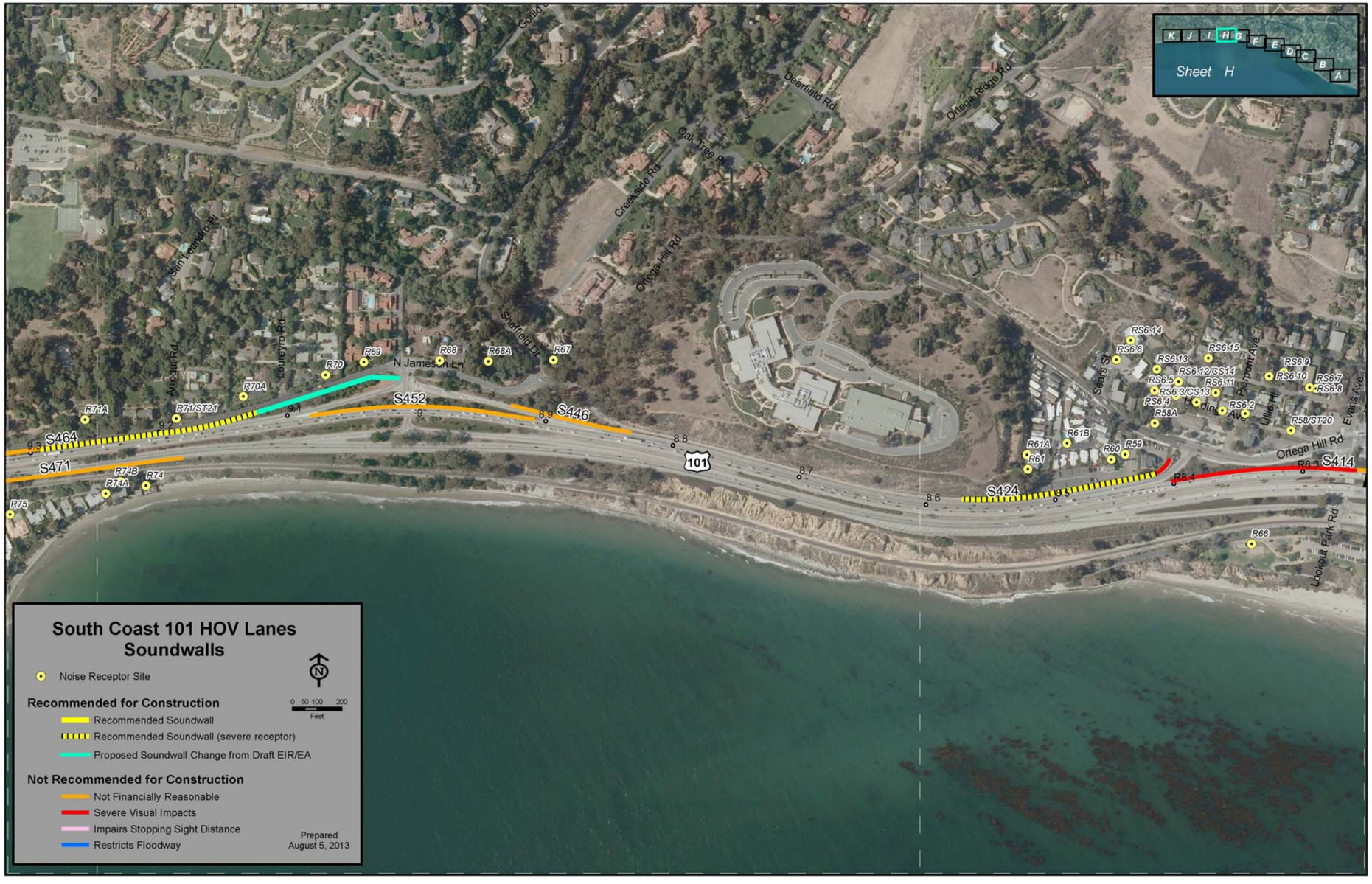

Figure 2-29 Proposed Soundwall Locations

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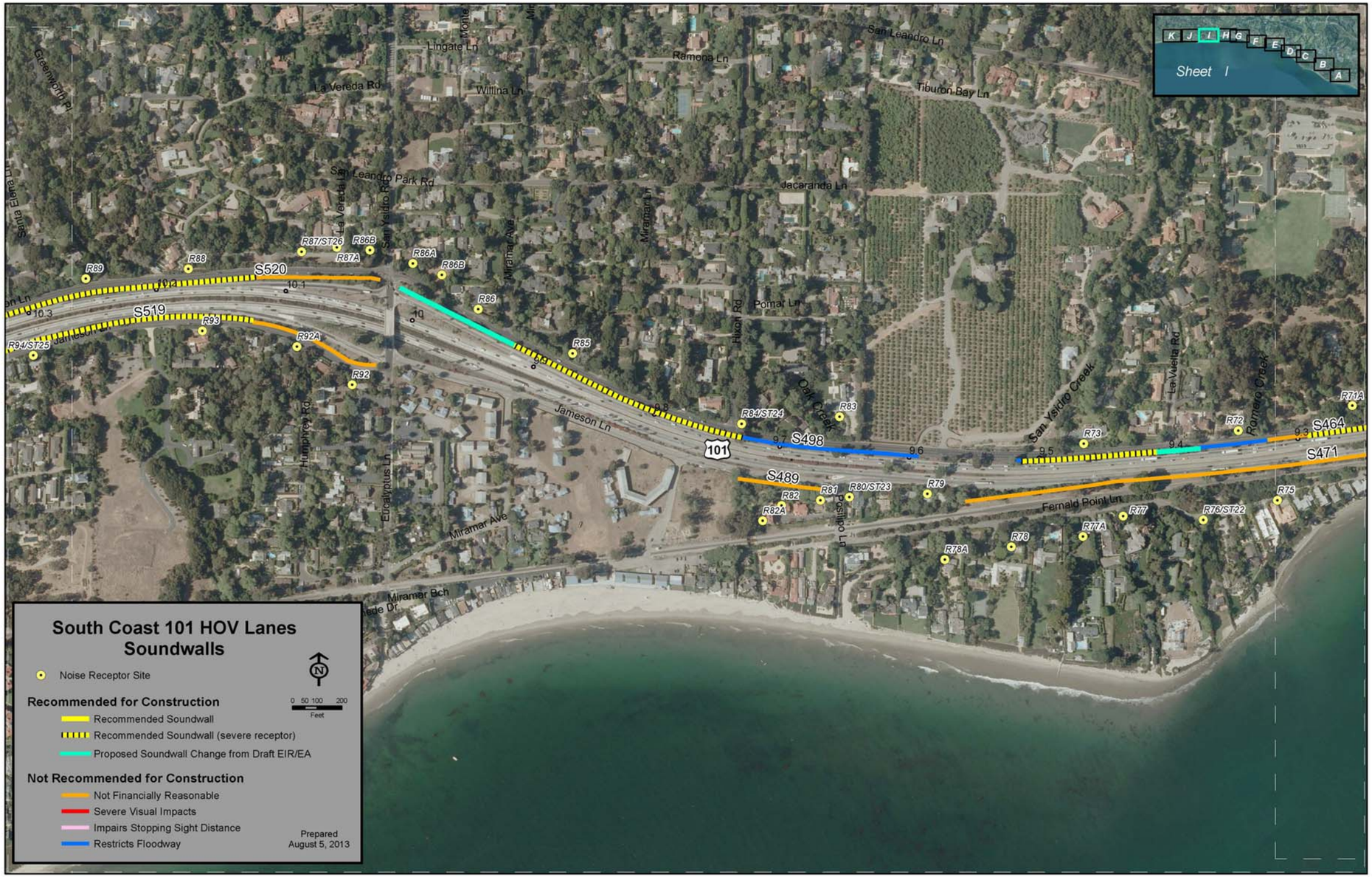

Figure 2-30 Proposed Soundwall Locations

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Figure 2-31 Proposed Soundwall Locations

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Figure 2-32 Proposed Soundwall Locations

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Avoidance, Minimization, and/or Noise Abatement Under the National Environmental Policy Act

Under the National Environmental Policy Act, 23 Code of Federal Regulations 772, noise abatement is considered when a substantial increase is identified or when the existing or future noise levels approach or exceed the noise abatement criteria of 67 dBA for residential uses and 72 dBA for commercial uses. A substantial increase is triggered when a build alternative in the design year increases noise levels by at least 12 dBA. Based on noise modeling conducted for this project, a maximum 3-dBA increase between existing noise levels and the future design year build alternative would result at any receptor location, a change which is barely perceptible to the human ear. As indicated in Table 2.37, 27 of the 35 receptor groups are anticipated to approach or exceed the noise abatement criteria (67 dBA), though no substantial (12 dBA) increase was identified. The Federal Highway Administration and Caltrans do not generally provide noise abatement for commercial receptors.

Noise Abatement Decision

The Caltrans Noise Analysis Protocol requires a District Noise Abatement Criteria Decision Report during the environmental process to document the following:

- Noise abatement reasonableness allowances
- Acoustic feasibility of noise abatement
- Locations and dimensions of evaluated noise barriers
- Engineering estimates of acoustically feasible noise abatement
- Other construction considerations related to noise barriers such as known utilities
- Effects of abatement on other environmental resources such as scenic views, biological habitats, and floodplains

The noise abatement recommendation identified in the Noise Abatement Decision Report becomes the proposed noise abatement decision unless compelling information received during the public review or the final design process indicates that it should be changed. If changes for proposed noise abatement occur during the public review process for the draft environmental document, the final noise abatement decision is indicated in the final environmental document.

The preliminary noise abatement decision presented in the Noise Abatement Decision Report is based on preliminary project alignments and profiles, which may be subject to change. Therefore, the physical characteristics of noise abatement described herein also may be subject to change. If pertinent parameters change substantially during the final project design, the preliminary noise abatement decision may be changed or eliminated from the final project design. A final decision to construct noise abatement would be made upon completion of the project design.

Part of the determination for proposing noise abatement is that noise abatement must also be considered feasible and reasonable. To be considered feasible, it must achieve a minimum of at least a 5-dBA reduction. To be considered reasonable, the cost of the noise abatement measure must not exceed the cost allowance, determined by the number and type of affected properties. In addition, the final decision to include soundwalls in the proposed project design may also consider reasonableness factors such as safety, biological resources, scenic resources, floodway issues[10], and information developed during the design and public review process. Furthermore, the views of affected residents would be a major consideration in reaching a decision on the reasonableness of abatement measures to be provided.

Soundwall Polling and Local Jurisdiction Approval

Feedback received during the public comment period indicated broad support by adjacent property owners for the soundwalls recommended as part of the project. Based on this input, all soundwalls that met the reasonable and feasible criteria are recommended for construction. The proposed noise abatement measures could change or may not be provided if the project changes substantially during the design phase, if more than 50 percent of affected property owners do not support a wall, or revisions occur as part of the coastal development permitting process. More detailed information will be included in the voting mailer that will be distributed to residents affected by recommended soundwalls.

In the design and permitting phase, additional polling of affected property owners will be conducted for each reasonable and feasible soundwall to ensure that a

[10] Soundwalls sections cannot be proposed within the floodway portion of the 100 year floodplains until further detailed analysis is conducted during the design phase of the project. The floodway is the deepest "center" section of flooding. The outside "edges" of 100 year flood plains are much shallower and are anticipated to be accommodated with floodgates or staggered floodwalls without causing additional flooding on adjacent properties.

majority of affected property owners supports construction of the wall. A proposed soundwall will not be built if a majority (greater than 50 percent) of the affected property owners does not want it. Soundwall-specific property owner polling is expected to occur when design work within that area is underway and prior to obtaining the Coastal Development Permit (CDP) within that area.

Final approval of soundwalls will also depend on the local Coastal Development Permit process, during which time the cities and the county may consider the benefits of proposed soundwalls in relation to local coastal policies, such as those protecting visual resources. Soundwall design and associated landscaping will also be subject to review and approval by the local design review boards.

Severe Receptors and Noise Abatement

A severe noise impact is considered to occur when predicted exterior noise levels equal or exceed 75 dBA-Leq(h) or are 30 dB or more above existing noise levels. Soundwalls were proposed to protect severe receptors (where they could be benefited by 5 dba or more) at locations that could be constructed without causing severe visual impacts or impeding into a floodway. Walls were proposed for severe receptors even in cases where the wall did not meet the financial reasonableness test (this exception to the financial reasonableness test is provided via the 2006 Federal Noise Protocols).

This resulted in all severe receptors being protected by soundwalls in all but eight locations. Four of the eight locations are in the community of Summerland. Two locations were behind a wall that was not proposed due to severe visual impacts, and two were behind a wall that would not benefit them by 5 dbA. (This wall was not proposed for construction because it was not financially reasonable and it did not benefit severe receptors.) The other four are in Montecito where walls could not be constructed due to floodway constraints. At these eight locations, options for providing acoustical treatments or constructing soundwalls on private or County-owned property will be further explored in the design phase (none of which are considered historic properties). Typical treatments include retrofitting windows and doors and adding air conditioning units. Depending on the circumstances, the cost of these features would normally be limited to the property-specific reasonableness allowance.

Consideration of location-specific treatment measures will occur through coordination with the severe receptor property owners. Initial contact with qualifying

property owners by Caltrans is expected to occur when design work within that area is underway and prior to obtaining the Coastal Development Permit (CDP) within that area.

Table 2.37 lists the soundwalls that meet the feasible and reasonable criteria and are currently recommended for construction.

Table 2.37 Soundwalls Recommended for Construction

Soundwall	Height (ft)	Length (ft)	Figure #	Notes*
S90/S98	10 - 14	1750	2-21	-
S158	10 - 12	1800	2-22/23	-
S174	12	895	2-23	-
S181	10	1981	2-23	6
S210	10 - 14	780 & 1000	2-23/24	1, 5, 6
S281	12	1780	2-24/25	6
S310	12	1250	2-25	-
S424	14 - 16	800	2-27/28	3, 4
S464	10 - 13	735 & 1450	2-28/29	1, 2, 5, 6, 7
S498	8 - 10	1525	2-29	1, 6, 7
S519	12	2169	2-29/30	1, 6
S520	8 - 10	1800	2-29/30	1, 6
S535	12	499	2-30	-
S549	10 - 12	1705	2-30	1

*Notes:

1) Added or lengthened as a result of the re-evaluation following public review period.
2) Lengthened due to changes in FEMA floodway mapping.
3) Clear see-through acoustic panels would be installed above the10 ft height of wall.
4) Soundwall shortened to protect prime ocean views
5) Soundwall split into two sections
6) Soundwall will have floodgates or staggered floodwalls to prevent additional flows
7) Severe receptors left without soundwall

Receptor Group 1 (R1-R3C)

Soundwalls S90/S98

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of a noise barrier. To achieve a 5-decibel reduction, a 10- to 14-foot-high noise wall about 1,750 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol,* is $1,164,000. The current estimated cost of the soundwall is $1,125,932. Because the total cost of the soundwall at this location is less than the total cost allowance, the barrier is feasible and reasonable in accordance with the Caltrans *Traffic Noise Analysis Protocol* and is recommended for construction.

Receptor Group 2 (R4-R7A)

Soundwall S158

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of a noise barrier. To achieve a 5-decibel reduction, a 10- to 12-foot-high noise wall about 1,800 feet long would be needed and would tie into the proposed 12-foot-high soundwall that is planned for the Linden Avenue and Casitas Pass Road interchange project at Franklin Creek. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol,* is $1,326,000. The current estimated cost of the soundwall is $902,400. Because the total cost of the soundwall at this location is less than the total cost allowance, the barrier is feasible and reasonable in accordance with the Caltrans *Traffic Noise Analysis Protocol* and is recommended for construction.

Receptor Group 4 (R11-R13A)

Soundwall S174

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of a noise barrier. To achieve a 5-decibel reduction, a 12-foot-high noise wall about 895 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $636,000. The current estimated cost of the soundwall is $505,344. Because the total cost of the soundwall at this location is less than the total cost allowance, the noise barrier is feasible and reasonable in accordance with the Caltrans *Traffic Noise Analysis Protocol* and is recommended for construction.

Severely Affected Receptors—Two single-family residences, 1362 and 1364 Cramer Circle, represented by Receptor R13 would experience a predicted peak hour noise of

75 dBA without a barrier in place; these residences would be considered severely affected and a 985-foot-long soundwall would be recommended for construction. If during the Coastal Development Permit review process this wall is rejected, providing acoustical treatment on private property will be considered for these severely affected residences.

Receptor Group 5 (R14)

Soundwall S182

To achieve a 5-decibel reduction, a 16-foot-high noise wall about 450 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $45,000. The current estimated cost of the soundwall is $338,400. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and would not be built.

Receptor Group 6 (R15 and R17)

Soundwall S188

To achieve a 5-decibel reduction, a 12-foot-high noise wall about 1,100 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans Traffic *Noise Analysis Protocol*, is $70,000. The current estimated cost of the soundwall is $620,400. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and would not be built.

Receptor Group 7 (R17A-R21)

Soundwall S210

To achieve a 5-decibel reduction, a 10- to 14-foot-high noise wall about 2,750 feet long was originally analyzed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, was $1,014,000. The estimated cost of the soundwall was $1,438,200. Because the cost of the soundwall was more than the allowance, a noise barrier at this location was not considered financially reasonable and would not be constructed except for severely affected receptors.

Following public circulation of the draft environmental document, Caltrans staff reevaluated Soundwall S210 to identify any residential units that may not have been previously counted and to identify areas of high-density development where shorter

sections might be financially reasonable. Based on the reevaluation, two additional segments were identified: Casa de Las Flores and Franciscan Village.

Casa de Las Flores

Casa de Las Flores, a high-density residential development, had a 330-foot-long frontage with a second row of benefitted receptors (recreation space, represented by Receptor R17c) with three frontage units not originally identified. There were also two additional buildings with four benefitted receptors, each represented by Receptor R17B. The total number of benefitted receptors is 11. To achieve a 5-decibel reduction for the above receptors, both walls must be built as a system and evaluated as one continuous wall. A 12-foot-high noise wall 1,100 feet long would be needed to benefit the 11 receptors at Casa de Las Flores. The current estimated cost of the soundwall is $620,400. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $407,000. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and would not be recommended for construction.

Franciscan Village

A second segment of Soundwall S210 was evaluated along the 500-foot-long frontage of Franciscan Village, a high-density residential development. It was determined a second and third row of benefitted receptors (represented by the receptors R18c, R18D, and R18F) had not been originally identified. This raised the number of identified benefitted receptors to 14. To achieve a 5-decibel reduction, a 14-foot-high soundwall along a 500-foot-long frontage would be needed to benefit the 14 receptors in Franciscan Village. Meeting this criterion would require building a 780-foot-long staggered wall or a soundwall with floodgates. The current estimated cost of the soundwall is $513,240. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $714,000. Because the cost of the 780-foot-long soundwall is less than the cost allowance, a noise barrier is considered feasible and reasonable. Therefore, the wall is recommended for construction. Because this location is also within the 100-year floodplain, the wall would be designed to pass flood flows to avoid raising base flood elevations.

Severely Affected Receptors—The future exterior peak hour noise levels at seven first row mobile homes in The Sandpiper Mobile Village that are represented by Receptor R21 would exceed 75 dBA without a barrier in place; these receptors would

be considered severely affected. Therefore, a 1,000-foot-long soundwall is recommended for construction.

Receptor Group 8 (R22-R27)

Soundwall S181

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of a noise barrier. To achieve a 5-decibel reduction, a 10-foot-high noise wall about 1,981 feet long would be needed for Receptors R23 through R27. There is an existing 6-foot-high soundwall on top of a 6-foot-high berm (earthen wall) in front of Receptor 22. Raising this soundwall to the combined height of 16 feet would not provide the additional 5-decibel reduction required by the protocol. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $1,968,000. The current estimated cost of the soundwall is $931,070. Because the total cost of the soundwall at this location is less than the total cost allowance, the barrier is feasible and reasonable in accordance with the Caltrans *Traffic Noise Analysis Protocol* and is recommended for construction. Because this location is also within the 100-year floodplain, the wall would be designed to pass flood flows and not raise base flood elevations.

Severely Affected Receptors—The future peak hour traffic noise levels at five single-family residences—1094 and 1097 Cramer Road, 4484 Carpinteria Avenue, 1041 and 1043 Plum Street—and 11 first row mobile homes of Sea Breeze Mobile Homes would exceed 75 dBA without a barrier in place; these receptors would be considered severely affected. Therefore, a 1,981-foot-long soundwall is recommended for construction.

Receptor Group 9 (R28-R29A) and Receptor Group 10 (R30-R35)

Soundwall S257 and S281

To achieve a 5-decibel reduction for the above receptors, both walls were evaluated as a system and as a stand-alone wall. Under the scenario where the two walls are evaluated as a system, if portions of Soundwall S281 are not built, Soundwall S257 will not be cost-effective. This is due to the additional costs associated with the lower density development at the southern end of Padaro Lane. See the analysis for each wall evaluated individually on the next page.

Receptor Group 9 (R28-R29A)

Soundwall S257

To achieve a 5-decibel reduction for Receptors R28 and R29, a 12-foot-high noise wall about 1,200 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $540,000. The current estimated cost of the soundwall is $1,438,000. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and would not be built.

Receptor Group 10 (R30-R35)

Soundwall S281

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of a noise barrier. To achieve a 5-decibel reduction for Receptors R30, R31, R32, R32A, and R35, a 12-foot-high noise wall about 5,200 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, ranges from $3,196,000 to $3,290,000. The current estimated cost of the soundwall is $12,386,236. Only a portion of Soundwall S281 could be proposed for construction due to the center portion of the wall being dropped for safety reasons when it was determined it would have blocked "stopping sight distance" for traffic. The total cost allowance for the remaining 1,780 feet portion is $1,504,000. The current estimated cost of the soundwall is $1,443,306. Because the total cost of the soundwall portion at this location is less than the total cost allowance, the barrier portion is feasible and reasonable in accordance with the Caltrans *Traffic Noise Analysis Protocol* and is recommended for construction. Because this location is also within the 100-year floodplain, the wall would be designed to pass flood flows and not raise base flood elevations.

Following public circulation of the draft environmental document, Caltrans staff reevaluated Soundwall S281 focusing on high-density development areas located behind the wall to identify short sections that might be financially reasonable. No additional locations were found to be financially reasonable. The remaining portion of Soundwall S281 was determined to be financially reasonable as a stand-alone wall segment.

Receptor Group 12 (R39A)

Soundwall S238

To achieve a 5-decibel reduction for Receptor R39A, a 14-foot-high noise wall about 1,100 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $45,000. The current estimated cost of the soundwall is $723,800. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and would not be built.

Receptor Group 14 (R39-R43)

Soundwall S310

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of a noise barrier. To achieve a 5-decibel reduction, a 12-foot-high noise wall about 1,250 feet long would be needed and would tie into the existing soundwall protecting the Serena Park area. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, ranges from $867,000 to $918,000. The current estimated cost of the soundwall is $705,000. Because the total cost of the soundwall at this location is less than the total cost allowance, the barrier is feasible and reasonable in accordance with the Caltrans *Traffic Noise Analysis Protocol* and is recommended for construction.

***Receptors without Abatement*—**The future peak hour noise levels at two residences represented by Receptors R42A and R43 would exceed the noise abatement criteria of 67 dBA; however, Soundwall S310 would not provide the required 5-decibel noise reduction for these residences. The eastern portion of the existing Serena Park soundwall is already providing some noise reduction and building Soundwall S310 would not provide an additional 5-decibel reduction. Since soundwall S310 is recommended for construction, these two residences would receive a noise reduction of as much as 4 dBA.

Receptor Group 16 (R45-R45A)

Soundwall S334

To achieve a 5-decibel reduction for Receptors R45 and R45A, a 12-foot-high noise wall about 325 feet long would be needed and could tie into the western end of the existing soundwall protecting the Serena Park area. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $47,000. The current estimated cost of the soundwall is $183,300. Because the cost of

the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and would not be built.

Receptor Group 18 (R47A-R49)

Soundwall S374

To achieve a 5-decibel reduction for Receptors R47, R47A-D, R48, R48A-C, R49, and R49A, a 14-foot-high noise wall about 1,300 feet long was originally analyzed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, was $444,000. The estimated cost of the soundwall was $855,400. Because the cost of the soundwall was more than the allowance, a noise barrier at this location was not considered financially reasonable and would not be built.

Because the predicted future noise level approaches 66 decibels and exceeds the noise abatement criterion for residential uses (67 decibels), Receptors R47, R47A, R48A, R48B, and R49A would be adversely affected by noise. The future peak hour noise levels at two single-family residences and four multi-family residential units, represented by Receptors R48 and R48B, respectively, would also exceed the noise abatement criteria of 67 decibels; however, a soundwall would not provide feasible noise abatement for these residences due to their high elevation relative to the highway. Similarly, a portion of Oceanview Park that is adjacent to Greenwell Avenue, represented by Receptor R49, would not receive noise attenuation because of its elevation in relation to the highway.

Following public circulation of the draft environmental document, Caltrans staff reevaluated this soundwall to identify residential units that may not have been previously counted and to identify areas of high-density development where shorter sections might be financially reasonable. Based on this reevaluation, seven additional 100-foot-long frontage units in the park had not been included in the Noise Study Report. These units are represented by new modeling points at Receptor R49.1 and Receptor R49.2. Furthermore, because Receptor R49.2 would equal or exceed 75 dBA, it was determined to be a severe receptor. To achieve a 5-decibel reduction for the front row homes and most of the park, a 14-foot-high soundwall about 1,300 feet long would be needed to benefit the 19 receptors. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $817,000. The current estimated cost of the soundwall is $855,400. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and would not be built. Furthermore, the Project Development

Team would not have recommended this soundwall because the wall would block prime ocean views from a public roadway, resulting in severe visual impacts.

Severely Affected Receptors—The future peak hour traffic noise levels at two frontage units (200 feet of the public park) represented by Receptor R49.2, would also equal or exceed 75 dBA without a barrier in place; these receptors would be considered severely affected. For these residents where a severe receptor is present with no proposed soundwall, providing acoustical treatment on private property or constructing a soundwall on county property will be considered. Alternative proposals would be done in coordination with the property owner. Acoustical treatment on private property might include insulation, dual-paned windows, air conditioning or private walls.

Receptor Group 19 (R50-R56), Receptor Group 20 (R57-R58), and Receptor Group 21 (R58A-R61B)

Soundwall S392, S414, and S424

To achieve a 5-decibel reduction for the above receptors, all three walls must be built as a system. Therefore, they must be evaluated as one continuous wall. If, however, portions of Soundwall S392, Soundwall S414, and Soundwall S424 are not built because they block prime coastal views, the remaining portions of S392, S414, and S424 will not be cost-effective because the receptors near the ends of the walls would no longer be benefitted.

Receptor Group 19 (R50-R56)

Soundwall S392

To achieve a 5-decibel reduction, a 14- to 16-foot-high noise wall about 2,402 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $1,887,000. The current estimated cost of the soundwall is $1,740,504. Because the total cost of the soundwall at this location is less than the total cost allowance, the noise barrier could be feasible and reasonable in accordance with the Caltrans *Traffic Noise Analysis Protocol.* However, the Project Development Team did not recommend building the portion of this soundwall that would block prime ocean views, resulting in severe visual impacts. As a result, the remaining portion of S392 is not financially reasonable and cannot be recommended for construction.

Severely Affected Receptors—Future exterior peak hour noise levels at 2535 and 2549 Varley Street, represented by Receptor R50, would also equal or exceed 75 dBA without a barrier in place. Because of their high elevation relative to U.S. 101, noise abatement along the highway would not provide the 5-decibel reduction for these two residences. For these residents where severe receptors are present with no proposed soundwall, providing acoustical treatment on private property or soundwalls on county property, if appropriate, will be considered in coordination with the property owner. Acoustical treatment on private property might include insulation, dual-paned windows, air conditioning or private walls.

Receptor Group 20 (R57-R58)

Soundwall S414

To achieve a 5-decibel reduction for Receptors R57, RS5.1-RS5.10, R58, and RS6.1-RS6.15, a 16-foot-high noise wall about 1,427 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $2,401,000. The current estimated cost of the soundwall is $1,073,104. Because the total cost of the soundwall at this location is less than the total cost allowance, the noise barrier could be reasonable in accordance with the Caltrans *Traffic Noise Analysis Protocol*. However, the Project Development Team did not recommend building the portion of this soundwall that would block prime ocean views, resulting in severe visual impacts. As a result, the remaining portion of S414 continues to be not financially reasonable and cannot be recommended for construction.

Receptor Group 21 (R58A-R61B)

Soundwall S424

To achieve a 5-decibel reduction for Receptors R58A, R59, R60, R61, R61A, and R61B, a 14- to 16-foot-high noise wall about 864 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans' *Traffic Noise Analysis Protocol*, is $490,000. The current estimated cost of the soundwall is $615,512. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered reasonable and would not be built. Furthermore, the Project Development Team determined that building this portion of the soundwall would block prime ocean views that would result in severe visual impacts. Although the remaining 800-foot portion of S424 is not financially reasonable, this segment is still recommended for construction due to the severely affected receptors.

***Severely Affected Receptors*—**The future exterior peak hour noise levels at seven mobile homes represented by Receptors R60 and R61 that are next to U.S. 101 would exceed 75 dBA without a barrier in place; these receptors would be considered severely affected. Therefore, it is recommended that an 800-foot soundwall be built for these severely affected mobile homes.

Receptor Group 22 (R62-R65)

Soundwall S405

To achieve a 5-decibel reduction for Receptor R65, a 10-foot-high soundwall about 900 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $35,000. The current estimated cost of the soundwall is $423,000. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and would not be built.

Receptor Group 24 (R67), Receptor Group 25 (R68A-R70), and Receptor Group 26 (R70A-R73)

Soundwall S446, S452, and S464

To achieve a 5-decibel reduction for the above receptors, all three walls must be built as a system. These soundwalls were analyzed as a system due to the on- and off-ramp at Sheffield Drive requiring the original soundwall be split into three segments. Therefore, they must be evaluated as if they are one continuous wall. If either of the two end walls (S446 or S464) were not built, the center wall (S452) would not be cost-effective because the receptors near the ends of the wall would no longer be benefitted.

Receptor Group 24 (R67)

Soundwall S446

To achieve a 5-decibel reduction for Receptor R67, a 12-foot-high soundwall about 500 feet long would be needed. However, Soundwall S446 alone would not provide feasible noise abatement for this receptor. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $37,000. The current estimated cost of the soundwall is $282,000. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and would not be built.

Following public circulation of the draft environmental document, Caltrans staff reevaluated this soundwall for high-density development where shorter sections might be financially reasonable. Based on this reevaluation, no subsections of S446 were found financially reasonable.

Receptor Group 25 (R68A-R70)

Soundwall S452

To achieve a 5-decibel reduction, a 12-foot-high noise wall about 900 feet long would be needed. In addition, for these receptors to receive a minimum 5-decibel reduction, Soundwall S464 has to be in place in conjunction with soundwall S452. Soundwall S452 alone would not provide noise abatement for three residences represented by Receptor R70.

The total cost allowance, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $630,000. The current estimated cost of the soundwall is $507,600. Because the total cost of the soundwall at this location is less than the total cost allowance, the barrier is feasible and reasonable. However, if Soundwall S446 and Soundwall S464 are not built, then S452 will not be cost-effective because the receptors near the ends of the walls would no longer be benefitted. Since soundwall S446 is not recommended for construction, soundwall S452 is not considered financially reasonable and would not be built.

Following public circulation of the draft environmental document, Caltrans staff reevaluated this soundwall for high-density development where shorter sections might be financially reasonable. Based on this reevaluation, no subsections of S452 were found financially reasonable.

Receptor Group 26 (R70A-R73)

Soundwall S464

To achieve a 5-decibel reduction for Receptors R70, R70A, R71, R71A, R72, and R73, a 10- to 12-foot-high noise wall about 2,350 feet long was originally analyzed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, was $663,000. The estimated cost of the soundwall was $1,269,000. Because the cost of the soundwall was more than the allowance, a noise barrier at this location was not considered reasonable and would not be built except for severely affected receptors. In addition, portions of this soundwall, totaling a length of about 325 feet, were considered not reasonable due to conflicts with a

floodway (see Section 2.2.1, Hydrology and Floodplain, for more details). Because this location is also within the 100-year floodplain, the remaining wall would be designed to pass flood flows and not raise base flood elevations.

Following public circulation of the draft environmental document, Caltrans staff reevaluated this soundwall for high-density residential areas to identify shorter sections that might be financially reasonable. A 1,250-foot-long area along the freeway, represented by receptors R69, R70, R70A and R71, was identified as being the most densely developed. To achieve a 5-decibel reduction, a 13-foot-high noise wall segment about 1,250 feet long would be needed to benefit 16 receptors. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, for the 1,250-foot-long segment is $848,000. The current estimated cost of the soundwall is $763,750. Because the total cost of the soundwall is less than the total cost allowance, the noise barrier is feasible and reasonable and is recommended for construction. This 13-foot-high soundwall segment overlaps the previous 12-foot-high, 200-foot-long wall segment proposed for severe receptors. To be financially reasonable for severely affected receptors, the 1,250-foot length must remain at 13 feet high with the remaining 200 feet being 12 feet.

Severely Affected Receptors— Future exterior peak hour noise levels at seven residences—100 and 111 Arroqui Road, two residential units at 1790 North Jameson Lane, and 24, 135, and 136 La Vuelta Road (represented by Receptors R71 through R73)— would also equal or exceed 75 dBA without a barrier in place. These receptors would be considered severely affected and would qualify for a soundwall or acoustical treatment. Exceptions are for R72—136 La Vuelta Road and a resident at 1790 North Jameson Lane—due to conflicts with a floodway. For these residents where severe receptors are present with no proposed soundwall (R72), providing acoustical treatment on private property or soundwalls on county property, if appropriate, will be considered in coordination with the property owner. Acoustical treatment on private property might include insulation, dual-paned windows, air conditioning or private walls.

Two groups of severely affected receptors would qualify for soundwalls 1,450 feet (R70A, R71, R71A) and 735 feet long (R73).

The Caltrans *Traffic Noise Analysis Protocol* provides for revisions to the preliminary noise barrier decisions. The final decision on noise abatement construction is made

upon completion of the project design that allows for substantial changes to specific parameters. In the event that the final detailed hydraulic analysis[11] indicates a soundwall design can accommodate flood flows without affecting base flood elevations on private property, that portion of Soundwall S464 currently not recommended for construction in the floodway will be reconsidered. The Federal Emergency Management Agency recently revised the limits of the floodway nearer to Romero Creek, resulting in lengthening the wall from 575 feet to 735 feet.

Receptor Group 24 (R67), Receptor Group 25 (R68A-R70), and Receptor Group 26 (R70A-R73)

Soundwalls S446, S452, and S464

Because the cost of the soundwall system is higher than the allowance, a noise barrier at these locations is not considered reasonable and would not be built except for severely affected receptors. However, due to high-density residential development, an additional eastern section of Soundwall S464 was determined financially reasonable. It also should be noted that portions of Soundwall S464 totaling about 325 feet were considered infeasible due to conflicts with a floodway (see Section 2.2.1, Hydrology and Floodplain, for more details).

Receptor Group 28 (R83-R86A)

Soundwall S498

To achieve a 5-decibel reduction for Receptors R83, R84, R85, R86, and R86A, a 10-foot-high soundwall about 2,269 feet long would be needed. The total cost allowance, calculated in accordance with the Caltrans Traffic Noise Analysis Protocol, is $583,000. The current estimated cost of the soundwall is $1,066,430. Since the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered reasonable and would not be built except for severely affected receptors. Additionally a portion of this soundwall located near 1620 North Jameson Lane and 102 Hixon Road and represented by Receptor R84 was considered infeasible due to conflicts with a floodway (see Section 2.2.1, Hydrology and Floodplain, for further details).

Following public circulation of the draft environmental document, Caltrans staff reevaluated this soundwall to identify residential units that may not have been

[11] According to the Hydraulics Engineer, some soundwalls can be staggered or constructed with floodgates to avoid restricting the floodway, but others cannot. During the design phase, additional modeling will occur prior to final determination.

previously counted and to identify areas of high-density development where shorter sections might be financially reasonable. As a result, it was discovered a new parcel was created by a lot split represented by R86B that now has two benefitted residences. In addition, a cottage behind the main home at R86 was not included in the original Noise Study Report. As a result, Caltrans staff reevaluated soundwalls for high-density residential areas to identify shorter sections that might be financially reasonable. One segment of this soundwall was identified. To achieve the required 5-decibel reduction, an 8-foot-high soundwall 500 feet long would be needed to benefit four receptors (R86 and R86B). In accordance with the Caltrans Traffic Noise Analysis Protocol, the total cost allowance for the northern section of Soundwall 498 is $188,000. The current estimated cost of the northern section of soundwall is also $188,000. Because the cost of the northern section of S498 is the same as the allowance, the northern section of the barrier is feasible and financially reasonable and is recommended for construction.

Severely Affected Receptors—The future peak hour noise levels at two first-row residences located at 1580 and 1586 North Jameson Lane represented by Receptor R84 would equal or exceed 75 dBA. These residences would be considered severely affected and a soundwall 10 feet high about 1,025 feet long is recommended for construction.

The future peak hour noise levels at two other first-row residences—1620 North Jameson Lane and 102 Hixon Road also represented by R84—would equal or exceed 75 dBA. However, a soundwall measuring approximately 725 feet covering these two residences is not considered feasible due to conflicts with the floodway. In the event that final detailed hydraulic analysis indicates that a soundwall design can accommodate floodway flows without impacting flood elevations on private property, the portion of Soundwall S498 covering Receptor R84 that is currently not recommended for construction in the floodway will be reconsidered. For these residents where severe receptors are present with no proposed soundwalls, providing acoustical treatment on private property or soundwalls on county property, if appropriate, will be considered in coordination with the property owner. Acoustical treatment on private property might include insulation, dual-paned windows, air conditioning or private walls.

The Caltrans *Traffic Noise Analysis Protocol* provides for revisions to the preliminary noise barrier decisions. To allow for substantial changes to pertinent parameters, the

final decision on building noise abatement would be made upon completion of the project design. If final detailed hydraulic analysis indicates that a soundwall design can accommodate floodway flows without affecting flood elevations on private property, the portion of Soundwall S498 located near two homes represented by Receptor R84 that is currently not recommended for construction in the floodway will be reconsidered. If the soundwall is not recommended, acoustical treatment must be considered because this is a severe receptor.

Receptor Group 29 (R74-R80)

Soundwall S471

To achieve a 5-decibel reduction for Receptors R74, R74B, R74A, R75, R76, R77, R77A, R78, and R78A, an 8- to 14-foot-high soundwall about 1,965 feet long was originally analyzed. Due to biological resource conflicts with San Ysidro Creek, this soundwall could not be extended west to cover Receptors R79 and R80. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, was $784,000. The estimated cost of the soundwall was $1,067,840. Because the cost of the soundwall was more than the allowance, a noise barrier at this location was not considered financially reasonable and would not be built.

Following public circulation of the draft environmental document, Caltrans staff reevaluated this soundwall to identify residential units that may not have been previously counted and to identify areas of high-density development where shorter sections might be financially reasonable. As a result, two additional benefitted units associated with Receptor R76 were found that were not included in the original Noise Study Report. Second-row homes were also reevaluated and confirmed to not be benefitted by a wall. To achieve a 5-decibel reduction, an 8- to 14-foot-high soundwall about 1,965 feet long would be needed to benefit 18 receptors. The total cost allowance of Soundwall S471, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $882,000. The current estimated cost of the soundwall is $1,067,840. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and is not recommended for construction. No portions of Soundwall S471 were identified as financially reasonable. Also, Soundwall S471 crosses the same floodway as Soundwalls S464 and S498.

Receptor Group 30 (R81-R82A)

Soundwall S489

To achieve a 5-decibel reduction for Receptors R81, R82, and R82A, a 12-foot-high soundwall about 360 feet long was originally analyzed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, was $140,000. The estimated cost of the soundwall was $203,040. Because the cost of the soundwall was more than the allowance, a noise barrier at this location was not considered financially reasonable and would not be built. Furthermore, this barrier could not be placed on the state right-of-way line because the barrier would decrease visibility for vehicles approaching the Posilipo Lane on-ramp to southbound U.S.101.

Following public circulation of the draft environmental document, Caltrans staff reevaluated this soundwall to identify residential units that may not have been previously counted and to determine if a redesign to the configuration might be reasonable and feasible. As a result, one additional benefitted unit associated with Receptor R82 was identified. The additional receptor raised the total cost allowance for the soundwall to $175,000. Because the cost of the wall along the state right-of-way was $203,040, this wall was still considered not to be financially reasonable and continued to be considered infeasible due to sight distance issues for vehicles approaching the Posilipo Lane on-ramp. Also, two alternative soundwall locations were evaluated that were off the state right-of-way—one on the southern frontage road right-of-way and one on the southern bank of Oak Creek—that were both found to not be financially reasonable. All evaluated soundwall locations for S489 are considered infeasible due to conflicts with a floodway (see Section 2.2.1, Hydrology and Floodplain, for further details).

Two additional configurations were analyzed to determine if a redesign would make a soundwall reasonable and feasible. To achieve the minimum 5-decibel reduction, a 10-foot-high soundwall about 360 feet long is needed to benefit five receptors along the southern right-of-way of South Jameson Lane. In accordance with the Caltrans *Traffic Noise Analysis Protocol,* the total cost allowance of Soundwall S489 at this location is $175,000. The current estimated construction cost is $383,040, including the floodgates. Because the cost of the soundwall is greater than the allowance, a noise barrier at this location is not considered financially reasonable. This wall, therefore, is not recommended for construction.

An alternative location for this soundwall was studied on private property along the southern bank of Oak Creek. To achieve a 5-decibel reduction, a 13-foot-high soundwall about 330 feet long would be needed to benefit the original five receptors, plus the one additional receptor represented by R82A. The total cost allowance of Soundwall S489 at this location is $246,000 as calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*. The current estimated cost of the soundwall is $366,630, including floodgates. Because the cost of the soundwall is more than the allowance, a noise barrier at this alternative private location is not considered financially reasonable and cannot be recommended for construction.

Receptor Group 31 (R87B-R91)

Soundwall S520

To achieve a 5-decibel reduction for Receptors R87, R87A, R87B, R88, R89, R90, R90A, and R91, a 10-foot-high soundwall about 2,429 feet long was originally analyzed. Because this location is also within the 100-year floodplain, the wall would need to be designed to pass flood flows and not raise base flood elevations. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, was $816,000. The estimated cost of the soundwall was $1,446,110. Because the cost of the soundwall was more than the allowance, a noise barrier at this location was not considered financially reasonable and would not be built except for severely affected receptors.

Following public circulation of the draft environmental document, Caltrans staff reevaluated this soundwall for areas of high-density development to identify shorter sections that might be financially reasonable. Two additional segments of soundwall S520 were identified.

To achieve a 5-decibel reduction, a 10-foot-high segment about 460 feet long would be needed at the eastern end of the soundwall to benefit the two receptors identified in the Noise Study Report with R87A. In accordance with the Caltrans *Traffic Noise Analysis Protocol*, the total cost allowance of the eastern segment of soundwall is $102,000. The current estimated cost of the eastern segment of soundwall is $216,200. Because the cost of the eastern segment of Soundwall S520 is more than the allowance, a noise barrier at this location is not considered financially reasonable and would not be built.

To achieve a 5-decibel reduction, an 8-foot-high segment about 1,850 feet long would be needed at the western end of the soundwall to benefit the 15 receptors identified in the Noise Study Report with R88, R89, R90 and R90A. In accordance with the Caltrans *Traffic Noise Analysis Protocol*, the total cost allowance of this section of Soundwall S520 is $735,000. The current estimated cost of this section of soundwall is $695,600. Because the cost of this section of soundwall is less than the allowance, the 1,850-foot-long wall is feasible and reasonable and is recommended for construction. This 1,850-foot segment overlaps the previously recommended 1,250-foot-long soundwall for severe receptors. Therefore, the most easterly 1,250 feet of this 1,850-foot soundwall must remain at a height of 10 feet to protect severe receptors (see below.)

Severely Affected Receptors—The future peak hour noise levels at three first-row residences—1410 and 1430 North Jameson Lane; 1424 La Vereda Lane—represented by Receptors R88 and R89, would equal 75 dBA without a barrier in place; these residences would be considered severely affected, and a 1,250-foot-long soundwall is recommended for construction.

Receptor Group 32 (R92-R97B)

Soundwall S519

To achieve a 5-decibel reduction for Receptors R92, R92A, R93, R94, R95, R96, R96A, R97, R97A, and R97B, a 10- to 14-foot-high soundwall about 2,740 feet long was originally analyzed. Because this location is also within the 100-year floodplain, the wall would need to be designed to pass flood flows and not raise base flood elevations. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, was $1,275,000. The estimated cost of the soundwall was $1,857,360. Because the cost of the soundwall was more than the allowance, a noise barrier at this location was not considered financially reasonable and would not be built except for severely affected receptors.

Following public circulation of the draft environmental document, Caltrans staff reevaluated this soundwall for areas of high-density development to identify shorter sections that might be financially reasonable. Two additional segments of soundwall S519 were identified.

To achieve a 5-decibel reduction, a 14-foot-high soundwall 571 feet long at the eastern end would be needed to benefit the seven receptors identified in the Noise

Study Report. The total cost allowance of the eastern segment of soundwall, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $357,000. The current estimated cost of the southern extension is $375,718. Because the cost of the eastern segment is more than the allowance, a noise barrier extension at this location is not considered financially reasonable and cannot be recommended for construction.

To achieve a 5-decibel reduction, a 12-foot-high soundwall 1,003 feet long at the western end would be needed to benefit the 12 receptors identified in the Noise Study Report with R95, R96, R96A, R97 and R97A. In accordance with the Caltrans *Traffic Noise Analysis Protocol*, the total cost allowance of this segment of soundwall is $612,000. The current estimated cost of the western segment is $565,692. Because the cost of the 1,003-foot western end segment is less than the allowance, a noise barrier segment at this location is financially reasonable and is recommended for construction. This 1,003-foot-long western end segment of soundwall would be an extension to the previously recommended 1,166-foot soundwall for severe receptors (see below.)

Severely Affected Receptors—The future peak hour noise levels at three single-family residences—1411, 1433, 1447 South Jameson Lane—and two multi-family residential units at 1403 South Jameson Lane, represented by Receptors R93 and R94, would approach or exceed 75 dBA; these residences would be considered severely affected, and a 12-foot-high soundwall about 1,166 feet long is recommended for construction.

Receptor Group 33 (R98-R99)

Soundwall S535

To achieve a 5-decibel reduction for Receptor R98, R98A, and R99, a 12-foot noise wall approximately 499 feet long would be needed. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is $258,000. The current estimated cost of the soundwall is $281,436. Because the cost of the soundwall is more than the allowance, a noise barrier at this location is not considered financially reasonable and will not be built. However, the entire barrier would be required to cover severely affected receptors.

Severely Affected Receptors: The future peak hour noise level at one residence, 75 Olive Mill Road, represented by Receptor R98, would exceed 75 dBA; this residence would be considered severely affected. Although single- and multi-family residences represented by Receptors R98A and R99 (an existing 6-foot private soundwall provides some reduction from highway noise) behind Soundwall S535 are not severely affected, the entire barrier would be required to provide noise abatement for the severely affected Receptor R98 and is recommended for construction. If this wall is rejected during the Coastal Development Permit review process, Caltrans will consider providing acoustical treatment on private property for these severely affected residences.

Receptor Group 34 (R100A-R103)

Soundwall S549

To achieve a 5-decibel reduction for Receptors R100A, R100, R101, R102, and R103, a 10- to 12-foot-high soundwall about 2,005 feet long was originally analyzed. The total cost allowance, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, was $987,000. The estimated cost of the soundwall was $1,284,882. Because the cost of the soundwall was more than the allowance, a noise barrier at this location was not considered financially reasonable and would not be built.

Following public circulation of the draft environmental document, Caltrans staff reevaluated Soundwall S549 for areas of high-density development to identify shorter sections that might be financially reasonable. To achieve a 5-decibel reduction, a 10-foot-high soundwall 1,705 feet long would be needed to benefit identified residences in the Noise Study Report with R100A, R100, R101 and R102. The originally proposed R103 was replaced by R103A to represent the shortened wall end. The total cost allowance of the wall segment, calculated in accordance with the Caltrans *Traffic Noise Analysis Protocol*, is $855,000. The current estimated cost of the soundwall segment is $848,350. Because the total cost of the soundwall segment at this location is less than the total cost allowance, the barrier is feasible and reasonable and is recommended for construction.

Noise Abatement Summary

In summary, based on the studies completed to date, Caltrans has considered noise barriers at 27 locations. The considered noise barriers vary in height from 8- to 16-feet and range in length from 450 to 5,200 feet. Calculations based on preliminary

design data indicate that the barriers would reduce noise levels by 5 to 12 decibels for benefited receptors. Of the 27 soundwalls being considered, only 14 met reasonable and feasible requirements. The noise barriers vary in height from 8 feet to 16 feet and in length from 499 feet to 2,169 feet. The walls would reduce noise levels by 5 to 12 decibels for benefitted receptors. If, during final design, conditions have substantially changed, noise abatement recommendations may be revised. The final decision on noise abatement will be made upon completion of the project final design, the soundwall voting process, and the Coastal Development Permit process.

In addition to the above considered noise barriers, several alternative soundwall locations for each soundwall S281, S374, S471, and S489 were evaluated off state right-of-way, and none were found to be feasible or reasonable.

Note that the above described noise abatement process is based on federal guidance and Caltrans noise protocol. Refer to Chapter 3 for a noise discussion as it relates to the California Environmental Quality Act.

2.3 Biological Environment

2.3.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in Section 2.3.5, Threatened and Endangered Species. Wetlands and other waters of the United States are discussed in Section 2.3.2.

Affected Environment

Information provided in this section was taken from the Natural Environment Study produced in January 2012 and an addendum in April 2014.

Coastal Scrub

Patches of coastal scrub species were planted as part of the Ortega Hill Class II bike path project. These coastal scrub species, including black sage and sagebrush, are next to but outside of the project footprint.