

Appendix 2C

**Noise Modeling Results for
Richard J. Donovan Infill Site**

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Traffic Noise Model Calculations



Project: Level II Infill Correctional Facilities Project - RJD - Single Housing Unit

Noise Level Descriptor: CNEL
 Site Conditions: Soft
 Traffic Input: ADT
 Traffic K-Factor:

Segment Description and Location				Input										Output					
				ADT	Speed (mph)	Distance to Directional Centerline, (feet) ₄		Traffic Distribution Characteristics					CNEL, (dBA) _{5,6,7}	Distance to Contour, (feet) ₃					
Number	Name	From	To			Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night		70 dBA	65 dBA	60 dBA	55 dBA	
Existing + Project Conditions																			
1	Otay Mesa Road	La Mesa Road	Piper Ranch Road	14,521	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	67.6	71	152	328	707	
2	Otay Mesa Road	Harvest Road	Sanyo Avenue	12,149	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	66.8	63	135	291	628	
3	Otay Mesa Road	Sanyo Avenue	Enrico Fermi Drive	7,519	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	64.7	46	98	212	456	
4	Otay Mesa Road	Enrico Fermi Drive	Alta Drive	6,457	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	64.1	41	89	191	412	
5	Donovan State Prison Road	Alta Road	Facility Access	2,753	30	90	118	98.5%	1.0%	0.5%	90.0%	5.0%	5.0%	50.3	5	11	23	50	
6	La Media Road	Otay Mesa Road	SR 905	16,156	30	70	125	96.5%	1.5%	2.0%	85.0%	5.0%	10.0%	61.4	25	53	115	248	
7	Alta Road	Pasco De La Fuente	Donovan State Prison Road	6,550	55	80	115	97.0%	1.0%	2.0%	85.0%	5.0%	10.0%	63.9	38	81	176	378	

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

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Traffic Noise Model Calculations



Project: Level II Infill Correctional Facilities Project - RJD - Single Housing Unit				Input										Output				
Noise Level Descriptor: CNEL Site Conditions: Soft Traffic Input: ADT Traffic K-Factor:																		
Segment Description and Location				Speed		Distance to Directional Centerline, (feet) ₄		Traffic Distribution Characteristics						CNEL, (dBA) _{5,6,7}	Distance to Contour, (feet) ₃			
Number	Name	From	To	ADT	(mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night		70 dBA	65 dBA	60 dBA	55 dBA
2020 Cumulative Conditions																		
1	Otay Mesa Road	La Mesa Road	Piper Ranch Road	33,500	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	71.2	123	266	573	1234
2	Otay Mesa Road	Harvest Road	Sanyo Avenue	35,800	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	71.5	129	278	599	1290
3	Otay Mesa Road	Sanyo Avenue	Enrico Fermi Drive	8,200	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	65.1	48	104	224	483
4	Otay Mesa Road	Enrico Fermi Drive	Alta Drive	18,300	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	68.6	82	178	383	825
5	Donovan State Prison Road	Alta Road	Facility Access	2,500	30	90	118	98.5%	1.0%	0.5%	90.0%	5.0%	5.0%	49.9	5	10	22	47
6	La Media Road	Otay Mesa Road	SR 905	29,200	30	70	125	96.5%	1.5%	2.0%	85.0%	5.0%	10.0%	63.9	37	79	171	368
7	Alta Road	Pasco De La Fuente	Donovan State Prison Road	12,600	55	80	115	97.0%	1.0%	2.0%	85.0%	5.0%	10.0%	66.8	58	126	272	585

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

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Traffic Noise Model Calculations



Project: Level II Infill Correctional Facilities Project - RJD - Single Housing Unit				Input										Output				
Noise Level Descriptor: CNEL Site Conditions: Soft Traffic Input: ADT Traffic K-Factor:				Distance to Directional Centerline, (feet) ₄ Traffic Distribution Characteristics % Auto % Med % Hvy % Day % Eve % Night										CNEL, (dBA) _{5,6,7} Distance to Contour, (feet) ₃ 70 dBA 65 dBA 60 dBA 55 dBA				
Buildout 2030 Conditions																		
1	Otay Mesa Road	La Mesa Road	Piper Ranch Road	41,900	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	72.2	143	309	665	1433
2	Otay Mesa Road	Harvest Road	Sanyo Avenue	44,900	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	72.5	150	323	696	1500
3	Otay Mesa Road	Sanyo Avenue	Enrico Fermi Drive	24,300	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	69.8	100	215	463	996
4	Otay Mesa Road	Enrico Fermi Drive	Alta Drive	17,600	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	68.4	80	173	373	804
5	Donovan State Prison Road	Alta Road	Facility Access	2,500	30	90	118	98.5%	1.0%	0.5%	90.0%	5.0%	5.0%	49.9	5	10	22	47
6	La Media Road	Otay Mesa Road	SR 905	17,200	30	70	125	96.5%	1.5%	2.0%	85.0%	5.0%	10.0%	61.6	26	56	120	259
7	Alta Road	Pasco De La Fuente	Donovan State Prison Road	15,400	55	80	115	97.0%	1.0%	2.0%	85.0%	5.0%	10.0%	67.7	67	144	310	669

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

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Traffic Noise Model Calculations



Project: Level II Infill Correctional Facilities Project - RJD - Single Housing Unit

Noise Level Descriptor: CNEL
 Site Conditions: Soft
 Traffic Input: ADT
 Traffic K-Factor:

Segment Description and Location				Input										Output				
				ADT	Speed (mph)	Distance to Directional Centerline, (feet) ₄		Traffic Distribution Characteristics					CNEL, (dBA) _{5,6,7}	Distance to Contour, (feet) ₃				
Number	Name	From	To			Near	Far	% Auto	% Med	% Hvy	% Day	% Eve		% Night	70 dBA	65 dBA	60 dBA	55 dBA
Buildout 2030 + Project Conditions																		
1	Otay Mesa Road	La Mesa Road	Piper Ranch Road	42,000	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	72.2	144	309	666	1435
2	Otay Mesa Road	Harvest Road	Sanyo Avenue	45,040	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	72.5	150	324	698	1504
3	Otay Mesa Road	Sanyo Avenue	Enrico Fermi Drive	24,440	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	69.8	100	216	464	1000
4	Otay Mesa Road	Enrico Fermi Drive	Alta Drive	18,000	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	68.5	82	176	379	816
5	Donovan State Prison Road	Alta Road	Facility Access	2,900	30	90	118	98.5%	1.0%	0.5%	90.0%	5.0%	5.0%	50.6	5	11	24	52
6	La Media Road	Otay Mesa Road	SR 905	17,200	30	70	125	96.5%	1.5%	2.0%	85.0%	5.0%	10.0%	61.6	26	56	120	259
7	Alta Road	Pasco De La Fuente	Donovan State Prison Road	15,800	55	80	115	97.0%	1.0%	2.0%	85.0%	5.0%	10.0%	67.8	68	147	316	680

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

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Traffic Noise Model Calculations



Project: Level II Infill Correctional Facilities Project - RJD - Double Housing Unit

Noise Level Descriptor: CNEL
 Site Conditions: Soft
 Traffic Input: ADT
 Traffic K-Factor:

Segment Description and Location				Input										Output				
				ADT	Speed (mph)	Distance to Directional Centerline, (feet) ₄		Traffic Distribution Characteristics					CNEL, (dBA) _{5,6,7}	Distance to Contour, (feet) ₃				
Number	Name	From	To			Near	Far	% Auto	% Med	% Hvy	% Day	% Eve		% Night	70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project Conditions																		
1	Otay Mesa Road	La Mesa Road	Piper Ranch Road	14,833	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	67.7	72	154	333	717
2	Otay Mesa Road	Harvest Road	Sanyo Avenue	12,449	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	66.9	64	137	296	638
3	Otay Mesa Road	Sanyo Avenue	Enrico Fermi Drive	7,869	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	64.9	47	101	218	470
4	Otay Mesa Road	Enrico Fermi Drive	Alta Drive	6,825	55	75	140	96.5%	2.0%	1.5%	83.0%	5.0%	12.0%	64.3	43	92	198	427
5	Donovan State Prison Road	Alta Road	Facility Access	3,121	30	90	118	98.5%	1.0%	0.5%	90.0%	5.0%	5.0%	50.9	5	12	25	55
6	La Media Road	Otay Mesa Road	SR 905	16,376	30	70	125	96.5%	1.5%	2.0%	85.0%	5.0%	10.0%	61.4	25	54	116	250
7	Alta Road	Pasco De La Fuente	Donovan State Prison Road	6,918	55	80	115	97.0%	1.0%	2.0%	85.0%	5.0%	10.0%	64.2	39	85	182	392

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

