# TRACY HILLS SPECIFIC PLAN RECIRCULATED DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT VOLUME III OCTOBER 2015

### **APPENDIX G**

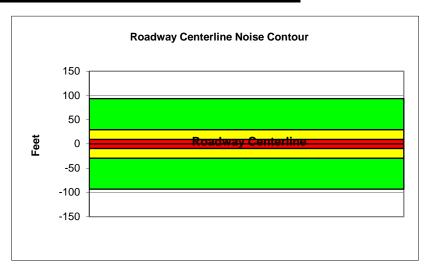
NOISE DATA, DATED NOVEMBER 2013

Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)								
Project Name:	Tracy Hills EIR				Scenario:	Existing		
Analyst:	Ryan Chiene				Job #:	135721		
Roadway:	Lammers Road	l						
Road Segment:	North of Elever	th Street						
	PROJECT DA	ΓΑ			S	ITE DATA		
Centerline Dist to B	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	3990		
Receiver Barrier Di	st:	0		Peak Hour Traffic: 399				
Centerline Dist. To	Observer:	100		Vehicle Speed: 40				
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	24		
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns <b>HARD SI</b>	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft	View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SO	OURCE ELEVA	TIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	ehicle Type Peak Leq Leq Day Leq Evening Leq Night Ldn									
Autos:	47.7	56.5	54.7	48.6	57.3	57.9				
Medium Trucks:	56.7	48.6	42.2	40.6	49.1	49.3				
Heavy Trucks:	61.5	49.6	40.5	41.7	51.4	51.6				
Vehicle Noise:	63.9	58.1	55.1	50.2	58.8	59.2				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type Peak Leq Leq Day Leq Evening Leq Night Ldn CN									
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOIS	SE CONTOUR
Unmitigated	
60 dBA	93
65 dBA	30
70 dBA	9
Mitigated	
60 dBA	
65 dBA	
70 dBA	

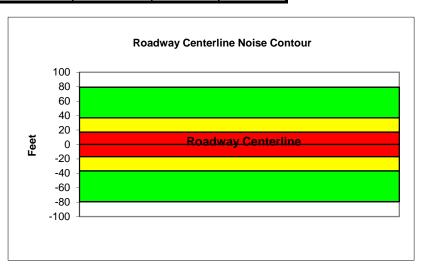


		Federal Highw						
		Traffic Noise F	Predicti	on Model (C	ALVENO)			
Project Name:	Tracy Hills	s EIR			Scenario:	Existing		
Analyst:	Ryan Chie	ene			Job #:	135721		
Roadway:	Lammers	Road						
Road Segment:	Eleventh S	Street to Old Schu	Ite Roa	d				
	PROJECT D	ATA			5	SITE DATA		
Centerline Dist to Ba	arrier:	0		Road Grade:		0		
Barrier (0=wall, 1= b	perm):	0		Average Daily Traffic:		5600		
Receiver Barrier Dis	st:	0		Peak Hour Traffic:		560		
Centerline Dist. To	Observer:	100		Vehicle Speed:		40		
Barrier Near Lane C	CL Dist:	0		Centerline Se	eparation:	64		
Barrier Far lane CL	Dist:	0			NC	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (ab	oove grade):	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View:	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELEVATIONS (Feet)				Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type Peak Leq Leq Day Leq Evening Leq Night Ldn									
Autos:	45.3	54.1	52.3	46.2	54.9	55.5			
Medium Trucks:	54.3	46.2	39.8	38.3	46.7	47.0			
Heavy Trucks:	59.1	47.2	38.1	39.4	49.1	49.2			
Vehicle Noise:	61.5	55.7	52.8	47.8	56.4	56.9			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type Peak Leq Leq Day Leq Evening Leq Night Ldn CNEI									
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	79					
65 dBA	37					
70 dBA	17					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

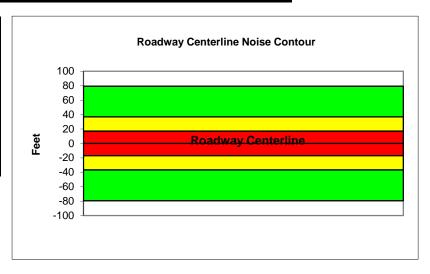


		Federal Highwa						
		Traffic Noise P	redicti	on Model (C	ALVENO)			
Project Name:	Tracy Hills	s EIR			Scenario:	Existing		
Analyst:	Ryan Chie	ene			Job #:	135721		
Roadway:	Lammers	Road						
Road Segment:	Old Schul	Ite Road to Valpico	Road					
	PROJECT D	ATA			5	SITE DATA		
Centerline Dist to Ba	arrier:	0		Road Grade:		0		
Barrier (0=wall, 1= b	oerm):	0		Average Dail	y Traffic:	5600		
Receiver Barrier Dis	st:	0		Peak Hour Ti	raffic:	560		
Centerline Dist. To	Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lane C	CL Dist:	0		Centerline Se	eparation:	20		
Barrier Far lane CL	Dist:	0			NC	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:		0	Į.		F	LEET MIX		
Observer Height (ab	bove grade):	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View:	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SC	Heavy Truck	0.865	0.027	0.108	0.0074			
Autos:	•	0						
Medium Trucks:		2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type Peak Leq Leq Day Leq Evening Leq Night Ldn									
Autos:	46.3	55.1	53.3	47.3	55.9	56.5			
Medium Trucks:	55.3	47.2	40.8	39.3	47.8	48.0			
Heavy Trucks:	60.1	48.2	39.1	40.4	50.1	50.2			
Vehicle Noise:	62.5	56.7	53.8	48.8	57.4	57.9			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type Peak Leq Leq Day Leq Evening Leq Night Ldn CNE								
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	79						
65 dBA	37						
70 dBA	17						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

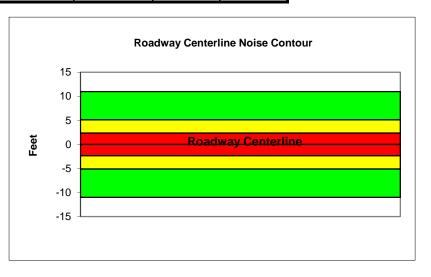


		lighway Adm oise Predicti					
Project Name:	Tracy Hills EIR		•	Scenario:	Existing		
Analyst:	Ryan Chiene			Job #:	135721		
Roadway:	_ammers Road						
Road Segment:	South of Valpico Road	b					
PRO	OJECT DATA			9	SITE DATA		
Centerline Dist to Barrie	r: <b>0</b>		Road Grade:		0		
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	290		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	29		
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Spee	ed:	40		
Barrier Near Lane CL D	ist: 0		Centerline Separation:		20		
Barrier Far lane CL Dist	. 0		NOISE INPUTS				
Pad Elevation:	0.5		Site conditions:SOFT SITE				
Road Elevation:	0			F	LEET MIX		
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775			0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOUR	CE ELEVATIONS (Fe	eet)	Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	33.5	42.3	40.5	34.4	43.0	43.7
Medium Trucks:	42.4	34.4	28.0	26.4	34.9	35.1
Heavy Trucks:	47.3	35.3	26.3	27.5	37.2	37.4
Vehicle Noise:	49.7	43.8	40.9	36.0	44.6	45.0

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	11					
65 dBA	5					
70 dBA	2					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

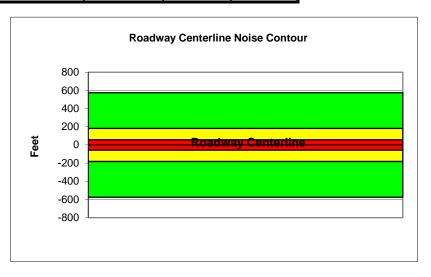


		Federal Highw Traffic Noise F						
Project Name:	Tracy Hills EIR			·	Scenario:	Existing		
Analyst:	Ryan Chiene				Job #:	135721		
Roadway:	Corral Hollow Ro	oad						
Road Segment:	North of Elevent	h Street						
	PROJECT DAT	Α			S	SITE DATA		
Centerline Dist to E	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	24540		
Receiver Barrier Di	ist:	0		Peak Hour Ti	raffic:	2454		
Centerline Dist. To	Observer:	100		Vehicle Speed:		40		
Barrier Near Lane	CL Dist:	0		Centerline Separation:		64		
Barrier Far lane CL	Dist:	0		NOISE INPUTS				
Pad Elevation:		0.5		Site conditions HARD SITE				
Road Elevation:		0		FLEET MIX				
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft V	iew:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE S	OURCE ELEVAT	IONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIG	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)					
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.0	63.8	62.0	55.9	64.5	65.1
Medium Trucks:	63.9	55.9	49.5	47.9	56.4	56.6
Heavy Trucks:	68.8	56.8	47.8	49.0	58.7	58.8
Vehicle Noise:	71.2	65.3	62.4	57.5	66.0	66.5

MITIGAT	MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	575						
65 dBA	182						
70 dBA	57						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Project Name: Scenario: Existing Ryan Chiene Job #: 135721 Analyst: Roadway: Corral Hollow Road Road Segment: Eleventh Street to New Schulte Road PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: 0 Average Daily Traffic: Barrier (0=wall, 1= berm): 23440 Peak Hour Traffic: Receiver Barrier Dist: 0 2344 Centerline Dist. To Observer: Vehicle Speed: 100 40 Barrier Near Lane CL Dist: 0 Centerline Separation: 60 Barrier Far lane CL Dist: 0 **NOISE INPUTS** Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type 0.775 0.9742 Barrier Height: 0 0.129 0.096 Auto Rt View: Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184

Heavy Truck

47.8

48.9

57.3

0.865

56.3

58.6

65.9

0.027

56.

58.7

66.4

0.108

0.0074

Heavy Trucks:						
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.8	63.6	61.8	55.7	64 4	65 (

49.3

47.6

62.3

2.3

55.7

56.7

65.2

**NOISE SOURCE ELEVATIONS (Feet)** 

63.8

68.6

71.0

Autos:

Medium Trucks:

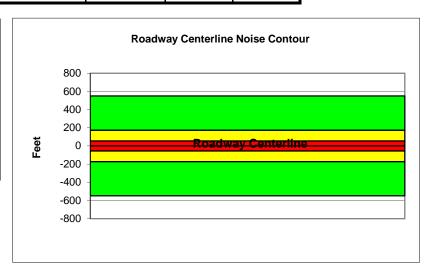
Medium Trucks:

Heavy Trucks:

Vehicle Noise:

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR							
550							
174							
55							



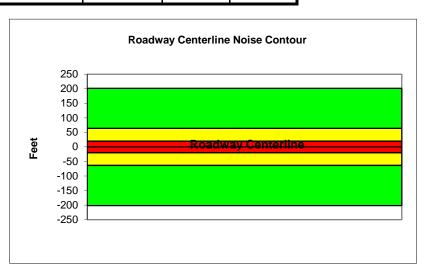
#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Existing Analyst: Ryan Chiene Job #: 135721 Roadway: Corral Hollow Road Road Segment: New Schulte Road to Linne Road PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 8615 Receiver Barrier Dist: Peak Hour Traffic: 861.5 0 Centerline Dist. To Observer: Vehicle Speed: 100 40 Barrier Near Lane CL Dist: 0 Centerline Separation: 60 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type 0.9742 Barrier Height: 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos: Medium Trucks: 2.3

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	50.5	59.3	57.5	51.4	60.0	60.7				
Medium Trucks:	59.4	51.4	45.0	43.4	51.9	52.1				
Heavy Trucks:	64.3	52.3	43.3	44.5	54.2	54.4				
Vehicle Noise:	66.7	60.8	57.9	53.0	61.6	62.0				

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)											
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:											
Medium Trucks:											
Heavy Trucks:											
Vehicle Noise:											

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	202					
65 dBA	64					
70 dBA	20					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

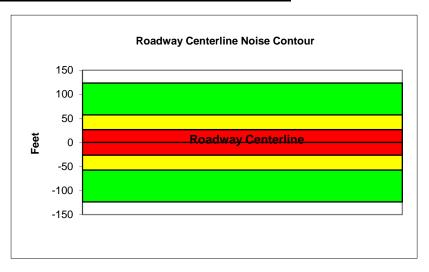


		Federal Highwa	ay Adn	ninistration F	RD-77-108			
		Traffic Noise P	redicti	on Model (C	ALVENO)			
Project Name:	Tracy Hills	s EIR			Scenario:	Existing		
Analyst:	Ryan Chie	ene			Job #:	135721		
Roadway:	Corral Ho	llow Road						
Road Segment:	Linne Roa	ad to Spine Road						
	PROJECT D	ATA			9	SITE DATA		
Centerline Dist to B	arrier:	0		Road Grade:		0		
Barrier (0=wall, 1= b	perm):	0		Average Dail	y Traffic:	6330		
Receiver Barrier Dis	st:	0		Peak Hour Traffic:		633		
Centerline Dist. To	Observer:	100		Vehicle Speed: 50				
Barrier Near Lane C	CL Dist:	0		Centerline Se	eparation:	24		
Barrier Far lane CL	Dist:	0			NC	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (al	bove grade):	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View:	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELEVATIONS (Feet)				Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	49.6	58.3	56.6	50.5	59.1	59.7				
Medium Trucks:	57.2	49.2	42.8	41.2	49.7	49.9				
Heavy Trucks:	61.5	49.5	40.5	41.7	51.1	51.2				
Vehicle Noise:	63.8	59.4	56.9	51.6	60.2	60.7				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE	CONTOUR
Unmitigated	
60 dBA	123
65 dBA	57
70 dBA	27
Mitigated	
60 dBA	
65 dBA	
70 dBA	

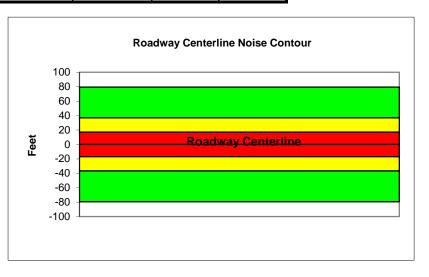


Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)									
Project Name:	racy Hills EIR		•	Scenario:	Existing				
Analyst: F	Ryan Chiene			Job #:	135721				
Roadway:	Corral Hollow Road								
Road Segment: S	South of Spine Road								
PRO	DJECT DATA			9	SITE DATA				
Centerline Dist to Barrie	r: <b>0</b>		Road Grade:		0				
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	3260				
Receiver Barrier Dist:	0		Peak Hour T	raffic:	326				
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Speed:		50				
Barrier Near Lane CL Di	st: <b>0</b>		Centerline Se	eparation:	24				
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S			
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE				
Road Elevation:	0			F	LEET MIX				
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily		
Barrier Height:	0		Auto	0.775			0.9742		
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE SOUR	CE ELEVATIONS (F	eet)	Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:	0								
Medium Trucks:	2.3								
Heavy Trucks:	8								

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	46.7	55.5	53.7	47.6	56.2	56.8				
Medium Trucks:	54.4	46.3	39.9	38.3	46.8	47.0				
Heavy Trucks:	58.6	46.6	37.6	38.8	48.2	48.3				
Vehicle Noise:	60.9	56.6	54.0	48.7	57.3	57.8				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	79					
65 dBA	37					
70 dBA	17					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

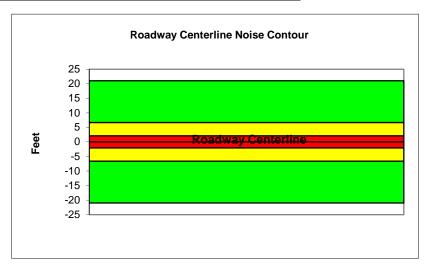


	Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)								
Project Name:	Tracy Hills EIR			•	Scenario:	Existing			
Analyst:	Ryan Chiene				Job #:	135721			
Roadway:	Chrisman Road								
Road Segment:	North of Elevent	h Street							
	PROJECT DAT	Α			S	ITE DATA			
Centerline Dist to E	Barrier	0		Road Grade:		0			
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	1220			
Receiver Barrier D	ist:	0		Peak Hour Ti	raffic:	122			
Centerline Dist. To	Observer:	100		Vehicle Speed: 35					
Barrier Near Lane	CL Dist:	0		Centerline Se	eparation:	24			
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S		
Pad Elevation:		0.5		Site condition	is <b>HARD SI</b>	TE			
Road Elevation:		0			F	LEET MIX			
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily	
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742	
Rt View: 90	Lft \	/iew:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE S	OURCE ELEVAT	IONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:		0							
Medium Trucks:		2.3							
Heavy Trucks:		8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	40.9	49.7	47.9	41.8	50.4	51.0				
Medium Trucks:	50.6	42.5	36.1	34.6	43.1	43.3				
Heavy Trucks:	55.8	43.9	34.8	36.0	45.9	46.1				
Vehicle Noise:	58.3	51.6	48.4	43.7	52.3	52.8				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)											
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:											
Medium Trucks:											
Heavy Trucks:											
Vehicle Noise:											

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	21						
65 dBA	7						
70 dBA	2						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

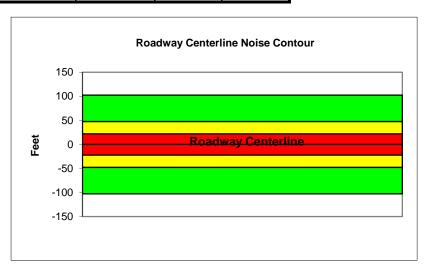


	Fo	deral Highw	yay Adm	ninistration F	PD-77-108						
	Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO)										
Project Name:	Tracy Hills EIR	1		•	Scenario:	Existing					
Analyst:	Ryan Chiene				Job #:	135721					
Roadway:	Chrisman Roa	d									
Road Segment:	Eleventh Stree	t to Linne Ro	ad								
PR	OJECT DATA				5	SITE DATA					
Centerline Dist to Barrie	r:	0		Road Grade:		0					
Barrier (0=wall, 1= berm	ı):	0		Average Dail	y Traffic:	6225					
Receiver Barrier Dist:		0		Peak Hour T	raffic:	622.5					
Centerline Dist. To Obse	erver:	100		Vehicle Speed:		45					
Barrier Near Lane CL D	ist:	0		Centerline Se	eparation:	24					
Barrier Far lane CL Dist	• •	0		NOISE INPUTS							
Pad Elevation:		0.5		Site condition	ns: <b>SOFT SI</b>	TE					
Road Elevation:		0			F	LEET MIX					
Observer Height (above	grade):	5.5		Туре	Day	Evening	Night	Daily			
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742			
Rt View: 90	Lft	View:	-90	Med. Truck	0.848	0.049	0.103	0.0184			
NOISE SOUR	CE ELEVATIO	NS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074			
Autos:		0									
Medium Trucks:		2.3									
Heavy Trucks:		8									

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	48.2	56.9	55.2	49.1	57.7	58.3				
Medium Trucks:	56.4	48.4	42.0	40.4	48.9	49.1				
Heavy Trucks:	61.0	49.0	40.0	41.2	50.7	50.9				
Vehicle Noise:	63.3	58.3	55.5	50.4	59.0	59.5				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR								
103								
48								
22								

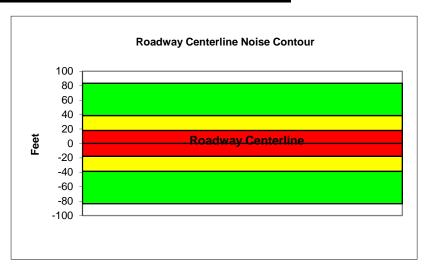


	Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO)										
Project Name:	Tracy Hills EIR		•	Scenario:	Existing						
Analyst:	Ryan Chiene			Job #:	135721						
Roadway:	Chrisman Road										
Road Segment:	South of Linne Ro	oad									
PR	OJECT DATA			(	SITE DATA						
Centerline Dist to Barrie	er:	0	Road Grade		0						
Barrier (0=wall, 1= bern	n):	0	Average Dai	ly Traffic:	2760						
Receiver Barrier Dist:		0	Peak Hour T	raffic:	276						
Centerline Dist. To Obs	erver:	100	Vehicle Spee	ed:	55						
Barrier Near Lane CL D	ist:	0	Centerline S	eparation:	24						
Barrier Far lane CL Dis	t:	0		NC	DISE INPUT	S					
Pad Elevation:		0.5	Site condition	ns: <b>SOFT S</b> I	TE						
Road Elevation:		0		F	LEET MIX						
Observer Height (above	e grade):	5.5	Туре	Day	Evening	Night	Daily				
Barrier Height:	,	0	Auto	0.775	0.129	0.096	0.9742				
Rt View: 90	Lft Vie	ew: <b>-</b> 9	Med. Truck	0.848	0.049	0.103	0.0184				
NOISE SOUR	CE ELEVATION	S (Feet)	Heavy Truck	0.865	0.027	0.108	0.0074				
Autos:		0		•	-	-	-				
Medium Trucks:		2.3									
Heavy Trucks:		8									

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	47.1	55.9	54.1	48.1	56.7	57.3				
Medium Trucks:	54.3	46.2	39.8	38.3	46.7	47.0				
Heavy Trucks:	58.2	46.3	37.2	38.5	47.7	47.8				
Vehicle Noise:	60.5	56.9	54.4	49.0	57.6	58.1				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE	CONTOUR
Unmitigated	
60 dBA	83
65 dBA	39
70 dBA	18
Mitigated	
60 dBA	
65 dBA	
70 dBA	

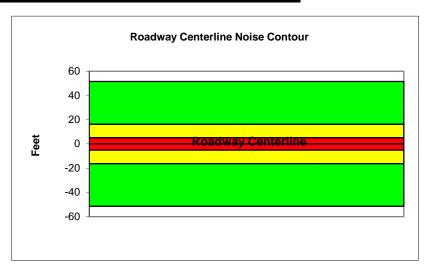


		Federal Highw	ay Adn	ninistration F	RD-77-108				
Traffic Noise Prediction Model (CALVENO)									
Project Name:	Tracy Hills EIF	₹		-	Scenario:	Existing			
Analyst:	Ryan Chiene				Job #:	135721			
Roadway:	MacArthur Dri	ve							
Road Segment:	Linne Road to	Valpico Road							
	PROJECT DA	ATA			5	SITE DATA			
Centerline Dist to B	Barrier	0		Road Grade:		0			
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	2200			
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	220			
Centerline Dist. To	Observer:	100		Vehicle Speed:		40			
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	18			
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S		
Pad Elevation:		0.5		Site condition	is <b>HARD S</b> I	TE			
Road Elevation:		0			F	LEET MIX			
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily	
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742	
Rt View: 90	Lf	t View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SO	OURCE ELEV <i>A</i>	ATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:		0							
Medium Trucks:		2.3							
Heavy Trucks:		8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	45.2	54.0	52.2	46.1	54.8	55.4		
Medium Trucks:	54.2	46.1	39.7	38.1	46.6	46.9		
Heavy Trucks:	59.0	47.1	38.0	39.2	49.0	49.1		
Vehicle Noise:	61.4	55.6	52.7	47.7	56.3	56.8		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Type Peak Leq Leq Day Leq Evening Leq Night Ldn CN								
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	52						
65 dBA	16						
70 dBA	5						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



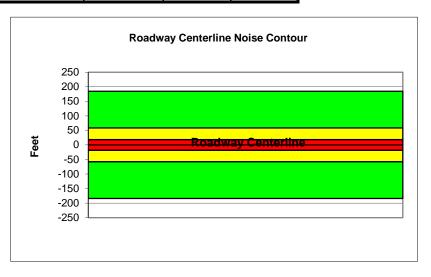
#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Project Name: Scenario: Existing Analyst: Ryan Chiene Job #: 135721 Roadway: MacArthur Drive Road Segment: Valpico Road to West Schulte Road PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 5930 Receiver Barrier Dist: Peak Hour Traffic: 593 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 34 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type 0.9742 Barrier Height: 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos: Medium Trucks: 2.3

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	50.7	59.5	57.7	51.6	60.3	60.9			
Medium Trucks:	59.0	50.9	44.6	43.0	51.5	51.7			
Heavy Trucks:	63.5	51.6	42.5	43.7	53.3	53.4			
Vehicle Noise:	65.9	60.8	58.1	52.9	61.5	62.0			

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	icle Type Peak Leq Leq Day Leq Evening Leq Night Ldn C								
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	184						
65 dBA	58						
70 dBA	18						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



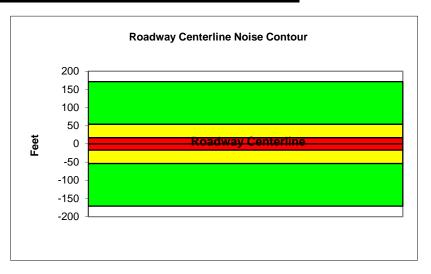
#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Existing Analyst: Ryan Chiene Job #: 135721 Roadway: MacArthur Drive Road Segment: West Schulte Road to Eleventh Street PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 7310 Receiver Barrier Dist: Peak Hour Traffic: 731 0 Centerline Dist. To Observer: Vehicle Speed: 100 40 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type 0.9742 Barrier Height: 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos: Medium Trucks: 2.3

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	50.3	59.1	57.3	51.2	59.9	60.5			
Medium Trucks:	59.3	51.2	44.8	43.3	51.7	52.0			
Heavy Trucks:	64.1	52.2	43.1	44.4	54.1	54.2			
Vehicle Noise:	66.5	60.7	57.8	52.8	61.4	61.9			

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	e Type Peak Leq Leq Day Leq Evening Leq Night Ldn C								
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	171						
65 dBA	54						
70 dBA	17						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

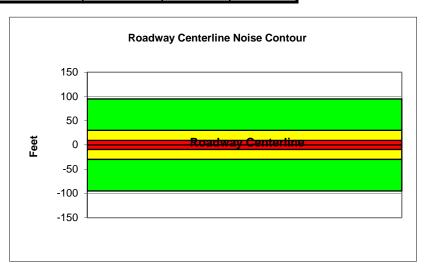


	Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO)									
Project Name:	Tracy Hills EIR	₹			Scenario:	Existing				
Analyst:	Ryan Chiene				Job #:	135721				
Roadway:	MacArthur Driv	ve								
Road Segment:	North of Eleve	nth Street								
	PROJECT DA	·ΤΑ			S	ITE DATA				
Centerline Dist to B	Barrier	0		Road Grade:		0				
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	4055				
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	405.5				
Centerline Dist. To	Observer:	100		Vehicle Speed: 40						
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	24				
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S			
Pad Elevation:		0.5		Site condition	ns <b>HARD SI</b>	TE				
Road Elevation:		0				LEET MIX				
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily		
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742		
Rt View: 90	Lft_	: View:	-90	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE SO	OURCE ELEVA	TIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:		0								
Medium Trucks:		2.3								
Heavy Trucks:		8								

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	47.8	56.5	54.8	48.7	57.3	57.9			
Medium Trucks:	56.7	48.7	42.3	40.7	49.2	49.4			
Heavy Trucks:	61.6	49.6	40.6	41.8	51.5	51.6			
Vehicle Noise:	63.9	58.1	55.2	50.3	58.8	59.3			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Type Peak Leq Leq Day Leq Evening Leq Night Ldn CN								
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	95					
65 dBA	30					
70 dBA	10					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

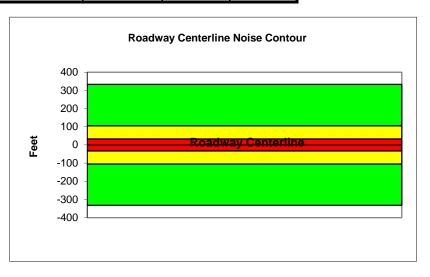


		Federal Highw Traffic Noise F						
Project Name:	Tracy Hills EIR		realct	on Model (C		Existing		
Analyst:	Ryan Chiene				Job #:	135721		
Roadway:	Tracy Boulevar	rd						
Road Segment:	North of Elever							
	PROJECT DA	TA			S	SITE DATA		
Centerline Dist to B	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	19300		
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	1930		
Centerline Dist. To	Observer:	100		Vehicle Speed: 35				
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	32		
Barrier Far lane CL	Dist:	0		NOISE INPUTS				
Pad Elevation:		0.5		Site conditions HARD SITE				
Road Elevation:		0		FLEET MIX				
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft	View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SO	OURCE ELEVA	TIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIG	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	52.7	61.5	59.7	53.6	62.3	62.9	
Medium Trucks:	62.5	54.4	48.0	46.4	54.9	55.2	
Heavy Trucks:	67.7	55.7	46.7	47.9	57.8	57.9	
Vehicle Noise:	70.1	63.5	60.3	55.6	64.2	64.6	

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	333					
65 dBA	105					
70 dBA	33					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



#### Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO) Tracy Hills EIR Project Name: Scenario: Existing Ryan Chiene Analyst: Job #: 135721 Tracy Boulevard Roadway:

Road Segment: Eleventh Street to Valpico Road

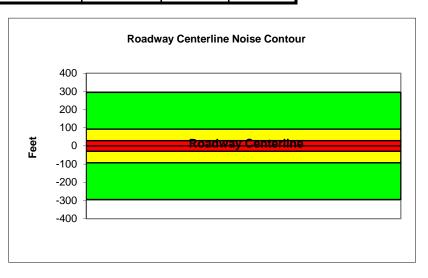
PROJECT DATA				9	SITE DATA		
Centerline Dist to Barrier	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Daily	y Traffic:	17080		
Receiver Barrier Dist:	0		Peak Hour Tr	raffic:	1708		
Centerline Dist. To Observer:	100		Vehicle Spee	d:	35		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	38		
Barrier Far lane CL Dist:	0		NOISE INPUTS				
Pad Elevation:	0.5		Site conditions HARD SITE				
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade)	: 0		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELE	VATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						

UNMITIG	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	52.1	60.9	59.1	53.0	61.7	62.3		
Medium Trucks:	61.8	53.8	47.4	45.8	54.3	54.5		
Heavy Trucks:	67.0	55.1	46.1	47.3	57.2	57.3		
Vehicle Noise:	69.5	62.8	59.7	55.0	63.5	64.0		

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	294					
65 dBA	93					
70 dBA	29					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Project Name: Scenario: Existing Analyst: Ryan Chiene Job #: 135721 Roadway: Tracy Boulevard Valpico Road to Linne Road Road Segment: PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 8730 Receiver Barrier Dist: Peak Hour Traffic: 873 0 Centerline Dist. To Observer: Vehicle Speed: 100 40 Barrier Near Lane CL Dist: 0 Centerline Separation: 40 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type 0.9742 Barrier Height: 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos:

UNMITIG	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	50.8	59.6	57.8	51.7	60.4	61.0		
Medium Trucks:	59.8	51.7	45.3	43.8	52.3	52.5		
Heavy Trucks:	64.6	52.7	43.6	44.9	54.6	54.7		
Vehicle Noise:	67.0	61.2	58.3	53.3	61.9	62.4		

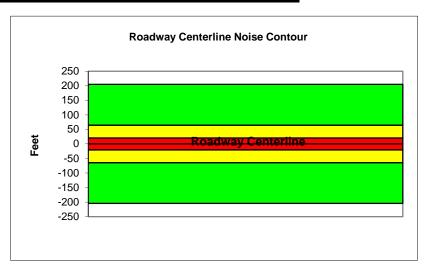
2.3

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	205					
65 dBA	65					
70 dBA	20					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

Medium Trucks:

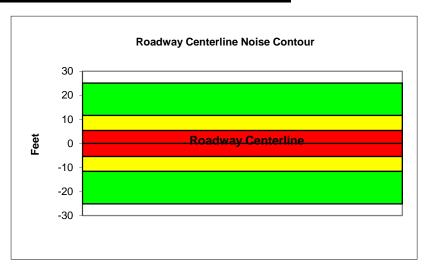


		lighway Adm oise Predicti						
Project Name: 7	racy Hills EIR		`	Scenario:	Existing			
Analyst: F	Ryan Chiene			Job #:	135721			
Roadway:	racy Boulevard							
Road Segment: S	South of Linne Road							
PRO	JECT DATA			5	SITE DATA			
Centerline Dist to Barrier	·: 0		Road Grade:		0			
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	1000			
Receiver Barrier Dist:	0		Peak Hour T	raffic:	100			
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Speed:		40			
Barrier Near Lane CL Di	st: <b>0</b>		Centerline Se	eparation:	22			
Barrier Far lane CL Dist:	0		NOISE INPUTS					
Pad Elevation:	0.5		Site conditions:SOFT SITE					
Road Elevation:	0			F	LEET MIX			
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775			0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOUR	CE ELEVATIONS (Fe	eet)	Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	0							
Medium Trucks:	2.3							
Heavy Trucks:	8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	38.8	47.6	45.8	39.7	48.4	49.0		
Medium Trucks:	47.8	39.7	33.3	31.7	40.2	40.5		
Heavy Trucks:	52.6	40.7	31.6	32.8	42.5	42.7		
Vehicle Noise:	55.0	49.2	46.2	41.3	49.9	50.4		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE	CENTERLINE NOISE CONTOUR						
Unmitigated							
60 dBA	25						
65 dBA	12						
70 dBA	5						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

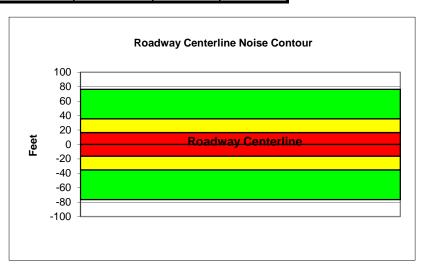


		Highway Adn Noise Predicti					
Project Name:	Tracy Hills EIR		•	Scenario:	Existing		
Analyst:	Ryan Chiene			Job #:	135721		
Roadway:	Linne Road						
Road Segment:	West of Tracy Boule	evard					
PR	OJECT DATA			(	SITE DATA		
Centerline Dist to Barrie	er:	0	Road Grade:		0		
Barrier (0=wall, 1= bern	า):	0	Average Dail	y Traffic:	3990		
Receiver Barrier Dist:		0	Peak Hour T	raffic:	399		
Centerline Dist. To Obs	erver: 10	0	Vehicle Spee	ed:	45		
Barrier Near Lane CL D	ist:	0	Centerline Se	eparation:	24		
Barrier Far lane CL Dist	t:	0		NC	ISE INPUT	S	
Pad Elevation:	0.	5	Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:		0		F	LEET MIX		
Observer Height (above	e grade): 5.	5	Туре	Day	Evening	Night	Daily
Barrier Height:	,	0	Auto	0.775		_	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOUR	CE ELEVATIONS (	Feet)	Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0		-	-	-	
Medium Trucks:	2.	3					
Heavy Trucks:		8					

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	46.2	55.0	53.2	47.1	55.8	56.4		
Medium Trucks:	54.5	46.4	40.1	38.5	47.0	47.2		
Heavy Trucks:	59.0	47.1	38.0	39.3	48.8	48.9		
Vehicle Noise:	61.4	56.3	53.6	48.4	57.0	57.5		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE	CENTERLINE NOISE CONTOUR						
Unmitigated							
60 dBA	76						
65 dBA	35						
70 dBA	16						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

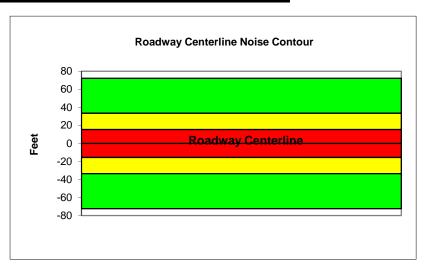


	Federal High Traffic Noise						
Project Name: T	racy Hills EIR		`	Scenario:	Existing		
Analyst: F	Ryan Chiene			Job #:	135721		
Roadway: L	inne Road						
Road Segment: E	ast of Tracy Boulevard						
PRO	JECT DATA			9	SITE DATA		
Centerline Dist to Barrier	: 0		Road Grade:		0		
Barrier (0=wall, 1= berm)	): <b>0</b>		Average Dail	y Traffic:	3680		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	368		
Centerline Dist. To Obse	rver: <b>100</b>		Vehicle Spee	ed:	45		
Barrier Near Lane CL Di	st: <b>0</b>		Centerline Se	eparation:	24		
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	ΤE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOUR	E ELEVATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	45.9	54.7	52.9	46.8	55.4	56.1		
Medium Trucks:	54.2	46.1	39.7	38.1	46.6	46.9		
Heavy Trucks:	58.7	46.7	37.7	38.9	48.5	48.6		
Vehicle Noise:	61.0	56.0	53.2	48.1	56.7	57.2		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	72					
65 dBA	34					
70 dBA	16					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

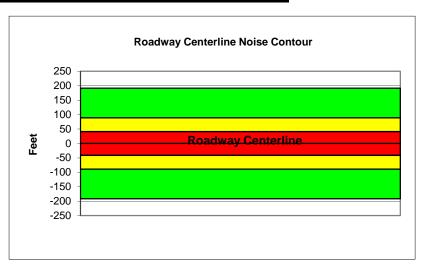


	Federal I	Highway Adn	ninistration F	2D-77-108				
		loise Predicti						
Project Name: T	racy Hills EIR		-	Scenario:	Existing			
Analyst: R	yan Chiene			Job #:	135721			
Roadway: A	Itamont Pass Road							
Road Segment: V	Vest of Greenville Ro	oad						
PRO	JECT DATA			9	SITE DATA			
Centerline Dist to Barrier	: 0		Road Grade:		0			
Barrier (0=wall, 1= berm)	: 0		Average Dail	y Traffic:	15860			
Receiver Barrier Dist:	0		Peak Hour T	raffic:	1586			
Centerline Dist. To Obse	rver: 100		Vehicle Speed:		45			
Barrier Near Lane CL Dis	st: <b>0</b>		Centerline Separation:		26			
Barrier Far lane CL Dist:	0		NOISE INPUTS					
Pad Elevation:	0.5		Site conditions:SOFT SITE					
Road Elevation:	0			F	LEET MIX			
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOURC	E ELEVATIONS (F	eet)	Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	0							
Medium Trucks:	2.3							
Heavy Trucks:	8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	52.2	61.0	59.2	53.1	61.7	62.3			
Medium Trucks:	60.5	52.4	46.0	44.4	52.9	53.2			
Heavy Trucks:	65.0	53.0	44.0	45.2	54.7	54.9			
Vehicle Noise:	67.3	62.3	59.5	54.4	63.0	63.5			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	192						
65 dBA	89						
70 dBA	41						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

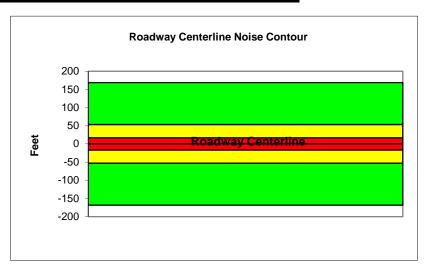


		Federal Highwa Traffic Noise P						
Project Name:	Tracy Hills El	R		•	Scenario:	Existing		
Analyst:	Ryan Chiene				Job #:	135721		
Roadway:	Patterson Pa	ss Road						
Road Segment:	West of Gree	nville Road						
	PROJECT D	ATA			5	SITE DATA		
Centerline Dist to B	arrier	0		Road Grade:		0		
Barrier (0=wall, 1= l	berm):	0		Average Dail	y Traffic:	5430		
Receiver Barrier Dis	st:	0		Peak Hour Ti	raffic:	543		
Centerline Dist. To	Observer:	100		Vehicle Spee	d:	45		
Barrier Near Lane (	CL Dist:	0		Centerline Separation:		42		
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns <b>HARD S</b> I	TE		
Road Elevation:		0		FLEET MIX				
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	L	ft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SO	OURCE ELEV	ATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	50.2	59.0	57.2	51.1	59.8	60.4			
Medium Trucks:	58.5	50.4	44.0	42.5	51.0	51.2			
Heavy Trucks:	63.0	51.1	42.0	43.2	52.8	52.9			
Vehicle Noise:	65.3	60.3	57.6	52.4	61.0	61.5			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	169							
65 dBA	53							
70 dBA	17							
Mitigated								
60 dBA								
65 dBA								
70 dBA								

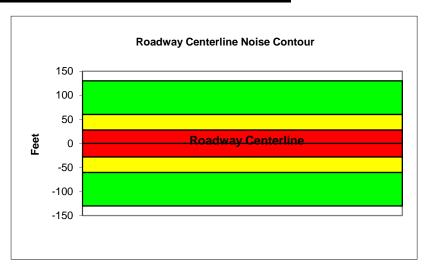


	Federal Hig	hway Adm	ninistration F	RD-77-108				
	Traffic Nois	se Predicti	on Model (C	ALVENO)				
Project Name: T	racy Hills EIR			Scenario:	Existing			
Analyst: R	yan Chiene			Job #:	135721			
Roadway: T	esla Road							
Road Segment: W	est of Greenville Road	l						
PRO	JECT DATA			9	SITE DATA			
Centerline Dist to Barrier	0		Road Grade:		0			
Barrier (0=wall, 1= berm)	: 0		Average Dail	y Traffic:	6840			
Receiver Barrier Dist:	0		Peak Hour T	raffic:	684			
Centerline Dist. To Obse	rver: <b>100</b>		Vehicle Speed:		50			
Barrier Near Lane CL Dis	t: <b>0</b>		Centerline Separation:		24			
Barrier Far lane CL Dist:	0		NOISE INPUTS					
Pad Elevation:	0.5		Site conditions:SOFT SITE					
Road Elevation:	0			F	LEET MIX			
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOURC	E ELEVATIONS (Feet	:)	Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	0							
Medium Trucks:	2.3							
Heavy Trucks:	8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	49.9	58.7	56.9	50.8	59.5	60.1			
Medium Trucks:	57.6	49.5	43.1	41.5	50.0	50.3			
Heavy Trucks:	61.8	49.9	40.8	42.0	51.4	51.5			
Vehicle Noise:	64.1	59.8	57.2	51.9	60.5	61.0			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
130							
60							
28							



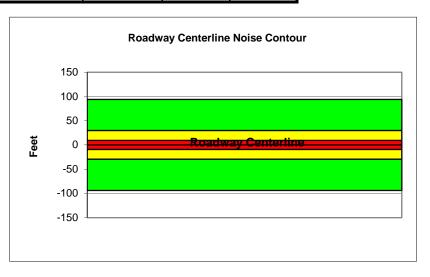
#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Existing Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Lammers Road Road Segment: North of Eleventh Street PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 4010 Receiver Barrier Dist: Peak Hour Traffic: 401 0 Centerline Dist. To Observer: Vehicle Speed: 40 100 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type Barrier Height: 0.9742 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos: Medium Trucks: 2.3

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	47.7	56.5	54.7	48.6	57.3	57.9			
Medium Trucks:	56.7	48.6	42.2	40.6	49.1	49.4			
Heavy Trucks:	61.5	49.6	40.5	41.7	51.5	51.6			
Vehicle Noise:	63.9	58.1	55.2	50.2	58.8	59.3			

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	94						
65 dBA	30						
70 dBA	9						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Existing Plus Project Analyst: Ryan Chiene Job #:

Roadway: Lammers Road

Road Segment: Eleventh Street to Old Schulte Road

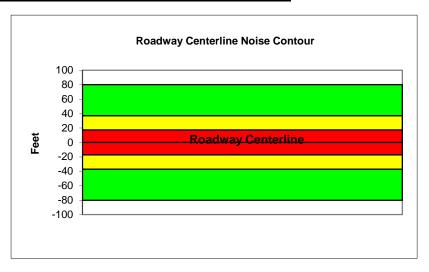
PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 5695 Receiver Barrier Dist: Peak Hour Traffic: 569.5 0 Centerline Dist. To Observer: Vehicle Speed: 40 100 Barrier Near Lane CL Dist: 0 Centerline Separation: 64 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type Barrier Height: 0.096 0.9742 Auto 0.775 0.129 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074

Autos: Medium Trucks: 2.3 Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	45.4	54.2	52.4	46.3	55.0	55.6			
Medium Trucks:	54.4	46.3	39.9	38.3	46.8	47.0			
Heavy Trucks:	59.2	47.3	38.2	39.4	49.1	49.3			
Vehicle Noise:	61.6	55.8	52.8	47.9	56.5	56.9			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	80						
65 dBA	37						
70 dBA	17						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



## Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Ryan Chiene

Project Name: Scenario: Existing Plus Project

Job #: 135721 Analyst:

Roadway: Lammers Road

Heavy Trucks:

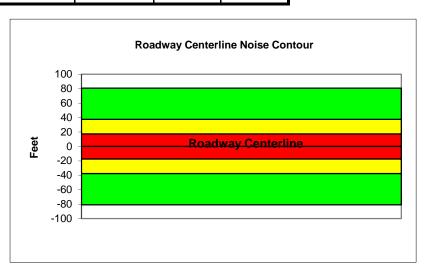
Road Segment: Old Schulte Road to Valpico Road

PROJECT	DATA		SITE DATA				
Centerline Dist to Barrier:	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	5770		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	577		
Centerline Dist. To Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	20		
Barrier Far lane CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade)	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELE	VATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	46.5	55.3	53.5	47.4	56.0	56.6			
Medium Trucks:	55.4	47.4	41.0	39.4	47.9	48.1			
Heavy Trucks:	60.3	48.3	39.3	40.5	50.2	50.3			
Vehicle Noise:	62.6	56.8	53.9	49.0	57.5	58.0			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	81						
65 dBA	38						
70 dBA	17						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

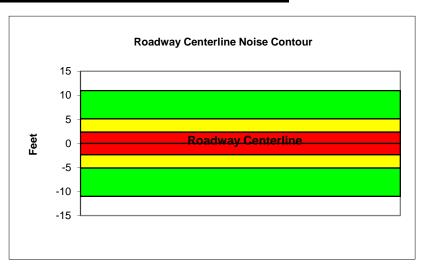


Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO)									
Project Name: T	racy Hills EIR			Scenario:	Existing Pl	us Project			
Analyst: F	Ryan Chiene			Job #:	135721				
Roadway: L	ammers Road								
Road Segment: S	South of Valpico Road								
PRO	JECT DATA			5	SITE DATA				
Centerline Dist to Barrie	0		Road Grade:		0				
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	290				
Receiver Barrier Dist:	0		Peak Hour T	raffic:	29				
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Spee	ed:	40				
Barrier Near Lane CL Di	st: <b>0</b>		Centerline Se	eparation:	20				
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S			
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE				
Road Elevation:	0			F	LEET MIX				
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily		
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742		
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE SOUR	CE ELEVATIONS (Feet	t)	Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:	0								
Medium Trucks:	2.3								
Heavy Trucks:	8								

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	33.5	42.3	40.5	34.4	43.0	43.7			
Medium Trucks:	42.4	34.4	28.0	26.4	34.9	35.1			
Heavy Trucks:	47.3	35.3	26.3	27.5	37.2	37.4			
Vehicle Noise:	49.7	43.8	40.9	36.0	44.6	45.0			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR						
11						
5						
2						

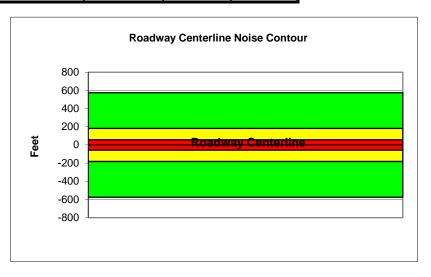


	redicti	ion Model (C				
			Scenario:	Existing Plu	us Project	
ene			Job #:	135721		
llow Road						
Eleventh Street						
T DATA			5	ITE DATA		
0		Road Grade:		0		
0		Average Daily	y Traffic:	24540		
0		Peak Hour Tr	affic:	2454		
100		Vehicle Spee	d:	40		
0		Centerline Se	paration:	64		
0			NO	ISE INPUT	S	
0.5		Site condition	is <b>HARD S</b> I	TE		
0			F	LEET MIX		
e): <b>0</b>		Туре	Day	Evening	Night	Daily
0		Auto	0.775	0.129	0.096	0.9742
Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELEVATIONS (Feet)					0.108	0.0074
0						
2.3						
	Traffic Noise P s EIR ene Illow Road Eleventh Street T DATA  0 0 0 100 0 0 0 0 5 0 0 Lft View:  -EVATIONS (Feet)	Traffic Noise Predict s EIR ene llow Road Eleventh Street T DATA  0 0 0 100 0 100 0 0 0.5 0 e): 0 Lft View: -90  EVATIONS (Feet)	Traffic Noise Prediction Model (Castella Series   Series	Sene	State	Traffic Noise Prediction Model (CALVENO)     S EIR

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	55.0	63.8	62.0	55.9	64.5	65.1			
Medium Trucks:	63.9	55.9	49.5	47.9	56.4	56.6			
Heavy Trucks:	68.8	56.8	47.8	49.0	58.7	58.8			
Vehicle Noise:	71.2	65.3	62.4	57.5	66.0	66.5			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOIS	SE CONTOUR
Unmitigated	
60 dBA	575
65 dBA	182
70 dBA	57
Mitigated	
60 dBA	
65 dBA	
70 dBA	



# Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO)

Project Name: Tracy Hills EIR Scenario: Existing Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Corral Hollow Road

Road Segment: Eleventh Street to New Schulte Road

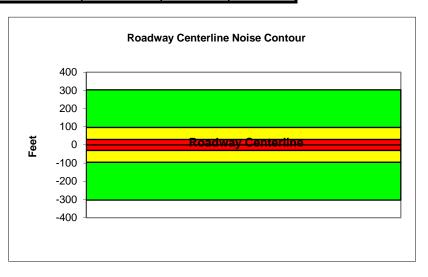
PROJECT	DATA			S	SITE DATA		
Centerline Dist to Barrier	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	12953		
Receiver Barrier Dist:	0		Peak Hour Ti	affic:	1295.3		
Centerline Dist. To Observer:	100		Vehicle Spee	d:	40		
Barrier Near Lane CL Dist:	0		Centerline Separation: 60				
Barrier Far lane CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	is <b>HARD SI</b>	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELEVATIONS (Feet) Heavy Truck 0.865 0.027 0.108 0						0.0074	

Autos: 0
Medium Trucks: 2.3
Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	52.3	61.0	59.3	53.2	61.8	62.4			
Medium Trucks:	61.2	53.1	46.8	45.2	53.7	53.9			
Heavy Trucks:	66.1	54.1	45.1	46.3	56.0	56.1			
Vehicle Noise:	68.4	62.6	59.7	54.7	63.3	63.8			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	303					
65 dBA	96					
70 dBA	30					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



# Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO)

Project Name: Tracy Hills EIR Scenario: Existing Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Corral Hollow Road

Road Segment: New Schulte Road to Linne Road

PROJEC	IDAIA			3	SILEDALA		
Centerline Dist to Barrier		0	Road Grade:		0		
Barrier (0=wall, 1= berm):		0	Average Dail	y Traffic:	15505		
Receiver Barrier Dist:		0	Peak Hour T	raffic:	1550.5		
Centerline Dist. To Observer:	10	0	Vehicle Spee	ed:	40		
Barrier Near Lane CL Dist:		0	Centerline Se	eparation:	60		
Barrier Far lane CL Dist:		0		NO	ISE INPUT	S	
Pad Elevation:	0.	5	Site condition	ns <b>HARD S</b> I	TE		
Road Elevation:		0		F	LEET MIX		
Observer Height (above grade	e):	0	Туре	Day	Evening	Night	Daily
Barrier Height:		0	Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184

Heavy Truck

0.865

0.027

0.108

0.0074

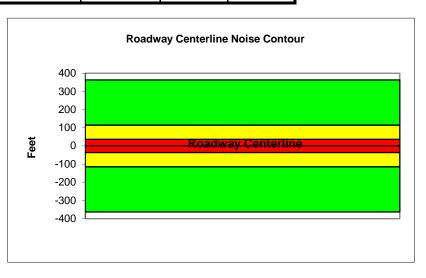
Autos: 0
Medium Trucks: 2.3
Heavy Trucks: 8

NOISE SOURCE ELEVATIONS (Feet)

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	53.0	61.8	60.0	53.9	62.6	63.2			
Medium Trucks:	62.0	53.9	47.5	46.0	54.5	54.7			
Heavy Trucks:	66.8	54.9	45.8	47.1	56.8	56.9			
Vehicle Noise:	69.2	63.4	60.5	55.5	64.1	64.6			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	363					
65 dBA	115					
70 dBA	36					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



		Federal Highy Traffic Noise						
Project Name:	Tracy Hills					Existing Plu	us Project	
Analyst:	Ryan Chie				Job #:	135721	•	
Roadway:	Corral Holl	low Road						
Road Segment:	Linne Roa	d to Spine Road						
P	ROJECT DA	ATA			9	SITE DATA		
Centerline Dist to Barr	rier:	0		Road Grade:		0		
Barrier (0=wall, 1= ber	rm):	0		Average Daily Traffic: 20470				
Receiver Barrier Dist:	•	0		Peak Hour T	raffic:	2047		
Centerline Dist. To Ob	server:	100		Vehicle Speed:		50		
Barrier Near Lane CL	Dist:	0		Centerline Se	eparation:	24		
Barrier Far lane CL Dis	st:	0			NC	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (abov	ve grade):	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	
Rt View: 90	J	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOU	RCE ELEV	ATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Peak Leq Leq Day Leq Evening Leq Night Ldn CN						
Autos:	54.7	63.4	61.6	55.6	64.2	64.8		
Medium Trucks:	62.3	54.3	47.9	46.3	54.8	55.0		
Heavy Trucks:	66.6	54.6	45.6	46.8	56.2	56.3		
Vehicle Noise:	68.9	64.5	62.0	56.7	65.3	65.8		

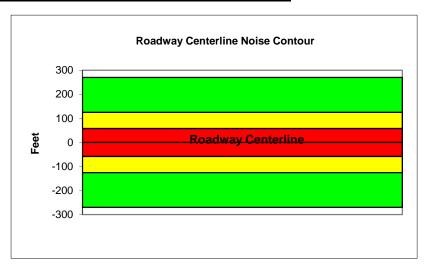
2.3

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	270					
65 dBA	125					
70 dBA	58					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

Medium Trucks: Heavy Trucks:

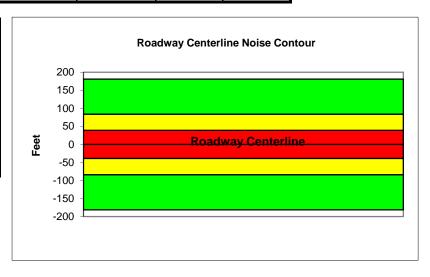


		lighway Adm oise Predicti					
Project Name: T	racy Hills EIR		•	Scenario:	Existing Plu	us Project	
Analyst: F	Ryan Chiene			Job #:	135721		
Roadway:	Corral Hollow Road						
Road Segment: S	South of Spine Road						
PRO	JECT DATA			5	SITE DATA		
Centerline Dist to Barrie	·: 0		Road Grade:		0		
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	11240		
Receiver Barrier Dist:	0		Peak Hour Traffic:		1124		
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Speed:		50		
Barrier Near Lane CL Di	st: 0		Centerline Se	eparation:	24		
Barrier Far lane CL Dist:	0		NOISE INPUTS				
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0		FLEET MIX				
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775			0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOUR	CE ELEVATIONS (Fe	eet)	Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	eak Leq Leq Day Leq Evening Leq Night Ldn Cl						
Autos:	52.1	60.8	59.0	53.0	61.6	62.2		
Medium Trucks:	59.7	51.7	45.3	43.7	52.2	52.4		
Heavy Trucks:	64.0	52.0	43.0	44.2	53.6	53.7		
Vehicle Noise:	66.3	61.9	59.4	54.1	62.7	63.2		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	181					
65 dBA	84					
70 dBA	39					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

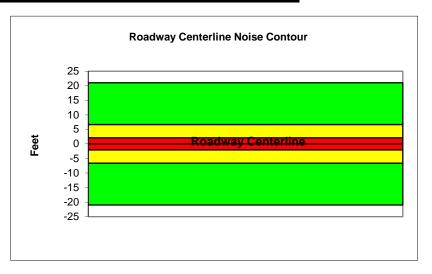


		ederal Highw Fraffic Noise F						
Project Name:	Tracy Hills EIR			•	Scenario:	Existing Plu	us Project	
Analyst:	Ryan Chiene				Job #:	135721	-	
Roadway:	Chrisman Road							
Road Segment:	North of Eleventh	n Street						
	PROJECT DATA	Ą			S	ITE DATA		
Centerline Dist to E	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	1220		
Receiver Barrier Di	ist:	0		Peak Hour Ti	raffic:	122		
Centerline Dist. To	Observer:	100		Vehicle Spee	d:	35		
Barrier Near Lane	CL Dist:	0		Centerline Se	eparation:	24		
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns <b>HARD SI</b>	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:	· ,	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft V	iew:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE S	OURCE ELEVATI	ONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0					-	
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	40.9	49.7	47.9	41.8	50.4	51.0			
Medium Trucks:	50.6	42.5	36.1	34.6	43.1	43.3			
Heavy Trucks:	55.8	43.9	34.8	36.0	45.9	46.1			
Vehicle Noise:	58.3	51.6	48.4	43.7	52.3	52.8			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOIS	SE CONTOUR
Unmitigated	
60 dBA	21
65 dBA	7
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Existing Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Chrisman Road Road Segment: Eleventh Street to Linne Road PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 6225 Receiver Barrier Dist: Peak Hour Traffic: 622.5 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5

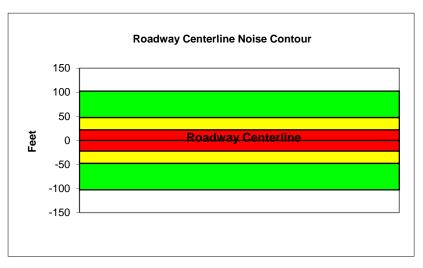
Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type Barrier Height: 0.096 0.9742 Auto 0.775 0.129 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074

Autos: 0
Medium Trucks: 2.3
Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	48.2	56.9	55.2	49.1	57.7	58.3			
Medium Trucks:	56.4	48.4	42.0	40.4	48.9	49.1			
Heavy Trucks:	61.0	49.0	40.0	41.2	50.7	50.9			
Vehicle Noise:	63.3	58.3	55.5	50.4	59.0	59.5			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE	CONTOUR
Unmitigated	
60 dBA	103
65 dBA	48
70 dBA	22
Mitigated	
60 dBA	
65 dBA	
70 dBA	

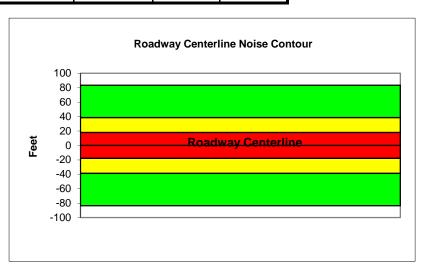


		Highway Adn Noise Predicti					
Project Name:	Tracy Hills EIR		•	Scenario:	Existing Pl	us Project	
Analyst:	Ryan Chiene			Job #:	135721	-	
Roadway:	Chrisman Road						
Road Segment:	South of Linne Road						
PR	OJECT DATA			5	SITE DATA		
Centerline Dist to Barrie	er: 0	)	Road Grade:		0		
Barrier (0=wall, 1= bern	n): 0	)	Average Dail	y Traffic:	2760		
Receiver Barrier Dist:	0	)	Peak Hour T	raffic:	276		
Centerline Dist. To Obs	erver: 100	)	Vehicle Spee	ed:	55		
Barrier Near Lane CL D	ist: 0	)	Centerline Se	eparation:	24		
Barrier Far lane CL Dist	:: <b>0</b>	)		NC	ISE INPUT	S	
Pad Elevation:	0.5	5	Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0	)		F	LEET MIX		
Observer Height (above	e grade): <b>5.5</b>	5	Туре	Day	Evening	Night	Daily
Barrier Height:	0	)	Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOUR	CE ELEVATIONS (F	eet)	Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0	)					
Medium Trucks:	2.3	3					
Heavy Trucks:	8	3					

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	47.1	55.9	54.1	48.1	56.7	57.3			
Medium Trucks:	54.3	46.2	39.8	38.3	46.7	47.0			
Heavy Trucks:	58.2	46.3	37.2	38.5	47.7	47.8			
Vehicle Noise:	60.5	56.9	54.4	49.0	57.6	58.1			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE	CONTOUR
Unmitigated	
60 dBA	83
65 dBA	39
70 dBA	18
Mitigated	
60 dBA	
65 dBA	
70 dBA	



### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Project Name:

Scenario: Existing Plus Project

Ryan Chiene Analyst: Job #: 135721

Roadway: MacArthur Drive

Linne Road to Valpico Road

PROJECT DATA Road Segment:

PROJECT	DATA				SHEDAIA			
Centerline Dist to Barrier	0		Road Grade:		0			
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	2739	2739		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	273.9			
Centerline Dist. To Observer:	100		Vehicle Spee	ed:	40			
Barrier Near Lane CL Dist:	0		Centerline Separation:					
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S		
Pad Elevation:	0.5		Site condition	ns <b>HARD S</b> I	TE			
Road Elevation:	0		FLEET MIX					
Observer Height (above grade):	0		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	

Heavy Truck

0.865

0.027

0.108

0.0074

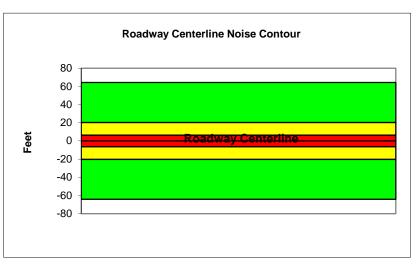
Autos: Medium Trucks: 2.3 Heavy Trucks: 8

**NOISE SOURCE ELEVATIONS (Feet)** 

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	46.2	55.0	53.2	47.1	55.7	56.3				
Medium Trucks:	55.1	47.1	40.7	39.1	47.6	47.8				
Heavy Trucks:	60.0	48.0	39.0	40.2	49.9	50.0				
Vehicle Noise:	62.3	56.5	53.6	48.7	57.2	57.7				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	64					
65 dBA	20					
70 dBA	6					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



Project Name: Tracy Hills EIR Scenario: Existing Plus Project

Ryan Chiene Analyst: Job #: 135721

Roadway: MacArthur Drive

Road Segment: Valpico Road to West Schulte Road

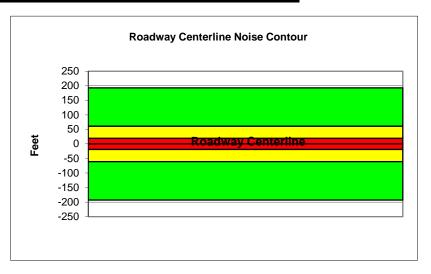
rtoda ooginonti valpioo rtoo	ia to 11 oot contaite						
PROJECT	SITE DATA						
Centerline Dist to Barrier	0		Road Grade: 0				
Barrier (0=wall, 1= berm):	0		Average Daily	y Traffic:	6202		
Receiver Barrier Dist:	0		Peak Hour Ti	raffic:	620.2		
Centerline Dist. To Observer:	100		Vehicle Spee	d:	45		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	34		
Barrier Far lane CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns <b>HARD S</b> I	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELE	VATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074

Autos: Medium Trucks: 2.3 Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	50.9	59.7	57.9	51.8	60.5	61.1				
Medium Trucks:	59.2	51.1	44.7	43.2	51.7	51.9				
Heavy Trucks:	63.7	51.8	42.7	43.9	53.5	53.6				
Vehicle Noise:	66.1	61.0	58.3	53.1	61.7	62.2				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	193						
65 dBA	61						
70 dBA	19						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



Project Name: Tracy Hills EIR Scenario: Existing Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: MacArthur Drive

Road Segment: West Schulte Road to Eleventh Street
PROJECT DATA

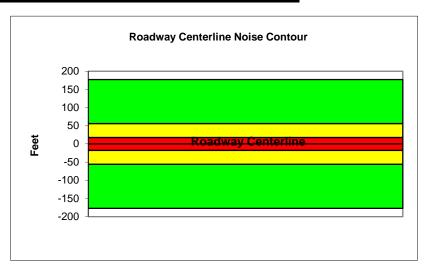
PROJECT DA		SHEDATA							
Centerline Dist to Barrier	0		Road Grade:		0				
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	7567	7567			
Receiver Barrier Dist:	0		Peak Hour Ti	raffic:	756.7				
Centerline Dist. To Observer:	100		Vehicle Spee	d:	40				
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	24				
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S			
Pad Elevation:	0.5		Site condition	ns <b>HARD S</b> I	TE				
Road Elevation:	0			F	LEET MIX				
Observer Height (above grade):	0		Туре	Day	Evening	Night	Daily		
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742		
Rt View: 90 Lt	ft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE SOURCE ELEV	ATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074		

Autos: 0
Medium Trucks: 2.3
Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	50.5	59.3	57.5	51.4	60.0	60.6				
Medium Trucks:	59.4	51.4	45.0	43.4	51.9	52.1				
Heavy Trucks:	64.3	52.3	43.3	44.5	54.2	54.3				
Vehicle Noise:	66.7	60.8	57.9	53.0	61.5	62.0				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	177						
65 dBA	56						
70 dBA	18						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

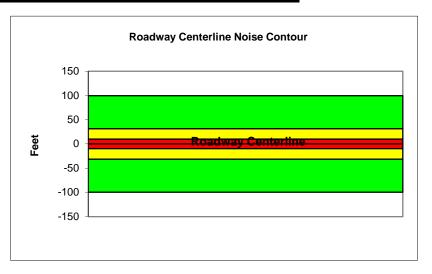


		Federal Highw Traffic Noise F							
Project Name:	Tracy Hills EIR		-realcti	ion iviodei (C	Scenario:	0	us Project		
Analyst:	Ryan Chiene				Job #:	135721			
Roadway:	MacArthur Driv								
Road Segment:	North of Elever	nth Street							
	PROJECT DA	TA			S	ITE DATA			
Centerline Dist to B	Barrier	0		Road Grade:		0			
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	4244			
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	424.4			
Centerline Dist. To	Observer:	100		Vehicle Speed: 40					
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	24			
Barrier Far lane CL	Dist:	0		NOISE INPUTS					
Pad Elevation:		0.5		Site condition	ns <b>HARD SI</b>	TE			
Road Elevation:		0			F	LEET MIX			
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily	
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742	
Rt View: 90	Lft	View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SO	OURCE ELEVA	TIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:		0			-		-		
Medium Trucks:		2.3							
Heavy Trucks:		8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	48.0	56.7	55.0	48.9	57.5	58.1				
Medium Trucks:	56.9	48.9	42.5	40.9	49.4	49.6				
Heavy Trucks:	61.8	49.8	40.8	42.0	51.7	51.8				
Vehicle Noise:	64.1	58.3	55.4	50.5	59.0	59.5				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	99						
65 dBA	31						
70 dBA	10						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

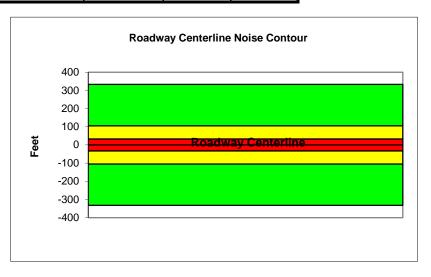


	Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)									
Project Name:	Tracy Hills EIR			•		Existing Plu	us Project			
Analyst:	Ryan Chiene				Job #:	135721				
Roadway:	Tracy Boulevard									
Road Segment:	North of Eleventh	Street								
	PROJECT DATA	i			S	ITE DATA				
Centerline Dist to E	Barrier	0		Road Grade:		0				
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	19300				
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	1930				
Centerline Dist. To	Observer:	100		Vehicle Speed: 35						
Barrier Near Lane	CL Dist:	0		Centerline Separation: 32						
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S			
Pad Elevation:		0.5		Site condition	is <b>HARD S</b> I	TE				
Road Elevation:		0			F	LEET MIX				
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily		
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742		
Rt View: 90	Lft Vie	ew:	-90	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE S	OURCE ELEVATION	ONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:		0								
Medium Trucks:		2.3								
Heavy Trucks:		8								

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	52.7	61.5	59.7	53.6	62.3	62.9				
Medium Trucks:	62.5	54.4	48.0	46.4	54.9	55.2				
Heavy Trucks:	67.7	55.7	46.7	47.9	57.8	57.9				
Vehicle Noise:	70.1	63.5	60.3	55.6	64.2	64.6				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	333							
65 dBA	105							
70 dBA	33							
Mitigated								
60 dBA								
65 dBA								
70 dBA								



Project Name: Tracy Hills EIR Scenario: Existing Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Tracy Boulevard

Medium Trucks:

Heavy Trucks:

**Vehicle Noise:** 

Road Segment: Eleventh Street to Valpico Road

63.4

65.8

PROJEC	PROJECT DATA				SITE DATA		
Centerline Dist to Barrier	0		Road Grade: 0				
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	7380		
Receiver Barrier Dist:	0		Peak Hour Ti	raffic:	738		
Centerline Dist. To Observer:	100		Vehicle Spee	d:	35		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	38		
Barrier Far lane CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	is <b>HARD SI</b>	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grad	le): <b>0</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE E	LEVATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0				_		

Heavy Trucks:		8							
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	48.5	57.2	55.5	49.4	58.0	58.6			
Medium Trucks:	58.2	50.1	43.7	42.2	50.6	50 Q			

42.4

56.0

43.6

51.3

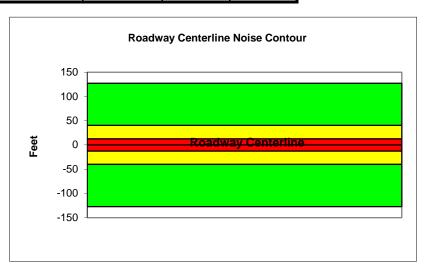
2.3

51.5

59.2

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	127						
65 dBA	40						
70 dBA	13						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



53.5

59.9

53.7

60.4

Project Name: Tracy Hills EIR Scenario: Existing Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Tracy Boulevard

Road Segment: Valpico Road to Linne Road

PROJECT DATA

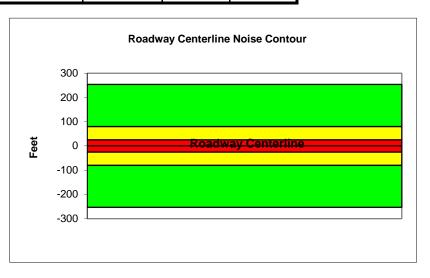
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PROJECT	SITE DATA						
Centerline Dist to Barrier	0		Road Grade: 0				
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	10820		
Receiver Barrier Dist:	0		Peak Hour Ti	raffic:	1082		
Centerline Dist. To Observer:	100		Vehicle Spee	d:	40		
Barrier Near Lane CL Dist:	0		Centerline Separation: 40				
Barrier Far lane CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns <b>HARD S</b> I	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELE		Heavy Truck	0.865	0.027	0.108	0.0074	

Autos: 0
Medium Trucks: 2.3
Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	51.8	60.5	58.8	52.7	61.3	61.9				
Medium Trucks:	60.7	52.7	46.3	44.7	53.2	53.4				
Heavy Trucks:	65.6	53.6	44.6	45.8	55.5	55.6				
Vehicle Noise:	67.9	62.1	59.2	54.3	62.8	63.3				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	254						
65 dBA	80						
70 dBA	25						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

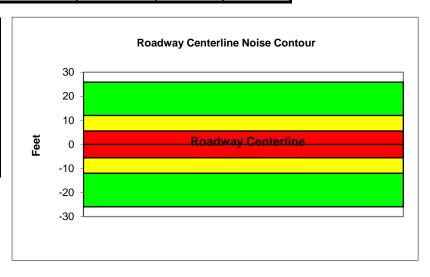


Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)									
Project Name: T	racy Hills EIR			Scenario:	Existing Plu	us Project			
Analyst: F	Ryan Chiene			Job #:	135721				
Roadway: 7	racy Boulevard								
Road Segment: S	South of Linne Road								
PRO	DJECT DATA			9	SITE DATA				
Centerline Dist to Barrier	r: <b>0</b>		Road Grade:		0				
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	1050				
Receiver Barrier Dist:	0		Peak Hour T	raffic:	105				
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Spee	ed:	40				
Barrier Near Lane CL Di	st: <b>0</b>		Centerline Se	eparation:	22				
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S			
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE				
Road Elevation:	0			F	LEET MIX				
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily		
Barrier Height:	0		Auto	0.775			0.9742		
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE SOUR	CE ELEVATIONS (Fe	eet)	Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:	0								
Medium Trucks:	2.3								
Heavy Trucks:	8								

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	39.0	47.8	46.0	39.9	48.6	49.2		
Medium Trucks:	48.0	39.9	33.5	31.9	40.4	40.7		
Heavy Trucks:	52.8	40.9	31.8	33.0	42.8	42.9		
Vehicle Noise:	55.2	49.4	46.5	41.5	50.1	50.6		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	26						
65 dBA	12						
70 dBA	6						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



	Federal Highwa Traffic Noise P						
Project Name: Tracy	Hills EIR		•		Existing Plu	us Project	
Analyst: Ryan (	Chiene			Job #:	135721	-	
Roadway: Linne	Road						
Road Segment: West	of Tracy Boulevard						
PROJEC	T DATA			5	SITE DATA		
Centerline Dist to Barrier:	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0	1	Average Dail	y Traffic:	9450		
Receiver Barrier Dist:	0	1	Peak Hour Ti	raffic:	945		
Centerline Dist. To Observer:	100	1	Vehicle Spee	ed:	45		
Barrier Near Lane CL Dist:	0	1	Centerline Se	eparation:	24		
Barrier Far lane CL Dist:	0	1		NO	ISE INPUT	S	
Pad Elevation:	0.5	1	Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0	1		F	LEET MIX		
Observer Height (above grade	e): <b>5.5</b>	1	Туре	Day	Evening	Night	Daily
Barrier Height:	0	1	Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE EL	_EVATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						

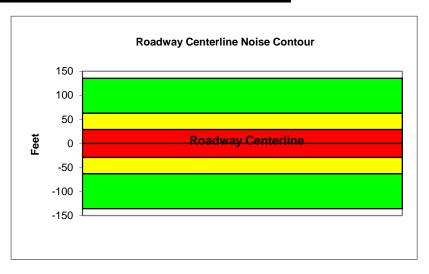
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	50.0	58.8	57.0	50.9	59.5	60.1		
Medium Trucks:	58.3	50.2	43.8	42.2	50.7	51.0		
Heavy Trucks:	62.8	50.8	41.8	43.0	52.6	52.7		
Vehicle Noise:	65.1	60.1	57.3	52.2	60.8	61.3		

2.3

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
136							
63							
29							

Medium Trucks: Heavy Trucks:

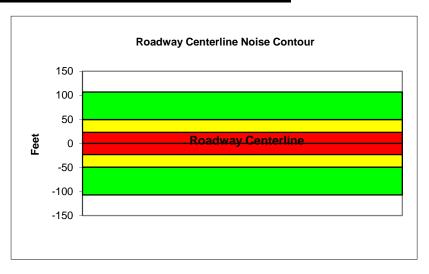


Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)									
Project Name: Tr	acy Hills EIR		•		Existing Plu	us Project			
Analyst: Ry	/an Chiene			Job #:	135721				
Roadway: Li	nne Road								
Road Segment: Ea	astt of Tracy Boulevar	d							
PRO	JECT DATA			5	SITE DATA				
Centerline Dist to Barrier:	0		Road Grade:		0				
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	6610				
Receiver Barrier Dist:	0		Peak Hour T	raffic:	661				
Centerline Dist. To Obser	ver: <b>100</b>		Vehicle Spee	ed:	45				
Barrier Near Lane CL Dis	t: <b>0</b>		Centerline Se	eparation:	24				
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S			
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE				
Road Elevation:	0			F	LEET MIX				
Observer Height (above g	rade): <b>5.5</b>		Туре	Day	Evening	Night	Daily		
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742		
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE SOURC	E ELEVATIONS (Fee	et)	Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:	0					_	_		
Medium Trucks:	2.3								
Heavy Trucks:	8								

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	48.4	57.2	55.4	49.3	58.0	58.6
Medium Trucks:	56.7	48.6	42.3	40.7	49.2	49.4
Heavy Trucks:	61.2	49.3	40.2	41.5	51.0	51.1
Vehicle Noise:	63.6	58.5	55.8	50.6	59.2	59.7

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR					
107					
50					
23					



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Project Name: Scenario: Existing Plus Project Ryan Chiene Job #: 135721 Analyst: Roadway: Altamont Pass Road Road Segment: West of Greenville Road PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 0 Average Daily Traffic: Barrier (0=wall, 1= berm): 16380 Peak Hour Traffic: 1638 Receiver Barrier Dist: 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 26 Barrier Far lane CL Dist: **NOISE INPUTS** 0 Site conditions: SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type 0.9742 Barrier Height: Auto 0.775 0.129 0.096 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184

Heavy Truck

53.2

44.6

45.3

0.865

61.9

53.1

54.9

0.027

62.5

53.3

55.0

0.108

0.0074

Medium Trucks:		2.3				
Heavy Trucks:		8				
UNMITIGATE	ED NOISE L	EVELS (N	lo topograph	ic or barrier	attenuatio	n)
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL

61.1

52.5

53.2

**NOISE SOURCE ELEVATIONS (Feet)** 

52.3

60.6

65.1

Autos:

Autos:

Medium Trucks:

Heavy Trucks:

Vehicle Noise:

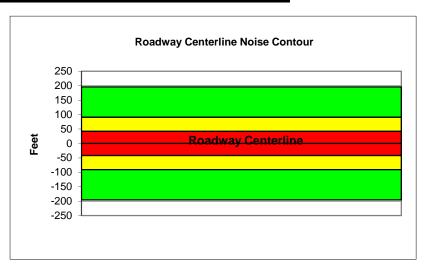
Vehicle Noise:	67.5	62.4	59.7	54.5	63.1	63.6
MITIGATE	D NOISE LEV	VELS (Wit	h topograph	ic or barrier a	attenuation	)
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:			·			
Heavy Trucks:						

59.3

46.1

44.1

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	196					
65 dBA	91					
70 dBA	42					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



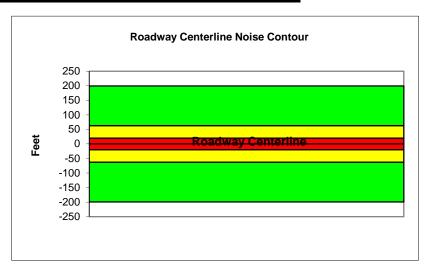
#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Scenario: Existing Plus Project Project Name: Analyst: Ryan Chiene Job #: 135721 Roadway: Patterson Pass Road West of Greenville Road Road Segment: PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 6420 Receiver Barrier Dist: Peak Hour Traffic: 642 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 42 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type 0.9742 Barrier Height: 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos: Medium Trucks: 2.3

UNMITIG	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)					
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.9	59.7	57.9	51.9	60.5	61.1
Medium Trucks:	59.2	51.2	44.8	43.2	51.7	51.9
Heavy Trucks:	63.7	51.8	42.7	44.0	53.5	53.6
Vehicle Noise:	66.1	61.0	58.3	53.2	61.7	62.2

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	200					
65 dBA	63					
70 dBA	20					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Existing Plus Project Analyst: Ryan Chiene Job #:

Roadway: Tesla Road

Road Segment: West of Greenville Road

PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 8060 Receiver Barrier Dist: Peak Hour Traffic: 806 0 Centerline Dist. To Observer: Vehicle Speed: 50 100 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5

Road Elevation: 0 Observer Height (above grade): 5.5 Barrier Height: 0 Rt View: 90 Lft View:

**FLEET MIX** Day Evening Night Daily Type 0.096 0.9742 Auto 0.775 0.129 -90 Med. Truck 0.848 0.049 0.103 0.0184 Heavy Truck 0.865 0.027 0.108 0.0074

135721

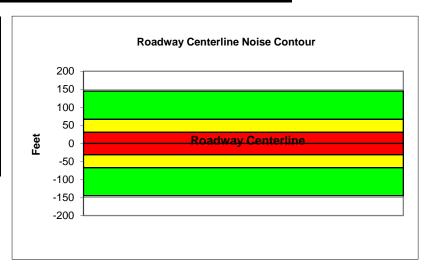
Autos: Medium Trucks: 2.3 Heavy Trucks: 8

**NOISE SOURCE ELEVATIONS (Feet)** 

UNMITIGAT	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)					
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.6	59.4	57.6	51.5	60.2	60.8
Medium Trucks:	58.3	50.2	43.8	42.3	50.7	51.0
Heavy Trucks:	62.5	50.6	41.5	42.7	52.1	52.3
Vehicle Noise:	64.8	60.5	57.9	52.6	61.2	61.7

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR					
Unmitigated					
60 dBA	145				
65 dBA	67				
70 dBA	31				
Mitigated					
60 dBA					
65 dBA					
70 dBA					

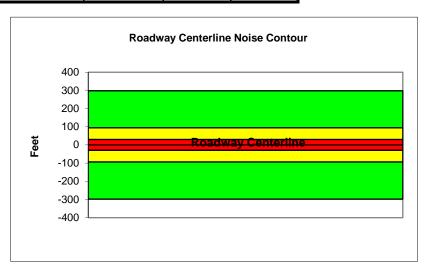


		ninistration F						
Project Name:	Tracy Hills EIR				Scenario:	Future		
Analyst:	Ryan Chiene				Job #:	135721		
Roadway:	Lammers Road							
Road Segment:	North of Eleven	th Street						
	PROJECT DAT	ΓΑ			S	ITE DATA		
Centerline Dist to B	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	12740		
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	1274		
Centerline Dist. To	Observer:	100		Vehicle Spee	d:	40		
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	24		
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	is <b>HARD SI</b>	TE		
Road Elevation:		0		FLEET MIX				
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft '	View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SO	OURCE ELEVAT	ΓΙΟΝS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	52.7	61.5	59.7	53.6	62.3	62.9		
Medium Trucks:	61.7	53.6	47.2	45.7	54.2	54.4		
Heavy Trucks:	66.5	54.6	45.5	46.8	56.5	56.6		
Vehicle Noise:	68.9	63.1	60.2	55.2	63.8	64.3		

MITIGAT	MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	298						
65 dBA	94						
70 dBA	30						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

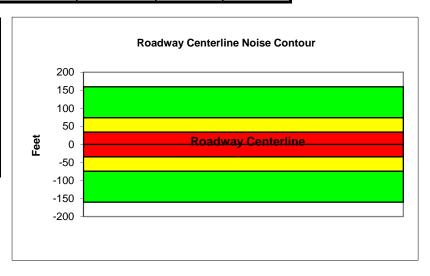


			ninistration F on Model (C				
Project Name:	Tracy Hills EIR		`	Scenario:	Future		
Analyst:	Ryan Chiene			Job #:	135721		
Roadway:	Lammers Road						
Road Segment:	Valpico Road to Linne	Road					
PR	OJECT DATA			5	SITE DATA		
Centerline Dist to Barrie	er: <b>0</b>		Road Grade:		0		
Barrier (0=wall, 1= berm	n): <b>0</b>		Average Dail	y Traffic:	12095		
Receiver Barrier Dist:	0		Peak Hour Traffic:		1209.5		
Centerline Dist. To Obs	Centerline Dist. To Observer: 100		Vehicle Speed: 45				
Barrier Near Lane CL D	ist: 0		Centerline Se	eparation:	24		
Barrier Far lane CL Dist	: 0		NOISE INPUTS				
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0		FLEET MIX				
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOUR	CE ELEVATIONS (Fe	et)	Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGATE	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	51.1	59.8	58.0	52.0	60.6	61.2			
Medium Trucks:	59.3	51.3	44.9	43.3	51.8	52.0			
Heavy Trucks:	63.9	51.9	42.9	44.1	53.6	53.7			
Vehicle Noise:	66.2	61.1	58.4	53.3	61.9	62.4			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE	CENTERLINE NOISE CONTOUR						
Unmitigated							
60 dBA	160						
65 dBA	74						
70 dBA	34						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

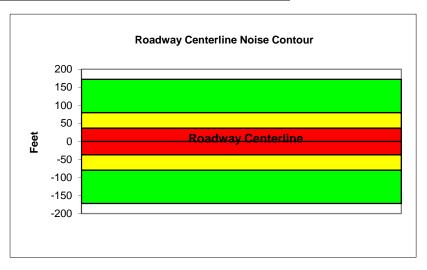


			ninistration F on Model (C				
Project Name:	Tracy Hills EIR		·	Scenario:	Future		
Analyst:	Ryan Chiene			Job #:	135721		
Roadway:	Lammers Road						
Road Segment:	Linne Road to Spine F	Road					
PR	OJECT DATA			5	SITE DATA		
Centerline Dist to Barrie	er: <b>0</b>		Road Grade:		0		
Barrier (0=wall, 1= bern	n): <b>0</b>		Average Dail	y Traffic:	10400		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	1040		
Centerline Dist. To Obs	erver: 100		Vehicle Spee	ed:	50		
Barrier Near Lane CL D	ist: 0		Centerline Se	eparation:	24		
Barrier Far lane CL Dist	: <b>0</b>			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above	e grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775			0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOUR	CE ELEVATIONS (Fe	eet)	Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGA	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	51.7	60.5	58.7	52.6	61.3	61.9			
Medium Trucks:	59.4	51.3	44.9	43.4	51.9	52.1			
Heavy Trucks:	63.6	51.7	42.6	43.8	53.2	53.4			
Vehicle Noise:	65.9	61.6	59.0	53.7	62.3	62.8			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE	CENTERLINE NOISE CONTOUR						
Unmitigated							
60 dBA	172						
65 dBA	80						
70 dBA	37						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

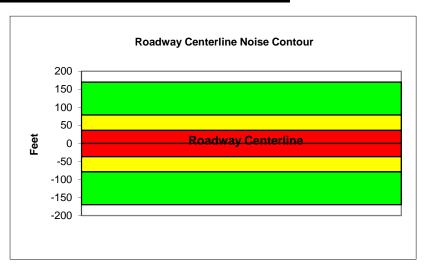


		_	ninistration F on Model (C				
Project Name: T	racy Hills EIR		•	Scenario:	Future		
Analyst: R	tyan Chiene			Job #:	135721		
Roadway: L	ammers Road						
Road Segment: S	outh of Spine Road						
PRC	JECT DATA			5	SITE DATA		
Centerline Dist to Barrier	: 0		Road Grade:		0		
Barrier (0=wall, 1= berm)	: <b>0</b>		Average Dail	y Traffic:	10200		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	1020		
Centerline Dist. To Obse	rver: <b>100</b>		Vehicle Spee	ed:	50		
Barrier Near Lane CL Dis	st: <b>0</b>		Centerline Se	eparation:	24		
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURC	E ELEVATIONS (Fee	et)	Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	51.6	60.4	58.6	52.5	61.2	61.8			
Medium Trucks:	59.3	51.2	44.9	43.3	51.8	52.0			
Heavy Trucks:	63.5	51.6	42.5	43.8	53.2	53.3			
Vehicle Noise:	65.8	61.5	58.9	53.6	62.2	62.8			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CONTOUR
170
79
37

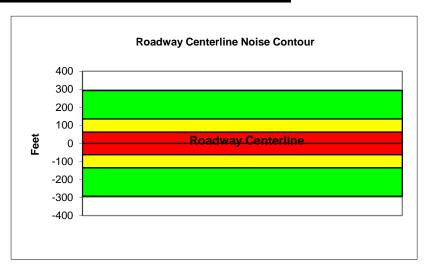


		Federal Highwa	ay Adn	ninistration F	RD-77-108			
		Traffic Noise P	Predicti	on Model (C	ALVENO)			
Project Name:	Tracy Hills	s EIR			Scenario:	Future		
Analyst:	Ryan Chie	ene			Job #:	135721		
Roadway:	Lammers	Road Extension/E	Eleventh	Street				
Road Segment:	North of I-	205						
	PROJECT D	ATA			9	SITE DATA		
Centerline Dist to B	arrier:	0		Road Grade:		0		
Barrier (0=wall, 1= l	berm):	0		Average Dail	y Traffic:	39700		
Receiver Barrier Dis	st:	0		Peak Hour T	raffic:	3970		
Centerline Dist. To	Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	64		
Barrier Far lane CL	Dist:	0			NC	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (al	bove grade):	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View:	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SO	NOISE SOURCE ELEVATIONS (Feet)			Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	53.8	62.6	60.8	54.7	63.4	64.0			
Medium Trucks:	62.8	54.7	48.3	46.8	55.2	55.5			
Heavy Trucks:	67.6	55.7	46.6	47.9	57.6	57.7			
Vehicle Noise:	70.0	64.2	61.3	56.3	64.9	65.4			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE	CONTOUR
Unmitigated	
60 dBA	293
65 dBA	136
70 dBA	63
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Project Name: Tracy Hills EIR Scenario: Future
Analyst: Ryan Chiene Job #: 135721

Roadway: Lammers Road Extension/Eleventh Street

Road Segment: I-205 to Lammers Road

Heavy Trucks:

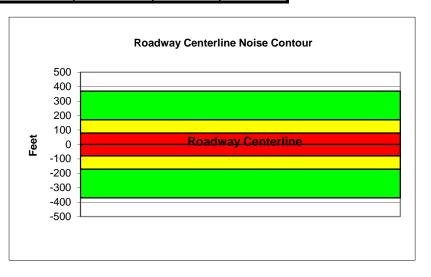
PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 56400 Receiver Barrier Dist: Peak Hour Traffic: 5640 0 Centerline Dist. To Observer: Vehicle Speed: 100 40 Barrier Near Lane CL Dist: 0 Centerline Separation: 64 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type 0.9742 Barrier Height: Auto 0.775 0.129 0.096 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos: Medium Trucks: 2.3

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq Leq Day Leq Evening Leq Night Ldı		Ldn	CNEL					
Autos:	55.4	64.1	62.3	56.3	64.9	65.5			
Medium Trucks:	64.3	56.2	49.9	48.3	56.8	57.0			
Heavy Trucks:	69.2	57.2	48.2	49.4	59.1	59.2			
Vehicle Noise:	71.5	65.7	62.8	57.8	66.4	66.9			

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE	CONTOUR
Unmitigated	
60 dBA	369
65 dBA	171
70 dBA	80
Mitigated	
60 dBA	
65 dBA	
70 dBA	

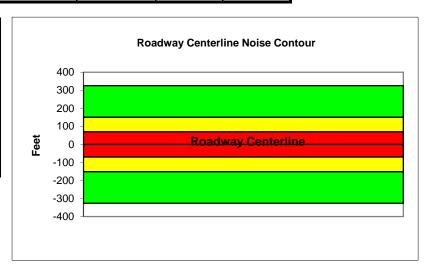


	Federal Highway Administration RD-77-108							
	Traffic Noise Predic	ction Model (C	ALVENO)					
Project Name: Trac	cy Hills EIR		Scenario:	Future				
Analyst: Ryai	n Chiene		Job #:	135721				
Roadway: Lam	nmers Road Extension/Elever	nth Street						
Road Segment: Lam	mers Road to Corral Hollow	Road						
PROJE	CT DATA		5	SITE DATA				
Centerline Dist to Barrier:	0	Road Grade		0				
Barrier (0=wall, 1= berm):	0	Average Dai	ly Traffic:	46730				
Receiver Barrier Dist:	0	Peak Hour T	raffic:	4673				
Centerline Dist. To Observe	er: <b>100</b>	Vehicle Spee	ed:	40				
Barrier Near Lane CL Dist:	0	Centerline S	eparation:	64				
Barrier Far lane CL Dist:	0		NC	ISE INPUT	S			
Pad Elevation:	0.5	Site condition	ns: <b>SOFT S</b> I	TE				
Road Elevation:	0		F	LEET MIX				
Observer Height (above gra	ade): <b>5.5</b>	Туре	Day	Evening	Night	Daily		
Barrier Height:	0	Auto	0.775	0.129	0.096	0.9742		
Rt View: 90	Lft View: -9	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE SOURCE	ELEVATIONS (Feet)	Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:	0							
Medium Trucks:	2.3							
Road Elevation: Observer Height (above gra Barrier Height: Rt View: 90 NOISE SOURCE I Autos:	0 ade): 5.5 0 Lft View: -9 ELEVATIONS (Feet) 0	Type Auto Med. Truck	Day 0.775 0.848	Evening 0.129 0.049	0.096 0.103	0.9		

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	54.5	63.3	61.5	55.4	64.1	64.7				
Medium Trucks:	63.5	55.4	49.0	47.5	56.0	56.2				
Heavy Trucks:	68.3	56.4	47.3	48.6	58.3	58.4				
Vehicle Noise:	70.7	64.9	62.0	57.0	65.6	66.1				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR								
	Unmitigated							
326	60 dBA							
151	65 dBA							
70	70 dBA							
	Mitigated							
	60 dBA							
	65 dBA							
	70 dBA							
	60 dBA 65 dBA							



### Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO) Tracy Hills EIR Project Name: Scenario: Future Ryan Chiene Job #: Analyst: 135721

Roadway: Lammers Road Extension/Eleventh Street

Road Segment: East of Corral Hollow Road

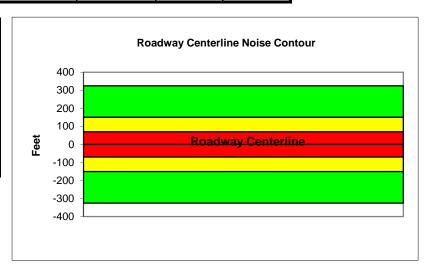
PROJECT	PROJECT DATA			5	SITE DATA		
Centerline Dist to Barrier:	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	46510		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	4651		
Centerline Dist. To Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	64		
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	ΤE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade)	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELEVATIONS (Feet)			Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	54.5	63.3	61.5	55.4	64.1	64.7				
Medium Trucks:	63.5	55.4	49.0	47.4	55.9	56.2				
Heavy Trucks:	68.3	56.4	47.3	48.5	58.3	58.4				
Vehicle Noise:	70.7	64.9	62.0	57.0	65.6	66.1				

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	325						
65 dBA	151						
70 dBA	70						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

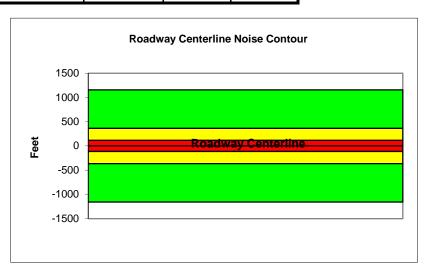


	Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO)									
Project Name:	Tracy Hills EIR			•	Scenario:	Future				
Analyst:	Ryan Chiene				Job #:	135721				
Roadway:	Corral Hollow F	Road								
Road Segment:	North of Eleven	th Street								
	PROJECT DA	ΓΑ			S	ITE DATA				
Centerline Dist to E	Barrier	0		Road Grade:		0				
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	49330				
Receiver Barrier D	ist:	0		Peak Hour Ti	raffic:	4933				
Centerline Dist. To	Observer:	100		Vehicle Speed: 40						
Barrier Near Lane	CL Dist:	0		Centerline Se	eparation:	64				
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S			
Pad Elevation:		0.5		Site condition	is <b>HARD SI</b>	TE				
Road Elevation:		0			F	LEET MIX				
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily		
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742		
Rt View: 90	) Lft	View:	-90	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE S	OURCE ELEVA	ΓΙΟΝS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:		0								
Medium Trucks:		2.3								
Heavy Trucks:		8								

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	58.0	66.8	65.0	58.9	67.6	68.2			
Medium Trucks:	67.0	58.9	52.5	50.9	59.4	59.7			
Heavy Trucks:	71.8	59.9	50.8	52.0	61.8	61.9			
Vehicle Noise:	74.2	68.4	65.4	60.5	69.1	69.6			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	1157						
65 dBA	366						
70 dBA	116						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

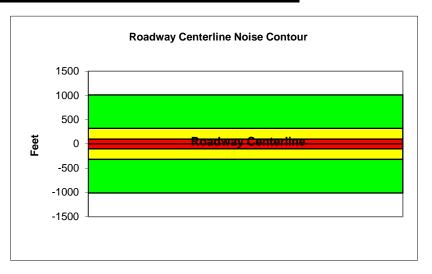


Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)										
Project Name:	Γracy Hills EIR		,	Scenario:	Future					
•	Ryan Chiene			Job #:	135721					
-	Corral Hollow Road									
•	Eleventh Street to Nev	w Schulte Road								
	PROJECT DATA			5	SITE DATA					
Centerline Dist to Ba	rrier	0	Road Grade:		0					
Barrier (0=wall, 1= be	erm):	0	Average Dail	y Traffic:	43140					
Receiver Barrier Dist	::	0	Peak Hour Ti	raffic:	4314					
Centerline Dist. To C	bserver: 10	0	Vehicle Spee	d:	40					
Barrier Near Lane Cl	_ Dist:	0	Centerline Se	eparation:	60					
Barrier Far lane CL	Dist:	0		NO	ISE INPUT	S				
Pad Elevation:	0.5	5	Site condition	is <b>HARD S</b> I	TE					
Road Elevation:		0		F	LEET MIX					
Observer Height (abo	ove grade):	0	Туре	Day	Evening	Night	Daily			
Barrier Height:		0	Auto	0.775	0.129	0.096	0.9742			
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184			
NOISE SO	URCE ELEVATIONS	(Feet)	Heavy Truck	0.865	0.027	0.108	0.0074			
Autos:		0								
Medium Trucks:	2.3	3								
Heavy Trucks:		8								

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	57.5	66.3	64.5	58.4	67.0	67.6			
Medium Trucks:	66.4	58.4	52.0	50.4	58.9	59.1			
Heavy Trucks:	71.3	59.3	50.3	51.5	61.2	61.3			
Vehicle Noise:	73.7	67.8	64.9	60.0	68.6	69.0			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	le Type Peak Leq Leq Day Leq Evening Leq Night Ldn CNE								
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	1012						
65 dBA	320						
70 dBA	101						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Analyst: Ryan Chiene Job #: 135721 Roadway: Corral Hollow Road Road Segment: New Schulte Road to Linne Road PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 20600 Receiver Barrier Dist: Peak Hour Traffic: 2060 0 Centerline Dist. To Observer: Vehicle Speed: 100 40 Barrier Near Lane CL Dist: 0 Centerline Separation: 60 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type Barrier Height: 0.9742 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos:

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	54.3	63.1	61.3	55.2	63.8	64.4			
Medium Trucks:	63.2	55.2	48.8	47.2	55.7	55.9			
Heavy Trucks:	68.1	56.1	47.1	48.3	58.0	58.1			
Vehicle Noise:	70.4	64.6	61.7	56.8	65.3	65.8			

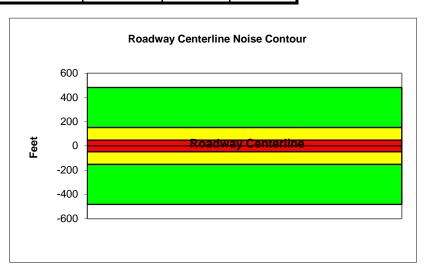
2.3

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	le Type Peak Leq Leq Day Leq Evening Leq Night Ldn CNEL								
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	483					
65 dBA	153					
70 dBA	48					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

Medium Trucks:

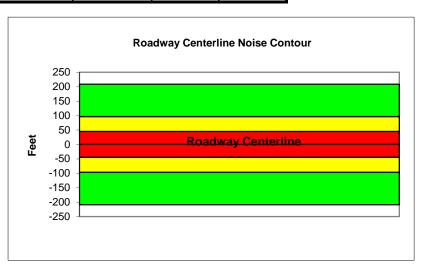


Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO)								
Project Name:	Гracy Hills EIR		•	Scenario:	Future			
Analyst:	Ryan Chiene			Job #:	135721			
Roadway:	Corral Hollow Road							
Road Segment:	inne Road to Spine Roa	ad						
PRO	OJECT DATA			5	SITE DATA			
Centerline Dist to Barrie	r: <b>0</b>		Road Grade:		0			
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	13905			
Receiver Barrier Dist:	0		Peak Hour T	raffic:	1390.5			
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Spee	ed:	50			
Barrier Near Lane CL D	ist: 0		Centerline Se	eparation:	24			
Barrier Far lane CL Dist	. 0			NO	ISE INPUT	S		
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE			
Road Elevation:	0			F	LEET MIX			
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775			0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOURCE ELEVATIONS (Feet)			Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	0				-	-		
Medium Trucks:	2.3							
Heavy Trucks:	8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	53.0	61.8	60.0	53.9	62.5	63.1			
Medium Trucks:	60.7	52.6	46.2	44.6	53.1	53.3			
Heavy Trucks:	64.9	52.9	43.9	45.1	54.5	54.6			
Vehicle Noise:	67.2	62.9	60.3	55.0	63.6	64.1			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	209						
65 dBA	97						
70 dBA	45						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

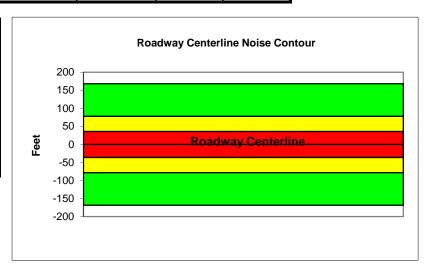


Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)									
Project Name:	Γracy Hills EIR		•	Scenario:	Future				
Analyst: F	Ryan Chiene			Job #:	135721				
Roadway:	Corral Hollow Road								
Road Segment: S	South of Spine Road								
PRO	DJECT DATA			5	SITE DATA				
Centerline Dist to Barrie	r: <b>0</b>		Road Grade:		0				
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	10060				
Receiver Barrier Dist:	0		Peak Hour T	raffic:	1006				
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Speed:		50				
Barrier Near Lane CL Di	st: 0		Centerline Se	eparation:	24				
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S			
Pad Elevation:	0.5		Site condition	ns: <b>SOFT S</b> I	TE				
Road Elevation:	0			F	LEET MIX				
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily		
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742		
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE SOURCE ELEVATIONS (Feet)			Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:	0								
Medium Trucks:	2.3								
Heavy Trucks:	8								

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	51.6	60.4	58.6	52.5	61.1	61.7			
Medium Trucks:	59.2	51.2	44.8	43.2	51.7	51.9			
Heavy Trucks:	63.5	51.5	42.5	43.7	53.1	53.2			
Vehicle Noise:	65.8	61.4	58.9	53.6	62.2	62.7			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR								
168								
78								
36								

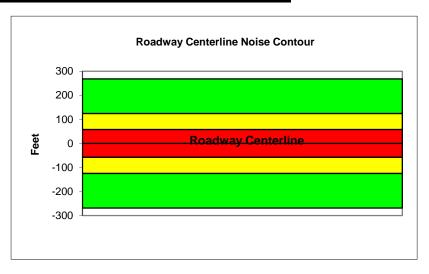


Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)								
Project Name:	Tracy Hills					Future		
Analyst:	Ryan Chie				Job #:	135721		
Roadway:	Chrisman	Road						
Road Segment:	North of I-	205						
	PROJECT D	ATA			5	SITE DATA		
Centerline Dist to Ba	rrier:	0		Road Grade:		0		
Barrier (0=wall, 1= be	erm):	0		Average Dail	y Traffic:	26300		
Receiver Barrier Dist	:	0		Peak Hour T	raffic:	2630		
Centerline Dist. To C	bserver:	100		Vehicle Spee	ed:	45		
Barrier Near Lane Cl	_ Dist:	0		Centerline Se	eparation:	24		
Barrier Far lane CL	Dist:	0			NC	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns: <b>SOFT SI</b>	ΤE		
Road Elevation:		0			F	LEET MIX		
Observer Height (abo	ove grade):	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View:	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELEVATIONS (Feet)				Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	54.4	63.2	61.4	55.3	64.0	64.6				
Medium Trucks:	62.7	54.6	48.3	46.7	55.2	55.4				
Heavy Trucks:	67.2	55.3	46.2	47.5	57.0	57.1				
Vehicle Noise:	69.6	64.5	61.8	56.6	65.2	65.7				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
268							
125							
58							

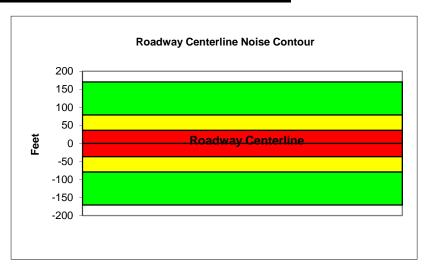


		Federal Highwa						
		Traffic Noise P	redicti	on Model (C	ALVENO)			
Project Name:	Tracy Hills	s EIR			Scenario:	Future		
Analyst:	Ryan Chie	∍ne			Job #:	135721		
Roadway:	Chrisman	Road						
Road Segment:	I-205 Freε	eway to Eleventh S	St <u>reet</u>					
	PROJECT D	ATA			5	SITE DATA		
Centerline Dist to B	arrier:	0		Road Grade:		0		
Barrier (0=wall, 1= b	perm):	0	Į.	Average Dail	y Traffic:	23995		
Receiver Barrier Dis	st:	0		Peak Hour Ti	raffic:	2399.5		
Centerline Dist. To	Observer:	100	Į.	Vehicle Spee	ed:	35		
Barrier Near Lane C	CL Dist:	0	Ī	Centerline Se	eparation:	24		
Barrier Far lane CL	Dist:	0	Į.		NC	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:		0	Į.		F	LEET MIX		
Observer Height (al	bove grade):	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View:	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SC	<b>JURCE ELEV</b>	ATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0			,	,	,	,
Medium Trucks:		2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	50.9	59.7	57.9	51.8	60.4	61.1			
Medium Trucks:	60.6	52.5	46.2	44.6	53.1	53.3			
Heavy Trucks:	65.8	53.9	44.8	46.0	56.0				
Vehicle Noise:	68.3	61.6	58.4	53.7	62.3	62.8			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	170							
65 dBA	79							
70 dBA	37							
Mitigated								
60 dBA								
65 dBA								
70 dBA								

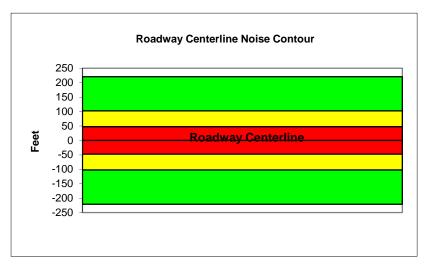


Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)									
Project Name:	Tracy Hills EIR		•	Scenario:	Future				
Analyst:	Ryan Chiene			Job #:	135721				
Roadway:	Chrisman Road								
Road Segment:	Eleventh Street to Va	alpico Road							
PR	OJECT DATA			5	SITE DATA				
Centerline Dist to Barrie	er: O	)	Road Grade:		0				
Barrier (0=wall, 1= berm	n): <b>0</b>	)	Average Dail	y Traffic:	19640				
Receiver Barrier Dist:	0	)	Peak Hour T	raffic:	1964				
Centerline Dist. To Obs	erver: 100	)	Vehicle Spee	ed:	45				
Barrier Near Lane CL D	ist: 0	)	Centerline Se	eparation:	24				
Barrier Far lane CL Dist	:: <b>0</b>	)		NC	ISE INPUT	S			
Pad Elevation:	0.5	5	Site condition	ns: <b>SOFT SI</b>	TE				
Road Elevation:	C	)		F	LEET MIX				
Observer Height (above	grade): <b>5.5</b>	5	Туре	Day	Evening	Night	Daily		
Barrier Height:	C	)	Auto	0.775	0.129	0.096	0.9742		
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184		
NOISE SOUR	CE ELEVATIONS (F	eet)	Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:	0	)							
Medium Trucks:	2.3	3							
Heavy Trucks:	8	3							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	53.2	61.9	60.2	54.1	62.7	63.3				
Medium Trucks:	61.4	53.4	47.0	45.4	53.9	54.1				
Heavy Trucks:	66.0	54.0	45.0	46.2	55.7	55.9				
Vehicle Noise:	68.3	63.2	60.5	55.4	64.0	64.5				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE	CONTOUR
Unmitigated	
60 dBA	221
65 dBA	102
70 dBA	48
Mitigated	
60 dBA	
65 dBA	
70 dBA	

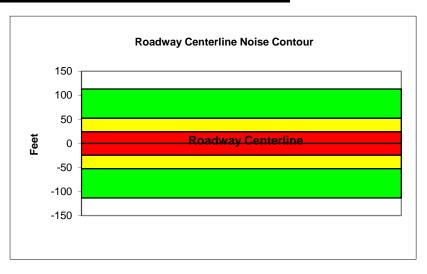


Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO)										
Project Name:	Tracy Hills EIR		•	Scenario:	Future					
Analyst:	Ryan Chiene			Job #:	135721					
Roadway:	Chrisman Road									
Road Segment:	South of Valpico Roa	ıd								
PR	OJECT DATA			9	SITE DATA					
Centerline Dist to Barrie	r: <b>0</b>		Road Grade:		0					
Barrier (0=wall, 1= berm	): <b>0</b>	)	Average Dail	y Traffic:	7210					
Receiver Barrier Dist:	0	)	Peak Hour T	raffic:	721					
Centerline Dist. To Obse	erver: 100	)	Vehicle Spee	ed:	45					
Barrier Near Lane CL D	ist: 0	)	Centerline Se	eparation:	24					
Barrier Far lane CL Dist	: 0	)		NC	ISE INPUT	S				
Pad Elevation:	0.5	;	Site condition	ns: <b>SOFT SI</b>	TE					
Road Elevation:	0	)		F	LEET MIX					
Observer Height (above	grade): <b>5.5</b>	;	Туре	Day	Evening	Night	Daily			
Barrier Height:	0	)	Auto	0.775			0.9742			
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184			
NOISE SOUR	CE ELEVATIONS (F	eet)	Heavy Truck	0.865	0.027	0.108	0.0074			
Autos:	0									
Medium Trucks:	2.3	3								
Heavy Trucks:	8	3								

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)											
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	48.8	57.6	55.8	49.7	58.4	59.0					
Medium Trucks:	57.1	49.0	42.6	41.1	49.5	49.8					
Heavy Trucks:	61.6	49.7	40.6	41.8	51.4	51.5					
Vehicle Noise:	63.9	58.9	56.2	51.0	59.6	60.1					

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	113							
65 dBA	53							
70 dBA	24							
Mitigated								
60 dBA								
65 dBA								
70 dBA								

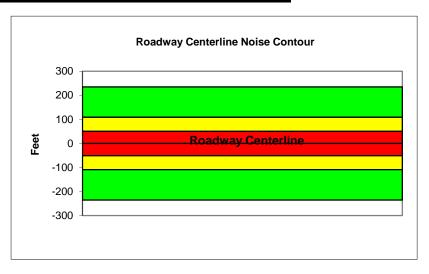


	Federal Highway Administration RD-77-108							
		Traffic Noise F	redicti	ion Model (C	ALVENO)			
Project Name:	Tracy Hills	s EIR			Scenario:	Future		
Analyst:	Ryan Chie	ene			Job #:	135721		
Roadway:	Lammers	Road						
Road Segment:	Eleventh :	Street to Old Schu	Ite Roa	ıd				
ı	PROJECT D	ATA			5	SITE DATA		
Centerline Dist to Ba	rrier:	0		Road Grade:		0		
Barrier (0=wall, 1= be	erm):	0		Average Dail	y Traffic:	28680		
Receiver Barrier Dist	:	0		Peak Hour T	raffic:	2868		
Centerline Dist. To O	bserver:	100		Vehicle Spee	ed:	40		
Barrier Near Lane Cl	_ Dist:	0		Centerline Se	eparation:	64		
Barrier Far lane CL D	Dist:	0			NC	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (abo	ove grade):	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View:	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SO	NOISE SOURCE ELEVATIONS (Feet)				0.865	0.027	0.108	0.0074
Autos:		0		_				
Medium Trucks:		2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	52.4	61.2	59.4	53.3	62.0	62.6				
Medium Trucks:	61.4	53.3	46.9	45.3	53.8	54.1				
Heavy Trucks:	66.2	54.3	45.2	46.4	56.2	56.3				
Vehicle Noise:	68.6	62.8	59.9	54.9	63.5	64.0				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

235
109
51

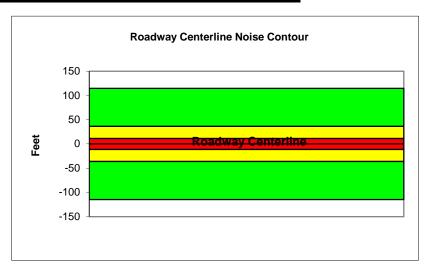


		Federal Highw	av Adn	ninistration F	RD-77-108			
Traffic Noise Prediction Model (CALVENO)								
Project Name:	Tracy Hills Elf	₹		-	Scenario:	Future		
Analyst:	Ryan Chiene				Job #:	135721		
Roadway:	MacArthur Dri	ive						
Road Segment:	Linne Road to	Valpico Road						
	PROJECT DA	ATA			5	SITE DATA		
Centerline Dist to B	arrier	0		Road Grade:		0		
Barrier (0=wall, 1= l	berm):	0		Average Dail	y Traffic:	4895		
Receiver Barrier Dis	st:	0		Peak Hour Ti	raffic:	489.5		
Centerline Dist. To	Observer:	100		Vehicle Spee	d:	40		
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	18		
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	is <b>HARD S</b> I	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lf	t View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SO	OURCE ELEV	ATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	48.7	57.5	55.7	49.6	58.3	58.9			
Medium Trucks:	57.6	49.6	43.2	41.6	50.1	50.3			
Heavy Trucks:	62.5	50.6	41.5	42.7	52.4	52.6			
Vehicle Noise:	64.9	59.1	56.1	51.2	59.8	60.2			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	115					
65 dBA	36					
70 dBA	11					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

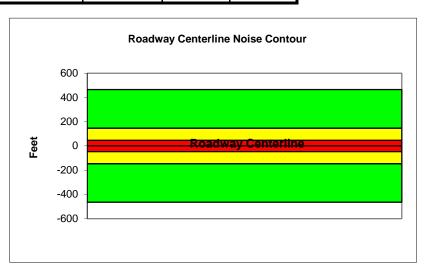


		Federal Highy	way Adr	ninistration F	RD-77-108			
		Traffic Noise	<b>Predict</b>	ion Model (C	ALVENO)			
Project Name:	Project Name: Tracy Hills EIR			Scenario: Future				
Analyst:	Ryan Chien	е		Job #: 135721				
Roadway:	MacArthur [	Drive						
Road Segment:	Valpico Roa	d to West Schulte	Road					
PROJECT DATA				SITE DATA				
Centerline Dist to	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	= berm):	0		Average Daily	y Traffic:	14950		
Receiver Barrier Dist: 0		Peak Hour Traffic:		1495				
Centerline Dist. To Observer: 100		Vehicle Speed: 45						
Barrier Near Lane CL Dist: 0		Centerline Separation: 34						
Barrier Far lane CL Dist: <b>0</b>		NOISE INPUTS						
Pad Elevation:		0.5		Site condition	is <b>HARD SI</b>	TE		
Road Elevation: 0			FLEET MIX					
Observer Height (	(above grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 9	0	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE S	SOURCE ELE	VATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	63.0	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	67.5	55.6	46.5	47.8	57.3	57.4
Vehicle Noise:	69.9	64.8	62.1	56.9	65.5	66.0

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						)
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR					
Unmitigated					
60 dBA	465				
65 dBA	147				
70 dBA	47				
Mitigated					
60 dBA					
65 dBA					
70 dBA					

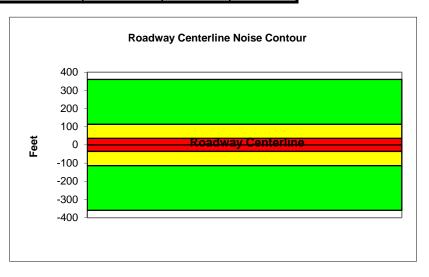


		Federal High	wav Adn	ninistration F	RD-77-108			
		Traffic Noise						
Project Name:	Tracy Hills El	R			Scenario:	Future		
Analyst:	Ryan Chiene				Job #:	135721		
Roadway:	MacArthur Dr	ive						
Road Segment:	West Schulte	Road to Eleven	th Street					
	PROJECT D	ATA			5	SITE DATA		
Centerline Dist to B	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	15380		
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	1538		
Centerline Dist. To	Observer:	100		Vehicle Spee	d:	40		
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	24		
Barrier Far lane CL	. Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	is <b>HARD S</b> I	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	L	ft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SO	OURCE ELEV	ATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIG	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	53.6	62.3	60.5	54.5	63.1	63.7	
Medium Trucks:	62.5	54.4	48.1	46.5	55.0	55.2	
Heavy Trucks:	67.4	55.4	46.4	47.6	57.3	57.4	
Vehicle Noise:	69.7	63.9	61.0	56.0	64.6	65.1	

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOIS	SE CONTOUR
Unmitigated	
60 dBA	360
65 dBA	114
70 dBA	36
Mitigated	
60 dBA	
65 dBA	
70 dBA	

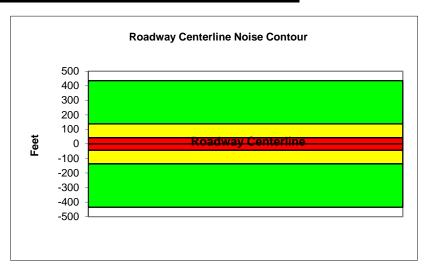


		ederal Highw raffic Noise F						
Project Name:	Tracy Hills EIR			·	Scenario:	Future		
Analyst:	Ryan Chiene				Job #:	135721		
Roadway:	MacArthur Drive							
Road Segment:	North of Eleventh	Street						
	PROJECT DATA	1			S	ITE DATA		
Centerline Dist to E	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	18590		
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	1859		
Centerline Dist. To	Observer:	100		Vehicle Spee	d:	40		
Barrier Near Lane	CL Dist:	0		Centerline Se	eparation:	24		
Barrier Far lane CL	. Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	is <b>HARD SI</b>	TE		
Road Elevation:		0				LEET MIX		
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft Vi	ew:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE S	OURCE ELEVATION	ONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIG	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	54.4	63.2	61.4	55.3	63.9	64.5	
Medium Trucks:	63.3	55.3	48.9	47.3	55.8	56.0	
Heavy Trucks:	68.2	56.2	47.2	48.4	58.1	58.2	
Vehicle Noise:	70.6	64.7	61.8	56.9	65.4	65.9	

MITIGAT	MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	435					
65 dBA	138					
70 dBA	44					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

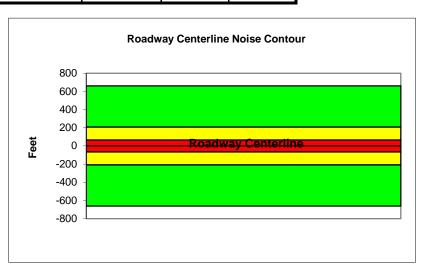


		Federal Highwa Traffic Noise P						
Project Name:	Tracy Hills El	R		•	Scenario:	Future		
Analyst:	Ryan Chiene				Job #:	135721		
Roadway:	Tracy Bouleva	ard						
Road Segment:	North of Eleve	enth Street						
	PROJECT D	ATA			5	SITE DATA		
Centerline Dist to B	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	38360		
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	3836		
Centerline Dist. To	Observer:	100		Vehicle Spee	d:	35		
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	32		
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	is <b>HARD S</b> I	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	L.	ft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SO	OURCE ELEV	ATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.7	64.5	62.7	56.6	65.3	65.9
Medium Trucks:	65.4	57.4	51.0	49.4	57.9	58.1
Heavy Trucks:	70.7	58.7	49.7	50.9	60.8	60.9
Vehicle Noise:	73.1	66.5	63.3	58.6	67.2	67.6

MITIGAT	MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	661					
65 dBA	209					
70 dBA	66					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Project Name: Scenario: Future Analyst: Ryan Chiene Job #: 135721 Roadway: Tracy Boulevard Eleventh Street to Valpico Road Road Segment: PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 31900 Receiver Barrier Dist: Peak Hour Traffic: 3190 0 Centerline Dist. To Observer: Vehicle Speed: 100 35 Barrier Near Lane CL Dist: 0 Centerline Separation: 38 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type 0.9742 Barrier Height: 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184

Heavy Truck

0.865

0.027

0.108

0.0074

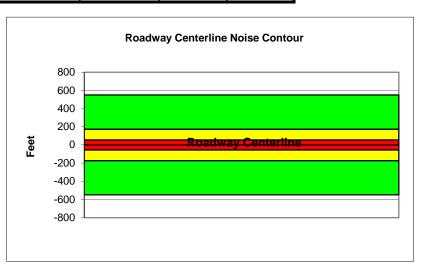
Autos:	0		
Medium Trucks:	2.3		
Heavy Trucks:	8		
			_

**NOISE SOURCE ELEVATIONS (Feet)** 

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	54.8	63.6	61.8	55.7	64.4	65.0		
Medium Trucks:	64.5	56.5	50.1	48.5	57.0	57.2		
Heavy Trucks:	69.8	57.8	48.8	50.0	59.9	60.0		
Vehicle Noise:	72.2	65.6	62.4	57.7	66.3	66.7		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	550					
65 dBA	174					
70 dBA	55					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

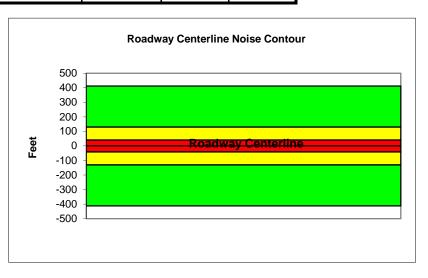


	Federal Highway Administration RD-77-108							
		Traffic Noise F	Predict	ion Model (C	ALVENO)			
Project Name:	Tracy Hills I	ΞIR			Scenario:	Future		
Analyst:	Ryan Chien	е			Job #:	135721		
Roadway:	Tracy Boule	vard						ļ
Road Segment:	Valpico Roa	nd to Linne Road						
	PROJECT	DATA			5	SITE DATA		
Centerline Dist to	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	= berm):	0		Average Dail	y Traffic:	17595		
Receiver Barrier [	Dist:	0		Peak Hour Ti	raffic:	1759.5		
Centerline Dist. T	o Observer:	100		Vehicle Spee	d:	40		
Barrier Near Lane	CL Dist:	0		Centerline Se	eparation:	40		
Barrier Far lane C	L Dist:	0			NC	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns <b>HARD S</b> I	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (	(above grade):	0		Type Day Evening Night Da		Daily		
Barrier Height:		0		Auto 0.775 0.129		0.096	0.9742	
Rt View: 9	00	Lft View:	-90	<b>90</b> Med. Truck 0.848 0.049 0.103 0.0			0.0184	
NOISE S	NOISE SOURCE ELEVATIONS (Feet)				0.865	0.027	0.108	0.0074
Autos:		0		_				
Medium Trucks:		2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	53.9	62.7	60.9	54.8	63.4	64.0		
Medium Trucks:	62.8	54.8	48.4	46.8	55.3	55.5		
Heavy Trucks:	67.7	55.7	46.7	47.9	57.6	57.7		
Vehicle Noise:	70.1	64.2	61.3	56.4	64.9	65.4		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	412					
65 dBA	130					
70 dBA	41					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

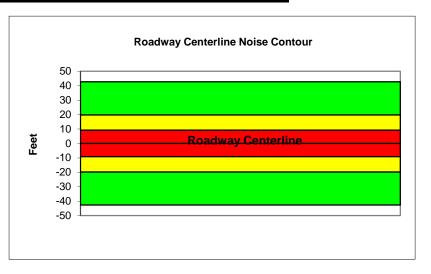


			ninistration F				
Project Name:	racy Hills EIR		•	Scenario:	Future		
Analyst: F	Ryan Chiene			Job #:	135721		
Roadway:	racy Boulevard						
Road Segment: S	South of Linne Road						
PRO	DJECT DATA			5	SITE DATA		
Centerline Dist to Barrie	r: <b>0</b>		Road Grade:		0		
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	2210		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	221		
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Spee	ed:	40		
Barrier Near Lane CL Di	st: <b>0</b>		Centerline Se	eparation:	22		
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775			0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOUR	CE ELEVATIONS (Fe	eet)	Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	42.3	51.0	49.2	43.2	51.8	52.4		
Medium Trucks:	51.2	43.1	36.8	35.2	43.7	43.9		
Heavy Trucks:	56.1	44.1	35.1	36.3	46.0	46.1		
Vehicle Noise:	58.4	52.6	49.7	44.7	53.3	53.8		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE	CENTERLINE NOISE CONTOUR						
Unmitigated							
60 dBA	43						
65 dBA	20						
70 dBA	9						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

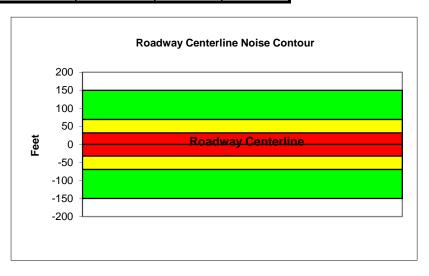


			ninistration F on Model (C					
Project Name:	Tracy Hills EIR		•	Scenario:	Future			
Analyst:	Ryan Chiene			Job #:	135721			
Roadway:	Linne Road							
Road Segment:	West of Corral Hollow	Road						
PR	OJECT DATA			5	SITE DATA			
Centerline Dist to Barrie	er: <b>0</b>		Road Grade:		0			
Barrier (0=wall, 1= berm	n): <b>0</b>		Average Dail	y Traffic:	10980			
Receiver Barrier Dist:	0		Peak Hour T	raffic:	1098			
Centerline Dist. To Obs	erver: 100		Vehicle Speed:		45			
Barrier Near Lane CL D	ist: 0		Centerline Separation:		24			
Barrier Far lane CL Dist	: <b>0</b>		NOISE INPUTS					
Pad Elevation:	0.5		Site conditions:SOFT SITE					
Road Elevation:	0			F	LEET MIX			
Observer Height (above	e grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOUR	CE ELEVATIONS (Fe	et)	Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	0							
Medium Trucks:	2.3							
Heavy Trucks:	8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	50.6	59.4	57.6	51.5	60.2	60.8		
Medium Trucks:	58.9	50.8	44.5	42.9	51.4	51.6		
Heavy Trucks:	63.4	51.5	42.4	43.7	53.2	53.3		
Vehicle Noise:	65.8	60.7	58.0	52.8	61.4	61.9		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	150							
65 dBA	70							
70 dBA	32							
Mitigated								
60 dBA								
65 dBA								
70 dBA								

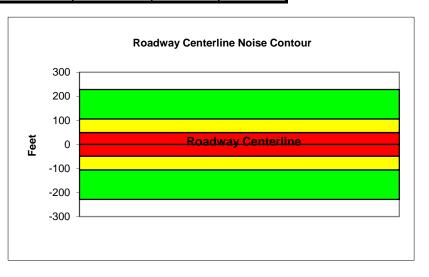


	Federal High Traffic Noise							
Project Name: T	racy Hills EIR			Scenario:	Future			
	kyan Chiene			Job #:	135721			
	inne Road							
•	orral Hollow Road to Tra	acy Boule	vard					
PRO	JECT DATA	·		5	SITE DATA			
Centerline Dist to Barrier	: 0		Road Grade:		0			
Barrier (0=wall, 1= berm)	: <b>0</b>		Average Dail	y Traffic:	20685			
Receiver Barrier Dist:	0		Peak Hour Traffic:		2068.5			
Centerline Dist. To Obse	rver: <b>100</b>		Vehicle Speed:		45			
Barrier Near Lane CL Dis	st: <b>0</b>		Centerline Separation:		24			
Barrier Far lane CL Dist:	0		NOISE INPUTS					
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE			
Road Elevation:	0			F	LEET MIX			
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775			0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOURC	E ELEVATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	0							
Medium Trucks:	2.3							
Heavy Trucks:	8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	53.4	62.2	60.4	54.3	62.9	63.5			
Medium Trucks:	61.7	53.6	47.2	45.6	54.1	54.4			
Heavy Trucks:	66.2	54.2	45.2	46.4	56.0	56.1			
Vehicle Noise:	68.5	63.5	60.7	55.6	64.2	64.7			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

228
106
49
·

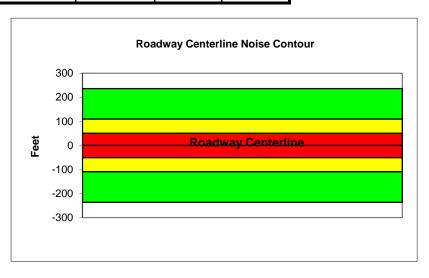


	Federal Highway Administration RD-77-108							
		Traffic Noise P	redicti	on Model (C				
Project Name:	Tracy Hills				Scenario:	Future		
Analyst:	Ryan Chie	ene			Job #:	135721		
Roadway:	Lammers	Road						
Road Segment:	Old Schul	te Road to Valpico	Road					
F	PROJECT D	ATA			9	SITE DATA		
Centerline Dist to Bar	rrier:	0		Road Grade:		0		
Barrier (0=wall, 1= be	erm):	0		Average Dail	y Traffic:	28890		
Receiver Barrier Dist	:	0		Peak Hour Traffic:		2889		
Centerline Dist. To O	bserver:	100		Vehicle Speed:		40		
Barrier Near Lane CL	Dist:	0		Centerline Separation:		20		
Barrier Far lane CL D	Dist:	0		NOISE INPUTS				
Pad Elevation:		0.5		Site conditions:SOFT SITE				
Road Elevation:		0			F	LEET MIX		
Observer Height (abo	ove grade):	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 9	0	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOL	NOISE SOURCE ELEVATIONS (Feet)			Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	53.5	62.2	60.5	54.4	63.0	63.6		
Medium Trucks:	62.4	54.4	48.0	46.4	54.9	55.1		
Heavy Trucks:	67.3	55.3	46.3	47.5	57.2	57.3		
Vehicle Noise:	69.6	63.8	60.9	56.0	64.5	65.0		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR								
236								
110								
51								

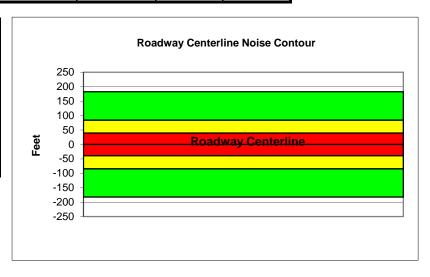


			ninistration F					
Project Name: T	racy Hills EIR		`	Scenario:	Future			
Analyst: F	Ryan Chiene			Job #:	135721			
Roadway: L	inne Road							
Road Segment: T	racy Boulevard to Mad	Arthur Drive	е					
PRO	JECT DATA			5	SITE DATA			
Centerline Dist to Barrier	: <b>0</b>		Road Grade:		0			
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	14730			
Receiver Barrier Dist:	0		Peak Hour T	raffic:	1473			
Centerline Dist. To Obse	rver: <b>100</b>		Vehicle Spee	ed:	45			
Barrier Near Lane CL Dis	st: <b>0</b>		Centerline Se	eparation:	24			
Barrier Far lane CL Dist:	0		NOISE INPUTS					
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE			
Road Elevation:	0			F	LEET MIX			
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775			0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOUR	E ELEVATIONS (Fee	t)	Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	0							
Medium Trucks:	2.3							
Heavy Trucks:	8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	51.9	60.7	58.9	52.8	61.5	62.1		
Medium Trucks:	60.2	52.1	45.7	44.2	52.7	52.9		
Heavy Trucks:	64.7	52.8	43.7	44.9	54.5	54.6		
Vehicle Noise:	67.0	62.0	59.3	54.1	62.7	63.2		

MITIGATE	MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE	CENTERLINE NOISE CONTOUR							
Unmitigated								
60 dBA	182							
65 dBA	85							
70 dBA	39							
Mitigated								
60 dBA								
65 dBA								
70 dBA								

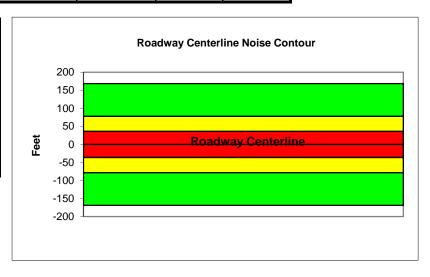


	Federal Highv Traffic Noise						
Project Name: Trac	cy Hills EIR		•	Scenario:	Future		
Analyst: Rya	n Chiene			Job #:	135721		
Roadway: Linr	ne Road						
Road Segment: Mad	Arthur Drive to Chrism	an Road					
PROJE	ECT DATA			5	SITE DATA		
Centerline Dist to Barrier:	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	13110		
Receiver Barrier Dist:	0		Peak Hour Traffic:		1311		
Centerline Dist. To Observe	er: <b>100</b>		Vehicle Speed:		45		
Barrier Near Lane CL Dist:	0		Centerline Separation:		24		
Barrier Far lane CL Dist:	0				ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above gra	ade): <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE	ELEVATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGAT	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	51.4	60.2	58.4	52.3	61.0	61.6				
Medium Trucks:	59.7	51.6	45.2	43.7	52.1	52.4				
Heavy Trucks:	64.2	52.3	43.2	44.4	54.0	54.1				
Vehicle Noise:	66.5	61.5	58.8	53.6	62.2	62.7				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	169					
65 dBA	78					
70 dBA	36					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

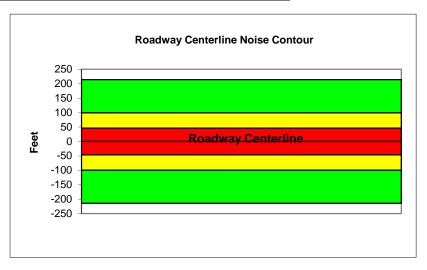


		Federal Highv Traffic Noise							
Project Name:	Tracy Hills				Scenario:	Future			
Analyst:	Ryan Chie				Job #:	135721			
Roadway:	Linne Roa								
Road Segment:	East of Ch	nrisman Road							
	PROJECT D	ATA			5	SITE DATA			
Centerline Dist to Ba	rrier:	0		Road Grade:		0			
Barrier (0=wall, 1= be	erm):	0		Average Dail	y Traffic:	11340			
Receiver Barrier Dist	:	0		Peak Hour T	raffic:	1134			
Centerline Dist. To O	bserver:	100		Vehicle Speed:		55			
Barrier Near Lane Cl	_ Dist:	0		Centerline Se	eparation:	24			
Barrier Far lane CL D	Dist:	0		NOISE INPUTS					
Pad Elevation:		0.5		Site condition	ns: <b>SOFT SI</b>	TE			
Road Elevation:		0			F	LEET MIX			
Observer Height (abo	ove grade):	5.5		Туре	Day	Evening	Night	Daily	
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742	
Rt View: 9	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SO	JRCE ELEV	ATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:		0							
Medium Trucks:		2.3							
Heavy Trucks:		8							

UNMITIGA	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	53.3	62.1	60.3	54.2	62.8	63.4				
Medium Trucks:	60.4	52.3	46.0	44.4	52.9	53.1				
Heavy Trucks:	64.4	52.4	43.4	44.6	53.9	54.0				
Vehicle Noise:	66.7	63.0	60.5	55.1	63.7	64.3				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE	CENTERLINE NOISE CONTOUR						
Unmitigated							
60 dBA	214						
65 dBA	99						
70 dBA	46						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

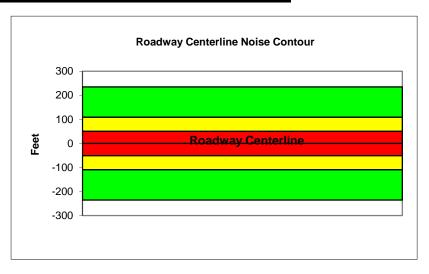


	Federal Highwa Traffic Noise P							
Project Name: T	racy Hills EIR		()	Scenario:	Future			
	yan Chiene			Job #:	135721			
	Itamont Pass Road							
•	est of Greenville Road							
PRO	JECT DATA			5	SITE DATA			
Centerline Dist to Barrier	: 0		Road Grade:		0			
Barrier (0=wall, 1= berm)	: <b>0</b>		Average Dail	y Traffic:	21620			
Receiver Barrier Dist:	0		Peak Hour T	raffic:	2162			
Centerline Dist. To Obse	rver: <b>100</b>		Vehicle Speed:		45			
Barrier Near Lane CL Dis	st: <b>0</b>		Centerline Se	eparation:	26			
Barrier Far lane CL Dist:	0		NOISE INPUTS					
Pad Elevation:	0.5		Site conditions:SOFT SITE					
Road Elevation:	0			F	LEET MIX			
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775			0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOURC	E ELEVATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	0							
Medium Trucks:	2.3							
Heavy Trucks:	8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	53.5	62.3	60.5	54.4	63.1	63.7		
Medium Trucks:	61.8	53.7	47.4	45.8	54.3	54.5		
Heavy Trucks:	66.3	54.4	45.3	46.5	56.1	56.2		
Vehicle Noise:	68.7	63.6	60.9	55.7	64.3	64.8		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	235							
65 dBA	109							
70 dBA	51							
Mitigated								
60 dBA								
65 dBA								
70 dBA								

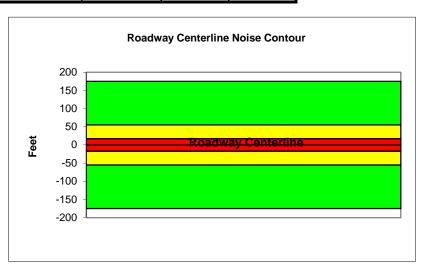


		ederal Highw raffic Noise F						
Project Name:	Tracy Hills EIR			•	Scenario:	Future		
Analyst:	Ryan Chiene				Job #:	135721		
Roadway:	Patterson Pass R	oad						
Road Segment:	West of Greenvill	e Road						
	PROJECT DATA				S	ITE DATA		
Centerline Dist to E	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	5630		
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	563		
Centerline Dist. To	Observer:	100		Vehicle Speed:		45		
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	42		
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	is <b>HARD S</b> I	TE		
Road Elevation:		0				LEET MIX		
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft Vi	ew:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE S	OURCE ELEVATION	ONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0					-	-
Medium Trucks:		2.3						
Heavy Trucks:		8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	50.4	59.2	57.4	51.3	59.9	60.5		
Medium Trucks:	58.6	50.6	44.2	42.6	51.1	51.3		
Heavy Trucks:	63.2	51.2	42.2	43.4	52.9	53.1		
Vehicle Noise:	65.5	60.5	57.7	52.6	61.2	61.7		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	175						
65 dBA	55						
70 dBA	18						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

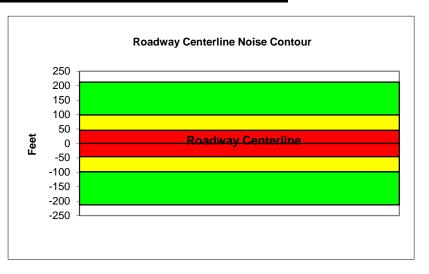


	Federal High							
Project Name: T	Traffic Noise racy Hills EIR	e Predicti	on Model (C	Scenario:	Euturo			
	-							
	tyan Chiene			Job #:	135721			
,	esla Road							
Road Segment: V	Vest of Greenville Road							
PRO	JECT DATA			S	SITE DATA			
Centerline Dist to Barrier	: 0		Road Grade:		0			
Barrier (0=wall, 1= berm)	: <b>0</b>		Average Dail	y Traffic:	14300			
Receiver Barrier Dist:	0		Peak Hour T	raffic:	1430			
Centerline Dist. To Obse	rver: <b>100</b>		Vehicle Speed:		50			
Barrier Near Lane CL Dis	st: <b>0</b>		Centerline Se	eparation:	24			
Barrier Far lane CL Dist:	0		NOISE INPUTS					
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE			
Road Elevation:	0			F	LEET MIX			
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775			0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOURC	E ELEVATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	0							
Medium Trucks:	2.3							
Heavy Trucks:	8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	53.1	61.9	60.1	54.0	62.7	63.3			
Medium Trucks:	60.8	52.7	46.3	44.7	53.2	53.5			
Heavy Trucks:	65.0	53.1	44.0	45.2	54.6	54.7			
Vehicle Noise:	67.3	63.0	60.4	55.1	63.7	64.2			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
213							
99							
46							

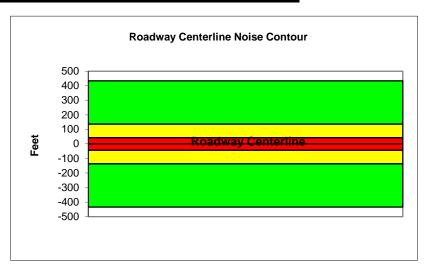


	Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)								
Project Name:	Tracy Hills EIR			•	Scenario:	Future Plus	s Project		
Analyst:	Ryan Chiene				Job #:	135721			
Roadway:	Lammers Road								
Road Segment:	North of Eleventh	Street							
	PROJECT DATA				9	SITE DATA			
Centerline Dist to E	Barrier	0		Road Grade:		0			
Barrier (0=wall, 1=	berm):	0		Average Dail	y Traffic:	18540			
Receiver Barrier Di	st:	0		Peak Hour Ti	raffic:	1854			
Centerline Dist. To	Observer:	100		Vehicle Speed:		40			
Barrier Near Lane (	CL Dist:	0		Centerline Se	eparation:	24			
Barrier Far lane CL	Dist:	0			NO	ISE INPUT	S		
Pad Elevation:		0.5		Site condition	is <b>HARD S</b> I	TE			
Road Elevation:		0				LEET MIX			
Observer Height (a	bove grade):	0		Туре	Day	Evening	Night	Daily	
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742	
Rt View: 90	Lft Vie	w:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE S	OURCE ELEVATIO	NS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:		0				•	•		
Medium Trucks:		2.3							
Heavy Trucks:		8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	54.4	63.1	61.4	55.3	63.9	64.5			
Medium Trucks:	63.3	55.3	48.9	47.3	55.8	56.0			
Heavy Trucks:	68.2	56.2	47.2	48.4	58.1	58.2			
Vehicle Noise:	70.5	64.7	61.8	56.9	65.4	65.9			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)											
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:											
Medium Trucks:											
Heavy Trucks:											
Vehicle Noise:											

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	434							
65 dBA	137							
70 dBA	43							
Mitigated								
60 dBA								
65 dBA								
70 dBA								



# Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO) Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Lammers Road Road Segment: Eleventh Street to Old Schulte Road

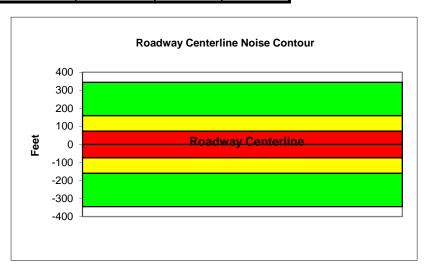
PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 50780 Receiver Barrier Dist: Peak Hour Traffic: 5078 0 Centerline Dist. To Observer: Vehicle Speed: 100 40 Barrier Near Lane CL Dist: 0 Centerline Separation: 64 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type Barrier Height: 0.096 0.9742 Auto 0.775 0.129 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos: Medium Trucks: 2.3

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	54.9	63.7	61.9	55.8	64.5	65.1				
Medium Trucks:	63.9	55.8	49.4	47.8	56.3	56.6				
Heavy Trucks:	68.7	56.8	47.7	48.9	58.6	58.8				
Vehicle Noise:	71.1	65.3	62.3	57.4	66.0	66.4				

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	344						
65 dBA	160						
70 dBA	74						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Lammers Road Road Segment: Valpico Road to Linne Road PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 37695 Receiver Barrier Dist: Peak Hour Traffic: 3769.5 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type Barrier Height: 0.096 0.9742 Auto 0.775 0.129 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184

Heavy Truck

0.865

0.027

0.108

0.0074

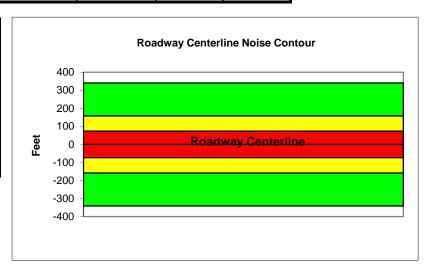
Autos: 0
Medium Trucks: 2.3
Heavy Trucks: 8

**NOISE SOURCE ELEVATIONS (Feet)** 

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	56.0	64.8	63.0	56.9	65.5	66.2				
Medium Trucks:	64.3	56.2	49.8	48.2	56.7	57.0				
Heavy Trucks:	68.8	56.8	47.8	49.0	58.6	58.7				
Vehicle Noise:	71.1	66.1	63.3	58.2	66.8	67.3				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	341						
65 dBA	158						
70 dBA	73						
Mitigated							
60 dBA							
65 dBA							
70 dBA							
***************************************	***						



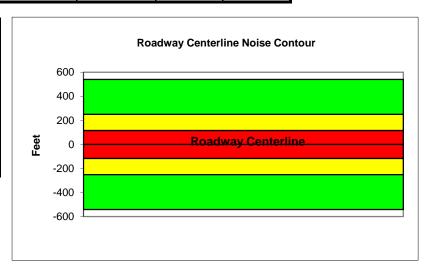
## Federal Highway Administration RD-77-108

	Traffic Noise F						
Project Name: Tracy Hil	ls EIR		Scenario: Future Plus Project				
Analyst: Ryan Ch	iene			Job #:	135721		
Roadway: Lammers	s Road						
Road Segment: Linne Ro	ad to Spine Road						
PROJECT I	DATA			5	ITE DATA		
Centerline Dist to Barrier:	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	57900		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	5790		
Centerline Dist. To Observer:	100		Vehicle Spee	d:	50		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	24		
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	is: <b>SOFT SI</b>	ΤE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade):	5.5		Type	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELE	VATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	59.2	68.0	66.2	60.1	68.7	69.3			
Medium Trucks:	66.8	58.8	52.4	50.8	59.3	59.5			
Heavy Trucks:	71.1	59.1	50.1	51.3	60.7	60.8			
Vehicle Noise:	73.4	69.0	66.5	61.2	69.8	70.3			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	540							
65 dBA	251							
70 dBA	116							
Mitigated								
60 dBA								
65 dBA								
70 dBA								

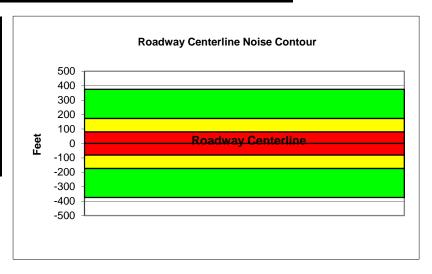


Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)										
Project Name: T	racy Hills EIR		•	Scenario:	Future Plus	s Project				
Analyst: F	Ryan Chiene			Job #:	135721					
Roadway: L	ammers Road									
Road Segment: S	South of Spine Road									
PRO	JECT DATA			5	SITE DATA					
Centerline Dist to Barrie	: 0		Road Grade:		0					
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	33400					
Receiver Barrier Dist:	0		Peak Hour T	raffic:	3340					
Centerline Dist. To Obse	rver: <b>100</b>		Vehicle Spee	ed:	50					
Barrier Near Lane CL Di	st: <b>0</b>		Centerline Se	eparation:	24					
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S				
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE					
Road Elevation:	0			F	LEET MIX					
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily			
Barrier Height:	0		Auto	0.775			0.9742			
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184			
NOISE SOUR	E ELEVATIONS (Fee	t)	Heavy Truck	0.865	0.027	0.108	0.0074			
Autos:	0									
Medium Trucks:	2.3									
Heavy Trucks:	8									

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	56.8	65.6	63.8	57.7	66.3	66.9				
Medium Trucks:	64.5	56.4	50.0	48.4	56.9	57.2				
Heavy Trucks:	68.7	56.7	47.7	48.9	58.3	58.4				
Vehicle Noise:	71.0	66.7	64.1	58.8	67.4	67.9				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	374						
65 dBA	174						
70 dBA	81						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



Project Name: Tracy Hills EIR Scenario: Future Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Lammers Road Extension/Eleventh Street

Road Segment: North of I-205

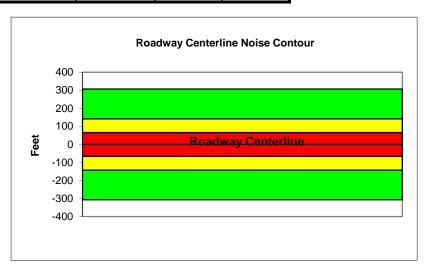
Heavy Trucks:

PROJECT	DATA			S	SITE DATA		
Centerline Dist to Barrier:	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	42700		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	4270		
Centerline Dist. To Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	64		
Barrier Far lane CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	ΤE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade)	: <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELEVATIONS (Feet)			Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	54.1	62.9	61.1	55.1	63.7	64.3				
Medium Trucks:	63.1	55.0	48.7	47.1	55.6	55.8				
Heavy Trucks:	67.9	56.0	47.0	48.2	57.9	58.0				
Vehicle Noise:	70.3	64.5	61.6	56.6	65.2	65.7				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	307						
65 dBA	142						
70 dBA	66						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



Tracy Hills EIR Project Name: Scenario: Future Plus Project

Ryan Chiene Job #: Analyst: 135721

Roadway: Lammers Road Extension/Eleventh Street

Road Segment: I-205 to Lammers Road

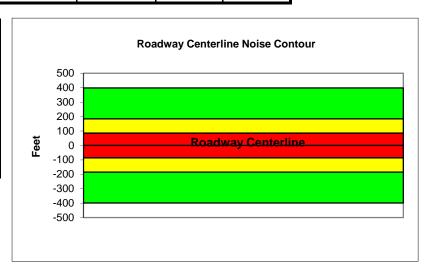
Heavy Trucks:

PROJECT	DATA			5	SITE DATA		
Centerline Dist to Barrier:	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	63200		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	6320		
Centerline Dist. To Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	64		
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	ΤE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade)	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELEVATIONS (Feet)			Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	55.9	64.6	62.8	56.8	65.4	66.0				
Medium Trucks:	64.8	56.7	50.4	48.8	57.3	57.5				
Heavy Trucks:	69.7	57.7	48.7	49.9	59.6	59.7				
Vehicle Noise:	72.0	66.2	63.3	58.3	66.9	67.4				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR					
Unmitigated					
60 dBA	398				
65 dBA	185				
70 dBA	86				
Mitigated					
60 dBA					
65 dBA					
70 dBA					



## Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO) Project Name: Tracy Hills EIR Scenario: Future Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Lammers Road Extension/Eleventh Street

Road Segment: Lammers Road Extension/Eleventh Stree

71.4

PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 54530 Peak Hour Traffic: 5453 Receiver Barrier Dist: 0 Centerline Dist. To Observer: Vehicle Speed: 100 40 Barrier Near Lane CL Dist: 0 Centerline Separation: 64 Barrier Far lane CL Dist: **NOISE INPUTS** 0 Site conditions: SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type 0.9742 Barrier Height: Auto 0.775 0.129 0.096 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos:

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.2	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	64.2	56.1	49.7	48.1	56.6	56.9
Heavy Trucks:	69.0	57.1	48.0	49.2	58.9	59.1

62.6

57.7

2.3

65.6

8

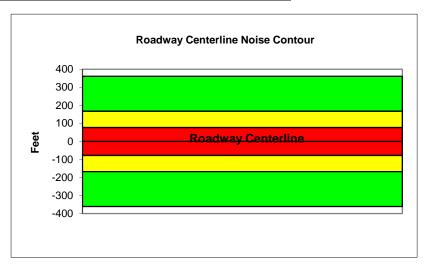
MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR					
Unmitigated					
60 dBA	361				
65 dBA	168				
70 dBA	78				
Mitigated					
60 dBA					
65 dBA					
70 dBA					
·	·				

Medium Trucks:

Heavy Trucks:

Vehicle Noise:



66.3

66.8

Project Name: Tracy Hills EIR Scenario: Future Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Lammers Road Extension/Eleventh Street

Road Segment: East of Corral Hollow Road

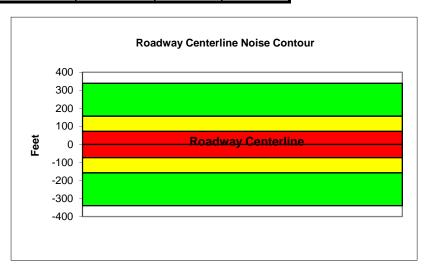
PROJECT	DATA			S	SITE DATA		
Centerline Dist to Barrier:	0		Road Grade: 0				
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	49610		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	4961		
Centerline Dist. To Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	64		
Barrier Far lane CL Dist:	0		NOISE INPUTS				
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade)	5.5		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELE	VATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.8	63.6	61.8	55.7	64.4	65.0
Medium Trucks:	63.8	55.7	49.3	47.7	56.2	56.4
Heavy Trucks:	68.6	56.7	47.6	48.8	58.5	58.7
Vehicle Noise:	71.0	65.2	62.2	57.3	65.9	66.3

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR					
Unmitigated					
60 dBA	339				
65 dBA	157				
70 dBA	73				
Mitigated					
60 dBA					
65 dBA					
70 dBA					



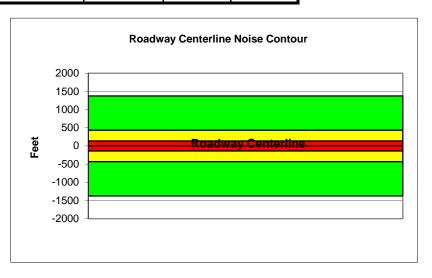
### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Project Name: Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Corral Hollow Road Road Segment: North of Eleventh Street PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 58730 Receiver Barrier Dist: Peak Hour Traffic: 5873 0 Centerline Dist. To Observer: Vehicle Speed: 100 40 Barrier Near Lane CL Dist: 0 Centerline Separation: 64 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type 0.9742 Barrier Height: 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos: Medium Trucks: 2.3

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.8	67.5	65.8	59.7	68.3	68.9
Medium Trucks:	67.7	59.7	53.3	51.7	60.2	60.4
Heavy Trucks:	72.6	60.6	51.6	52.8	62.5	62.6
Vehicle Noise:	74.9	69.1	66.2	61.3	69.8	70.3

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR					
Unmitigated					
60 dBA	1375				
65 dBA	435				
70 dBA	138				
Mitigated					
60 dBA					
65 dBA					
70 dBA					



Project Name: Tracy Hills EIR Scenario: Future Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Corral Hollow Road

Road Segment: Eleventh Street to New Schulte Road

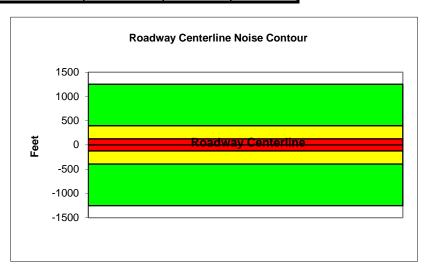
	PROJECT	DATA		·	S	SITE DATA		
Centerline Dist t	to Barrier	0		Road Grade: 0				
Barrier (0=wall,	1= berm):	0		Average Dail	y Traffic:	53440		
Receiver Barrie	r Dist:	0		Peak Hour Ti	raffic:	5344		
Centerline Dist.	To Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lai	ne CL Dist:	0		Centerline Se	eparation:	60		
Barrier Far lane	CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	ns <b>HARD SI</b>	TE		
Road Elevation:	•	0			F	LEET MIX		
Observer Heigh	t (above grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View:	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE	SOURCE ELE	VATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						

Autos: 0
Medium Trucks: 2.3
Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	58.4	67.2	65.4	59.3	68.0	68.6				
Medium Trucks:	67.4	59.3	52.9	51.3	59.8	60.1				
Heavy Trucks:	72.2	60.3	51.2	52.4	62.2	62.3				
Vehicle Noise:	74.6	68.8	65.9	60.9	69.5	70.0				

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)											
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:											
Medium Trucks:											
Heavy Trucks:											
Vehicle Noise:											

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	1253							
65 dBA	396							
70 dBA	125							
Mitigated								
60 dBA								
65 dBA								
70 dBA								



Project Name: Tracy Hills EIR Scenario: Future Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Corral Hollow Road

Road Segment: New Schulte Road to Linne Road

PROJECT	SITE DATA						
Centerline Dist to Barrier	0		Road Grade: 0				
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	36250		
Receiver Barrier Dist:	0		Peak Hour Ti	raffic:	3625		
Centerline Dist. To Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lane CL Dist:	0		Centerline Separation:		60		
Barrier Far lane CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns <b>HARD S</b> I	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade): 0		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184

Heavy Truck

0.865

0.027

0.108

0.0074

Autos: 0
Medium Trucks: 2.3

**NOISE SOURCE ELEVATIONS (Feet)** 

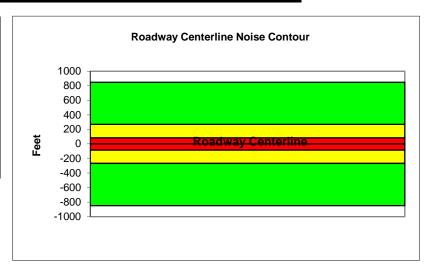
Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenua

UNMITIG	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:	56.7	65.5	63.7	57.6	66.3	66.9					
Medium Trucks:	65.7	57.6	51.2	49.7	58.1	58.4					
Heavy Trucks:	70.5	58.6	49.5	50.8	60.5	60.6					
Vehicle Noise:	72.9	67.1	64.2	59.2	67.8	68.3					

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)											
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL					
Autos:											
Medium Trucks:											
Heavy Trucks:											
Vehicle Noise:											

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	849							
65 dBA	269							
70 dBA	85							
Mitigated								
60 dBA								
65 dBA								
70 dBA								



### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Corral Hollow Road Linne Road to Spine Road Road Segment: PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 39805 Receiver Barrier Dist: Peak Hour Traffic: 3980.5 0 Centerline Dist. To Observer: Vehicle Speed: 100 50 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type 0.096 0.9742 Barrier Height: Auto 0.775 0.129 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos:

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:	57.5	66.3	64.5	58.5	67.1	67.7				
Medium Trucks:	65.2	57.2	50.8	49.2	57.7	57.9				
Heavy Trucks:	69.4	57.5	48.5	49.7	59.1	59.2				
Vehicle Noise:	71.8	67.4	64.8	59.5	68.1	68.7				

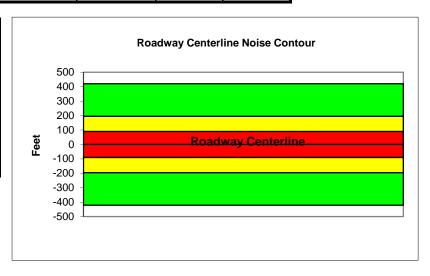
2.3

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)										
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL				
Autos:										
Medium Trucks:										
Heavy Trucks:										
Vehicle Noise:										

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	421							
65 dBA	195							
70 dBA	91							
Mitigated								
60 dBA								
65 dBA								
70 dBA								

Medium Trucks:

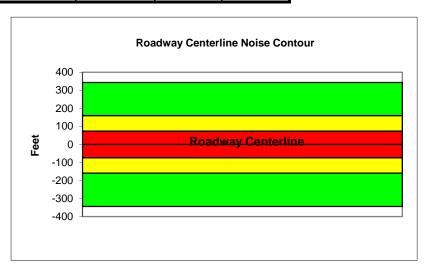


	Federal Highway Administration RD-77-108  Traffic Noise Prediction Model (CALVENO)									
Project Name:	Γracy Hills EIR		·		Future Plus	s Project				
Analyst:	Ryan Chiene			Job #:	135721	-				
Roadway: (	Corral Hollow Road									
Road Segment: S	South of Spine Road									
PRO	OJECT DATA			5	SITE DATA					
Centerline Dist to Barrie	r: <b>0</b>		Road Grade:		0					
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	29360					
Receiver Barrier Dist:	0		Peak Hour T	raffic:	2936					
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Spee	ed:	50					
Barrier Near Lane CL Di	st: 0		Centerline Se	eparation:	24					
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S				
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	ΤE					
Road Elevation:	0			F	LEET MIX					
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily			
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742			
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184			
NOISE SOUR	CE ELEVATIONS (Fed	et)	Heavy Truck	0.865	0.027	0.108	0.0074			
Autos:	0									
Medium Trucks:	2.3									
Heavy Trucks:	8									

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	56.2	65.0	63.2	57.1	65.8	66.4		
Medium Trucks:	63.9	55.8	49.4	47.9	56.4	56.6		
Heavy Trucks:	68.1	56.2	47.1	48.3	57.7	57.9		
Vehicle Noise:	70.4	66.1	63.5	58.2	66.8	67.3		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
344							
159							
74							

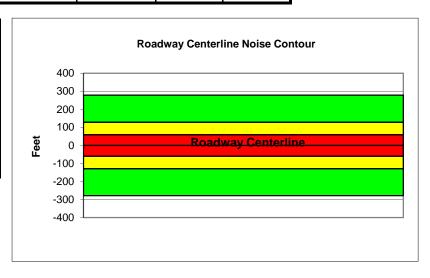


		Highway Adn loise Predicti					
Project Name:	Tracy Hills EIR		•		Future Plus	s Project	
Analyst:	Ryan Chiene			Job #:	135721	-	
Roadway:	Chrisman Road						
Road Segment:	North of I-205						
PR	OJECT DATA			5	SITE DATA		
Centerline Dist to Barrie	er: <b>0</b>		Road Grade:		0		
Barrier (0=wall, 1= berm	n): <b>0</b>		Average Dail	y Traffic:	27800		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	2780		
Centerline Dist. To Obs	erver: 100		Vehicle Spee	ed:	45		
Barrier Near Lane CL D	ist: 0		Centerline Se	eparation:	24		
Barrier Far lane CL Dist	: <b>0</b>			NC	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above	e grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOUR	CE ELEVATIONS (F	eet)	Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	54.7	63.4	61.7	55.6	64.2	64.8		
Medium Trucks:	62.9	54.9	48.5	46.9	55.4	55.6		
Heavy Trucks:	67.5	55.5	46.5	47.7	57.2	57.4		
Vehicle Noise:	69.8	64.8	62.0	56.9	65.5	66.0		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	278						
65 dBA	129						
70 dBA	60						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



Project Name: Tracy Hills EIR Scenario: Future Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Chrisman Road

Medium Trucks: Heavy Trucks:

Road Segment: I-205 Freeway to Eleventh Street

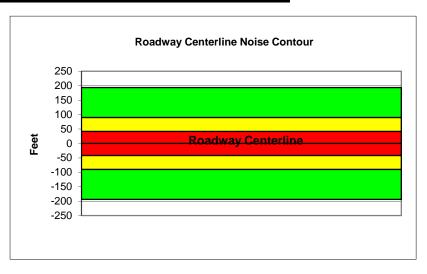
	PROJECT D	ATA			S	SITE DATA		
Centerline Dis	st to Barrier:	0		Road Grade: 0				
Barrier (0=wal	II, 1= berm):	0	1	Average Dail	y Traffic:	29145		
Receiver Barri	ier Dist:	0	1	Peak Hour Ti	raffic:	2914.5		
Centerline Dis	st. To Observer:	100	1	Vehicle Spee	ed:	35		
Barrier Near L	ane CL Dist:	0	1	Centerline Se	eparation:	24		
Barrier Far lan	ne CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:	ı:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation	n:	0			F	LEET MIX		
Observer Heiç	ght (above grade):	5.5	•	Туре	Day	Evening	Night	Daily
Barrier Height:	Œ	0	1	Auto	0.775	0.129	0.096	0.9742
Rt View:	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOIS	SE SOURCE ELEV	ATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	51.7	60.5	58.7	52.6	61.3	61.9	
Medium Trucks:	61.4	53.4	47.0	45.4	53.9	54.1	
Heavy Trucks:	66.7	54.7	45.7	46.9	56.8	56.9	
Vehicle Noise:	69.1	62.5	59.3	54.6	63.2	63.6	

2.3

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	194					
65 dBA	90					
70 dBA	42					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #:

Roadway: Chrisman Road

Road Segment: Eleventh Street to Valpico Road

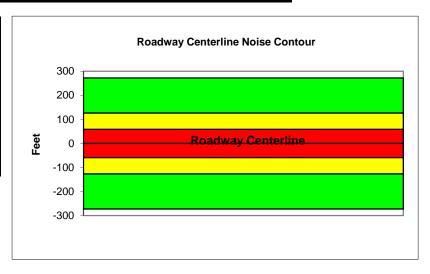
PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 26940 Receiver Barrier Dist: Peak Hour Traffic: 2694 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type Barrier Height: 0.096 0.9742 Auto 0.775 0.129 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074

Autos: Medium Trucks: 2.3 Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	54.5	63.3	61.5	55.4	64.1	64.7	
Medium Trucks:	62.8	54.7	48.4	46.8	55.3	55.5	
Heavy Trucks:	67.3	55.4	46.3	47.6	57.1		
Vehicle Noise:	69.7	64.6	61.9	56.7	65.3	65.8	

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq Leq Day Leq Evening Leq Night Ldn CNEL							
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	273						
65 dBA	126						
70 dBA	59						
Mitigated							
60 dBA							
65 dBA							
70 dBA							

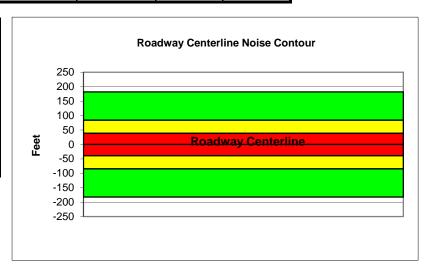


	Federal High Traffic Noise						
Project Name:	Гracy Hills EIR		,		Future Plus	s Project	
Analyst:	Ryan Chiene			Job #:	135721	-	
Roadway:	Chrisman Road						
Road Segment:	South of Valpico Road						
PRO	DJECT DATA			5	SITE DATA		
Centerline Dist to Barrie	r: <b>0</b>		Road Grade:		0		
Barrier (0=wall, 1= berm	): <b>0</b>		Average Dail	y Traffic:	14710		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	1471		
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Spee	ed:	45		
Barrier Near Lane CL Di	st: <b>0</b>		Centerline Se	eparation:	24		
Barrier Far lane CL Dist	<b>0</b>			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOUR	Heavy Truck	0.865	0.027	0.108	0.0074		
Autos:	0						
Medium Trucks:	2.3						
Heavy Trucks:	8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	51.9	60.7	58.9	52.8	61.5	62.1			
Medium Trucks:	60.2	52.1	45.7	44.2	52.6	52.9			
Heavy Trucks:	64.7	52.8	43.7	44.9	54.5	54.6			
Vehicle Noise:	67.0	62.0	59.3	54.1	62.7	63.2			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq Leq Day Leq Evening Leq Night Ldn CNE							
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
182							
84							
39							



### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #:

Roadway: MacArthur Drive

Road Segment: Linne Road to Valpico Road

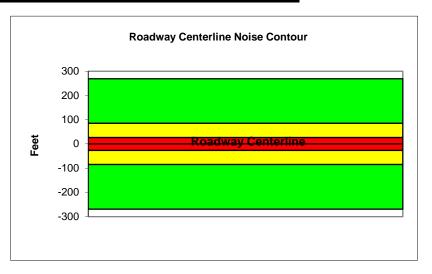
PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 11485 Receiver Barrier Dist: Peak Hour Traffic: 1148.5 0 Centerline Dist. To Observer: Vehicle Speed: 100 40 Barrier Near Lane CL Dist: 0 Centerline Separation: 18 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type Barrier Height: 0.9742 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074

Autos: Medium Trucks: 2.3 Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	52.4	61.2	59.4	53.3	62.0	62.6		
Medium Trucks:	61.3	53.3	46.9	45.3	53.8	54.0		
Heavy Trucks:	66.2	54.3	45.2	46.4	56.1	56.3		
Vehicle Noise:	68.6	62.8	59.8	54.9	63.5	63.9		

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq Leq Day Leq Evening Leq Night Ldn CNEL							
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	269						
65 dBA	85						
70 dBA	27						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



Project Name: Scenario: Future Plus Project

Tracy Hills EIR Ryan Chiene Analyst: Job #: 135721

Roadway: MacArthur Drive

Medium Trucks:

Heavy Trucks:

Valpico Road to West Schulte Road Road Segment:

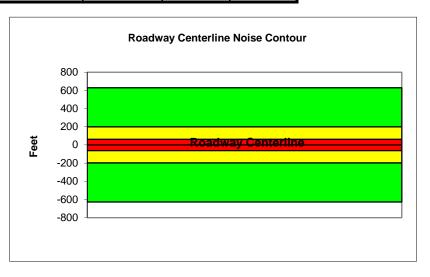
PROJE	ECT DATA			S	SITE DATA		
Centerline Dist to Barrier	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	20205		
Receiver Barrier Dist:	0		Peak Hour Ti	affic:	2020.5		
Centerline Dist. To Observe	er: <b>100</b>		Vehicle Spee	d:	45		
Barrier Near Lane CL Dist:	0		Centerline Se	paration:	34		
Barrier Far lane CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	is <b>HARD S</b> I	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above gra	ade): <b>0</b>		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE	NOISE SOURCE ELEVATIONS (Feet)			0.865	0.027	0.108	0.0074
Autos:	0						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:	56.0	64.8	63.0	57.0	65.6	66.2		
Medium Trucks:	64.3	56.3	49.9	48.3	56.8	57.0		
Heavy Trucks:	68.8	56.9	47.8	49.1	58.6	58.7		
Vehicle Noise:	71.2	66.1	63.4	58.3	66.8	67.4		

2.3

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	/ehicle Type         Peak Leq         Leq Day         Leq Evening         Leq Night         Ldn         CNEL							
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR					
Unmitigated					
60 dBA	629				
65 dBA	199				
70 dBA	63				
Mitigated					
60 dBA					
65 dBA					
70 dBA					



Project Name: Tracy Hills EIR Scenario: Future Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: MacArthur Drive

Medium Trucks: Heavy Trucks:

Road Segment: West Schulte Road to Eleventh Street

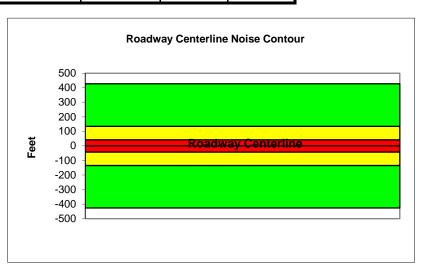
	PROJEC	T DATA			S	SITE DATA		·
Centerline Di	ist to Barrier	0	0			0		
Barrier (0=w	/all, 1= berm):	0	,	Average Daily	y Traffic:	18220		
Receiver Bar	rrier Dist:	0	,	Peak Hour Tr	raffic:	1822		
Centerline D	Dist. To Observer:	100	,	Vehicle Spee	ed:	40		
Barrier Near	Lane CL Dist:	0	,	Centerline Se	eparation:	24		
Barrier Far la	ane CL Dist:	0	,	NOISE INPUTS				
Pad Elevatio	on:	0.5	1	Site conditions HARD SITE				
Road Elevati	ion:	0	,	FLEET MIX				
Observer H $\epsilon$	eight (above grade	e): <b>0</b>	1	Туре	Day	Evening	Night	Daily
Barrier Heigh	nt:	0	,	Auto	0.775	0.129	0.096	0.9742
Rt View:	90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NC	ISE SOURCE EI	LEVATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.3	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	63.2	55.2	48.8	47.2	55.7	55.9
Heavy Trucks:	68.1	56.2	47.1	48.3	58.0	58.2
Vehicle Noise:	70.5	64.7	61.7	56.8	65.4	65.8

2.3

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)					1)	
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR					
Unmitigated					
60 dBA	427				
65 dBA	135				
70 dBA	43				
Mitigated					
60 dBA					
65 dBA					
70 dBA					



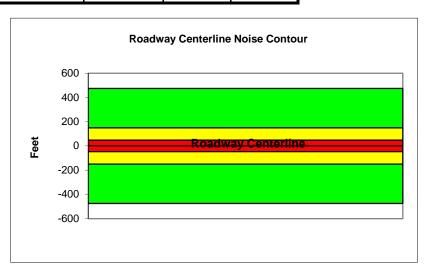
		Federal Highwa						
		Traffic Noise P	redict	ion Model (C				
Project Name:	Tracy Hills E					Future Plus	s Project	
Analyst:	Ryan Chiene	<del>)</del>			Job #:	135721		
Roadway:	MacArthur D	rive						
Road Segment:	North of Elev	/enth Street						
	PROJECT D	DATA			5	SITE DATA		
Centerline Dist to	Barrier	0		Road Grade:		0		
Barrier (0=wall, 1=	= berm):	0		Average Daily	y Traffic:	20250		
Receiver Barrier D	Dist:	0		Peak Hour Tr	raffic:	2025		
Centerline Dist. To	o Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lane	CL Dist:	0		Centerline Se	eparation:	24		
Barrier Far lane C	L Dist:	0			NO	ISE INPUT	S	
Pad Elevation:		0.5		Site condition	is <b>HARD S</b> I	TE		
Road Elevation:		0			F	LEET MIX		
Observer Height (	(above grade):	0		Туре	Day	Evening	Night	Daily
Barrier Height:		0		Auto	0.775	0.129	0.096	0.9742
Rt View: 9	9 <b>0</b> L	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELEVATIONS (Feet)				Heavy Truck	0.865	0.027	0.108	0.0074
Autos:		0						
Medium Trucks:		2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	54.8	63.5	61.7	55.7	64.3	64.9			
Medium Trucks:	63.7	55.6	49.3	47.7	56.2	56.4			
Heavy Trucks:	68.6	56.6	47.6	48.8	58.5	58.6			
Vehicle Noise:	70.9	65.1	62.2	57.2	65.8	66.3			

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	475						
65 dBA	150						
70 dBA	48						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



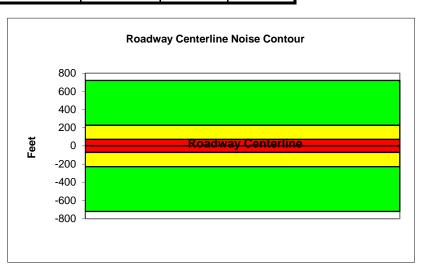
#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Tracy Boulevard North of Eleventh Street Road Segment: PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 41860 Receiver Barrier Dist: Peak Hour Traffic: 4186 0 Centerline Dist. To Observer: Vehicle Speed: 100 35 Barrier Near Lane CL Dist: 0 Centerline Separation: 32 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type 0.9742 Barrier Height: 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos: Medium Trucks: 2.3

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	56.1	64.9	63.1	57.0	65.7	66.3			
Medium Trucks:	65.8	57.7	51.4	49.8	58.3	58.5			
Heavy Trucks:	71.0	59.1	50.0	51.3	61.2	61.3			
Vehicle Noise:	73.5	66.8	63.7	59.0	67.5	68.0			

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	722						
65 dBA	228						
70 dBA	72						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



## Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)**

Project Name: Scenario: Future Plus Project

Tracy Hills EIR Ryan Chiene Analyst: Job #: 135721

Tracy Boulevard Roadway:

Road Segment: Eleventh Street to Valpico Road

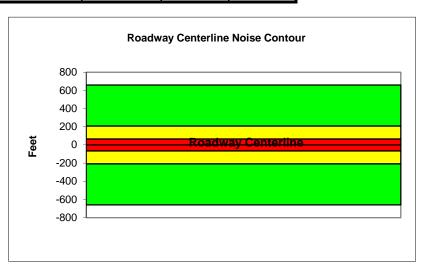
PROJECT	DATA			S	SITE DATA		
Centerline Dist to Barrier	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	38250		
Receiver Barrier Dist:	0		Peak Hour Ti	raffic:	3825		
Centerline Dist. To Observer:	100		Vehicle Spee	d:	35		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	38		
Barrier Far lane CL Dist:	0			NO	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	is <b>HARD S</b> I	TE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade):	0		Type	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELE	VATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074

Autos: 0 Medium Trucks: 2.3 Heavy Trucks: 8

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	55.6	64.4	62.6	56.5	65.2	65.8			
Medium Trucks:	65.3	57.3	50.9	49.3	57.8	58.0			
Heavy Trucks:	70.5	58.6	49.6	50.8	60.7	60.8			
Vehicle Noise:	73.0	66.3	63.2	58.5	67.0	67.5			

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:									
Medium Trucks:									
Heavy Trucks:									
Vehicle Noise:									

CENTERLINE NOISE CONTOUR								
Unmitigated								
60 dBA	659							
65 dBA	208							
70 dBA	66							
Mitigated								
60 dBA								
65 dBA								
70 dBA								



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Linne Road Road Segment: West of Corral Hollow Road PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 19280 Receiver Barrier Dist: Peak Hour Traffic: 1928 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type 0.096 0.9742 Barrier Height: Auto 0.775 0.129 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)									
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL			
Autos:	53.1	61.9	60.1	54.0	62.6	63.2			
Medium Trucks:	61.4	53.3	46.9	45.3	53.8	54.1			
Heavy Trucks:	65.9	53.9	44.9	46.1	55.6	55.8			
Vehicle Noise:	68.2	63.2	60.4	55.3	63.9	64.4			

2.3

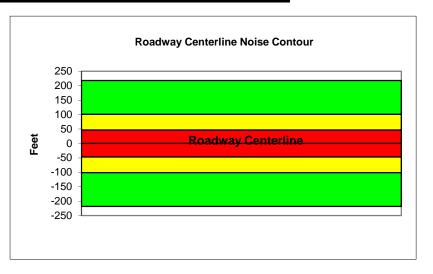
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MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR						
218						
101						
47						
_						

Autos:

Medium Trucks:



# Federal Highway Administration RD-77-108 Traffic Noise Prediction Model (CALVENO)

Project Name: Tracy Hills EIR Scenario: Future Plus Project

Analyst: Ryan Chiene Job #: 135721

Roadway: Tracy Boulevard

Road Segment: Valpico Road to Linne Road
PROJECT DATA

PROJECT DATA				3	SILEDAIA		
Centerline Dist to Barrie	r <b>0</b>	Ro	Road Grade: 0				
Barrier (0=wall, 1= berm	): <b>0</b>	Av	Average Daily Traffic: 24345				
Receiver Barrier Dist:	0	Pe	Peak Hour Traffic: 2434.5				
Centerline Dist. To Obse	erver: <b>100</b>	Ve	Vehicle Speed: 40				
Barrier Near Lane CL Di	ist: 0	Ce	Centerline Separation: 40				
Barrier Far lane CL Dist	. 0		NOISE INPUTS				
Pad Elevation:	0.5	Sit	e conditio	ns <b>HARD S</b> I	TE		
Road Elevation:	0		FLEET MIX				
Observer Height (above	grade): 0	Ту	Type Day Evening Night Daily				Daily
Barrier Height:	0	Αu	ito	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	<b>-90</b> Me	ed. Truck	0.848	0.049	0.103	0.0184

Heavy Truck

0.865

0.027

0.108

0.0074

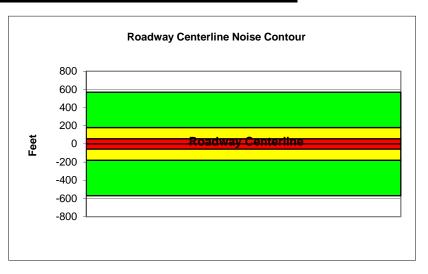
Autos: 0
Medium Trucks: 2.3
Heavy Trucks: 8

**NOISE SOURCE ELEVATIONS (Feet)** 

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.3	64.1	62.3	56.2	64.8	65.5
Medium Trucks:	64.2	56.2	49.8	48.2	56.7	56.9
Heavy Trucks:	69.1	57.2	48.1	49.3	59.0	59.2
Vehicle Noise:	71.5	65.6	62.7	57.8	66.4	66.8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)								
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL		
Autos:								
Medium Trucks:								
Heavy Trucks:								
Vehicle Noise:								

CENTERLINE NOISE CONTOUR							
Unmitigated							
60 dBA	570						
65 dBA	180						
70 dBA	57						
Mitigated							
60 dBA							
65 dBA							
70 dBA							



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Linne Road Road Segment: Corral Hollow Road to Tracy Boulevard PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 39185 Receiver Barrier Dist: Peak Hour Traffic: 3918.5 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type Barrier Height: 0.096 0.9742 Auto 0.775 0.129 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos:

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.2	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	64.4	56.4	50.0	48.4	56.9	57.1
Heavy Trucks:	69.0	57.0	48.0	49.2	58.7	58.9
Vehicle Noise:	71.3	66.2	63.5	58.4	67.0	67.5

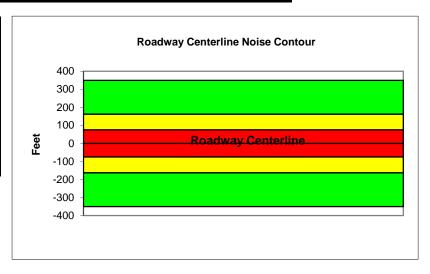
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MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	350					
65 dBA	162					
70 dBA	75					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

Medium Trucks:



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Project Name: Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Linne Road Road Segment: Tracy Boulevard to MacArthur Drive PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 27730 Receiver Barrier Dist: Peak Hour Traffic: 0 2773 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 Barrier Far lane CL Dist: **NOISE INPUTS** 0 Site conditions: SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type 0.9742 Barrier Height: Auto 0.775 0.129 0.096 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	63.4	61.6	55.6	64.2	64.8
Medium Trucks:	62.9	54.9	48.5	46.9	55.4	55.6
Heavy Trucks:	67.5	55.5	46.5	47.7	57.2	57.4
Vehicle Noise:	69.8	64.7	62.0	56.9	65.5	66.0

2.3

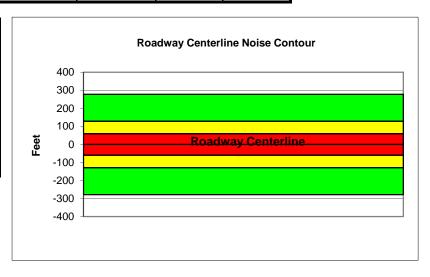
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MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR						
278						
129						
60						

Autos:

Medium Trucks:



## Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)**

Project Name: Scenario: Future Plus Project

Tracy Hills EIR Ryan Chiene Job #: Analyst: 135721

Roadway: Lammers Road

Heavy Trucks:

Road Segment: Old Schulte Road to Valpico Road

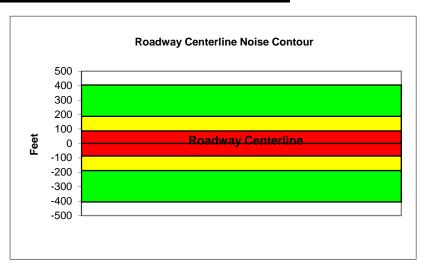
PROJECT	DATA			5	SITE DATA		
Centerline Dist to Barrier:	0		Road Grade:		0		
Barrier (0=wall, 1= berm):	0		Average Dail	y Traffic:	64740		
Receiver Barrier Dist:	0		Peak Hour T	raffic:	6474		
Centerline Dist. To Observer:	100		Vehicle Spee	ed:	40		
Barrier Near Lane CL Dist:	0		Centerline Se	eparation:	20		
Barrier Far lane CL Dist:	0			NC	ISE INPUT	S	
Pad Elevation:	0.5		Site condition	ns: <b>SOFT SI</b>	ΤE		
Road Elevation:	0			F	LEET MIX		
Observer Height (above grade)	: 5.5		Туре	Day	Evening	Night	Daily
Barrier Height:	0		Auto	0.775	0.129	0.096	0.9742
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELI	EVATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0						
Medium Trucks:	2.3						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	57.0	65.8	64.0	57.9	66.5	67.1	
Medium Trucks:	65.9	57.9	51.5	49.9	58.4	58.6	
Heavy Trucks:	70.8	58.8	49.8	51.0	60.7	60.8	
Vehicle Noise:	73.1	67.3	64.4	59.5	68.0	68.5	

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	405					
65 dBA	188					
70 dBA	87					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

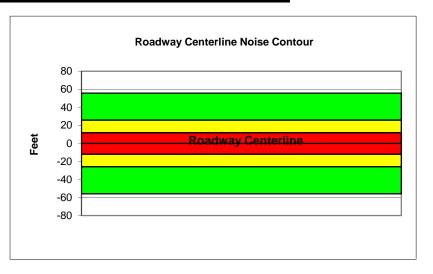


			ninistration F					
Project Name: T	racy Hills EIR		•	Scenario:	Future Plus	s Project		
Analyst:	Ryan Chiene			Job #:	135721			
Roadway: T	racy Boulevard							
Road Segment: S	South of Linne Road							
PRO	JECT DATA			5	SITE DATA			
Centerline Dist to Barrier	·: 0		Road Grade:		0			
Barrier (0=wall, 1= berm)	): <b>0</b>		Average Dail	y Traffic:	3310			
Receiver Barrier Dist:	0		Peak Hour T	raffic:	331			
Centerline Dist. To Obse	erver: <b>100</b>		Vehicle Speed:		40			
Barrier Near Lane CL Dis	st: <b>0</b>		Centerline Se	eparation:	22			
Barrier Far lane CL Dist:	0		NOISE INPUTS					
Pad Elevation:	0.5		Site conditions:SOFT SITE					
Road Elevation:	0			F	LEET MIX			
Observer Height (above	grade): <b>5.5</b>		Туре	Day	Evening	Night	Daily	
Barrier Height:	0		Auto	0.775			0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOURC	CE ELEVATIONS (Fee	et)	Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	0							
Medium Trucks:	2.3							
Heavy Trucks:	8							

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	44.0	52.8	51.0	44.9	53.6	54.2	
Medium Trucks:	53.0	44.9	38.5	36.9	45.4	45.7	
Heavy Trucks:	57.8	45.9	36.8	38.0	47.7	47.9	
Vehicle Noise:	60.2	54.4	51.4	46.5	55.1	55.6	

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
56						
26						
12						

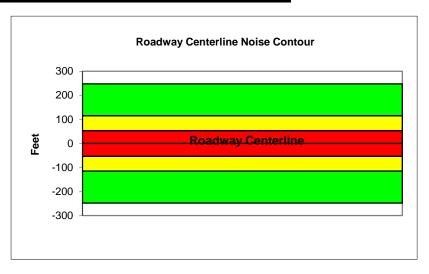


		Highway Adn Noise Predicti						
Project Name:	Tracy Hills EIR		•		Future Plus	s Project		
Analyst:	Ryan Chiene			Job #:	135721	-		
Roadway:	Linne Road							
Road Segment:	East of Chrisman Ro	oad						
PR	OJECT DATA			5	SITE DATA			
Centerline Dist to Barrie	er:	0	Road Grade:		0			
Barrier (0=wall, 1= berm	n):	0	Average Dail	y Traffic:	14140			
Receiver Barrier Dist:		0	Peak Hour T	raffic:	1414			
Centerline Dist. To Obs	erver: 10	0	Vehicle Spee	ed:	55			
Barrier Near Lane CL D	ist:	0	Centerline Se	eparation:	24			
Barrier Far lane CL Dist	:	0	NOISE INPUTS					
Pad Elevation:	0.	5	Site conditions:SOFT SITE					
Road Elevation:		0		F	LEET MIX			
Observer Height (above	e grade): 5.	5	Туре	Day	Evening	Night	Daily	
Barrier Height:	,	0	Auto	0.775	0.129	0.096	0.9742	
Rt View: 90	Lft View:	-90	Med. Truck	0.848	0.049	0.103	0.0184	
NOISE SOUR	CE ELEVATIONS (	Feet)	Heavy Truck	0.865	0.027	0.108	0.0074	
Autos:	-	0			-	-	-	
Medium Trucks:	2.	3						
Heavy Trucks:		8						

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:	54.2	63.0	61.2	55.2	63.8	64.4	
Medium Trucks:	61.4	53.3	46.9	45.3	53.8	54.1	
Heavy Trucks:	65.3	53.4	44.3	45.6	54.8	54.9	
Vehicle Noise:	67.6	64.0	61.5	56.1	64.7	65.2	

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	248					
65 dBA	115					
70 dBA	53					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Linne Road Road Segment: MacArthur Drive to Chrisman Road PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 21360 Receiver Barrier Dist: Peak Hour Traffic: 2136 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type Barrier Height: 0.096 0.9742 Auto 0.775 0.129 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos:

UNMITIGAT	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)					
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	61.8	53.7	47.4	45.8	54.3	54.5
Heavy Trucks:	66.3	54.4	45.3	46.5	56.1	56.2
Vehicle Noise:	68.7	63.6	60.9	55.7	64.3	64.8

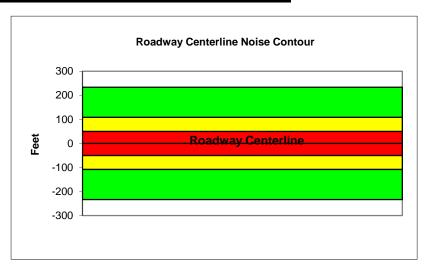
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8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	233					
65 dBA	108					
70 dBA	50					
Mitigated						
60 dBA						
65 dBA						
70 dBA						

Medium Trucks:



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Altamont Pass Road Road Segment: West of Greenville Road PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 22140 Receiver Barrier Dist: Peak Hour Traffic: 2214 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 26 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type

Auto

Med. Truck

Heavy Truck

-90

Autos: 0
Medium Trucks: 2.3
Heavy Trucks: 8

**NOISE SOURCE ELEVATIONS (Feet)** 

90

Barrier Height:

Rt View:

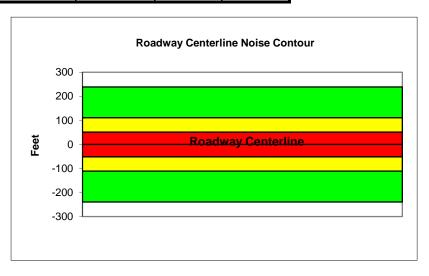
UNMITIGAT	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)					
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.6	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	61.9	53.8	47.5	45.9	54.4	54.6
Heavy Trucks:	66.4	54.5	45.4	46.7	56.2	56.3
Vehicle Noise:	68.8	63.7	61.0	55.8	64.4	64.9

0

Lft View:

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR					
Unmitigated					
60 dBA	239				
65 dBA	111				
70 dBA	52				
Mitigated					
60 dBA					
65 dBA					
70 dBA					



0.775

0.848

0.865

0.129

0.049

0.027

0.096

0.103

0.108

0.9742

0.0184

0.0074

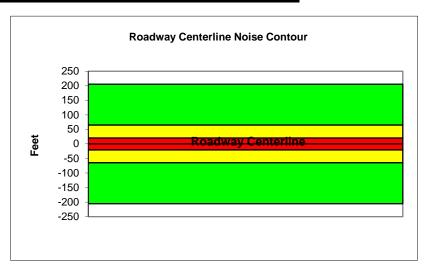
#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Tracy Hills EIR Project Name: Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Patterson Pass Road West of Greenville Road Road Segment: PROJECT DATA SITE DATA Centerline Dist to Barrier 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 6620 Receiver Barrier Dist: Peak Hour Traffic: 662 0 Centerline Dist. To Observer: Vehicle Speed: 100 45 Barrier Near Lane CL Dist: 0 Centerline Separation: 42 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions HARD SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 0 Day Evening Night Daily Type 0.9742 Barrier Height: 0 Auto 0.775 0.129 0.096 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184 **NOISE SOURCE ELEVATIONS (Feet)** Heavy Truck 0.865 0.027 0.108 0.0074 Autos: Medium Trucks: 2.3

UNMITIG	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)					
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.1	59.9	58.1	52.0	60.6	61.2
Medium Trucks:	59.4	51.3	44.9	43.3	51.8	52.1
Heavy Trucks:	63.9	51.9	42.9	44.1	53.6	53.8
Vehicle Noise:	66.2	61.2	58.4	53.3	61.9	62.4

8

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)							
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL	
Autos:							
Medium Trucks:							
Heavy Trucks:							
Vehicle Noise:							

CENTERLINE NOISE CONTOUR						
Unmitigated						
60 dBA	206					
65 dBA	65					
70 dBA	21					
Mitigated						
60 dBA						
65 dBA						
70 dBA						



#### Federal Highway Administration RD-77-108 **Traffic Noise Prediction Model (CALVENO)** Project Name: Tracy Hills EIR Scenario: Future Plus Project Analyst: Ryan Chiene Job #: 135721 Roadway: Tesla Road Road Segment: West of Greenville Road PROJECT DATA SITE DATA Centerline Dist to Barrier: 0 Road Grade: 0 Barrier (0=wall, 1= berm): 0 Average Daily Traffic: 15520 Receiver Barrier Dist: Peak Hour Traffic: 1552 0 Centerline Dist. To Observer: Vehicle Speed: 50 100 Barrier Near Lane CL Dist: 0 Centerline Separation: 24 **NOISE INPUTS** Barrier Far lane CL Dist: 0 Site conditions:SOFT SITE Pad Elevation: 0.5 Road Elevation: 0 **FLEET MIX** Observer Height (above grade): 5.5 Day Evening Night Daily Type 0.096 0.9742 Barrier Height: Auto 0.775 0.129 0 Rt View: 90 Lft View: -90 Med. Truck 0.848 0.049 0.103 0.0184

Heavy Truck

0.865

0.027

0.108

0.0074

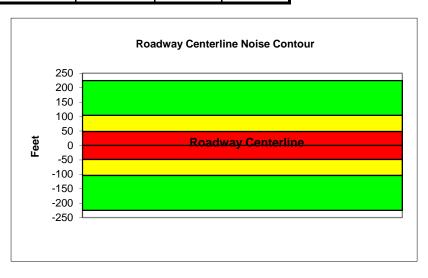
Autos: 0
Medium Trucks: 2.3
Heavy Trucks: 8

**NOISE SOURCE ELEVATIONS (Feet)** 

UNMITIGAT	UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)					
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.2	60.4	54.4	63.0	63.6
Medium Trucks:	61.1	53.1	46.7	45.1	53.6	53.8
Heavy Trucks:	65.4	53.4	44.4	45.6	55.0	55.1
Vehicle Noise:	67.7	63.3	60.8	55.5	64.1	64.6

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR						
225						
104						
48						





# **TRACY HILLS PHASE 1**

# NOISE IMPACT ANALYSIS CITY OF TRACY

Prepared for:

The Tracy Hills Project Owner, LLC 3 San Joaquin Plaza, Suite 100 Newport Beach, CA 92660

Prepared by:

Bill Lawson, PE, INCE blawson@urbanxroads.com (949) 660-1994 x203

November 14, 2013

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## LIST OF ABBREVIATED TERMS

(1) Reference

AADT Annual Average Daily Truck Traffic

Caltrans California Department of Transportation
CEQA California Environmental Quality Act
CNEL Community Noise Equivalent Level

dBA A-weighted decibels

FHWA Federal Highway Administration

INCE institute of Noise Control Engineering
K-Factor Traffic Noise Model Correction Factor
Leq Equivalent continuous sound level

Lmax Maximum level measured over the time interval Lmin Minimum level measured over the time interval

mph Miles per hour

NLR Noise Level Reduction
NSR Noise Study Report

NAC Noise Abatement Criteria

Project Tracy Hills Phase 1

RCNM Roadway Construction Noise Model

STC Sound Transmission Class
TeNS Technical Noise Supplement
TNM Traffic Noise Model Version 2.5



## **EXECUTIVE SUMMARY**

A noise study has been completed to determine the noise exposure and the necessary noise abatement measures for the proposed Tracy Hills Phase 1 residential ("Project"). The project site is located east of Interstate 580 (I-580) and north of South Corral Hollow Road in the City of Tracy. The purpose of this noise analysis is to ensure that the proposed development is compatible with the existing and future noise environment.

#### **ON-SITE TRAFFIC NOISE IMPACTS**

The results of this analysis indicate that future vehicle noise from the I-580 Freeway is the principal sources of community noise that will impact the project site. Based on the noise exposure potential for the Tracy Hills Phase 1, the project site plan was specifically designed to account for the noise impacts associated with the I-580 Freeway. To reduce the noise exposure to the noise sensitive residential areas, several design features were considered as part of the site planning process. These design features include, providing additional setbacks, changing the residential building orientations to limit private uses facing the I-580 Freeway, providing noise barriers where possible (berms and masonry walls), as well as plans to provided enhanced noise rated building assembly design and insulation features.

#### **EXTERIOR NOISE LEVELS**

To predict the future exterior noise levels, a traffic noise prediction model was developed. Using the Tracy Hills Phase 1 noise prediction model, the flown aerial topographic files and the project grading plans, the future on-site exterior noise levels are expected to range from 58.9 to 73.3 dBA CNEL with the construction of the planned eight foot high noise barrier. Exhibit ES-1 illustrates the future exterior noise level impacts and the location of the planned eight-foot high noise barrier for the Tracy Hills Phase 1 project.

Based on the City of Tracy Land Use Compatibility for Community Noise Environments, single-family residential exterior noise levels of less than 75 dBA CNEL are considered as "Conditionally Acceptable" provided that a detailed analysis of the noise reduction requirements and needed noise insulation features have been included in the design.

#### **INTERIOR NOISE LEVELS**

To satisfy the City of Tracy 45 dBA CNEL interior noise level criteria, lots facing the I-580 Freeway will require a Noise Level Reduction (NLR) of up to 28.3 dBA and a windows closed condition necessitating a means of mechanical ventilation (e.g. air conditioning). The interior noise level analysis shows that the City of Tracy 45 dBA CNEL interior noise level standards can likely be satisfied using upgraded windows with a minimum STC rating of 33. With the recommended interior noise abatement measures provided in this study, the proposed Tracy Hills Phase 1 Project is expected to meet the City of Tracy 45 dBA CNEL interior noise level standards for residential development. A final noise study shall be prepared prior to obtaining building permits for the Project. This report will finalize the abatement measures that are proposed in this report using the precise grading plans and actual building design specifications.



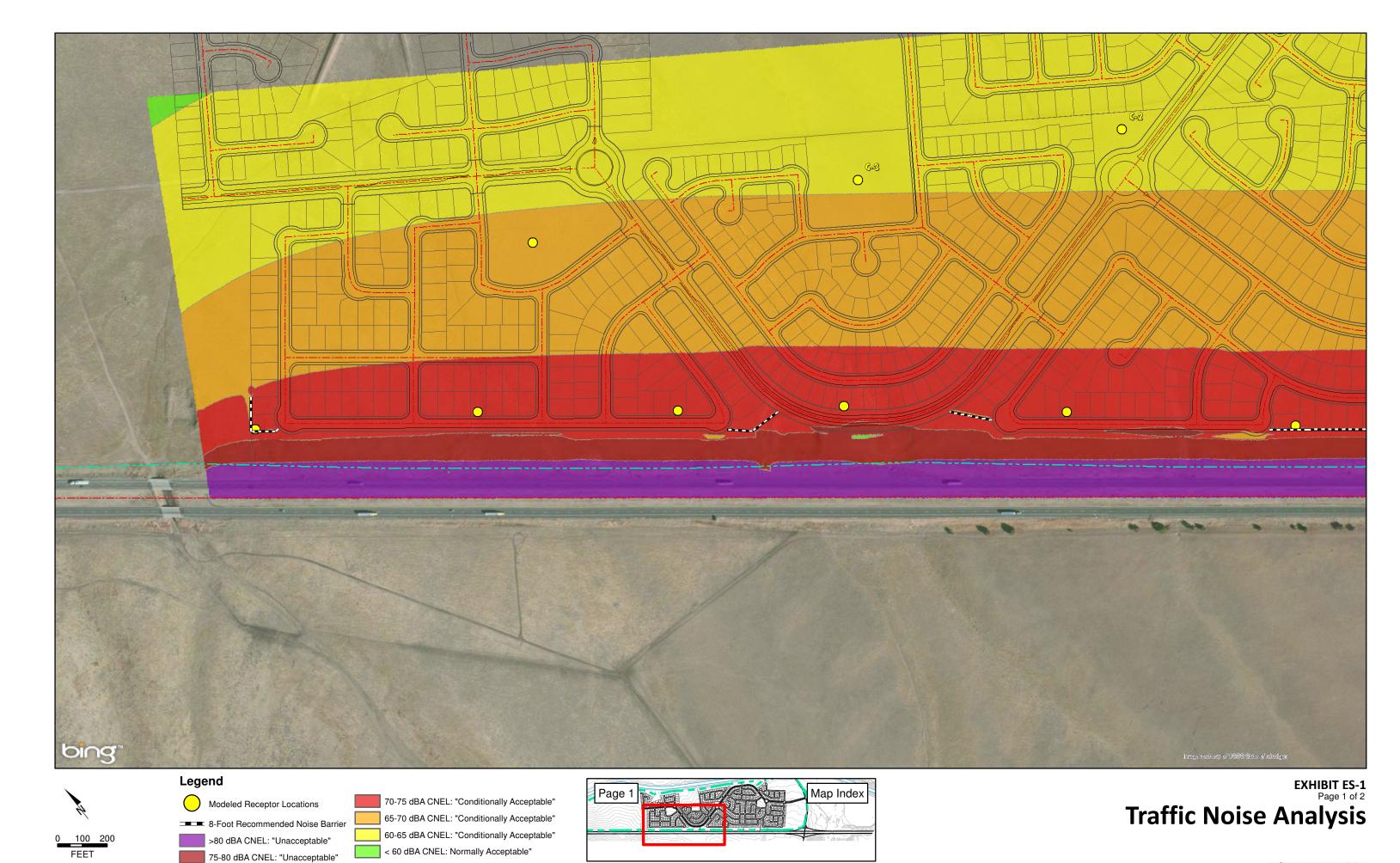
#### **OFF-SITE TRAFFIC NOISE IMPACTS**

Traffic generated by the Project will influence the off-site traffic noise levels in surrounding areas. To quantify the traffic noise impacts off-site on the surrounding areas, the changes in traffic noise levels on 18 roadway segments surrounding the Project site were estimated based on the change in the average daily traffic volumes. The traffic noise levels provided in this analysis are based on the traffic forecasts provided in the *Tracy Hills Phase 1 Traffic Impact Analysis* prepared by Kimley-Horn Associates, October 2013.

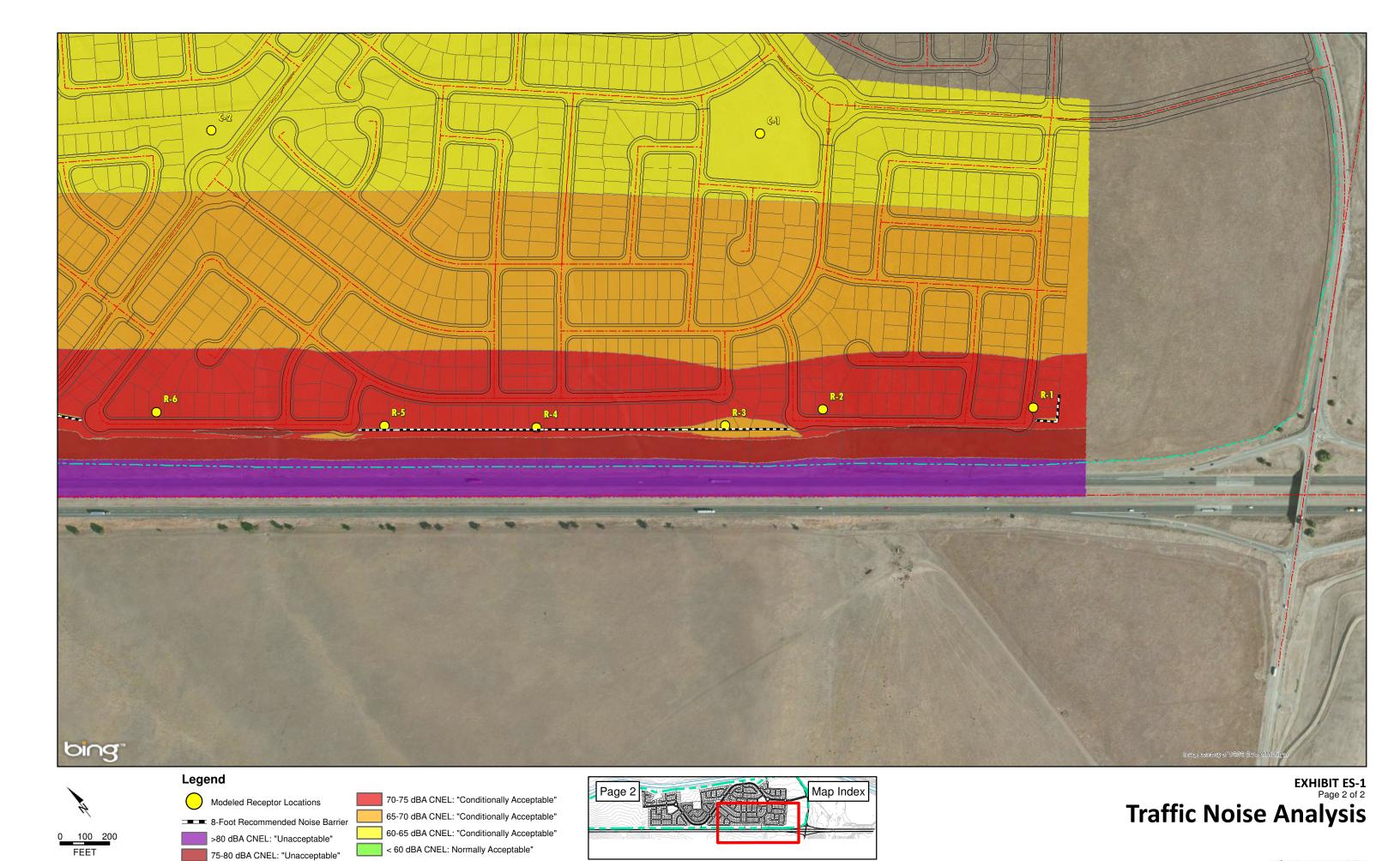
To assess the noise level impacts associated with the Project, noise contour boundaries were developed for Existing, Existing Plus Project and Cumulative traffic conditions. This analysis shows that the development of the Project will generate an unmitigated exterior noise level increase of up to 4.1 dBA CNEL. Based on the noise impact significance criteria described in Section 4.2, this off-site traffic noise level increase is considered a significant impact for existing with project conditions.

## **EXHIBIT ES-1: Traffic Noise Analysis**













## 1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Tracy Hills Phase 1 project. This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment.

## 1.1 SITE LOCATION

The proposed Tracy Hills Phase 1 development is located within the City of Tracy, east of Interstate 580 (I-580) and north of South Corral Hollow Road as shown on Exhibit 1-A. The Project site is currently vacant and undeveloped.



**EXHIBIT 1-A: LOCATION MAP** 

## 1.2 PROJECT DESCRIPTION

The Project includes construction of approximately 1,200 residential lots and 50 acres of business park use, Exhibit 1-B illustrates a preliminary conceptual site plan.



**EXHIBIT 1-B: SITE PLAN** 

## 2 FUNDAMENTALS

Noise has been simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

**EXHIBIT 2-A: TYPICAL NOISE LEVELS** 

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE	
THRESHOLD OF PAIN		140	INTOLERABLE OR		
NEAR JET ENGINE		130			
		120	DEAFENING	HEARING LOSS	
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110	LOUD MODERATE	110111111111111111111111111111111111111	
LOUD AUTO HORN		100			
GAS LAWN MOWER AT 1m (3 ft)		90			
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE	
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70			
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60			
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50		SLEEP DISTURBANCE	
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40			
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT NO EFFECT VERY FAINT	NO EFFECT	
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20			
	BROADCAST/RECORDING STUDIO	10			
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0			

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

#### 2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud.(1) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort.(2) Another



important aspect of noise is the duration of the sound and the way it is described and distributed in time.

#### 2.2 Noise Descriptors

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (Leq). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite twenty-four hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA Leq sound levels in the evening from 7 p.m. to 10 p.m., and the addition of 10 decibels to dBA Leq sound levels at night between 10 p.m. and 7 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any particular time, but rather represents the total sound exposure. The City of Tracy relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

#### 2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

#### 2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

#### 2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receptor is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also



been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receptor such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source.

#### 2.3.3 ATMOSPHERIC EFFECTS

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 ft) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

#### 2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby resident. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure.

#### 2.4 TRAFFIC NOISE PREDICTION

According to the *Highway Traffic Noise Analysis and Abatement Policy and Guidance*, provided by the Federal Highway Administration, the level of traffic noise depends on three primary factors: the volume of the traffic, the speed of the traffic, and the vehicle mix within the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks.(3) A doubling of the traffic volume, assuming that the speed and vehicle mix do not change, results in a noise level increase of 3 dBA. The vehicle mix on a given roadway may also have an effect on community noise levels. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise level impacts will increase. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires on the roadway.



#### 2.5 Noise Control

Noise control is the process of obtaining an acceptable noise environment for a particular observation point or receptor by controlling the noise source, transmission path, receptor, or all three. This concept is known as the source-path-receptor concept. In general, noise control measures can be applied to any and all of these three elements.

## 2.6 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receptor. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the view of the noise source. (3)

#### 2.7 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches and residences are more sensitive to noise intrusion than are commercial or industrial activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process.

The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (4)

#### 2.8 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon each individual's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level of the receptor;
- Noise receptor's perception that they are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Receptor's belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (5) Surveys have shown that about ten percent of the



people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (5)

Despite this variability in behavior on an individual level, the population as a whole can be expected to exhibit the following responses to changes in noise levels. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dBA are considered "barely perceptible," and changes of 5 dBA are considered "readily perceptible." (3)



## 3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains fairly constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

## 3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared according to guidelines adopted by the Governor's Office of Planning and Research. (6) The purpose of the Noise Element is to "limit the exposure of the community to excessive noise levels". In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

#### 3.2 STATE OF CALIFORNIA BUILDING CODE

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for the purpose of controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 60 dBA CNEL or higher. Acoustical studies that accompany building plans for noise-sensitive land uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL. There is no interior noise standard for industrial warehousing uses such as the building proposed by the Tracy Hills Phase 1.

#### 3.3 CITY OF TRACY GENERAL PLAN NOISE ELEMENT

The City of Tracy General Plan Noise Element (7) identifies several policies to minimize the impacts of excessive noise levels throughout the community. The General Plan Noise Element policies are designed to accomplish the following objectives:



- Ensure appropriate exterior and interior noise levels for new development (Objective N-1.1),
- Control sources of excessive noise (Objective N-1.2)
- Consider noise issues in the development review process (Objective N-1.3)

The objectives and policies contained in the General Plan Noise Element (included in Appendix 3.1) can also be described in terms of land use compatibility, transportation related noise sources, and non-transportation related noise sources.

#### 3.3.1 LAND COMPATIBILITY

To ensure that residents are protected from excessive noise, the City of Tracy General Plan Noise Element provides guidelines to evaluate the Land Use Compatibility for Community Noise Environment (Figure 9-3). These guidelines are based on the Governor's Office of Planning and Research (6) and are used to assess the Community Noise Environment on land uses. According to the Land Use Compatibility for Community Noise Environment guidelines, noise sensitive land uses such as single family residences are *normally acceptable* with exterior noise levels below 60 dBA CNEL and *conditionally acceptable* with noise levels below 75 dBA CNEL. For multi-family residential, exterior noise levels below 65 dBA CNEL are considered *normally acceptable*. The City of Tracy General Plan Noise Element is included in Appendix 3.1.

#### 3.3.2 Transportation Related Noise Sources(8)

The General Plan Noise Element defines the appropriate exterior and interior noise levels in Objective N-1.1 for new land uses and requires that measures be incorporated into all new development to attenuate exterior and/or interior noise levels to those considered normally acceptable for the land use. Specifically, Policy P3 states that all new single family residential development shall maintain a noise standard of 60 CNEL for exterior noise in private use areas and Policy P6 states that all multi-family residential developments shall maintain a standard of 65 CNEL for community outdoor recreation areas. Policy P5 states that all new residential projects shall maintain an interior standard of 45 CNEL. In areas where the existing noise level is above 60 CNEL, the proposed General Plan states that new residential projects shall be analyzed according to protocols in the California Building code (Policy P8). Further, Policy P9 states that measures to attenuate exterior and/or interior noise levels to acceptable levels shall be incorporated into all developments.

Further, the City shall not allow new noise sensitive land uses in areas where measures cannot be implemented to reduce noise levels to normally acceptable levels (Policy P1). Additional policies would reduce the impacts of introducing noise sensitive uses in noisy areas by considering noise issues in the development review process and requiring that significant noise impacts be mitigated. The implementation of the General Plan Noise Element policies would adequately reduce noise impacts to a less-than-significant level.

#### 3.3.3 Non-Transportation Related Noise Sources

The most effective method to control community noise impacts from non-transportation noise sources is through the application of a community noise control ordinance. The policies contained in the Noise Control Ordinance (9) are designed to protect residents from the



negative effects of "spillover" or nuisance noise. Nuisance noise conflicts would be caused by noise sources such as outdoor dining areas or bars, mechanical equipment, outdoor maintenance areas, truck loading docks and parking lots. The City of Tracy Noise Control Ordinance is included in Appendix 3.2.

The City of Tracy has set restrictions to control noise impacts associated with the construction of the proposed project. Objective N-1.2 Policy P4 limits construction in the vicinity of noise sensitive land uses during the daylight hours or 7:00 a.m. to 7:00 p.m.



## 4 SIGNIFICANCE CRITERIA

The following significance criteria are based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. For the purposes of this report, noise impacts would be potentially significant if the Project is determined to result in or cause:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- A substantial permanent increase in ambient noise levels in the Project vicinity above existing levels without the proposed Project; or
- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above noise levels existing without the proposed Project.

While the CEQA Guidelines and the City of Tracy noise standards provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts under the first threshold, they do not define the levels at which increases are considered substantial for use under the second and third threshold. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels and the location of noise-sensitive receptors in order to determine if a noise increase represents a significant adverse environmental impact.

#### 4.1 DIRECT PROJECT IMPACTS

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development:

- If single family residential development exceeds the "normally acceptable" exterior noise level of 60 dBA CNEL in private use areas
- If multi-family residential exceeds the "normally acceptable" exterior noise level of 65 dBA CNEL for outdoor recreation areas.
- If any new residential development exceeds an interior standard of 45 CNEL.
- If project-related construction activities occur in the vicinity of noise sensitive land uses during the daylight hours or 7:00 a.m. to 7:00 p.m.

#### 4.2 CUMULATIVE PROJECT IMPACTS

The level of significance attributed to the cumulative project impacts are based on the noise levels with and without the project. The significance of cumulative noise impacts varies depending on the condition of the environment and the project related noise level increases. For example, if the ambient noise environment is quiet and the new noise source greatly increase the noise levels, an impact may occur even though the noise criteria might not be exceeded. Therefore, for the purpose of this analysis, a "readily perceptible" a 5 dBA or greater project related noise level increase is considered a significant impact.



In areas where the without project noise levels range from 60 to 65 dBA and noise levels impacts become noticeable at some value of greater than 1 dBA, and a 3 dBA "barely perceptible" noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact since it likely contributes to an existing noise deficiency. Table 4.1 below provides a summary of the cumulative noise impact significance criteria.

**TABLE 4-1: SIGNIFICANCE OF CUMULATIVE NOISE IMPACTS** 

Without Project Noise Level (CNEL)	Project Related Significant Impact
< 60 dBA	5 dBA or more
60 - 65 dBA	3 dBA or more
> 65 dBA	1.5 dBA or more

Based on the Community Response to Noise Surveys contained in the U.S. Environmental Protection Agency Office of Noise Abatement and Control, Noise Effects Handbook-A Desk Reference to Health and Welfare Effect of Noise, October 1979 (revised July 1981).



# 5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, two long-term (LT) twenty-four hour and four short-term (ST) twenty minute noise measurements were taken at noise sensitive receptor locations in the Project study area. Noise sensitive receptors are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Since it is not practical to collect measurements at each individual building or residence, each receptor measurement represents a group of buildings that share acoustical equivalence. In other words, the area represented by the receptor shares similar shielding, terrain, and geometric relationship to the reference noise source. While receptors represent a location of noise sensitive areas, receivers represent noise modeling locations used to estimate the future noise level impacts

#### 5.1 LONG-TERM NOISE LEVEL MEASUREMENTS

To describe the typical weekday noise environment and identify the peak noise hour, two long-term hourly noise level measurements were collected within the project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. The noise level measurements were recorded by Urban Crossroads, Inc. on Thursday, May 30, 2013. Appendix 5.1 includes study area photos

#### 5.1.1 LONG-TERM MEASUREMENT PROCEDURE AND CRITERIA

The long-term noise level measurements were recorded using two Quest DL Pro data logging Type 2 noise dosimeters. The Quest DL noise dosimeters were calibrated using a Quest QC-10 calibrator. The long-term noise level measurement results are included in Appendix 5.2.

#### **5.1.2** Long-Term Measurement Results

The results of the long-term noise level measurements are presented in Table 5-1. Table 5-1 identifies the observed energy average hourly noise levels observed between the hours of 3 a.m. and 8 a.m. Recognizing that measurements should not be made when wind speeds exceed 12 mph (10) the remaining hours with wind speeds exceeding 8 mph were not included in the average hourly noise level summary. Wind conditions exceeding 8 mph are common throughout the project area. This is reflected in the fact that wind mills are located near the project site. Appendix 5.2 provides a summary of the long-term existing hourly ambient noise level measurements and meteorological conditions at the locations described below:

- Location LT-1 was positioned north at the edge of Caltrans Right-of-Way approximately 40 feet north of the edge of pavement for the northbound I-580 travel lanes. The existing energy (logarithmic) average hourly noise level observed at this location was measured at 72.6 dBA
- Location LT-2 represents the center of the project site approximately 1,700 feet north of the edge of pavement for the northbound I-580 travel lanes. The observed energy average hourly noise level produced a measurement of 55.0 dBA Leq.



Observer Location Date Description		Description	Average Hourly Noise Level (Leq dBA) <sup>2</sup>
LT-1	10/30/2013	At the edge of Caltrans Right-of-Way approximately 40 feet north of the edge of pavement for the northbound I-580 travel lanes.	72.6
LT-2	10/30/2013	In the center of the project site approximately 1,700 feet north of the edge of pavement for the northbound I-580 travel lanes.	55.0

**TABLE 5-1: LONG-TERM (AMBIENT) NOISE LEVEL MEASUREMENTS** 

# 5.2 SHORT-TERM NOISE LEVEL MEASUREMENT

To describe the peak hour weekday noise environment, four short-term (twenty-minute) noise level measurements were collected at noise sensitive receptors locations within the project study area as shown on Exhibit 5-A.

#### 5.2.1 PROCEDURES AND CRITERIA

Short-term Noise level measurements were taken in accordance with the procedures described in the with Caltrans Technical Noise Supplement (TeNS).(11) All short-term noise level measurements were collected using a Larson Davis Model 824 Type 1 precision sound level meter. The measurements were collected for a 20 minute time period at each location. The Larson Davis Model 824 sound level meter was calibrated before the monitoring using a Larson-Davis calibrator, Model CAL 150. All noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (Standard S1.4-1983).

To describe the existing traffic conditions, traffic volumes on the I-580 Freeway were classified and counted during each of the four short-term noise measurements. Vehicles were classified as automobiles, medium trucks, or heavy trucks. Automobiles are vehicles with two axles and four tires that are designed primarily to carry passengers; small vans and light trucks are included in this category. Medium trucks include all cargo vehicles with two axles and six tires. Heavy trucks include all vehicles with three or more axles. The posted speed limit on I-580 Freeway is 70 miles per hour (mph). The traffic conditions were modeled in TNM 2.5 (12) and compared to the field measurement results in order to calibrate the noise prediction model. Consistent with Caltrans Technical Noise Supplement (TeNS) (11) the following measurement procedures were utilized:

- Calibrate sound level meter before and after each measurement.
- Set up sound level meter at a height of 5 ft for all locations.
- A windscreen was placed over the microphone.
- Frequency weighting was set on "A" and "FAST" response.



<sup>&</sup>lt;sup>1</sup>See Exhibit 5-A for the location of the monitoring sites.

<sup>&</sup>lt;sup>2</sup> Energy (logarithmic) average hourly levels observed between the hours of between 3am and 8am. Due to wind conditions exceeding 8 mph, the remaining hours were not included in the Average Hourly Noise Level Summary. The long-term measurements printouts are included in Appendix 5.2.

- Commence noise monitoring.
- Collect site-specific data, such as date, time, direction of traffic, vehicle speed, and the location of the sound level meter relative to any existing feature.
- Count passing vehicles for a period of 20 minutes concurrently with noise measurement. Vehicles were split into three categories: automobiles, medium trucks, and heavy trucks.
- Wind speed, temperature, humidity, and weather conditions were observed and documented.
- During the noise measurements, any excessive noise contamination such as barking dogs, lawn mowers, and/or aircraft flyovers were noted.
- Measurements were stopped after 20 minutes.
- Calibrate sound level meter.
- Proceed to next monitoring site and repeat.

The traffic counts were expanded to hourly volumes (multiplied by three to normalize the results to hourly values) and entered into Traffic Noise Model (TNM) 2.5 for each monitoring site. The monitoring results were then used to calibrate the model outputs.

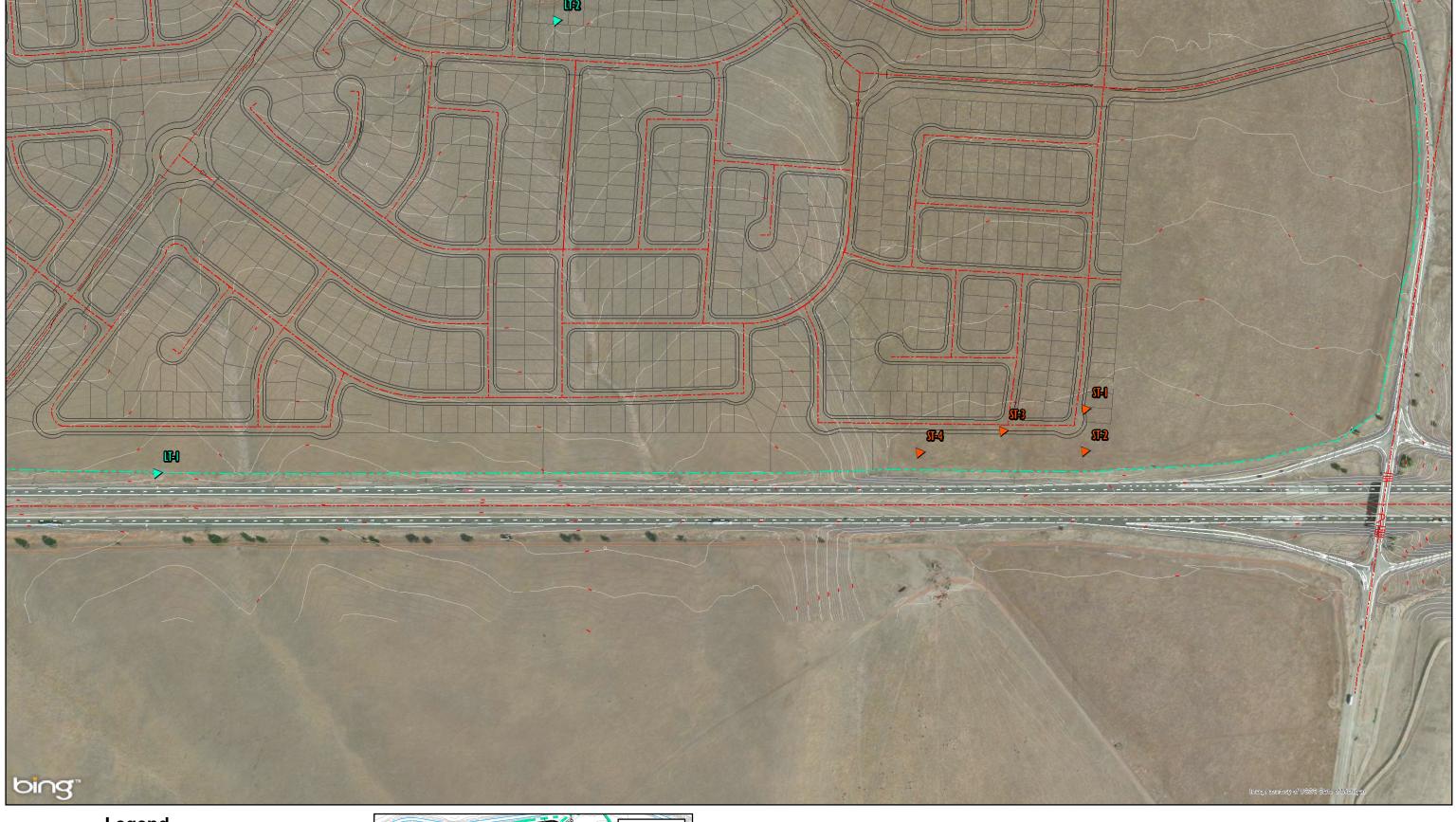
# **5.2.2 SHORT-TERM MEASUREMENT RESULTS**

Short-term measurements were taken at four locations (ST-1 to ST-4) during free flow traffic conditions. To accurately describe the existing traffic conditions during each of the four short-term noise level measurements, traffic counts by vehicle type were collected concurrently during the same noise measurement period by vehicle type on the I-580 Freeway.

**TABLE 5-2: SHORT-TERM NOISE MEASUREMENT RESULTS** 

	JD A	CI I	5				Volume		Speed	
ID	dBA Leq	Start Time	Duration (Minutes)	Date	Location	Autos	Medium Trucks	Heavy Trucks	Limit (mph)	
ST-1	62.0	6:38	20	5/30/2013	I-580 NB	322	11	67	70/55	
31-1	62.0	AM	20	3/30/2013	I-580 SB	130	7	43	70/55	
CT 2	CE 0	65.8 7:02 AM	7:02	20	5/30/2013	I-580 NB	273	8	78	70/55
ST-2	03.8		20	3/30/2013	I-580 SB	124	7	49	70/55	
CT 2	64.2	7:25	1 20	5/30/2013	I-580 NB	280	10	67	70/55	
ST-3	64.3	AM			I-580 SB	119	5	26	70/55	
CT 4	CF C	7:48	20	F/20/2012	I-580 NB	243	8	70	70/55	
ST-4	65.6	AM	20	5/30/2013	I-580 SB	135	10	33	70/55	
						280	9	71	70/55	
		Ave	rage		I-580 SB	127	7	38	70/55	







# Legend

Long-Term Monitoring Location



Short-Term Monitoring Location



# **Noise Measurement Locations**



# 6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future on and off-site traffic noise environment.

# **6.1** ON-SITE TRAFFIC NOISE PREDICTION

On-site Traffic noise levels were estimated using the FHWA Traffic Noise Model version 2.5 (TNM). TNM 2.5 is a computer model based on two FHWA reports: FHWA-PD-96-009 (13) and FHWA-PD-96-010. (12) TNM was used to predict the existing and future traffic noise levels at specific receiver locations. Inputs to TNM include:

- the three-dimensional coordinate of the roadways, noise receivers, and topographic or planned barrier that would affect noise propagation;
- vehicle volumes and speeds, by type of vehicle;
- absorptions factors based on modeled ground type; and
- adjustment factors (K-factors)

To ensure that the TNM accurately reflects the existing and future conditions, the elevations used for Tracy Hills Phase 1 noise prediction model were based on the flown aerial topographic files in combination with the project grading plan elevations.

#### **6.1.1** MODEL CALIBRATION

To validate the accuracy of the model, TNM 2.5 was used to compare the measured traffic noise levels to the modeled noise levels. At each noise measurement location, the I-580 Freeway traffic volumes were collected at the same time as the short-term noise level measurements. Table 5-2 presents a summary of the traffic volumes counted at each short-term noise level measurement location. Using the average traffic counts by vehicle type (autos, medium truck and heavy trucks) the counts were then were normalized (20 minute traffic count multiple by a factor of 3 to arrive at an hourly estimate) in order to describe the one hour traffic conditions. The normalized average traffic volumes shown on Table 6-1 were then input into the traffic noise prediction model to simulate the traffic noise levels during the actual measurement period. Modeled and measured sound levels were then compared to validate the accuracy of the model and to determine if calibration of the model is necessary.

Recognizing that traffic noise prediction models cannot account for all the variables present in the real world, the models should be calibrated with actual measurements. The purpose of model calibration is to fine-tune the prediction model to actual site conditions that may not adequately accounted for by the model. (11) The calibration model run results shown on Table 6-2 suggest that the TNM model overstates the noise levels by 0.8 to 2.8 dBA Leq at the short-term noise level measurement location of ST-1 through ST-4. Depending on the results, correction factors known as K-Factors may be applied to each of the modeled receptor locations. However, since the differences between the model results and the actual measurements were less than 3 dBA, the raw TNM model results were validated without the need to apply the K-factors.



TABLE 6-1: EXISTING PEAK HOUR TRAFFIC CONDITIONS

		Hourly Traf	fic Volume <sup>1</sup>	1	Vehicle Percentages			
Roadway	Auto	Medium Trucks	Heavy Trucks	Total	Auto	Medium Trucks	Heavy Trucks	Split <sup>2</sup>
I-580 Northbound	839	28	212	1,078	77.8%	2.6%	19.6%	67.6%
I-580 Southbound	381	22	113	516	73.8%	4.2%	21.9%	32.4%
Totals	1,220	50	325	1,594				

<sup>&</sup>lt;sup>1</sup> Peak traffic conditions observed during short-term noise level measurements.

**TABLE 6-2: CALIBRATION RESULTS** 

ID	Measured Noise Level (dBA Leq)	Modeled Noise Level (dBA Leq)	K-Factor (dBA Leq)
ST-1	62.0	62.8	0.8
ST-2	65.8	68.6	2.8
ST-3	64.3	65.1	0.8
ST-4	65.6	66.9	1.3

#### **6.1.2** FUTURE TRAFFIC CONDITIONS

Based on a review of 2011 Annual Average Daily Truck Traffic (AADT) on the California Highway System, the I-580 Freeway currently serves 30,000 vehicles per day. (14) According to the Interstate 580 Transportation Concept Report, this volume is expected to increase to a future volume of approximately 70,000 vehicles per day. (15) Using the existing peak hour to AADT relationship and the normalized average vehicle mix observed during the short-term noise level measurements (Table 6-1) future hourly direction traffic volumes were estimated. The future hourly traffic volumes shown on Table 6-3 were used to estimate the worst-case future traffic conditions at noise receiver locations throughout the project study area.

#### **6.1.3** Noise Level Conversion

The City of Tracy General Plan Noise Element relies on the 24-hour Community Noise Equivalent Level (CNEL) to assess land use compatibility with transportation noise level impacts. However, TNM is a peak hour based noise prediction model. Therefore, it is necessary to translate the peak hour based TNM results into a 24-hour CNEL for comparison to the City's noise criteria. Section 2.2.3 of the Caltrans Technical Noise Supplement provides a formula that allows a reasonably accurate conversion between the worst hourly noise levels to CNEL. For the I-580 Freeway the noise level conversion effectively adds 5 dBA to the peak hour Leq to arrive at an equivalent CNEL. Therefore, a peak hour noise level of 57 dBA Leq is equivalent to a daily level of 62 dBA CNEL.



<sup>&</sup>lt;sup>2</sup> Represents the peak hour northbound / southbound I-580 directional split.

				TNM Traffic Volume <sup>2</sup>				
Condition	Location	AADT	Peak Hour Volume <sup>1</sup>	Autos	Medium Trucks	Heavy Trucks		
	I-580 NB	20,287	1,078	839	28	212		
Existing (2012) <sup>3</sup>	I-580 SB	9,713	516	381	22	113		
(2012)	Total	30,000	1,594	1,220	50	325		
	I-580 NB	47,336	2,515	1,957	65	494		
Future <sup>4</sup>	I-580 SB	22,664	1,204	889	51	264		
	Total	70,000	3,719	2,846	116	758		

**TABLE 6-3: FUTURE TRAFFIC VOLUMES** 

#### 6.2 OFF-SITE TRAFFIC NOISE PREDICTION

The estimated roadway noise impacts from vehicular traffic were calculated using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (16) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELS are substituted with the California Vehicle Noise (Calveno) Emission Levels.(17) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period.

Table 6-4 presents the roadway parameters used to assess the off-site transportation noise impacts. Table 6-4 identifies the 18 study area roadway segments, the functional roadway classifications according to the General Plan Circulation Element, the number of lanes and the vehicle speeds. For the purpose of this analysis, soft site conditions were used to analyze the traffic noise impacts for the Project study area. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation.

The Existing, Existing Plus Project and Cumulative average daily traffic volumes used for this study a presented in Table 6-5 were provided by the *Tracy Hills Phase 1 Traffic Impact Analysis* prepared by Kimley-Horn Associates, October 2013. (18) Table 6-6 presents the hourly traffic flow distributions (vehicle mix) used for this analysis.



<sup>&</sup>lt;sup>1</sup> Peak hour volume based on directional split observed during existing peak hour traffic conditions (See Table 5-1).

<sup>&</sup>lt;sup>2</sup> TNM peak hour traffic volumes (based on the existing peak hour to AADT traffic relationship) used to estimate the future levels.

<sup>&</sup>lt;sup>3</sup> Annual Average Daily Traffic (AADT) obtained from Caltrans Traffic Data Branch 2011.

<sup>&</sup>lt;sup>4</sup> Future I-580 AADT volumes provided in the Caltrans Interstate 580 Transportation Concept Report November 2003.

**TABLE 6-4: OFF-SITE ROADWAY PARAMETERS** 

ID	Roadway	Segment	Roadway Section <sup>1</sup>	Vehicle Speed (MPH)
1	Tracy Boulevard	South of Linne Rd	Major Arterial	55
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	Major Arterial	55
3	Tracy Boulevard	North of Valpico Rd	Major Arterial	55
4	Corral Hollow Road	Btwn I-580 EB Ramps and I-580-WB Ramps	Major Arterial	55
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	Major Arterial	55
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	Major Arterial	55
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	Major Arterial	55
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	Major Arterial	55
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	Major Arterial	55
10	Corral Hollow Road	North of Schulte Rd	Major Arterial	55
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	Major Arterial	55
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	Major Arterial	55
13	Lammers Road	North of Eleventh St	Minor Arterial	55
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	Major Arterial	55
15	Linne Road	East of Tracy Blvd	Major Arterial	55
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	Major Arterial	55
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	Major Arterial	55
18	Valpico Road	East of Tracy Blvd	Major Arterial	55

<sup>&</sup>lt;sup>1</sup> Road Classifications based upon the General Plan Circulation Element.



**TABLE 6-5: AVERAGE DAILY TRAFFIC VOLUMES** 

			Av	erage Daily Traff	fic <sup>1</sup>
ID	Roadway	Segment	Existing	Existing Plus Project	Cumulative
1	Tracy Boulevard	South of Linne Rd	1,000	1,070	1,900
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	8,730	10,200	12,000
3	Tracy Boulevard	North of Valpico Rd	13,600	14,420	24,500
4	Corral Hollow Road	Btwn I-580 EB Ramps and I-580-WB Ramps	5.430   8.960		6,350
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	6,330	11,450	7,050
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	6,330	16,330	7,050
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	6,330	16,330	7,050
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	5,330	10,895	11,350
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	9,925	13,945	15,800
10	Corral Hollow Road	North of Schulte Rd	20,760	24,360	36,200
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	5,600	5,720	28,200
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	5,600	5,670	30,250
13	Lammers Road	North of Eleventh St	3,990	4,010	16,900
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	3,915	7,935	16,450
15	Linne Road	East of Tracy Blvd	3,680	5,800	12,200
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	4,480	4,605	12,250
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	8,475	8,850	18,050
18	Valpico Road	East of Tracy Blvd	12,320	12,700	19,900

 $<sup>^{1}</sup>$  Tracy Hills Phase 1 Traffic Impact Analysis prepared by Kimley-Horn Associates, October 2013.

**TABLE 6-6: VEHICLE MIX** 

Vehicle Type	Daytime (7 am - 7 pm)	Evening (7 pm - 10 pm)	Nighttime (10 pm - 7 am)	Total % Traffic Flow
Automobiles	77.5%	12.9%	9.6%	97.42%
Medium Trucks	84.8%	4.9%	10.3%	1.84%
Heavy Trucks	86.5%	2.7%	10.8%	0.74%

# 7 ON-SITE TRAFFIC NOISE IMPACTS

An on-site exterior noise impact analysis has been completed to determine the traffic noise exposure and to identify potential necessary noise abatement measures for the proposed Tracy Hills Phase 1 project. It is expected that the primary source of noise impacts to the project site will be traffic noise from the I-580 Freeway. The project will also experience some background traffic noise impacts from South Corral Hollow Road and the internal project residential streets, however, due to the distance, topography and low traffic volume/speed, traffic noise from these roads will not make a significant contribution to the noise environment.

Based on the noise exposure potential for the Tracy Hills Phase 1, the project site plan was specifically designed to account for the noise impacts associated with the I-580 Freeway. To reduce the noise exposure to the noise sensitive residential areas, several design features were considered as part of the site planning process. These design features include, providing additional setbacks, changing the residential building orientations to limit private uses facing the I-580 Freeway, providing noise barriers where possible (berms and masonry walls), as well as plans to provided enhanced noise rated building assembly design and insulation features.

## 7.1 EXTERIOR NOISE LEVELS

Using the FHWA TNM traffic noise prediction model of the Tracy Hills Phase 1 project in combination with the parameters outlined in Table 6-3, the expected noise levels were calculated. To estimate the exterior noise environment, ten noise sensitive residential receiver locations (R-1 through R-10) and four community recreation receiver locations (C-1 through C-4) were identified throughout the project site. Table 7-1 presents a summary of the existing and future exterior noise level impacts at each receiver location. Exhibit ES-1 identifies the location of the receiver locations.

A review of the traffic noise levels shown on Table 7-1 suggests that the unmitigated exterior noise level impacts levels are expected to approach 64.6 dBA CNEL for existing conditions. For long-range traffic conditions on the I-580 Freeway, the unmitigated exterior noise levels are expected to approach 73.3 dBA CNEL. The TNM peak hour noise level results and noise level conversion (peak hour Leq to daily CNEL) worksheets are included in Appendix 7.1. Focused exterior noise contour boundaries showing plan view and cross-section view of the future noise levels at each of the ten noise sensitive residential receiver locations are provided in Appendix 7.2.

# 7.2 EXTERIOR NOISE ANALYSIS

To limit the exterior noise exposure for the noise sensitive receptors within the Tracy Hills Phase 1 residential project, the construction of an eight-foot high backyard noise barrier is planned. Lots facing the I-580 Freeway do not contain private use areas (backyards) requiring exterior noise abatement. Exhibit ES-1 illustrates the future exterior noise level impacts and the location of the planned eight foot high sounds for the Tracy Hills Phase 1 project. Table 7-1



presents the expected exterior noise levels with the planned wall designed to protect the single-family private use areas for lots with backyards facing the I-580 Freeway.

**TABLE 7-1: EXTERIOR NOISE ANALYSIS** 

				Existing C	onditions	Future Co	onditions
ID	Village	Lot	Location	No Wall	8' Wall	No Wall	8' Wall
R-1	1	89	Backyard	63.9	62.7	72.2	70.1
R-2	1	146	Frontyard	63.7	63.7	72.3	72.4
R-3	4	118	Backyard	59.3	59.1	67.9	67.7
R-4	5	198	Backyard	62.3	57.1	71.0	65.7
R-5	5	188	Backyard	60.2	57.3	68.9	66.0
R-6	5	180	Backyard	64.0	64.0	72.7	73.2
R-7	7	16	Frontyard	62.3	62.3	70.9	71.1
R-8	8	130	Backyard	64.6	64.6	73.2	73.3
R-9	8	39	Frontyard	62.8	52.8	71.5	71.7
R-10	8	28	Backyard	62.7	55.1	71.4	63.9
C-1	4	P1	Community	49.6	50.1	58.3	58.9
C-2	7	P4	Community	49.5	49.8	58.2	59.0
C-3	7	P2	Community	51.4	51.6	60.1	61.2
C-4	8	Р3	Community	53.7	53.7	62.3	63.8

As shown on Table 7-1, the planned eight-foot high noise barrier does not substantially reduce the exterior noise levels from the I-580 Freeway. The project site is generally located 200 feet north from the I-580 Freeway northbound edge of pavement across the 100 conservation easement and at an elevation that places the noise sensitive receivers approximately 20 feet lower the road elevation. A noise barrier is most effective when placed close to the noise source or receptor. For a noise barrier to work, it must be high enough and long enough to block the view of the noise source. However, due to the topography of the site, the planned noise barrier location is limited to the backyard property line, significantly reducing the effectiveness (noise attenuation) of the noise barrier. To support this conclusion, the noise attenuation and exterior noise levels for noise barrier heights of 6, 8, 10, 12, 14, and 16 feet were calculated. The noise barrier analysis included in Appendix 7.1 demonstrates that increases the noise barrier from the planned height of eight feet to a height of 16 feet will only provide an additional noise level attenuation of approximately 5 dBA CNEL.

In practice to maximize the noise attenuation provided by a noise barrier, the noise barrier should be located at the top of slope nearest the noise source or noise receiver. For the Tracy Hills Phase 1 project, this indicates that the appropriate noise barrier location is at the top of

slope at the Caltrans right of way. However, while this is the ideal barrier location from a noise perspective, it is important to recognize that Caltrans discourages noise sensitive residential land uses adjacent to the freeway. In an effort to eliminate or reduce undesirable effects of highway traffic noise, the FHWA encourages the location of less noise-sensitive land uses next to highways, and promotes the use of opens space or special building construction techniques to minimize noise impacts. In addition, Federal legislation bans the FHWA from participating in construction of most noise barriers related to development or construction next to existing highways. (19)

The long-range noise analysis shows that over time as project traffic increases the expected exterior noise levels will also substantially increase. When the traffic demand on the I-580 warrants the construction of additional lanes, this will trigger a Noise Study Report (NSR) and likely future abatement in the form of a Caltrans noise barrier at the right-of-way. The purpose of this NSR is to evaluate noise impacts and abatement under the requirements of Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772) "Procedures for Abatement of Highway Traffic Noise", (20) which provides procedures for preparing operational and construction noise studies and evaluating noise abatement measures considered for federal and federal-aid highway projects. Under 23 CFR 772.11, noise abatement must be considered for Type 1 projects if the project is predicted to result in a traffic noise impact. FHWA defines a Type 1 project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes.

In effect, the future exterior noise analysis presents a future conditions based on a traffic volume of 70,000 vehicles per day that may never occur since Caltrans will likely provide noise abatement in the form of a noise barrier as part of any future widening of the I-580 Freeway.

# 7.3 Noise Barrier Design

The designed noise screening may only be accomplished if the barriers weight is at least 4.0 pounds per square foot of face area and have no decorative cutouts or line-of-site openings between shielded areas and the roadways. The recommended noise control barrier may be constructed using one of the following alternative materials:

- Masonry block
- Stucco veneer over wood framing (or foam core), or 1 inch thick tongue and groove wood of sufficient weight per square foot
- Glass (1/4 inch thick), or other transparent material with sufficient weight per square foot
- Earthen berm
- Any combination of these construction materials

The recommended barrier must present a solid face from top to bottom. Unnecessary openings or decorative cutouts should not be made. All gaps (except for weep holes) should be filled with grout or caulking. In addition to the preliminary on-site exterior noise abatement measures, the following site design alternatives should be considered.



# 7.4 EXTERIOR NOISE THRESHOLDS OF SIGNIFICANCE

Based on the City of Tracy Land Use Compatibility for Community Noise Environments, single-family residential exterior noise levels of less than 60 dBA CNEL are considered "Normally Acceptable" with noise levels of less than 75 dBA CNEL considered as "Conditionally Acceptable". Noise levels that are considered "Conditionally Acceptable" require a detailed analysis of the noise reduction requirements and the needed insulation features. General Plan Noise Element Objective N-1.1 Policy P3 states that all new single family residential development shall maintain a noise standard of 60 CNEL for exterior noise in private use areas and Policy P6 states that all multi-family residential developments shall maintain a standard of 65 CNEL for community outdoor recreation areas.

The exterior noise analysis shows that while the Tracy Hills Phase 1 single-family residential development limits the number of backyard (private use areas) facing the I-580 Freeway, several lots will be exposed to traffic noise levels exceeding the City of Tracy 60 dBA CNEL exterior noise level standards.

Based on the City of Tracy General Plan Noise Element policies and the significance criteria presented in section 4, the development of the Tracy Hills Phase 1 single family residential development will exceed the "normally acceptable" exterior noise level of 60 dBA CNEL in private use areas and create a significant impact as direct result of the proposed development.

#### 7.5 On-Site Interior Noise Analysis

The interior noise level is the difference between the predicted exterior noise level at the building facade and the noise reduction of the structure. Typical building construction will provide an approximate 12 dBA noise reduction with "windows open" and a minimum 25 dBA noise reduction with "windows closed" requiring a means of mechanical ventilation (e.g. air conditioning). The noise reduction characteristics of a building are determined by combining the transmission loss of each of the building components that make up the building. Each unique component has a transmission loss value. For residential homes, the critical building components include the roof, walls, windows, doors, and attic configuration and insulation characteristics. The total noise reduction is dependent upon the transmission loss of each element and the surface area of that element in relation to the total surface area of the room.

Tables 7-2 shows that the future noise levels at the façade are estimated to range from 58.9 to 73.3 dBA CNEL. In order to meet the City of Tracy 45 dBA CNEL interior noise level standard, an interior noise level reduction ranging from 13.9 to 28.3 dBA CNEL is needed.



Required **Noise Level For Windows Noise Level** Interior ID Village Lot At Façade **Noise** Closed<sup>3</sup> Open<sup>2</sup> Reduction R-1 1 89 70.1 58.1 45.1 25.1 1 146 72.4 60.4 47.4 27.4 R-2 R-3 4 118 67.7 55.7 42.7 22.7 R-4 5 198 65.7 53.7 40.7 20.7 5 188 66.0 54.0 41.0 R-5 21.0 5 R-6 180 73.2 61.2 48.2 28.2 R-7 7 16 71.1 59.1 46.1 26.1 R-8 8 130 73.3 61.3 48.3 28.3 R-9 8 39 71.7 59.7 46.7 26.7 R-10 8 28 63.9 51.9 38.9 18.9 C-1 4 P1 58.9 46.9 33.9 13.9 7 C-2 P4 59.0 47.0 34.0 14.0 7 C-3 P2 49.2 61.2 36.2 16.2 C-4 8 Р3 63.8 51.8 38.8 18.8

**TABLE 7-2: INTERIOR NOISE ANALYSIS (CNEL)** 

# 7.6 ON-SITE INTERIOR NOISE ABATEMENT

To provide the necessary interior noise level reduction, Table 7-2 shows that lots adjacent to the I-580 Freeway will require a windows closed condition. A windows closed condition requires a means of means of mechanical ventilation (e.g. air conditioning). In addition, lots facing I-580 Freeway will require upgraded windows with an estimated minimum STC rating of 33. In order to meet the City of Tracy 45 dBA CNEL interior noise standards the project shall provide the following noise abatement measures:

- Exterior Walls: Provide exterior walls with a minimum Sound Transmission Class (STC) rating of 46. Typical walls with this rating will have 2x4 studs or greater, 16" o.c. with R-13 insulation, a minimum 7/8" exterior surface of cement plaster and a minimum interior surface of 1/2" gypsum board.
- <u>Windows</u>: All windows and sliding glass doors shall be well fitted, well weather-stripped assemblies and shall have a minimum STC of 27. Windows facing the I-580 Freeway will require upgraded windows with a minimum STC of 33. Air gaps and rattling shall not be permitted. The total area of glass shall not exceed twenty percent of the floor area in any room.
- <u>Doors</u>: All exterior doors shall be well weather-stripped solid core assemblies at least one and three-fourths-inch thick.



<sup>&</sup>lt;sup>1</sup> Includes the noise attenuation provided by the planned eight foot high noise barrier.

<sup>&</sup>lt;sup>2</sup> A minimum of 12 dBA noise reduction is assumed with windows open.

<sup>&</sup>lt;sup>3</sup> A minimum of 25 dBA noise reduction is assumed with windows closed and a minimum STC rating of 27.

- Roof: Roof sheathing of wood construction shall be well fitted or caulked plywood of at least one-half inch thick. Ceilings shall be well fitted, well sealed gypsum board of at least one-half inch thick. Insulation with at least a rating of R-19 shall be used in the attic space.
- <u>Ventilation:</u> Arrangements for any habitable room shall be such that any exterior door or window can be kept closed when the room is in use. A forced air circulation system (e.g. air conditioning) shall be provided which satisfy the requirements of the Uniform Mechanical Code.

With the preliminary interior noise abatement measures provided in this study, the Project is expected to meet the City of Tracy 45 dBA CNEL interior noise level standards for residential development. A final noise study shall be prepared prior to obtaining building permits for the project. This report would finalize the abatement measures described in this study using the precise grading plans and actual building design specifications, and may include additional abatement, if necessary, to meet the City of Tracy 45 dBA CNEL interior noise level standard.



# 8 OFF-SITE TRAFFIC NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on the *Tracy Hills Phase 1 Traffic Impact Analysis* prepared by Kimley-Horn Associates, October 2013. (18). Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Traffic noise contour boundaries are typically calculated at distances of 100 feet from a roadway centerline. Noise contours were developed for the following traffic scenarios:

- <u>Existing / Existing plus Project</u>: This scenario refers to the existing present-day noise conditions, without the Project and with the construction of the proposed Project.
- <u>Cumulative</u>: This scenario refers to the background future noise conditions with the proposed Project. This scenario corresponds to long-range traffic conditions, and includes all cumulative projects identified in the Traffic Impact Analysis.

# **8.1** Traffic Noise Contours

To quantify the Project's traffic noise impacts on the surrounding areas, the changes in traffic noise levels on 18 roadway segments surrounding the Project were calculated based on the changes in the average daily traffic volumes. The noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The traffic noise contour worksheets are included in Appendix 8.1.

Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, 60 and 55 dBA noise levels. The distance from the centerline of the roadway to the CNEL contour boundaries for roadways in the proposed Project's vicinity are presented in Tables 8-1 through 8-4. The noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. In addition, since the noise contours reflect modeling of vehicular noise along area roadways, they appropriately do not reflect noise contribution from the surrounding commercial and industrial uses or railroad activities within the Project study area.



**TABLE 8-1: EXISTING WITHOUT PROJECT CONDITIONS NOISE CONTOURS** 

			CNEL at	Dis	tance to C	ontour (Fe	eet)
ID	Road	Segment	100 Feet (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Tracy Boulevard	South of Linne Rd	54.3	RW	RW	RW	90
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	63.8	RW	83	178	383
3	Tracy Boulevard	North of Valpico Rd	65.7	RW	111	239	515
4	Corral Hollow Road	Btwn I-580 EB Ramps & I-580-WB Ramps	61.7	RW	RW	130	279
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	62.4	RW	67	144	309
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	62.4	RW	67	144	309
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	62.4	RW	67	144	309
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	61.6	RW	RW	128	276
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	64.3	RW	90	194	417
10	Corral Hollow Road	North of Schulte Rd	67.5	68	147	317	683
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	61.8	RW	RW	132	285
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	61.8	RW	RW	132	285
13	Lammers Road	North of Eleventh St	60.3	RW	RW	104	224
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	60.3	RW	RW	104	225
15	Linne Road	East of Tracy Blvd	60.0	RW	RW	100	215
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	60.9	RW	RW	114	246
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	63.6	RW	81	174	376
18	Valpico Road	East of Tracy Blvd	65.2	RW	104	224	482

<sup>&</sup>lt;sup>1</sup> "RW" = Location of the respective noise contour falls within the right-of-way of the road.



**TABLE 8-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS** 

			CNEL at	Dis	tance to C	ontour (Fe	eet)
ID	Road	Segment	100 Feet (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Tracy Boulevard	South of Linne Rd	54.6	RW	RW	RW	95
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	64.4	RW	92	197	425
3	Tracy Boulevard	North of Valpico Rd	65.9	RW	115	249	536
4	Corral Hollow Road	Btwn I-580 EB Ramps & I-580-WB Ramps	63.9	RW	84	181	390
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	64.9	RW	99	213	459
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	66.5	RW	125	270	582
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	66.5	RW	125	270	582
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	64.7	RW	96	206	444
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	65.8	RW	113	243	524
10	Corral Hollow Road	North of Schulte Rd	68.2	76	164	353	760
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	61.9	RW	RW	134	289
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	61.9	RW	RW	133	287
13	Lammers Road	North of Eleventh St	60.3	RW	RW	105	225
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	63.3	RW	77	167	360
15	Linne Road	East of Tracy Blvd	62.0	RW	RW	135	292
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	61.0	RW	RW	116	250
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	63.8	RW	83	180	387
18	Valpico Road	East of Tracy Blvd	65.4	RW	106	228	492

 $<sup>^{1}</sup>$  "RW" = Location of the respective noise contour falls within the right-of-way of the road.



**TABLE 8-3: CUMULATIVE CONDITIONS NOISE CONTOURS** 

			CNEL at	Dis	tance to C	ontour (Fe	eet)
ID	Road	Segment	100 Feet (dBA)	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
1	Tracy Boulevard	South of Linne Rd	57.1	RW	RW	64	139
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	65.1	RW	102	220	474
3	Tracy Boulevard	North of Valpico Rd	68.2	76	164	354	762
4	Corral Hollow Road	Btwn I-580 EB Ramps & I-580-WB Ramps	62.4	RW	67	144	310
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	62.8	RW	72	154	332
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	62.8	RW	72	154	332
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	62.8	RW	72	154	332
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	64.9	RW	98	212	457
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	66.3	RW	123	264	569
10	Corral Hollow Road	North of Schulte Rd	69.9	99	213	459	989
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	68.8	84	180	389	837
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	69.1	88	189	407	878
13	Lammers Road	North of Eleventh St	66.5	RW	127	273	587
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	66.5	RW	126	271	585
15	Linne Road	East of Tracy Blvd	65.2	RW	103	222	479
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	65.2	RW	103	223	480
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	66.9	RW	134	289	622
18	Valpico Road	East of Tracy Blvd	67.3	66	143	308	664

<sup>&</sup>lt;sup>1</sup> "RW" = Location of the respective noise contour falls within the right-of-way of the road.

## 8.2 Project Off-Site Traffic Noise Level Impacts

Table 8-4 presents a comparison of the existing without and with Project conditions CNEL noise levels. Table 8-1 shows that the unmitigated exterior noise levels are expected to range from 54.3 to 67.5 dBA CNEL at 100 feet from each roadway's centerline. Table 8-2 presents the existing with Project conditions unmitigated noise contours that are expected to range from 54.6 to 68.2 dBA CNEL at 100 feet from the roadway centerline. As shown on Table 8-4 the Project is expected to generate an unmitigated exterior noise level increase of up to 4.1 dBA CNEL. Based on the noise impact significance criteria described in Section 4.2, this off-site traffic noise level increase is considered a significant impact for existing with project conditions.

TABLE 8-4: EXISTING OFF-SITE PROJECT RELATED TRAFFIC NOISE IMPACTS

			CNEL	Potential		
ID	Road	Segment	Existing	Existing With Project	Project Addition	Significant Impact?
1	Tracy Boulevard	South of Linne Rd	54.3	54.6	0.3	No
2	Tracy Boulevard	Btwn Linne Rd and Valpico Rd	63.8	64.4	0.7	No
3	Tracy Boulevard	North of Valpico Rd	65.7	65.9	0.3	No
4	Corral Hollow Road	Btwn I-580 EB Ramps and I-580-WB Ramps	61.7	63.9	2.2	No
5	Corral Hollow Road	Btwn I-580 WB Ramps and Spine Rd	62.4	64.9	2.6	No
6	Corral Hollow Road	Btwn Spine Rd and N. Tracy Hills Rd	62.4	66.5	4.1	Yes
7	Corral Hollow Road	Btwn N. Tracy Hills Rd and Linne Rd	62.4	66.5	4.1	Yes
8	Corral Hollow Road	Btwn Linne Rd and Valpico Rd	61.6	64.7	3.1	Yes
9	Corral Hollow Road	Btwn Valpico Rd and Schulte Rd	64.3	65.8	1.5	No
10	Corral Hollow Road	North of Schulte Rd	67.5	68.2	0.7	No
11	Lammers Road	Btwn Valpico Rd and Old Schulte Rd	61.8	61.9	0.1	No
12	Lammers Road	Btwn Old Schulte Rd and Eleventh St	61.8	61.9	0.1	No
13	Lammers Road	North of Eleventh St	60.3	60.3	0.0	No
14	Linne Road	Btwn Corral Hollow Rd and Tracy Blvd	60.3	63.3	3.1	Yes
15	Linne Road	East of Tracy Blvd	60.0	62.0	2.0	No
16	Valpico Road	Btwn Lammers Rd and Corral Hollow Rd	60.9	61.0	0.1	No
17	Valpico Road	Btwn Corral Hollow Rd and Tracy Blvd	63.6	63.8	0.2	No
18	Valpico Road	East of Tracy Blvd	65.2	65.4	0.1	No



# 9 REFERENCES

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- 19. **U.S. Department of Transportation Federal Highway Administration.** *Entering the Quiet Zone Noise Compatibile Land Use Planning.* May 2002.
- 20. **U.S. Department of Transportation, Federal Highway Administration.** *23 CFR 772: Procedures for Abatmentof Highway Noise and Construction Noise.* Final Rule July 13, 2010.



# **10 CERTIFICATION**

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Tracy Hills Phase 1 Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 660-1994 ext. 203.

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# **EDUCATION**

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning California Polytechnic State University, San Luis Obispo • June, 1992

# **PROFESSIONAL REGISTRATIONS**

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009

AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012

PTP – Professional Transportation Planner • May, 2007 – May, 2013

INCE – Institute of Noise Control Engineering • March, 2004

# **PROFESSIONAL AFFILIATIONS**

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

# **PROFESSIONAL CERTIFICATIONS**

Certified Acoustical Consultant – County of Orange • February, 2011 FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013



# APPENDIX 3.1:

**CITY OF TRACY GENERAL PLAN NOISE ELEMENT** 



#### 9 Noise Element

The purpose of the Noise Element is to identify and appraise noise generation in the community in order to minimize problems from intrusive sound and to ensure that development does not expose people to unacceptable noise levels.

# A. Background

This section provides background information about how noise is measured, the regulatory framework governing noise and existing noise sources in Tracy.

# 1. Understanding Noise

Noise can be defined as a sound or series of sounds that are intrusive, irritating, objectionable and/or disruptive to daily life. Noise varies widely in its scope, source, and volume, ranging from individual occurrences, such as a lawn mower, to the intermittent disturbances of train whistles, to the fairly constant noise generated by traffic on freeways. Noise is primarily a concern when generated in the vicinity of noise-sensitive uses such as residences, schools, places of worship and hospitals.

The objectionable nature of sound could be caused by its *pitch* or its loudness. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. These are listed in Table 9-1. The most basic unit of measurement is the decibel (dB), which is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a 10-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Generally, the human ear cannot perceive a difference between two noises that are less than three decibels different from one another.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level or dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 9-2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called Leq. The most common averaging period is hourly, but Leq can describe any series of noise events of arbitrary duration.

TABLE 9-1 **DEFINITIONS OF ACOUSTICAL TERMS** 

Term	Definitions				
	A unit describing the amplitude of sound, equal to 20 times the				
Decibel,	logarithm to the base 10 of the ratio of the pressure of the sound				
dB	measured to the reference pressure, which is 20 micropascals (20				
	micronewtons per square meter).				
Frequency,	The number of complete pressure fluctuations per second above				
Hz	and below atmospheric pressure.				
	Sound pressure level in decibels as measured on a sound level me-				
A Waishead	ter using the A-weighting filter network, which de-emphasizes				
A-Weighted Sound Level,	very low and very high frequency components of the sound in a				
ŕ	manner similar to the frequency response of the human ear and				
dBA	correlates well with subjective reactions to noise. All sound levels				
	in this report are A-weighted, unless reported otherwise.				
Lo1, L10, The A-weighted noise levels that are exceeded 1%, 10%, 50%, and					
L50, L90	90% (respectively) of the time during the measurement period.				
Equivalent	The same A without a first transfer of the same and the s				
Noise Level,	The average A-weighted noise level during the measurement period.				
$L_{\text{eq}}$	nod.				
Community	The Average A-weighted noise level during a 24-hour day, ob-				
Noise Equiva-	tained after adding 5 decibels to measurements taken in the eve-				
lent Level,	ning (7 to 10 pm) and 10 decibels to measurements taken between				
CNEL	10 pm and 7 am.				
Day/Night	The average A-weighted noise level during a 24-hour day, obtained				
Noise Level,	after addition of 10 decibels to levels measured in the night be-				
Ldn	tween 10:00 pm and 7:00 am.				
т т.	The maximum and minimum A-weighted noise level during the				
Lmax, Lmin	measurement period.				
Ambient	The composite of noise from all sources near and far. The normal				
Noise Level	or existing level of environmental noise at a given location.				
	That noise which intrudes over and above the existing ambient				
	noise at a given location. The relative intrusiveness of a sound de-				
Intrusive	pends upon its amplitude, duration, frequency, and time of occur-				
	rence and tonal or informational content as well as the prevailing				
	ambient noise level.				
-					

TABLE 9-2 TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT

Noise Generators (At a Given Distance from Noise Source)	A-Weighted Sound Level in Decibel	Noise Environments	Subjective Impression
	140		
Civil defense siren (100 feet)	130		
Jet take-off (200 feet)	120		Pain threshold
	110	Rock music concert	
Diesel pile drive (100 feet)	100		Very loud
Freight cars (50 feet)	90	Boiler room Printing press plant	
Pneumatic drill (50 feet) Freeway (100 feet)	80 70	In kitchen with garbage disposal	Moderately loud
Vacuum cleaner (10 feet)	60	running  Data processing  center	
Light traffic (100 feet) Large transformer (200 feet)	50	Department store	
	40	Private business office	Quiet
Soft whisper (5 feet)	30	Quiet bedroom	
	20	Recording studio	
	10		Threshold of hearing

Since the sensitivity to noise increases during the evening and at night—because excessive noise interferes with the ability to sleep—24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level*, *CNEL*, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 p.m. to 10:00 p.m.) and a 10 dB addition to nocturnal (10:00 p.m. to 7:00 a.m.) noise levels. The *Day/Night Average Sound Level*, *Ldn*, is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

# 2. Regulatory Framework

State law requires a Noise Element as part of all city and county General Plans. The Noise Element should provide a systematic approach to the measurement and modeling of noise, the establishment of noise standards, the control of major noise sources, and community planning for the regulation of noise. This Noise Element provides baseline information on the existing noise environment, including noise measurements taken throughout the city. It also identifies noise sensitive uses in Tracy. This Noise Element also provides goals, objectives, policies and actions for controlling noise in existing and future development.

The Noise Element establishes uniformity between City policy and programs undertaken to control and abate environmental noise. The Government Code and State Office of Noise Control (ONC) Guidelines require that certain major noise sources and areas containing noise sensitive land uses be identified and quantified by preparing generalized noise exposure contours for current and projected levels of activity within the community. Contours may be prepared in terms of either the Community Noise Equivalent (CNEL) or the Day/Night

Average Level (L<sub>dn</sub>) which are both descriptors of total noise exposure at a given location for an annual average day. The noise exposure information developed for the Noise Element is incorporated into this General Plan to serve as a basis for achieving land use compatibility with respect to noise. Noise exposure information is used to provide baseline levels and noise source identification for use in the development and enforcement of a local noise control ordinance and for ensuring compliance with the State's noise insulation standards.

According to the Government Code and ONC Guidelines, the following major noise sources should be considered in the preparation of a Noise Element:

- ♦ Highways and freeways
- ♦ Primary arterials and major local streets
- ♦ Railroad operations
- ♦ Aircraft and airport operations
- ♦ Local industrial facilities
- ♦ Other stationary sources

#### 3. Land Use Compatibility

Land uses deemed noise sensitive by the State of California include schools, hospitals, rest homes, long-term care and mental care facilities. Many jurisdictions consider residential uses particularly noise sensitive because families and individuals expect to use time in the home for rest and relaxation, and noise can interfere with those activities. Some variability in standards for noise sensitivity may apply to different densities of residential development, and single-family uses are frequently considered the most sensitive. Jurisdictions may identify other uses as noise sensitive such as churches, libraries, day care centers, and parks.

Land uses that are relatively insensitive to noise include some office and retail developments. There is a range of insensitive noise receptors which generate significant noise levels or where human occupancy is typically low. Examples of insensitive uses include industrial and manufacturing uses, utilities, agriculture, vacant land, parking lots, salvage yards, and transit terminals.

The ONC has developed a noise/land use compatibility matrix showing noise standards for various land use categories. The noise standards are intended to provide guidelines for the development of municipal noise elements. Depending on the environment of a particular community, these basic guidelines may be tailored to reflect the existing noise and land use characteristics of a particular community.

California's noise insulation standards were officially adopted by the California Commission of Housing and Community Development in 1974 and became effective on August 22, 1974. On November 14, 1988, the Building Standards Commission approved revisions to these standards (Title 24, Part 2, California Code of Regulations). The ruling states: "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be measured in either CNEL or Ldn, consistent with the noise element of the local general plan." Additionally, the commission specifies that residential buildings or structures to be located within exterior Ldn (or dBA) contours of 60 dB or greater of an existing or adopted freeway, expressway, parkway, major street, thoroughfare, rail line, rapid transit line or industrial noise source shall require an acoustical analysis showing that the building has been designed to limit intruding noise to an interior Ldn of 45 dB.

# 4. Existing Noise Sources

The most significant sources of noise in Tracy are vehicular traffic on Interstate 205 and the local street network. Railroad trains intermittently generate noise levels that are significant along the railroad tracks. General aviation aircraft using the Tracy Municipal Airport also contribute to intermittent noise levels in Tracy. Noise is also generated on individual parcels whether industrial, office, retail or residential. These noise sources are regulated by the City's Noise Ordinance and do not affect the overall noise environment throughout the community.

- ♦ Daily Noise Measurements. Noise levels were monitored at 10 locations in Tracy over a period of three days in June of 2003. Noise levels were monitored by Illingworth & Rodkin, Inc. at two locations along Interstate 205 previously during preparation of the Noise Study Report for Improvements to the I-205 freeway. The measured data are summarized in Table 9-3.
- ◆ Short-Term Spot Measurements. Short-term spot measurements were made at 10 locations throughout Tracy in June of 2003 to characterize typical daytime noise levels and to collect traffic and noise data to be used subsequently in the computation of traffic noise contours for the General Plan. The data in Table 9-3 also shows the estimated Ldn for the short-term spot measurements based on correlations with long-term measurements nearby. The average noise levels (Leq) range from about 51 dBA in a quiet rear yard up to 63 dBA along MacArthur Drive.
- ◆ Roadways. Vehicular traffic on the street network was the dominant noise source during measurements. There were contributions from local neighborhood noise, a tractor at a rural location (ST-3), and a train was heard at Location ST-4 along MacArthur Drive near Eleventh Street which generated a maximum level of 68 dBA.

TABLE 9-3 SUMMARY OF NOISE MONITORING

Site	Location	Date	Time	$ m L_{eq}$	L(1)	L(10)	L(50)	L(90)	$L_{ m dn}$
Long-	Long-Term Measurements								
LT-1	Residential Land Uses at South End of English Oak Court Adjacent to Altamont Commuter Express Line and West Linne Rd.	6/2/03 to 6/4/03	17:00 to 10:00	:	ı	:	:	:	65
LT-2	~ 35 feet from the Altamont Commuter Express Line near Chrisman Road	6/2/03 to 6/4/03	17:00 to 10:00	ı	ı	ı	1	ŀ	73
LT-3	$\sim 120$ feet from the Centerline of Chrisman Rd.	6/2/03 to 6/4/03	18:00 to 11:00	ı	ı	ı	ı	ı	70
LT-4	$\sim 80$ feet from the Centerline of North MacArthur Rd.	6/4/03 to 6/6/03	12:00 to 13:00	1	ı	1	ı	1	99
LT-5	$\sim 90$ feet from the Centerline of Eleventh St. at Wall Rd.	6/4/03 to 6/6/03	13:00 to 13:00	ı	ı	ı	ı	ı	71
9-LT	6th St. Railroad Junction	6/4/03 to 6/6/03	13:00 to 14:00	ı	ı	ı	ı	ı	72
LT-7	$\sim 50$ feet from the Centerline of Grant Line Rd.	6/4/03 to 6/6/03	16:00 to 16:00	1	ı	1	1	ı	75
TT-8	$\sim 80$ feet from the Centerline of Tracy Blvd at Dr. Powers Park	6/6/03 to 6/9/03	15:00 to 14:00	ı	ı	ı	ı	ı	70
6-LT	$\sim 190$ feet from the Centerline of Corral Hollow Rd.	6/6/03 to 6/9/03	16:00 to 13:00	ı	ı	ı	ı	ı	69
LT-10	West Larch Rd. east of Naglee Rd.	6/6/03 to 6/9/03	16:00 to 13:00	ı	ı	ı	ı	ı	69
LT-11	11240 Clover Rd. adjacent to I-205	10/31/00 to 11/1/00	10:00 to 10:00	ı	ı	ı	ı	I	82
LT-12	Rear Yard of 245 Hawthorne Dr. adjacent to I-205 (shielded by sound wall)	1/29/01 to 1/30/01	14:00 to 14:00	ı	ı		:	:	72

TABLE 9-3 SUMMARY OF NOISE MONITORING (CONTINUED)

Site	Location	Date	Time	${ m L}_{ m eq}$	L(1)	L(10)	L(50)	L(90)	$\mathcal{L}_{dn}$
Short-'	Short-Term Measurements								
ST-1	~ 70 feet from the Centerline of Whispering Wind Rd at Adams Park	6/3/03	15:14 to 15:24	58	89	62	53	47	09
ST-2	$\sim 130$ feet from the Centerline of MacArthur Rd.	6/3/03	15:40 to 15:50	59	70	63	55	50	63
ST-3	$\sim$ 50 feet from the Centerline of East Schulte Rd.	6/3/03	16:08 to 16:18	62	73	99	54	48	65
ST-4	~ 100 feet from the Centerline of MacArthur Rd. near 11th St.	6/4/03	13:26 to 13:36	63	72	29	09	55	29
ST-5	$\sim 80$ feet from the Centerline of Holly Dr.	6/4/03	13:50 to 14:00	59	89	63	99	49	63
9-LS	$\sim 115$ feet from the Centerline of South Central Ave.	6/4/03	14:16 to 14:26	57	63	09	99	51	09
ZT-Z	$\sim 160$ feet from the Centerline of Mac Arthur Rd.	6/4/03	14:40 to 14:50	58	99	61	99	49	61
ST-8	Rear Yard of 460 West Schulte Rd.	6/4/03	15:03 to 15:13	51	57	53	51	49	54
6-LS	$\sim 100$ feet from the Centerline of Lincoln Blvd.	6/6/03	16:37 to 16:47	09	70	64	28	52	62
ST-10	$\sim$ 70 feet from the Centerline of West Lowell Ave.	6/6/03	16:53 to 17:03	59	29	62	57	52	09

General aviation aircraft at Location ST-5 generated a maximum level of 55 dBA but automobiles and motorcycles were typically 10 dBA louder. At the Schulte Road location (ST-8) distant traffic, a distant aircraft, wind in the vegetation, and crows were all audible contributing to a quiet rural noise environment in the backyard of this home. Noise contours for roadways are presented in Table 9-4.

# a. Tracy Municipal Airport

The Tracy Municipal Airport is located in the southern portion of the City between Tracy Boulevard and Corral Hollow Road, and is a source of noise in its vicinity. According to the 2009 Airport Land Use Compatibility Plan, there are currently approximately 60,000 annual airport operations. These are comprised mostly of single-engine light aircraft (maximum gross weight 12,000 lbs.), some twin-engine aircraft, and occasional corporate jets. There are no jets currently based at the Airport. Other activities at the Airport include two hot air balloon companies, Ultralights, and an area where aerobatic flight is allowed. The 2009 Airport Land Use Compatibility Plan contains existing and future CNEL noise contours for Tracy Municipal Airport as shown in Figures 9-1 and 9-2 on pages 9-15 and 9-16.

#### b. Railroads

Altamont Commuter Express (ACE) provides passenger rail service between Stockton and San Jose. The ACE Station for Tracy is located on Tracy Boulevard at Linne Road. There are currently three ACE trains per day which arrive in Tracy between 4:00 a.m. and 7:00 a.m. and return between 5:00 p.m. and 7:00 p.m.

TABLE 9-4 **TRAFFIC NOISE CONTOUR DISTANCES** 

Roadway	Location	Peak Hour Volume	Distance to CL	$ m L_{dn}$	$70 ext{-} ext{L}_{ ext{dn}}$	65-L <sub>dn</sub>	$60 ext{-} ext{L}_{ ext{dn}}$
Interstate 205	West of Eleventh Street	8,250	150	83	1,110	2,380	5,120
Interstate 205	Between Eleventh Street and Corral Hollow	6,825	150	82	950	2,040	4,390
Interstate 205	Between Corral Hollow and MacArthur Drive	6,900	150	82	950	2,040	4,390
Interstate 205	East of MacArthur Drive	6,900	150	82	950	2,040	4390
Interstate 580	North of Corral Hollow	3,075	150	77	440	950	2,040
Interstate 580	South of Corral Hollow	2,850	150	78	510	1,100	2,380
Interstate 5	North of Eleventh Street	3,225	150	80	700	1,500	3,230
Interstate 5	South of Eleventh Street	1,650	150	77	440	950	2,040
Grant Line Road	West of Corral Hollow	2,545	75	77	220	470	1,020
Grant Line Road	East of Corral Hollow	1,668	75	75	160	350	750
Grant Line Road	East of Tracy Boulevard	1,133	75	73	120	260	550
Grant Line Road	East of Chrisman Road	764	75	71	90	190	410
Eleventh Street	East of Lammers Road	2,443	75	73	120	260	550
Eleventh Street	East of Corral Hollow	2,183	75	72	100	220	470
Eleventh Street	East of MacArthur Drive	1,851	75	73	120	260	550
Eleventh Street	East of Banta Drive	2,433	75	74	140	300	640
Schulte Road	West of Corral Hollow	110	75	58			60
Schulte Road	East of Corral Hollow	1,061	75	67	50	100	220
Schulte Road	East of Tracy Boulevard	1,116	75	68	60	120	260
Schulte Road	East of MacArthur Drive	470	75	63		60	120
Valpico Road	West of Corral Hollow	329	75	59			60
Valpico Road	East of Tracy Boulevard	677	75	67	50	100	220
Valpico Road	East of MacArthur Drive	437	75	60			80
Linne Road	West of Corral Hollow	296	75	62		50	100
Linne Road	East of Tracy Boulevard	425	75	64		60	140
Lammers Road	South of Grant Line Road	278	75	61			90

TABLE 9-4 TRAFFIC NOISE CONTOUR DISTANCES (CONTINUED)

Roadway	Location	Peak Hour Volume	Distance to CL	$L_{ m dn}$	70-L <sub>dn</sub>	65-L <sub>dn</sub>	60-L <sub>dn</sub>
Lammers Road	South of Eleventh Street	366	75	62		50	100
Lammers Road	North of Valpico Road	1,152	75	67	50	100	220
Corral Hollow Road	South of Grant Line Road	2,184	75	74	140	300	640
Corral Hollow Road	South of Eleventh Street	2,018	75	73	120	260	550
Corral Hollow Road	South of Schulte Road	1,236	75	69	60	140	300
Corral Hollow Road	North of Valpico Road	533	75	65		80	160
Tracy Boulevard	North of Grant Line Road	1,408	75	69	60	140	300
Tracy Boulevard	South of Grant Line Road	1,779	75	70	80	160	350
Tracy Boulevard	North of Eleventh Street	1,795	75	70	80	160	350
Tracy Boulevard	South of Eleventh Street	1,939	75	71	90	190	410
Tracy Boulevard	North of Schulte Road	1,416	75	69	60	140	300
Tracy Boulevard	South of Schulte Road	934	75	68	60	120	260
Tracy Boulevard	South of Valpico Road	426	75	66		90	190
MacArthur Drive	South of I-205	988	75	69	60	140	300
MacArthur Drive	South of Grant Line Road	373	75	66		90	190
MacArthur Drive	South of Eleventh Street	551	75	65		80	160
MacArthur Drive	North of Valpico Road	554	75	65		80	160
MacArthur Drive	South of Valpico Road	232	75	66	40	90	190
Chrisman Road	South of Eleventh Street		75	72	100	220	470
Chrisman Road	South of Schulte Road	602	75	70	80	160	350
Byron Road	South of I-205	702	75	69	60	140	300

There are three major rail lines that enter the City of Tracy from the east, two of which merge and subsequently exit to the west. The rail lines are owned by Union Pacific Railroad (UPRR). The main line runs through south Tracy along Linne Road. This line is used both as an industrial (10 freights per day) and commuter (via ACE train service) rail. Train noise contour distances are shown in Table 9-5.

#### c. Truck Routes

The City of Tracy has a specific city ordinance relating to truck routes (Section 3.08.310 of the Tracy Municipal Code). The ordinance defines weight restrictions, specifies the ability of trucks to enter areas not designated as truck routes, and defines the truck routes within the city. The designated truck routes in the city are discussed in the Circulation Element of this General Plan.

#### B. Goals, Objectives, Policies and Actions

#### Goal N-1 A citizenry protected from excessive noise.

Objective N-1.1 Ensure appropriate exterior and interior noise levels for new land uses.

#### <u>Policies</u>

P1. Noise sensitive land uses shall not be located in areas with noise levels that exceed those considered normally acceptable for each land use unless measures can be implemented to reduce noise to acceptable levels.

# EXISTING TRACY MUNICIPAL AIRPORT NOISE CONTOURS

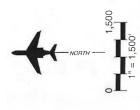
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# LEGEND

---- Airport Property

2008 Noise Exposure Contour-Marginal Effect

2008 Noise Exposure Contour-Significant Effect



CITY OF TRACY GENERAL PLAN NOISE ELEMENT

# FUTURE TRACY MUNICIPAL AIRPORT NOISE CONTOURS



## LEGEND

---- Airport Property

........... Municipal Boundary

2028 Noise Exposure Contour-Marginal Effect

2028 Noise Exposure Contour-Significant Effect



TABLE 9-5 TRAIN NOISE CONTOUR DISTANCES

_	Distance to Noise Contour (Feet)		
	$70\;L_{dn}$	$65 L_{dn}$	$60\;L_{dn}$
UPRR Railroad	60	120	260
~ 10 Freight + ACE Trains/day	00	120	260
UPRR Railroad Local Freight	60	120	260
to Stockton	00	120	200
UPRR Railroad	60	120	260
Leased to California Northern Railroad	00	120	260
UPRR Railroad Byron Road			
UPRR Railroad Schulte Road			
Industrial Spur Lines			

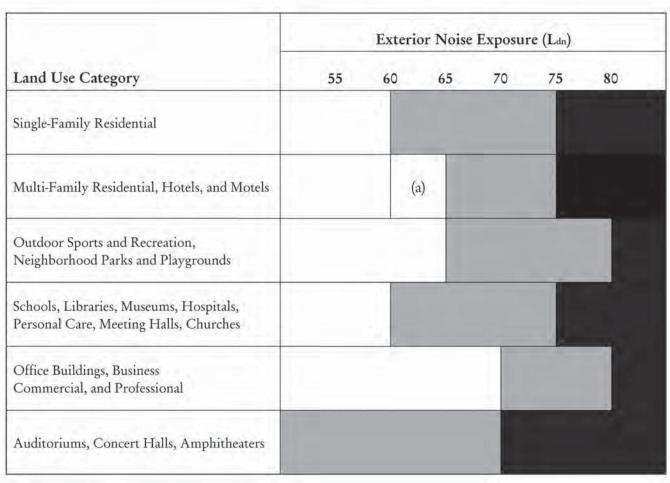
- P2. Land uses shall require appropriate interior noise environments when located in areas adjacent to major noise generators.
- P3. Recognizing that some new single-family residential uses may be located adjacent to non-residential uses, new single-family residential development shall not exceed 60 L<sub>dn</sub> (day/night average noise level) for exterior noise in private use areas.
- P4. New residential uses exposed to noise levels exceeding 60 L<sub>dn</sub> shall be analyzed following protocols in the operative California Building Code or other operative code.

- P5. For new residential land uses, noise from external sources shall not cause building interiors to exceed 45 L<sub>dn</sub>.
- P6. For new multi-family residential land uses, noise from external sources shall not cause the community outdoor recreation areas to exceed 65 Ldn. This policy shall not apply to balconies.
- P7. New residential development affected by noise from railroads or aircraft operations shall be designed to limit typical maximum instantaneous noise levels to 50 dBA in bedrooms and 55 dBA in other rooms.
- P8. Measures to attenuate exterior and/or interior noise levels to acceptable levels shall be incorporated into all development projects. Acceptable, conditionally acceptable and unacceptable noise levels are presented in Figure 9-3.
- P9. If the primary noise sources are train pass-bys then the standard for outdoor noise levels in single- and multifamily residential outdoor activity areas shall be 70 L<sub>dn</sub>.

#### Objective N-1.2 Control sources of excessive noise.

#### **Policies**

P1. The City's Noise Ordinance, as revised from time to time, shall prohibit the generation of excessive noise.



<sup>(</sup>a) Residential development sites exposed to noise levels exceeding 60 Ldn shall be analyzed following protocols in Appendix Chapter 12, Section 1208A, Sound Transmission Control, California Building Code.

### Normally Acceptable

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.

## **Conditionally Acceptable**

Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.



#### Unacceptable

New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

FIGURE 9-3

#### LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT

- P2. Mitigation measures shall be required for new development projects that exceed the following criteria:
  - ♦ Cause the Ldn at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
  - ◆ Cause the Ldn at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
  - ◆ Cause new noise levels to exceed the City of Tracy Noise Ordinance limits.
- P3. Pavement surfaces that reduce noise from roadways should be considered as paving or repavement opportunities arise.
- P4. All construction in the vicinity of noise sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours or 7:00 a.m. to 7:00 p.m. In addition, the following construction noise control measures shall be included as requirements at construction sites to minimize construction noise impacts:
  - ◆ Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
  - ♦ Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction area.
  - ♦ Utilize "quiet" air compressors and other stationary noise sources where technology exists.

#### Actions

- A1. Enforce Section 27007 of the California Motor Vehicle Code that prohibits amplified sound that can be heard 50 or more feet from a vehicle.
- A2. Enforce Section 27150 of the California Motor Vehicle Code that addresses excessive exhaust noise.
- A3. Develop noise abatement flight procedures for large aircraft accessing Tracy Municipal Airport.

### Objective N-1.3 Consider noise issues in the Development Review process.

#### Policies

- P1. Development projects shall be evaluated for potential noise impacts and conflicts as part of the Development Review process.
- P2. Significant noise impacts shall be mitigated as a condition of project approval.
- P3. New development projects shall have an acoustical specialist prepare a noise analysis with recommendations for design mitigation if a noise-producing project is proposed near existing or planned noise-sensitive uses.
- P4. Proposed noise sensitive projects within noise-impacted areas shall submit acoustical studies and provide necessary mitigation from noise.

- P5. Site design techniques shall be considered as the primary means to minimize noise impacts as long as they do not conflict with the goals of the Community Character Element. Techniques include:
  - ◆ Designing landscaped building setbacks to serve as a buffer between the noise source and receptor.
  - ◆ Placing noise-tolerant land uses, such as parking lots, maintenance facilities, and utility areas between the noise source, such as highways and railroad tracks, and receptor.
  - ♦ Orienting buildings to shield noise sensitive outdoor spaces from a noise source.
  - Locating bedrooms or balconies on the sides of buildings facing away from noise sources.
  - Utilizing noise barriers (e.g., fences, walls, or landscaped berms) to reduce adverse noise levels in noisesensitive outdoor activity areas.
- P6. The City shall seek to reduce impacts from groundborne vibration associated with rail operations by requiring that vibration-sensitive buildings (e.g., residences) are sited at least 100 feet from the centerline of the railroad tracks whenever feasible. The development of vibration-sensitive buildings within 100 feet from the centerline of the railroad tracks would require a study demonstrating that ground borne vibration issues associated with rail operations have been adequately addressed (i.e., through building siting or construction techniques).

#### **APPENDIX 3.2:**

**CITY OF TRACY NOISE CONTROL ORDINANCE** 



Tracy, California, Code of Ordinances >> Title 4 - PUBLIC WELFARE, MORALS AND CONDUCT >> Chapter 4.12 - MISCELLANEOUS REGULATIONS >> Article 9. Noise Control >>

#### Article 9. Noise Control

4.12.710 Name.

4.12.720 Declaration of policy.

4.12.730 Definitions.

4.12.740 Sound level measurement.

4.12.750 General sound level limits.

4.12.760 Limits for Planned Unit Developments.

4.12.770 Limits for joint boundaries.

4.12.780 Noncompliance with sound level limits—Extensions—Variations.

4.12.790 Required findings for the granting of a variation.

4.12.800 Exception and alternative sound level limits for certain properties.

4.12.810 General prohibition.

4.12.820 Specific noises prohibited.

4.12.830 Exemptions.

4.12.840 Minor maintenance to or improvement of real property.

4.12.850 Preempted activities.

4.12.860 Violations—Infractions and misdemeanors.

4.12.870 Violations—Public nuisance.

4.12.880 Declaration of nuisances.

4.12.890 Form of notice of hearing.

4.12.900 Posting and serving notice.

4.12.910 Form of proper service of notice.

4.12.920 Hearing by City Council.

4.12.930 Decision of City Council.

4.12.940 Limitation of filing judicial action.

4.12.950 Service of resolution to abate.

4.12.960 Record of cost for abatement.

4.12.970 Report—Hearing and proceedings.

4.12.980 Assessment of costs against property—Lien.

4.12.990 Violations.

4.12.1000 Severability.

#### 4.12.710 Name.

This chapter shall be known as the "noise control ordinance."

(Prior code § 4-3.1000)

#### 4.12.720 Declaration of policy.

It is hereby declared to be the policy of the City to prohibit unnecessary, excessive, and annoying noises from all sources subject to its police power. At certain levels, noise is detrimental to the health and welfare of the citizenry and, therefore, it is in the public interest to systematically proscribe harmful noises.

(Prior code § 4-3.1001)

#### 4.12.730 Definitions.

For the purposes of this article, the words set out in this section shall have the following meanings:

"Average sound level" shall mean the sound level typical of the sound levels at a certain place during a given period of time, averaged by the general rule of combination for sound levels, said general rule being set forth in the latest revision of the American National Standard Specifications for sound level meters. Average sound level is also called equivalent continuous sound level (Leg).

"Base district" shall mean those land use regulations as similarly referenced in the Tracy zoning regulations.

"Decibel" shall mean a unit for measuring the amplitude of sound, equal to twenty (20) times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is twenty (20) micropascals.

"Emergency work" shall mean work made necessary to restore property to a safe condition following a public calamity or work required to protect persons or property from imminent exposure to danger or damage or work by public or private utilities when restoring utility service. Also included, is any work performed for the purpose of preventing or alleviating the physical trauma or property damage threatened or caused by an emergency.

"Noise" shall mean the composite noise from all sources near and far. In this context, the noise level constitutes a normal or existing level of environmental noise at a given location and time.

"Noise disturbance" shall mean any sound which, as judged by the Community Development Director, (1) endangers or injures the safety or health of human beings or animals, or (2) annoys or disturbs reasonable persons of normal sensitivities, or (3) endangers or injures personal or real property, or (4) violates the general sound limits set forth in <u>Section 4.12.750</u> of this article. Compliance with the quantitative standards as listed therein shall constitute elimination of a noise disturbance.

Nuisance. A "public nuisance" is one which affects at the same time a community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.

"Person" means any individual, association, partnership, or corporation, and includes any officer, employee, department, agency or instrumentality of the State or any political subdivision of the State.

"Sound level" shall mean the weighted sound pressure level obtained by the use of a sound level meter and frequency weighing network as specified in American National Standards Institute specifications for sound level meters (ANSISI.4-1971, or the latest revision thereof). If the frequency weighing employed is not indicated, the A-weighing is implied.

"Sound level meter" shall mean an instrument, including a microphone, an amplifier, readout, and frequency weighing networks for the measurement of sound levels which meets or exceeds the requirements pertinent for type S2A meters in the latest revision of the American National Standards Institute Specification for sound level meters.

(Prior code § 4-3.1002)

#### 4.12.740 Sound level measurement.

The City shall establish appropriate standards and procedures to ensure the accuracy of sound level measurements. Any such measurements shall be made consistent with these standards and procedures.

(Prior code § 4-3.1003)

#### 4.12.750 General sound level limits.

Except for exempted activities and sounds as provided in this chapter or exempted properties as referenced in <u>Section 4.12.800</u>, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property in the applicable Base District Zone on which the sound is produced exceeds the applicable limits set forth below:

Base District	Sound
Zone	Level
	Limits
	(Decibels)
1. Residential Districts:	55
RE (Residential Estate)	
LDR (Low Density)	
MDR/MDC (Medium Density)	
HDR (High Density)	
RMH (Mobile Home)	
2. Commercial Districts:	65
MO Medical Office	
POM Professional Office	
and Medical	
CS Community Shopping	
NS Neighborhood Shopping	
CBD Central Business District	
GHC General Highway	
H-S Highway Service	
3. Industrial Districts:	75
M-1 Light Industrial	
M-2 Heavy Industrial	
4. A (Agricultural)	75
5. AMO Aggregate Mineral	75
Overlay Zone	

(Prior code § 4-3.1004)

#### 4.12.760 Limits for Planned Unit Developments.

> In addition to the sound level limits established above, there is hereby established sound level limits for PUD (Planned Unit Development) base district zones.

> For any residential land use within a PUD zone, the sound level limit is that limit which would be otherwise applicable in the residential district zone (RE, LDR, MDR/MDC, HDR, and RMH) corresponding to density of the residential development in that PUD zone.

> For any nonresidential land use within a PUD zone, the sound level limit is that limit corresponding to the C (Commercial) or I (Industrial) zone which would be applicable to that use if not subject to the PUD zone. For the purposes of this section, a land use shall be that use shown on a duly approved planned development plan or specific plan.

(Prior code § 4-3.1005)

#### 4.12.770 Limits for joint boundaries.

When property lines form the joint boundary of two (2) Base District Zones, the sound level limit shall be arithmetic mean of the limit applicable to each of the two (2) zones.

(Prior code § 4-3.1006)

#### 4.12.780 Noncompliance with sound level limits—Extensions—Variations.

- (a) If the noise resulting from any activity, event, or enterprise in any base district zone shall exceed the applicable area sound level limit prescribed Section 4.12.750 on three (3) or more days during any thirty (30) day period, the Community Development Director shall serve a notice of noncompliance on the owner of the property which produces the noise. Service shall be in the manner prescribed by Section 4.12.910. Such notice shall indicate the applicable sound level limit for the area, identify when and where excessive sound level measurements were taken, and report the sound level measured during each such measurement.
- (b) Within thirty (30) days of service of the notice of noncompliance, the owner of the property shall do one of the following:
  - (1) Reduce the level of noise produced on the property so as to conform to the applicable sound level limit referenced in the notice;
  - (2) Deliver a written application to the Community Development Director for an extension of time in which to bring the noise into conformance with the referenced sound level limit; such extension may be granted for a period not to exceed thirty (30) days;
  - (3) Deliver to the Community Development Director a written objection to any or all of the findings indicated, identified, or reported in the notice; the Community Development Director shall rule on the validity of such objections within fifteen (15) days of such delivery and, if found to be invalid, shall order the owner to comply with the applicable sound level limit; or
  - (4) Apply for a variation from the sound level limit otherwise applicable. The Planning Commission shall hear applications for a variation during a duly noticed public hearing. The notice requirements shall be the same as those required by the Tracy zoning regulations in connection with an application for a conditional use permit which requires that notice of the hearing be provided in the local newspaper at least ten days prior to the hearing, and that a mailer be provided regarding the hearing to property owners within 300 feet of the exterior boundary of the subject property, also ten (10) days prior to the hearing.

(Prior code § 4-3.1007)

#### 4.12.790 Required findings for the granting of a variation.

- The Planning Commission shall approve the application for a variation on the basis of the (a) application, materials, and testimonies submitted to it if it finds that the health and welfare benefits of reducing the noise so as to conform with the applicable sound level limit are clearly outweighed by the burden on the applicant and the community in ameliorating, reducing, or modifying the noise so as to conform with the limit.
- (b) In ruling on the application for the variation, the Planning Commission shall consider the following:
  - (1) The characteristics and conditions in Section 4-3.1010;
  - (2) The nature and zoning of the area within which the noise emanates;
  - (3) The density of inhabitation of the area in which the noise emanates;
  - (4) The economic impact on the applicant of bringing the subject property into conformance with the sound level limit; and
  - (5) The impact of the proposed variation on the health, safety, and welfare on persons exposed to sound levels thereby permitted.

(Prior code § 4-3.1008)

#### 4.12.800 Exception and alternative sound level limits for certain properties.

Notwithstanding the general sound level limits provided in Section 4.12.740, an owner or operator of commercial or industrial properties may apply for an exemption from these limits and substitution of alternative sound level limits for the property. The application and approval of alternative sound level limits are controlled by Article 11 of this chapter.

Any alternative sound level limit duly approved by the City shall be enforceable in the same manner as the general sound level limits provided in Section 4.12,750.

(Prior code § 4-3.1009)

#### 4.12.810 General prohibition.

- (a) It shall be unlawful for any person to make, continue, or cause to be made or continued, within the limits of the City, any disturbing, excessive, or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity.
- (b) The following characteristics and conditions shall be considered in determining whether there exists a violation of the general prohibition of this section but shall not be limited to:
  - (1) The level of noise;
  - (2) Whether the nature of the noise is usual or unusual;
  - (3) The level of background noise;
  - (4) The time of day or night the noise occurs;
  - (5) The duration of the noise;
  - (6) Whether the noise is recurrent, intermittent, or constant.
- (c) It shall be rebuttably presumed that any noise which complies with the area sound level limits prescribed by Section 4.12.750 is not in violation of the general prohibition of this section.

(Prior code § 4-3.1010)

#### 4.12.820 Specific noises prohibited.

Notwithstanding the rebuttable presumption referenced in <u>Section 4.12.810</u>, the following acts

> are declared to cause disturbing, excessive, or offensive noises in violation of this article although such enumeration shall not be deemed to be exclusive:

- (a) Horns, signaling devices, etc. The intentional sounding of any horn or other signaling device on any automobile, motorcycle, or other vehicle, except as a danger warning; the creation by means of any such signaling device of any unreasonably loud or harsh sound; and the sounding of any such device for any unnecessary and unreasonable period of time;
- (b) Radios, phonographs, etc. The use or operation of any sound production or reproduction device, radio receiving set, musical instrument, drum, phonograph, television set, loud speaker, sound amplifier, or other sound machine or device used for the purpose of producing or reproducing sound in such a manner as to disturb the peace, quiet, or comfort of any reasonable person of normal sensitivity. The operation of any such machine or device in such a manner as to be plainly audible at a distance of fifty (50') feet from its location shall be prima facie evidence of a violation of this section;
- (c) Loud-speakers, amplifiers for advertising. The using, operating, or permitting to be played, used, or operated of any radio receiving set, musical instrument, phonograph, loud-speaker, sound amplifier or other machine or device for the producing or reproducing of sound which is cast upon the public streets for the purpose of commercial advertising or attracting the attention of the public to any building or structure:
- (d) Yelling, shouting, etc. Yelling, shouting, hooting, whistling, or singing on the public streets, particularly between the hours of 10:00 p.m. and 7:00 a.m. or at any time or place so as to annoy or disturb the quiet, comfort, or repose of persons in any office, or any dwelling, hotel, or other type of residence or any persons in the vicinity;
- (e) Animals, birds, etc. The keeping of any animal or bird which by causing frequent or long-continued and unreasonably loud noise shall disturb the comfort or repose of any person of normal sensitivity in the vicinity;
- (f) Exhausts. The noise emanating into the open air of the noise from the exhaust of any stationary internal-combustion engine, motorboat, or motor vehicle except through a muffler or other device which will effectively prevent loud or explosive noises therefrom;
- (g) Hawkers, peddlers. The shouting and crying of peddlers, hawkers, and vendors which disturbs the peace and quiet of the persons in the vicinity;
- (h) Pile drivers, hammers, etc. The operation between the hours of 10:00 p.m. and 7:00 a.m. of any pneumatic or air hammer, pile driver, steam shovel, derrick, steam, or electric hoist, parking lot cleaning equipment or other appliance, the use of which is attended by loud or unusual noise;
- (i) Business and residential relationships:
  - (1) Delivery vehicles shall have their engines turned off when stationary during the regular business hours (6:00 a.m. to 11:00 p.m.);
  - (2) It is unlawful for stores to be loading, unloading, opening or other handling of boxes, crates, containers, building materials, garbage cans, other similar objects and trash compactor operations between the hours of 10:00 p.m. and 7:00 a.m. in an area between a business and residential in such a manner to cause a noise disturbance across a residential property line or at any time to violate the general sound level limits;
  - (3) Store Deliveries by motorized refrigeration systems. Motorized refrigeration systems shall not be left running between the hours of 10:00 p.m. and 7:00 a.m. within seventy-five feet of a residential zone, residential use, or sleeping quarters;

> Motorized recreational vehicles operating off public right-of-way. No person shall (j) operate or cause to be operated any motorized recreational vehicle off a public right-ofway in such a manner that the sound levels emitted therefrom violate the provisions of Section 4.12.750. This section shall apply to all motorized recreational vehicles, whether or not duly licensed and registered, including, but not limited to, commercial or noncommercial racing vehicles, motorcycles, go carts, amphibious craft, campers, snowmobiles and dune buggies, but not including motorboats.

(Prior code § 4-3.1011)

#### 4.12.830 Exemptions.

- (a) Emergency work. The provisions of this article shall not apply to any emergency work as defined herein, provided that the City has been notified as soon as practical and any vehicle, device, apparatus or equipment used with the emergency work is designed, modified, or equipped to reduce sounds produced to the lowest possible level consistent with effective operation of such vehicle, device, apparatus, or equipment. The provisions of this article shall not apply to any emergency work conducted by the City or its assignees or to any other activity to the extent regulation thereof has been preempted by State or Federal law.
- (b) Sporting, entertainment, or public events. The provisions of this article shall not apply to:
  - (1) Those reasonable sounds emanating from authorized school activities;
  - (2) Those reasonable and typical sounds emanating from social gatherings;
  - (3) Sporting, entertainment and public events which are conducted pursuant to a license or permit issued by the City;
  - (4) Those reasonable sounds emanating from a sporting, entertainment, or public event except that it shall be unlawful to exceed those sound level limits set forth in Section 4.12.750 when measured at the property lines of any property which is used for residential purposes.
- (c) Refuse collection vehicles. Refuse collection vehicles shall be exempted from the general sound level limits prescribed in Section 4.12.750
- (d) Warning devices. Warning devices necessary for the protection of public safety (e.g. police, fire and ambulance sirens) shall be exempted from the provisions of this article.
- (e) Agricultural operations. All mechanical devices, apparatus, or equipment associated with agricultural operations conducted on agricultural property are exempt from the provisions of this article unless adjacent to residential land uses. Where agricultural operations are adjacent to residential land uses, the following stipulations shall apply:
  - (1) Operations do not take place between 8:00 p.m. and 6:00 a.m.; unless
  - (2) Such operations and equipment are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions; or
  - (3) Such operations and equipment are associated with agricultural pest control through pesticide application, provided the application is made in accordance with permits issued by or regulations enforced by the (appropriate authority); or
  - (4) Such devices utilized for pest control which incorporate stationary or mobile noise sources (electromechanical bird scare devices, etc.) are operated only on approval by the Community Development Director. The allowable hours and days for operation of these devices will be specified in the approval; and
  - (5) All equipment and machinery powered by internal combustion engines shall be equipped with a proper muffler and air intake silencer in good working order.

(f)

> The provisions of this article shall not apply to any work conducted by the City or its assignees or to any other activity to the extent regulation thereof has been preempted by State or Federal law. All equipment and machinery powered by internal combustion engines shall be equipped with a proper muffler and air intake silencer in good working order.

(Prior code § 4-3.1012)

#### 4.12.840 Minor maintenance to or improvement of real property.

The provisions of this article shall not apply to noise sources associated with minor maintenance (lawn mowers, power-brushes, leaf blowers, etc.) to or improvement of property used either in part or in whole for residential and nonresidential purposes provided said activities take place between the hours of 7:00 a.m. and 10:00 p.m. on weekdays or between the hours of 7:00 a.m. and 10:00 p.m. on weekends and Federal Holidays.

(Prior code § 4-3.1013)

#### 4.12.850 Preempted activities.

The provisions of this article shall not apply to any activity to the extent regulation thereof has been preempted by State or Federal law or which is a necessary or appropriate means of complying with health or safety requirements imposed by State or Federal law.

(Prior code § 4-3.1014)

#### 4.12.860 Violations—Infractions and misdemeanors.

(Ord. 1040 § 5 Exh. E (part), 2002: prior code § 4-3.1015)

#### 4.12.870 Violations—Public nuisance.

As an additional remedy, the operation or maintenance of any device, instrument, vehicle, machinery, or other item in violation of any provision of this article shall be deemed and is declared to be a public nuisance and may be subject to summary judicial abatement in order to preserve or protect the public health, safety, or welfare by a restraining order or injunction or by abatement and assessment in accordance with the procedures and processes set forth in this article.

Any person owning, leasing, occupying, or having charge of any premises in this City who maintains, uses, or allows to be used, in such a manner so as to make, create, or allow noise which is a public nuisance is subject to having the nuisance abated pursuant to the procedures and processes set forth in Sections 4.12.860 through 4.12.970.

(Prior code § 4-3.1016)

#### 4.12.880 Declaration of nuisances.

Whenever an officer of the Community Development Department, or such other City official as may be designated by the City Manager, determines that any premises within the City is maintained, used, or allowed to be used so as to be a public nuisance within the meaning of the definition set forth in <u>Section 4.12.730</u> then that person shall cause notice to be given in the manner provided in this article for the holding of a public hearing to ascertain whether the same does in fact constitute such public nuisance, the abatement of which is appropriate under the police power of the City.

(Prior code § 4-3.1017)

#### 4.12.890 Form of notice of hearing.

Notice of the time and place of hearing before the City Council shall be entitled, "NOTICE OF HEARING," in letters not less than one inch in height and shall be substantially in the following form:

"NOTICE OF HEARING	TO DETERMINE EXISTENCE (	OF PUBLIC NUISANCE AND TO ABATE
IN WHOLE OR PART. Not	ice is hereby given that on the	day of
		of said day, the City Council of
the City of Tracy will hold	a public hearing in the Council	Chambers of the Tracy City Hall,
		whether certain premises situated in
the City of Tracy, State of	California, known and designa	ited as, in said City,
and more particularly desc	cribed as, cons	stitute a public nuisance subject to
noise abatement by mean	s necessary and appropriate to	o reduce, modify, or eliminate such
noise. If said premises, in	whole or part, are found to cor	nstitute a public nuisance as defined
by the Tracy Municipal Co	ode and if the same are not pro	mptly abated by the owner, such
nuisances may be abated	by municipal authorities and u	pon such abatement cost will
-		violations consist of the following:
		e: namerule;. All persons having any
•	_	ed to attend a meeting of the City
	cy to be held on the	
		, the hour of,
when their testimony and	evidence will be heard and give	en due consideration.
DATED:		
CODE	E ENFORCEMENT	
OFFIC	CER	
(or title of such other City	officer designated by the City I	Manager)"

#### 4.12.900 Posting and serving notice.

An officer of the Community Development Department or such other City official as may be designated by the City Manager, shall cause to be served upon the owner of each of the affected premises a copy of said notice and shall cause a copy thereof to be conspicuously posted on each of the affected premises.

Said notice shall be posted and served at least fifteen (15) days before the time fixed for such hearing. Proof of posting and service of such notices shall be made by declaration under penalty of perjury filed with the City Council.

(Prior code § 4-3.1019)

(Prior code § 4-3.1018)

#### 4.12.910 Form of proper service of notice.

Service of said notice shall be by personal service upon the owner of the affected premises or by depositing a copy of said notice in the U.S. Mail enclosed in a sealed envelope and with postage thereon fully prepaid. Said mail shall be registered or certified and addressed to the said owner, and if there is no known address, then in care of the property address. The service is complete at the time of such deposit. "Owner," as used herein, shall mean any person in possession and also any person having or claiming to have any legal or equitable interest in said premises, as disclosed by a current title search from any accredited title company. The failure of any person to receive such notice shall not affect the validity of the proceedings hereunder.

(Prior code § 4-3.1020)

#### 4.12.920 Hearing by City Council.

At the time stated in the notices, the City Council shall hear and consider all relevant evidence, objections, or protests, and shall receive testimony from owners, witnesses, City personnel, and interested persons relative to such alleged public nuisance and the means necessary and appropriate to reduce, modify, or eliminate such nuisance from such premises. Said hearing may be continued from time to time.

(Prior code § 4-3.1021)

#### 4.12.930 Decision of City Council.

Upon or after the conclusion of said hearing, the City Council shall, based upon such hearing, determine whether the premises, or any part thereof, as maintained, used, or allowed to be used in a manner constitute a public nuisance. If the City Council finds that such public nuisance does exist and that there is sufficient cause to order abatement of the nuisance, the City Council shall adopt a resolution setting forth its findings and ordering the owner or other person having charge or control of such premises to abate such nuisance by having such premises, buildings, structures, or activities thereon altered or eliminated in the manner and by the means specifically set forth in its resolution. Such resolution shall set forth times within which such work shall be commenced and completed by the owner. The decision and order of the City Council shall be final.

(Prior code § 4-3.1022)

#### 4.12.940 Limitation of filing judicial action.

Any owner or other interested person having any objections or feeling aggrieved at any proceeding taken by the City Council in ordering the abatement of any public nuisance under the provisions of this article must bring an action to contest such decision within thirty (30) days after the date of such decision of the City Council. Otherwise all objections to such decision shall be deemed waived.

(Prior code § 4-3.1023)

#### 4.12.950 Service of resolution to abate.

A copy of the resolution of the City Council ordering the abatement of said nuisance shall be served upon the owners of said property in accordance with the provisions of Section 4.12.910 and shall contain a detailed list of needed corrections, alterations, and/or other noise abatement methods. Any property owner shall have the right to have any such premises or activities thereon altered or eliminated in accordance with said resolution and at his own expense provided the same is done prior to the expiration of abatement period set forth in the resolution. Upon such abatement in full by the owner, then proceedings hereunder shall terminate.

If such nuisance is not completely abated by the owner as directed within the designated abatement period, then the City Manager, or such other City official as may be designated by him, is authorized and directed to cause the same to be abated by the City forces or private contract, and the City Manager (or his designated agents) is expressly authorized to enter upon said premises for such purpose. Upon request of the designated official, other City departments shall cooperate fully and shall render all reasonable assistance in abating any such nuisance.

(Prior code § 4-3.1024)

#### 4.12.960 Record of cost for abatement.

- (a) The City Manager, or such other City official as may be designated by him or her, shall keep an account of the cost (including incidental expenses) of abating such nuisance on each separate lot or parcel of land where the work is done, and shall render an itemized report in writing to the said City Council showing the cost of noise abatement at said premises; provided, that before such report is submitted to said City Council, a copy of the same shall be posted for at least five (5) days upon such premises together with a notice of the time when the report shall be heard by the City Council for confirmation.
- (b) The City Council shall set the matter for hearing to determine the correctness or reasonableness, or both, of such costs.
- (c) A copy of said report and notice shall be served upon the owners of said property in accordance with the provisions of Section 4.12.910, at least five (5) days prior to the date of the City Council hearing.
- (d) Proof of said posting and service shall be made by declaration under penalty of perjury filed with the City Clerk.
- (e) The term "incidental expenses" shall include, but not be limited to, the actual expenses and costs of the City in preparation of notices, specifications, and contracts and in inspecting the work, and the costs of printing and mailing required hereunder.

(Prior code § 4-3.1025)

#### 4.12.970 Report—Hearing and proceedings.

At the time and place fixed for receiving and considering said report, the City Council shall hear and pass upon the report of such costs of abatement, together with any objections or protests. Thereupon the City Council may make such revision, correction, or modification in the report as it may deem just, after which by resolution the report, as submitted or as revised, corrected, or modified, shall be confirmed. The decision of the City Council on all protests and objections which may be made shall be final and conclusive.

(Prior code § 4-3.1026)

#### 4.12.980 Assessment of costs against property—Lien.

The total cost for abating such nuisance, as so confirmed by the City Council, shall constitute a special assessment against the respective lot or parcel of land to which it relates, and upon recordation in the office of the County Recorder of a notice of lien, as so made and confirmed, shall constitute a lien on said property for the amount of such assessment.

- After such confirmation and recordation, a certified copy of such decision shall be sent (a) to the tax division of the County Auditor-Controller's office, whereupon it shall be the duty of said Auditor-Controller to add the amounts of the respective assessments to the next regular tax bills levied against said respective lots and parcels of land for municipal purposes, and thereafter said amounts shall be collected at the same time and in the same manner as ordinary municipal taxes are collected, and shall be subject to the same penalties and the same procedure under foreclosure and sale in case of delinquency as provided for ordinary municipal taxes; or
- (b) After such recordation such lien may be foreclosed by judicial or other sale in the manner and means provided by law;

> Such notice of lien for recordation shall be in form substantially as follows: (c) "NOTICE OF LIEN-CLAIM OF CITY OF TRACY.

Pursuant to the authority vested by the provisions of Article 9 of Chapter 4.12 of the Tracy
Municipal Code, the City manager of the City of Tracy (or his designated agents) did on or
about the day of, 20, cause the premises hereinafter described to be altered, in
order to abate a public nuisance on said real property; and the City Council of the City of
Tracy did on the day of, 20, assess the cost of such abatement upon said real
property hereinafter described; and the same has not been paid nor any part thereof; and that
said City of Tracy does hereby claim a lien on such abatement in the amount of said
assessment, to wit: the sum of \$; and the same shall be a lien upon said real
property until the same has been paid in full and discharged of record. The real property
hereinbefore mentioned, and upon which a lien is claimed, is that certain parcel of land lying
and being in the City of Tracy, County of San Joaquin, State of California, and more
particularly described as follows:

(DESCRIPTION)

DATED:	
(ACKNOWLEDGEMENT)	City Manager of the City of Tracy."

(Ord. 1040 § 5 Exh. E (part), 2002; prior code § 4-3.1027)

#### 4.12.990 Violations.

- The owner or other person having charge or control of any such buildings or premises (a) maintaining any public nuisance as defined in this chapter, or who violates any order of abatement made pursuant to Section 4.12.930 is guilty of a misdemeanor.
- (b) Any person who removes any notice or order posted as required in this chapter is guilty of a misdemeanor.

(Prior code § 4-3.1028)

#### **4.12.1000 Severability.**

If any section, sentence, clause or phrase of this chapter is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this chapter. The City Council hereby declares that it would have passed this ordinance and adopted this chapter and each section, sentence, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

(Prior code § 4-3.1029)

#### APPENDIX 5.1:

**STUDY AREA PHOTOS** 





IMG\_0054.JPG 37° 40.87' 0"121° 27.71' 0"



IMG\_0055.JPG 37° 40.87' 0"121° 27.71' 0"



IMG\_0056.JPG 37° 40.87' 0"121° 27.72' 0"



IMG\_0057.JPG 37° 40.8' 0"121° 28.16' 0"



IMG\_0058.JPG 37° 40.8' 0"121° 28.16' 0"



IMG\_0059.JPG 37° 40.8' 0"121° 28.16' 0"



IMG\_0060.JPG 37° 40.79' 0"121° 28.16' 0"



IMG\_0062.JPG 37° 43.05' 0"121° 27.53' 0"



IMG\_0063.JPG 37° 40.38' 0"121° 27.43' 0"



IMG\_0064.JPG 37° 40.38' 0"121° 27.43' 0"



IMG\_0065.JPG 37° 40.38' 0"121° 27.43' 0"



IMG\_0066.JPG 37° 40.38' 0"121° 27.43' 0"



IMG\_0068.JPG 37° 40.49' 0"121° 27.58' 0"



IMG\_0069.JPG 37° 40.49' 0"121° 27.57' 0"



IMG\_0070.JPG 37° 40.49' 0"121° 27.57' 0"



IMG\_0071.JPG 37° 40.47' 0"121° 27.61' 0"



37° 40.47′ 0"121° 27.61′ 0"



IMG\_0073.JPG 37° 40.47' 0"121° 27.61' 0"



IMG\_0074.JPG 37° 40.49' 0"121° 27.57' 0"



IMG\_0075.JPG 37° 40.47' 0"121° 27.59' 0"



IMG\_0076.JPG 37° 40.47' 0"121° 27.59' 0"



IMG\_0077.JPG 37° 40.47' 0"121° 27.58' 0"



37° 40.51′ 0"121° 27.62′ 0"



IMG\_0080.JPG 37° 40.51' 0"121° 27.63' 0"



IMG\_0081.JPG 37° 40.5' 0"121° 27.63' 0"



IMG\_0083.JPG



IMG\_0084.JPG 37° 40.53' 0"121° 27.69' 0"



IMG\_0085.JPG 37° 40.53' 0"121° 27.69' 0"



IMG\_0087.JPG 37° 40.53' 0"121° 27.69' 0"



IMG\_0089.JPG 37° 40.53' 0"121° 27.69' 0"



IMG\_0067.JPG 37° 40.49' 0"121° 27.57' 0"



IMG\_0078.JPG 37° 40.47' 0"121° 27.59' 0"



IMG\_0082.JPG 37° 40.5' 0"121° 27.63' 0"



IMG\_0088.JPG 37° 40.53' 0"121° 27.69' 0"

#### APPENDIX 5.2:

**NOISE LEVEL MEASUREMENT WORKSHEETS** 



#### 24-Hour Noise Level Measurement Summary - v20130414

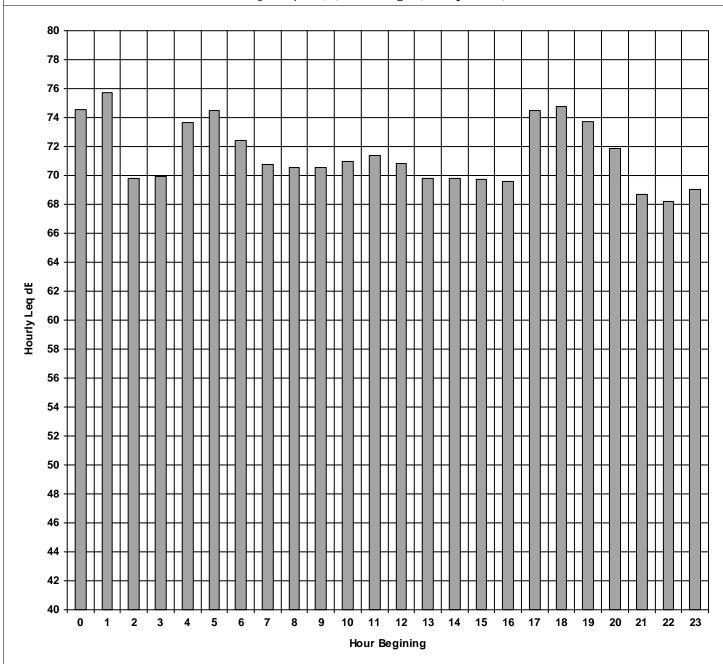
Project Name: Tracy Hills

Job Number: 8559

Analyst: B. Lawson

Description: L1 - At I-580 Caltrans ROW Start Date: Thursday, May 30, 2013





Measured Peak Noise Hour: 1

Measured Peak Hour dBA Leq: 75.7

## 24-Hour Noise Level Measurement Summary - v20130414

Project Name: Tracy Hills

Job Number: 8559

Analyst: B. Lawson

69.6

74.5

74.8

73.7

71.9

68.7

68.2 69.0

Description: L1 - At I-580 Caltrans ROW Start Date: Thursday, May 30, 2013

	Leq To CNEL N	oise Calculations	
Noise Hour	Hourly Leq	CNEL Penalty	Adjusted Hourly Leq
0	74.5	10	84.5
1	75.7	10	85.7
2	69.8	10	79.8
3	69.9	10	79.9
4	73.6	10	83.6
5	74.5	10	84.5
6	72.4	10	82.4
7	70.8	0	70.8
8	70.6	0	70.6
9	70.6	0	70.6
10	71.0	0	71.0
11	71.4	0	71.4
12	70.8	0	70.8
13	69.8	0	69.8
14	69.8	0	69.8
15	69.7	0	69.7

0

0

0

5

5

5

10

10

Calculated CNEL: 79.2

69.6

74.5

74.8

78.7

76.9

73.7

78.2

79.0

**Evening Hours** 

16

17

18

19

20

21

22

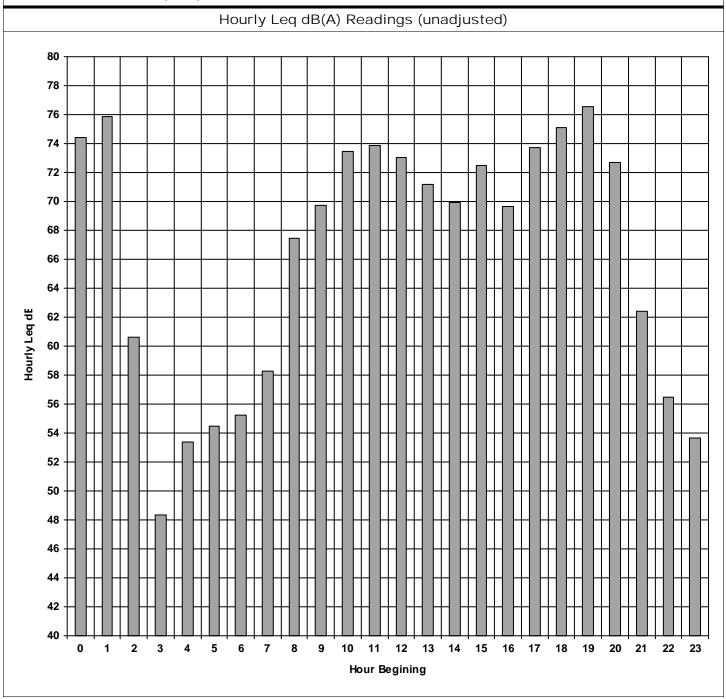
Nighttime Hours

### 24-Hour Noise Level Measurement Summary - v20130414

Project Name: Tracy Hills Job Number: 8559

Analyst: B. Lawson

Description: L2 - At 1,700 from I-580 Fwy. Start Date: Thursday, May 30, 2013



Measured Peak Noise Hour: 19
Measured Peak Hour dBA Leq: 76.6

## 24-Hour Noise Level Measurement Summary - v20130414

Project Name: Tracy Hills Job Number: 8559 Analyst: B. Lawson

Description: L2 - At 1,700 from I-580 Fwy. Start Date: Thursday, May 30, 2013

		oise Calculations	
Noise Hour	Hourly Leq	CNEL Penalty	Adjusted Hourly Leq
0	74.4	10	84.4
1	75.8	10	85.8
2	60.6	10	70.6
3	48.3	10	58.3
4	53.4	10	63.4
5	54.5	10	64.5
6	55.2	10	65.2
7	58.3	0	58.3
8	67.5	0	67.5
9	69.7	0	69.7
10	73.4	0	73.4
11	73.9	0	73.9
12	73.0	0	73.0
13	71.2	0	71.2
14	69.9	0	69.9
15	72.5	0	72.5
16	69.7	0	69.7
17	73.7	0	73.7
18	75.1	0	75.1
19	76.6	5	81.6
20	72.7	5	77.7
21	62.4	5	67.4
22	56.5	10	66.5
23	53.6	10	63.6

Calculated CNEL: 76.5

**Evening Hours** 

**Nighttime Hours** 

Tracy - Weather Conditions, Thrusday, May 30, 2013

Time (PDT)	Humidity	Pressure	Visibility	Wind Dir	Wind Spee	Gust Speed	Precip	Events	Conditions
12:55 AM	65%	<b>29.90</b> in	<b>10.0</b> mi	WNW	8.1 mph	-	N/A		Clear
1:55 AM	74%	<b>29.90</b> in	<b>10.0</b> mi	NW	<b>4.6</b> mph	-	N/A		Clear
2:55 AM	80%	<b>29.90</b> in	<b>10.0</b> mi	NW	5.8 mph	-	N/A		Clear
3:55 AM	77%	<b>29.89</b> in	<b>10.0</b> mi	NW	<b>5.8</b> mph	-	N/A		Clear
4:55 AM	80%	<b>29.91</b> in	<b>10.0</b> mi	NW	5.8 mph	-	N/A		Clear
5:55 AM	77%	<b>29.91</b> in	<b>10.0</b> mi	West	<b>6.9</b> mph	-	N/A		Clear
6:55 AM	72%	<b>29.91</b> in	<b>10.0</b> mi	West	<b>4.6</b> mph	-	N/A		Clear
7:55 AM	62%	<b>29.94</b> in	<b>10.0</b> mi	WNW	<b>10.4</b> mph	-	N/A		Clear
8:55 AM	50%	<b>29.94</b> in	<b>10.0</b> mi	WNW	<b>11.5</b> mph	-	N/A		Clear
9:55 AM	37%	<b>29.94</b> in	<b>10.0</b> mi	West	<b>11.5</b> mph	-	N/A		Clear
10:55 AM	34%	<b>29.94</b> in	<b>10.0</b> mi	NW	<b>11.5</b> mph	<b>19.6</b> mph	N/A		Clear
11:55 AM	36%	<b>29.94</b> in	<b>10.0</b> mi	WNW	<b>15.0</b> mph	<b>20.7</b> mph	N/A		Clear
12:55 PM	36%	<b>29.94</b> in	<b>10.0</b> mi	NW	<b>12.7</b> mph	<b>21.9</b> mph	N/A		Clear
1:55 PM	27%	<b>29.93</b> in	<b>10.0</b> mi	WNW	13.8 mph	<b>21.9</b> mph	N/A		Clear
2:55 PM	27%	<b>29.91</b> in	<b>10.0</b> mi	West	<b>11.5</b> mph	<b>17.3</b> mph	N/A		Clear
3:55 PM	19%	<b>29.90</b> in	<b>10.0</b> mi	NW	8.1 mph	-	N/A		Clear
4:55 PM	17%	<b>29.88</b> in	<b>10.0</b> mi	NW	<b>12.7</b> mph	<b>21.9</b> mph	N/A		Clear
5:55 PM	25%	<b>29.88</b> in	<b>10.0</b> mi	NW	<b>12.7</b> mph	<b>17.3</b> mph	N/A		Clear
6:55 PM	25%	<b>29.89</b> in	<b>10.0</b> mi	NW	<b>11.5</b> mph	-	N/A		Clear
7:55 PM	26%	<b>29.90</b> in	<b>10.0</b> mi	West	<b>12.7</b> mph	-	N/A		Clear
8:55 PM	36%	<b>29.91</b> in	<b>10.0</b> mi	West	<b>11.5</b> mph	-	N/A		Clear
9:55 PM	43%	<b>29.92</b> in	<b>10.0</b> mi	West	8.1 mph	-	N/A		Clear
10:55 PM	43%	<b>29.92</b> in	<b>10.0</b> mi	WNW	8.1 mph	-	N/A		Clear
11:55 PM	52%	<b>29.94</b> in	<b>10.0</b> mi	NE	<b>4.6</b> mph	-	N/A		Clear

# APPENDIX 7.1:

**ON-SITE TRAFFIC NOISE ANALYSIS WORKSHEETS** 



# **Future Exterior Noise Levels**

			<b>a</b>	Peak Hour Noise	_	evel (dBA Leq)				, 4	24-Hour No	24-Hour Noise Level (dBA CNEL)	dBA CNEL)		
Ω	Location	No Wall	6' Wall	8' Wall	10' Wall	12' Wall	14' Wall	16' Wall	No Wall	6' Wall	8' Wall	10' Wall	12' Wall	14' Wall	16' Wall
R-1	Backyard	67.2	0.99	65.1	63.8	62.2	61.1	0.09	72.2	71.0	70.1	8.89	67.2	66.1	65.0
R-2	Frontyard	67.3	4.79	67.4	0.79	0.99	63.2	62.1	72.3	72.4	72.4	72.0	71.0	68.2	67.1
R-3	Backyard	62.9	62.9	62.7	61.3	58.3	57.4	6.95	6.79	6.79	2.79	6.99	63.3	62.4	61.9
R-4	Backyard	0.99	1.99	2.09	28.5	2.95	55.4	54.5	71.0	71.1	2.59	63.5	61.7	60.4	59.5
R-5	Backyard	63.9	6.59	61.0	8.65	8.85	57.5	26.7	6.89	6.89	0.99	8.49	63.8	62.5	61.7
R-6	Backyard	67.7	68.2	68.2	8.99	9:59	62.8	62.5	72.7	73.2	73.2	71.8	70.6	67.8	67.5
R-7	Frontyard	62.9	66.2	66.1	0.99	65.4	63.5	60.7	70.9	71.2	71.1	71.0	70.4	68.5	65.7
R-8	Backyard	68.2	68.3	68.3	6.89	2.79	65.2	62.7	73.2	73.3	73.3	73.3	72.7	70.2	67.7
R-9	Frontyard	66.5	2.99	2.99	9.99	64.6	61.3	60.1	71.5	71.7	71.7	71.6	69.6	66.3	65.1
R-10	Backyard	66.4	64.5	58.9	57.2	54.4	52.9	53.0	71.4	69.5	63.9	62.2	59.4	57.9	58.0
C-1	Community	53.3	53.9	53.9	53.9	53.9	54.0	54.0	58.3	58.9	58.9	58.9	58.9	59.0	59.0
C-2	Community	53.2	54.0	54.0	54.0	54.0	54.2	54.4	58.2	59.0	59.0	59.0	59.0	59.2	59.4
C-3	Community	55.1	56.2	56.2	56.2	56.2	56.2	56.4	60.1	61.2	61.2	61.2	61.2	61.2	61.4
C-4	Community	57.3	58.8	58.8	58.7	58.7	58.7	58.7	62.3	63.8	63.8	63.7	63.7	63.7	63.7

Future CNEL noise levels calculated based on the Caltrans conversion between noise descriptors methodology (Section 2.2.3 Technical Noise Supplement)





# Noise Barrier Barrier Attenuation

				Noise	Noise Level (dBA CNEL)	CNEL)		
<u>Q</u>	Location	No Wall	6' Wall	8' Wall	10' Wall	12' Wall	14' Wall	16' Wall
R-1	Backyard		1.2	2.1	3.4	5.0	6.1	7.2
R-2	Frontyard		1	ı	0.3	1.3	4.1	5.2
R-3	Backyard		-	0.2	1.6	4.6	5.5	6.0
R-4	Backyard		-	5.3	7.5	6.3	10.6	11.5
R-5	Backyard		-	2.9	4.1	5.1	6.4	7.2
R-6	Backyard		-	-	6.0	2.1	6.4	5.2
R-7	Frontyard		-	-	-	5.0	2.4	5.2
R-8	Backyard		-	-	-	5.0	3.0	5.5
R-9	Frontyard		-	ı	-	1.9	5.2	6.4
R-10	Backyard		1.9	7.5	9.5	12.0	13.5	13.4
C-1	Community		-	-	-	-	-	-
C-2	Community		1	-	ı	-	-	-
C-3	Community		1	ı	-	-	-	-
C-4	Community		-	ı	1	-	-	-

Urban Crossroads								787	28 August 2013	2013					
EL								Ž	<b>TNM 2.5</b>						
								Cal	ulated	Calculated with TNM 2.5	2.5				
RESULTS: SOUND LEVELS															
PROJECT/CONTRACT:		08559													
RUN:		Future_6	9												
BARRIER DESIGN:		INPUT	INPUT HEIGHTS							Average p	Average pavement type shall be used unless	e shall be u	sed unles	S	•
			( ( (							State hig	a State highway agency substantiates the use	y substanti	ates the us	se	_
AIMOSPHERICS:		es deg	68 deg F, 50% K	E .	_					ot a differ	of a different type with approval of FHWA.	approval o	THWA.		
Receiver															
Name	No.	#DUs	Existing	S B	No Barrier						With Barrier				
			LAeq1h	LAeq1h	<del>T</del>		Increase	Increase over existing		Type	Calculated	Noise Reduction	luction		
				Calc	Calculated (	Crit'n	Calculated	d Crit'n		Impact	LAeq1h	Calculated	Goal	Calc	Calculated
								Sub	Sub'l Inc					minus	Sn
														Goal	
			dBA	dBA	0	dBA	ф	용			dBA	8 B	ф	фВ	
R-1	52	1	62.0	0	67.2	99	0	5.2	10	Snd LvI	0.99		1.2	8	-6.8
R-2	53	_	0.0	0	67.3	99	0	67.3	10	Snd Lvl	67.4		-0.1	8	-8.1
R-3	54	_	0.0	0	67.9	99	0	67.9	10	1	62.9		0.0	8	-8.0
R-4	22	_	0.0	0	0.99	99	60	0.99	10	Snd Lvl	66.1		-0.1	8	-8.1
R-5	99	_	0.0	0	63.9	99	0	63.9	10	1	63.9		0.0	8	-8.0
R-6	22	_	0.0	0	2.79	99	0	2.79	10	Snd Lvl	68.2		-0.5	8	-8.5
R-7	28	_	0.0	0	62.9	99	0	62.9	10	1	66.2		-0.3	8	-8.3
R-8	29	_	0.0	0	68.2	99	9	68.2	10	Snd Lvl	68.3		-0.1	8	-8.1
R-9	09	_	0.0	0	66.5	99	0	66.5	10	Snd Lvl	2.99		-0.2	8	-8.2
R-10	61	_	0.0	0	66.4	99	0	66.4	10	Snd Lvl	64.5		1.9	∞	-6.1
C-1	62	1	0.0	0	53.3	99	9	53.3	10		6.63		9.0-	8	-8.6
C-2	63	_	0.0	0	53.2	99	9	53.2	10	1	54.0		-0.8	8	-8.8
C-3	64	_	0.0	0	55.1	99	9	55.1	10	1	299		-1.1	8	-9.1
C-4	65	_	0.0	0	57.3	99	9	57.3	10	-	58.8		-1.5	8	-9.5
Dwelling Units		# DNs	Noise Re	eduction	L.										
			Min	Avg		Max									
			dВ	ф		dВ									
All Selected		14	-1.5	2	-0.2	1.9	6								
All Impacted		7		2	0.3	1.9	0								
All that meet NR Goal		0		0	0.0	0.0	0								

Urban Crossroads						28 Aug	28 August 2013	_					
EL						<b>TNM 2.5</b>	5.						
						Calcul	Calculated with TNM 2.5	TNM 2	5				
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:	08559												
RUN:	Future_8	8											
BARRIER DESIGN:	INPU	INPUT HEIGHTS	S				Aver	age pa	vement type	Average pavement type shall be used unless	ed unless		-
SCIGEROSONTA	000	ם אייט פאס פא	=				a Sta	te high	way agency	a State highway agency substantiates the use	es the us	ø	
A HENGO.		9 , 30 %					5		it type with	appioval	į		
Receiver													
Name	No. #DUs								With Barrier				
		LAeq1h			Increase o	Æ.			Calculated		tion	2	1000
			Calculated	= = = = = = = = = = = = = = = = = = = =	Calculated		IIIIpacı		LAedin	Calculated	GOA	Calculated	lated
						Sub'l Inc	n S					minus	
												Goal	
		dBA	dBA	dBA	dB	용		ס	dBA	8 B	дB	ВВ	
R-1	52	1 62.	0	67.2	99	5.2	10 Sn	Snd LvI	65.1	2.1		8	-5.9
R-2	53	1		67.3	99	67.3	10 Sn	Snd LvI	67.4	-0.1		8	-8.1
R-3	54	1		62.9	99	62.9	10	1	62.7	0.2		8	-7.8
R-4	25	1	0.0	0:	99	0.99	10 Sn	Snd LvI	2.09	5.3		8	-2.7
R-5	26	1	0.0	6.	99	63.9	10	-	61.0	2.9		8	-5.1
R-6	22	1	7.79 0.0	7.	99	2.79	10 Sn	Snd LvI	68.2	-0.5		8	-8.5
R-7	28	1	0.0	6.	99	62.9	10 -	-	1.99	-0.2		80	-8.2
R-8	29	1	0.0	2	99	68.2	10 Sn	Snd LvI	68.3	-0.1		80	-8.1
R-9	09	1	0.0	75.	99	66.5	10 Sn	Snd LvI	2.99	-0.2		80	-8.2
R-10	61	1	0.0	4.	99	66.4	10 Sn	Snd LvI	58.9	7.5		8	-0.5
C-1	62	1 (		53.3	99	53.3	10		53.9	9:0-		8	-8.6
C-2	63	-		53.2	99	53.2	10	1	54.0	-0.8		8	-8.8
C-3	64	1	0.0	-	99	55.1	10	-	56.2	1.1-		80	-9.1
C-4	65	1	0.0	57.3	99	57.3	- 01	-	58.8	-1.5		8	-9.5
Dwelling Units	# DNs	s Noise R	Reduction										
		Min	Avg	Max									
		g B	ф	æ									
All Selected		14		6.0	7.5								
All Impacted		)		2.0	7.5								
All that meet NR Goal		0	0.0	0.0	0.0								

Urban Crossroads							ñ	_ 28 August 2013	2013					
EL							_	<b>TNM 2.5</b>						
							S	alculated	Calculated with TNM 2.5	N 2.5				
RESULTS: SOUND LEVELS														
PROJECT/CONTRACT:		08559												
RUN:		Future_10	_10											
BARRIER DESIGN:		INPUT	INPUT HEIGHTS						Average	Average pavement type shall be used unless	e shall be us	ed unless		
		;	1						a State h	a State highway agency substantiates the use	y substantia	tes the us	e	_
ATMOSPHERICS:		98 deç	68 deg F, 50% RF	_					ot a diffe	of a different type with approval of FHWA.	approval of	HWA.		
Receiver														
Name	8	#DNs	Existing	No Barrier						With Barrier				
			LAeq1h	LAeq1h		Increase over existing	over ex	tisting	Type	Calculated	Noise Reduction	ction		
				Calculated	Crit'n	Calculated	<u>0</u>	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated	ated
							S	Sub'l Inc					minus	
													Goal	
			dBA	dBA	dBA	ф	ВB	m		dBA	용	фB	фВ	
R-1	52		62.0		67.2	99	5.2	10	Snd Lvl	63.8	3.4	4	8	-4.6
R-2	53	_	0.0		67.3	99	67.3	10	Snd Lvl	0.79	0.3	3	8	7.7-
R-3	54	_	0.0		62.9	99	67.9	10	-	61.3	1.6	9	8	-6.4
R-4	22	_	0.0		0.99	99	0.99	10	Snd Lvl	58.5	7.5	2	8	-0.5
R-5	99	_	0.0		63.9	99	63.9	10	-	59.8	4.1	_	8	-3.9
R-6	22	_	0.0		67.7	99	2.79	10	Snd Lvl	8.99	6.0	6	8	-7.1
R-7	58	-	0.0		62.9	99	62.9	10	1	0.99	1.0-	1	8	-8.1
R-8	59	_	0.0		68.2	99	68.2	10	Snd Lvl	68.3	-0.1	_	8	₩.
R-9	09	_	0.0		999	99	66.5	10	Snd LvI	9.99	1.0-	7	8	₩.
R-10	61	_	0.0		66.4	99	66.4	10	Snd Lvl	57.2	9.2	2	8	1.2
C-1	62	_	0.0		53.3	99	53.3	10	1	53.9	9.0-	9	8	-8.6
C-2	63	_	0.0		53.2	99	53.2	10	1	54.0	-0.8	8	8	8.8
C-3	64	_	0.0		55.1	99	55.1	10	-	56.2	1.1.	_	8	-9.1
C-4	65	1	0.0		57.3	99	57.3	10	-	58.7	-1.4	4	8	-9.4
Dwelling Units		# DNs	Noise Reduction	duction										
			Min	Avg	Мах									
			ф	ф	ф									
All Selected		14	4.1-		1.6	9.5								
All Impacted			-0.1		3.0	9.5								
All that meet NR Goal		_	9.5		9.2	9.5								

08559

KEOCHO: COOM PENED							2000			-				
Urban Crossroads							28 Aug	28 August 2013						
E							<b>TNM 2.5</b>							
							Calcula	Calculated with TNM 2.5	TNM 2.5					
RESULTS: SOUND LEVELS														
PROJECT/CONTRACT:	80	08559												
RUN:	ፈ	Future_12												
BARRIER DESIGN:	_	INPUT HEIGHTS	GHTS					Avera	ge pavem	ent type	Average pavement type shall be used unless	ed unless		-
ATMOSPHERICS:	Ğ	68 dea F. 50% RH	0% RH					a Stat	e highway ifferent tv	/ agency	a State highway agency substantiates the use of a different type with approval of FHWA.	es the us HWA.	Ō	
								; ;						
Keceiver														
Name	S	#DOS Exi		No Barrier					With	<u>_</u>		,		
		ř	LAeq1h L	LAeq1h Calamatad	, 141 141 141	Increase ov	Increase over existing	Type		b	Noise Reduction	tion Cool	10101010101010101010101010101010101010	70
				alculated	= = 5	Calculate		IIIIpaci	- LAGH III			0 0 0 0	Calculo	מופח
							ane	.,					Spuillings	
		ABA		ABA	ΔBΔ	á	ਬੁ		ΔRΔ		Æ	á	<b>2</b> 4	
7	C		5		5		3	0				3	3	c
	76	- ,	02.0	2.70		00				7.70	0.0		ο 0	ن 10.0
K-2	53	_	0.0	67.3		99		10 Snd LvI	I.	0.99	1.3		∞	-Q: /
R-3	24	1	0.0	62.9		99		10	_	58.3	4.6	10	8	-3.4
R-4	22	_	0.0	0.99		99	0.99	10 Snd Lvl	ار ا	26.7	9.3		8	1.3
R-5	99	~	0.0	63.9		99	63.9	10		58.8	5.1		8	-2.9
R-6	22	~	0.0	2.79		99	2.79	10 Snd Lvl	<u> </u>	9.59	2.1		8	-5.9
R-7	28	_	0.0	62.9		99	62.9	10		65.4	0.5		8	-7.5
R-8	29	_	0.0	68.2		99	68.2	10 Snd Lvl		67.7	0.5		8	-7.5
R-9	09	~	0.0	66.5		99		10 Snd Lvl	<u></u>	64.6	1.9		8	-6.1
R-10	61	~	0.0	66.4		99	66.4	10 Snd Lvl	<u> </u>	54.4	12.0		8	4.0
C-1	62	1	0.0	53.3		99	53.3	10		53.9	9.0-	10	8	-8.6
C-2	63	~	0.0	53.2		99	53.2	10		54.0	-0.8		8	-8.8
C-3	64	~	0.0	55.1		99	55.1	10		56.2	1.1-		8	-9.1
C-4	65	-	0.0	57.3		99	57.3	10		58.7	4.1-		8	-9.4
Dwelling Units	#	# DUS No	Noise Redu	duction										
		Min		Avg	Мах									
		ф		dВ	фB									
All Selected		14	-1.4	2.7	7 12.0	0								
All Impacted		7	0.5	4.6	5 12.0	0								
All that meet NR Goal		2	9.3	10.6	5 12.0	0								

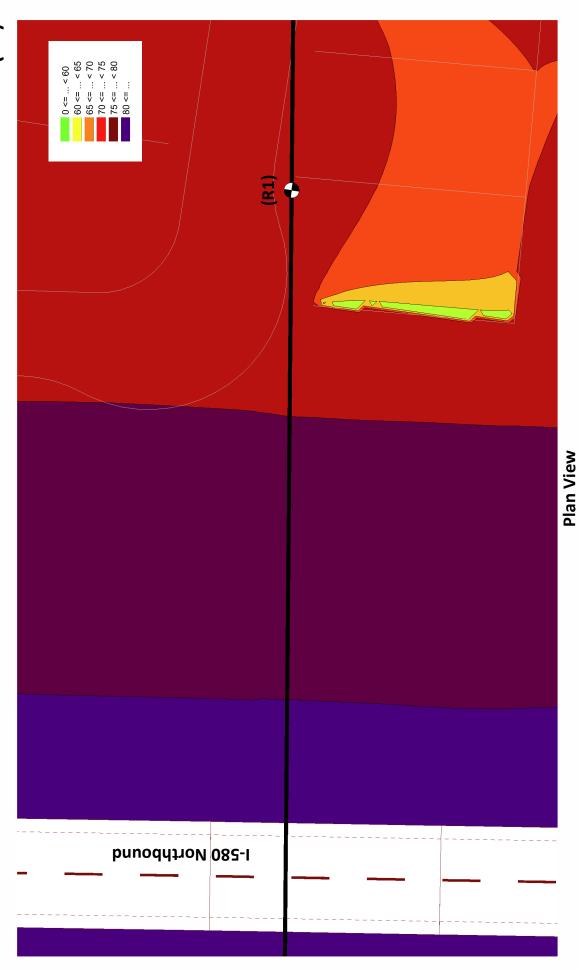
Urban Crossroads						28 August 2013	t 2013					
EL						<b>TNM 2.5</b>						
						Calculate	Calculated with TNM 2.5	12.5				
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:	08559											
RUN:	Future_14	41_										
BARRIER DESIGN:	INPUT	INPUT HEIGHTS					Average p	avement typ	Average pavement type shall be used unless	sq nuless		
ATMOSPHERICS:	290	68 deg F 50% RH					a State high	ghway agenc	a State highway agency substantiates the use of a different type with approval of FHWA	es the use	_	_
Receiver												
Name	No. #DUs	Existing	No Barrier					With Barrier				
		LAeq1h	LAeq1h Calculated	c'÷ir	Increase over existing	r existing	Type Impact	Calculated	Noise Reduction	tion	Poteli Jeto	7
				= = 5		Sub II	200	bo		500	ouia a	3
						one -					Goal	
		dBA	dBA	dBA	ВВ	8		dBA	鲁	фВ	dB dB	
R-1	52 1		67.2	2 66	5.2		Snd Lvl	61.1			8	1.9
R-2	53	0.0	67.3	3 66	67.3	3 10	Snd Lvl	63.2	1.4		8	-3.9
R-3	, 24	0.0	62.9	99 6	62.9	9 10	-	57.4	5.5		8	-2.5
R-4	, 22	0.0	0.99	99 (	9 66.0	0 10	Snd Lvl	55.4	10.6		8	2.6
R-5	, 99	0.0	63.9	99 6	63.9	9 10	-	57.5	6.4		8	-1.6
R-6	, 25	0.0	2.79	99 2	5 67.7	7 10	Snd Lvl	62.8	3 4.9		8	-3.1
R-7	. 28	0.0	62.9	99 6	65.9	9 10		63.5	2.4		8	-5.6
R-8	. 69	0.0		5 66	\$ 68.2	2 10	Snd LvI	65.2			8	-5.0
R-9	09	0.0	66.5	99 9	3 66.5	5 10	Snd Lvl	61.3	3 5.2		8	-2.8
R-10	, 19	0.0	66.4	1 66	66.4	10	Snd Lvl	52.9	13.5		8	5.5
C-1	62 1	0.0		99 8	53.3	3 10		54.0	1.0-		8	-8.7
C-2	, 63	0.0	23.2	5 66	53.2	2 10	-	54.2	2 -1.0		8	-9.0
C-3	, 64	0.0	55.1	1 66	55.1	1 10		56.2	-1.1		8	-9.1
C-4	, 65	0.0	57.3	3 66	22	3 10	-	58.7	7.1.4		8	-9.4
Dwelling Units	# DNs	Noise Red	duction									
		Min	Avg	Мах								
		фВ	dВ	фB								
All Selected	14	1.4	4.1	13.5	10							
All Impacted	7	3.0			10							
All that meet NR Goal		2 10.6	12.0	13.5								

Urban Crossroads								28 August 2013	2013					
日								<b>TNM 2.5</b>						
								Calculated with TNM 2.5	with TNI	M 2.5				
RESULTS: SOUND LEVELS														
PROJECT/CONTRACT:		08559												
RUN:		Future_16	_16 _											
BARRIER DESIGN:		INPUT	INPUT HEIGHTS						Average	Average pavement type shall be used unless	e shall be us	ed unless		
ATMOSPHEDICS		88	68 dea E 50% DI						a State h	a State highway agency substantiates the use	y substantiat	tes the us	ø.	_
			200						5	2016				
Receiver														
Name	No.	#DNs	Existing	No Barrier	_					With Barrier				
			LAeq1h	LAeq1h		Incre	Ver	xisting	Type	Calculated	Noise Reduction	ction		
				Calculated	Critin	Calci	Calculated	Critin	Impact	LAeq1n	Calculated	Goal	Calculated	ated
								Sub'l Inc					minus	
													Goal	
			dBA	dBA	dBA	dВ		dВ		dBA	dВ	dB	dВ	
R-1	52		1 62.0		67.2	99	5.2	10	Snd Lvl	0.09	7.2	2	8	9.0-
R-2	53		1 0.0		67.3	99	67.3	10	Snd Lvl	62.1	1 5.2	2	8	-2.8
R-3	54		1 0.0		62.9	99	62.9	10	ł	56.9	0.9	0	8	-2.0
R-4	22		1 0.0		0.99	99	0.99	10	Snd Lvl		5 11.5	2	8	3.5
R-5	26		1 0.0		63.9	99	63.9	10	1	26.7	7 7.2	2	8	-0.8
R-6	22		1 0.0		2.79	99	7.79	10	Snd Lvl	62.5	5 5.2	2	8	-2.8
R-7	58		1 0.0		62.9	99	62.9	10	ł	2.09	7 5.2	2	8	-2.8
R-8	59		1 0.0		68.2	99	68.2	10	Snd Lvl	62.7	7 5.5	2	8	-2.5
R-9	09		1 0.0		66.5	99	66.5	10		60.1	1 6.4	4	8	-1.6
R-10	61		1 0.0		66.4	99	66.4	10	Snd LvI	53.0	13.4	4	8	5.4
C-1	62	_	0.0		53.3	99	53.3	10	1	54.0	7.0-	2	8	-8.7
C-2	63		1 0.0		53.2	99	53.2	10	1	54.4	1.2	2	8	-9.2
C-3	64	`	0.0		55.1	99	55.1	10	1	56.4	1.3	8	8	-9.3
C-4	65	,	0.0		57.3	99	57.3	10		58.7	7 -1.4	4	8	-9.4
Dwelling Units		# DUs	Noise Reduction	duction										
			Min	Avg	Max									
			дB	용	용									
All Selected		14	4.1-	4	1.9	13.4								
All Impacted			7 5.2	2	7.8	13.4								
All that meet NR Goal			11.5		12.5	13.4								

# **APPENDIX 7.2:**

**FOCUSED EXTERIOR NOISE CONTOUR BOUNDARIES** 





Cross-Section View

I-580 NB

(R1)

(R10)

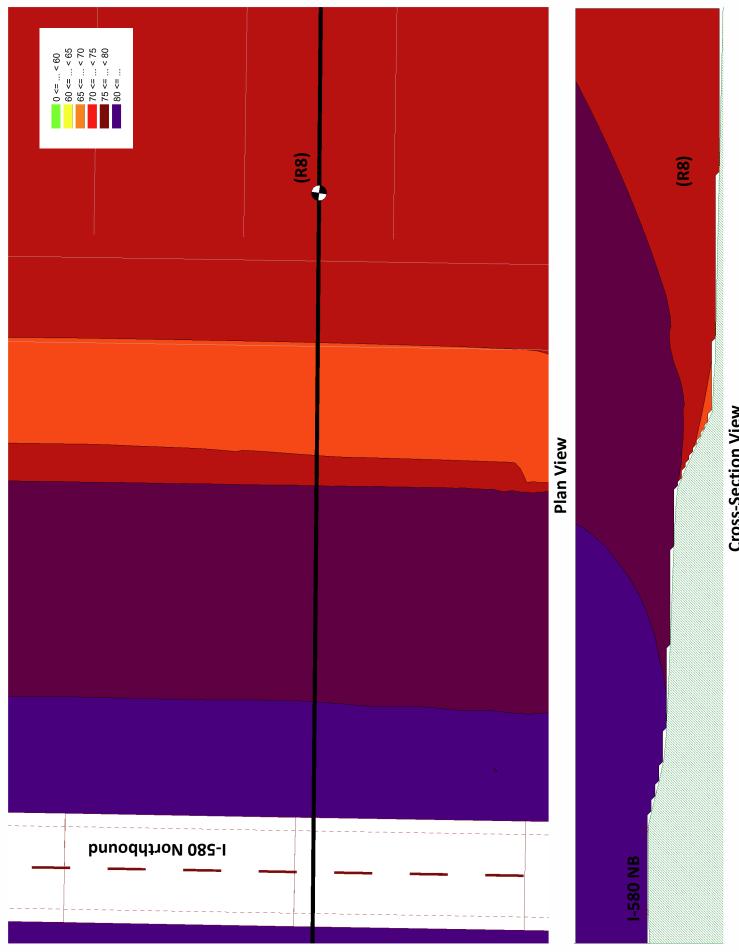
**Cross-Section View** 

**Cross-Section View** 

**Cross-Section View** 

**Cross-Section View** 

**Cross-Section View** 



**Cross-Section View** 

**Cross-Section View** 

# **APPENDIX 8.1:**

**OFF-SITE TRAFFIC NOISE CONTOUR WORKSHEETS** 



	FHW	A-RD-77-108	HIGH	HWAY	NOISE P	REDICTION	ON MO	DEL			
Road Nar	rio: Existing me: Tracy Boule ent: South of Lin					Project I Job Nu			Hills		
	SPECIFIC IN	PUT DATA			0:: 0				L INPUT	s	
Highway Data					Site Cor	nditions (	Hard =				
Average Daily	,	1,000 vehicles	S					Autos:	15		
	r Percentage:	10%				edium Tru		,	15		
Peak	Hour Volume:	100 vehicles	S		He	eavy Truc	ks (3+	Axles):	15		
	ehicle Speed:	55 mph			Vehicle	Mix					
Near/Far La	ane Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	77.5%	12.9%	9.6%	97.42%
R	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
	ist. to Barrier:	100.0 feet			Noise S	ource Ele	evatio	ıs (in fe	eet)		
Centerline Dist	to Observer:	100.0 feet				Autos		.000	,		
Barrier Distance	e to Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height	(Above Pad):	5.0 feet			Hear	vy Trucks	: 8	.006	Grade Ad	iustmen	t: 0.0
F	Pad Elevation:	0.0 feet									
Ro	oad Elevation:	0.0 feet			Lane Eq	uivalent			feet)		
	Road Grade:	0.0%				Autos		.206			
	Left View:	-90.0 degree	es			m Trucks		.115			
	Right View:	90.0 degree	es		Hear	vy Trucks	: 97	.124			
FHWA Noise Mod	del Calculations										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos	: 71.78	-12.82		-4.4	43	-1.20		-4.77	0.0	000	0.000
Medium Trucks	: 82.40	-30.06		-4.4	43	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	: 86.40	-34.02		-4.4	43	-1.20		-5.16	0.0	000	0.000
Unmitigated Nois	se Levels (witho	ut Topo and	barri	er atte	nuation)						
VehicleType	Leq Peak Hour		_	Leg E	Evening	Leq I			Ldn	_	NEL
Autos	: 53.	-	51.4		49.7		43.	-	52.2	2	52.8
Medium Trucks			45.2		38.8		37.	-	45.8		46.0
Heavy Trucks		*	45.3		36.3		37.		45.9		46.0
Vehicle Noise	: 54.	9	53.1		50.2		45.	3	53.9	)	54.3
Centerline Distar	nce to Noise Co	ntour (in feet	)	70	15.4		-	_		-	
				70	dBA	65 0		6	0 dBA		dBA
			Ldn:		8	18	-		39		84
		CI	VEL:		9	19	9		42		90

	FHV	VA-RD-77-108	HIGH	WAY N	OISE PI	REDICT	ION MOI	EL			
Scenario: Road Name: Road Segment:	Tracy Boule		o Rd				Name: 1 lumber: 8		Hills		
SITE SE	PECIFIC IN	PUT DATA				1	IOISE N	ODE	L INPUT	5	
Highway Data				5	Site Cor	ditions	(Hard =	10, S	oft = 15)		
Average Daily Tr	affic (Adt):	8,730 vehicles	S				A	utos:	15		
Peak Hour Pe	ercentage:	10%			Me	dium Tr	ucks (2 A	xles):	15		
Peak Hou	ır Volume:	873 vehicles	S		He	avy Tru	cks (3+ A	xles):	15		
Vehic	cle Speed:	55 mph		1	/ehicle	Mix					
Near/Far Lane	Distance:	48 feet				icleType	9	Day	Evening	Night	Daily
Site Data								77.5%		9.6%	,
Rarrie	er Heiaht:	0.0 feet			М	edium T	rucks: 1	34.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wali		0.0			1	Heavy T	rucks: 8	36.5%	2.7%	10.8%	0.74%
Centerline Dist.	to Barrier:	100.0 feet		,	Voise S	ource E	levations	(in f	eet)		
Centerline Dist. to	Observer:	100.0 feet		-		Auto		•	,		
Barrier Distance to		0.0 feet			Mediu	m Truck					
Observer Height (Al.		5.0 feet			Heav	vy Truck	s: 8.0	06	Grade Adj	ustment	0.0
	Elevation:	0.0 feet						- /!	f4\		
	Elevation:	0.0 feet			.ane Eq	uivaien Auto	t Distanc		reet)		
	oad Grade: Left View:	0.0%			Modiu	Auto m Truck					
	Right View:	-90.0 degree				n Truck vy Truck					
	agni view.	90.0 degree	#5		rical	ry Truck	3. 37.1	24			
FHWA Noise Model											
VehicleType Autos:	71.78	Traffic Flow -3.41	Dista	ance -4.43		Road -1.20	Fresn	el 4.77	Barrier Atte	_	m Atten 0.000
Medium Trucks:	71.78 82.40	-20.65		-4.43		-1.20		4.77	0.0		0.000
Heavy Trucks:	86.40	-24.61		-4.43		-1.20		5.16	0.0		0.000
Unmitigated Noise L			horrio			1.20		0.70	0.0		0.000
	eq Peak Hou			Leg Ev		Lea	Night		Ldn	С	NEL
Autos:	62		60.8	209 21	59.1	209	53.0		61.6		62.2
Medium Trucks:	56	.1	54.6		48.3		46.7		55.2	2	55.4
Heavy Trucks:	56	.2	54.7		45.7		47.0		55.3	3	55.4
Vehicle Noise:	64	.3	62.6		59.6		54.7		63.3	3	63.8
Centerline Distance	to Noise Co	ontour (in feet	)								
				70 a	IBA .	65	dBA	(	60 dBA	55	dBA
			Ldn:	36		7	77		165		56
		CI	VEL:	38	3	8	33		178	3	883

	FHV	VA-RD-77-108	HIGH	WAY N	IOISE P	REDICTI	ON MC	DEL			
Road Nam	o: Existing e: Tracy Boule nt: North of Va					Project Job No	Name: umber:		Hills		
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	s	
Highway Data					Site Cor	ditions (	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	13,600 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2	Axles):	15		
Peak H	our Volume:	1,360 vehicle	s		He	avy Truc	ks (3+	Axles):	15		
Vei	hicle Speed:	55 mph			Vehicle	Miv					
Near/Far Lai	ne Distance:	48 feet		H		icleType		Dav	Evenina	Niaht	Dailv
Site Data					VCII		utos:	77.5%			97.429
	l I I a laulut.	0.0 feet			М	edium Tr		84.8%		10.3%	
	rier Height:	0.0 reet 0.0				Heavy Tr				10.8%	
Barrier Type (0-W Centerline Dis	. ,	0.0 100.0 feet		L						10.070	0.7 17
Centerline Dist		100.0 feet		1	Noise S	ource Ele	evatior	ıs (in fe	eet)		
Barrier Distance		0.0 feet				Autos		.000			
Observer Height (		5.0 feet				m Trucks		.297			
	ad Flevation:	0.0 feet			Heav	y Trucks	: 8	.006	Grade Ad	justment	0.0
	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distar	ce (in i	feet)		
	Road Grade:	0.0%			,	Autos		.206	,		
	Left View:	-90.0 degre	es		Mediu	m Trucks	: 97	.115			
	Right View:	90.0 degre			Heav	y Trucks	: 97	.124			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	-1.49		-4.43	3	-1.20		-4.77	0.0	000	0.00
Medium Trucks:	82.40	-18.73		-4.43	3	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-22.68		-4.43	3	-1.20		-5.16	0.0	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq E	vening	Leq I	Vight		Ldn	C	NEL
Autos:	64		62.8		61.0		54.		63.6		64.
Medium Trucks:	58		56.5		50.2		48.	-	57.		57.
Heavy Trucks:	58		56.7		47.6		48.		57.2		57.
Vehicle Noise:	66	.2	64.5		61.5		56.	6	65.2	2	65.
Centerline Distanc	ce to Noise Co	ontour (in feet	)								
			L	70 c		65 (		6	i0 dBA		dBA
			Ldn: NFI:	4i 5:	-	10	)3  1		222		79 15

Wednesday, November 13, 2013

	FHV	WA-RD-77-108	HIGHWA	Y NOIS	SE PF	REDICTI	ON M	ODEL			
	rio: Existing					Project			Hills		
	ne: Corral Hollo					Job N	ımber.	8559			
Road Segme	ent: Btwn I-580	EB Ramps and	I I-580-W	B Ram	ps						
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				Site	Con	ditions	Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	5,430 vehicles	8					Autos	: 15		
Peak Hou	r Percentage:	10%			Med	dium Tru	icks (2	Axles)	: 15		
Peak I	Hour Volume:	543 vehicles	3		Hea	avy Truc	ks (3+	Axles)	: 15		
Ve	ehicle Speed:	55 mph		Veh	icle I	Лix					
Near/Far La	ane Distance:	48 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						P	utos:	77.5%	6 12.9%	9.6%	97.42%
Ba	arrier Height:	0.0 feet			Me	edium Tr	ucks:	84.89	6 4.9%	10.3%	1.84%
Barrier Type (0-V		0.0			F	leavy Tr	ucks:	86.5%	6 2.7%	10.8%	0.74%
Centerline D	ist. to Barrier:	100.0 feet		Noi	se So	urce El	evatio	ns (in t	eet)		
Centerline Dist.	to Observer:	100.0 feet				Autos		0.000	,		
Barrier Distance	to Observer:	0.0 feet			Apdiur	n Trucks		2.297			
Observer Height	(Above Pad):	5.0 feet		1		y Trucks		3.006	Grade Ad	iustment	0.0
F	Pad Elevation:	0.0 feet									
Ro	oad Elevation:	0.0 feet		Lan	ne Equ	uivalent			feet)		
	Road Grade:	0.0%				Autos		7.206			
	Left View:	-90.0 degree	es	1		n Trucks		7.115			
	Right View:	90.0 degree	es		Heav	y Trucks	: 97	7.124			
FHWA Noise Mod	del Calculation	s		-							
VehicleType	REMEL	Traffic Flow	Distanc	ce F	Finite	Road	Fres	snel	Barrier Att	en Bei	rm Atten
Autos:		-5.47		4.43		-1.20		-4.77		000	0.000
Medium Trucks:				4.43		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-26.67	-	4.43		-1.20		-5.16	0.0	000	0.000
Unmitigated Nois										,	
VehicleType	Leq Peak Hou			q Eveni		Leq			Ldn	_	NEL
Autos:			58.8		57.0		51		59.6		60.2
Medium Trucks:			52.6		46.2		44		53.		53.3
Heavy Trucks: Vehicle Noise:			52.7 60.5		43.6 57.5		44 52		53.2 61.2		53.4 61.7
					37.5		52	.1	61.2		01.7
Centerline Distan	ice to Noise Co	ontour (in feet		70 dBA	, ,	65 (	JD A	_	60 dBA		dBA
			I dn:	70 dBA 26	1	5			120		260
			Lan: VFI :	26 28		5 6	-		120	_	260 279
		CI	VEL:	28		6	U		130	2	119

	FHV	VA-RD-77-108	HIGH	I YAW	NOISE P	REDICT	ION MO	DEL			
Road Nan	rio: Existing me: Corral Hollo ent: Btwn I-580		ıd Spi	ne Rd			Name: ' lumber: '		Hills		
SITE	SPECIFIC IN	PUT DATA				N	IOISE N	IODE	L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	6,330 vehicle	s					Autos:	15		
Peak Hour	r Percentage:	10%			Me	dium Tru	ucks (2 A	xles):	15		
Peak F	Hour Volume:	633 vehicle	s		He	avy Truc	cks (3+ A	xles):	15		
Ve	ehicle Speed:	55 mph		ŀ	Vehicle	Miv					
Near/Far La	ane Distance:	48 feet		-		icleType	,	Dav	Evening	Night	Daily
Site Data								77.5%	-	9.6	,
Ra	arrier Height:	0.0 feet			М	edium Ti	rucks:	84.8%	4.9%	10.39	% 1.84%
Barrier Type (0-V		0.0				Heavy Ti	rucks:	86.5%	2.7%	10.89	% 0.74%
Centerline Di	ist. to Barrier:	100.0 feet		f	Noise S	ource El	levation	s (in f	eet)		
Centerline Dist.	to Observer:	100.0 feet		ı		Auto		000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck	s: 2.5	97			
Observer Height	. ,	5.0 feet			Hear	vy Truck	s: 8.0	006	Grade Ad	justmei	nt: 0.0
	Pad Elevation:	0.0 feet									
	ad Elevation:	0.0 feet		-	Lane Eq				feet)		
	Road Grade:	0.0%				Auto					
	Left View:	-90.0 degre				m Truck					
	Right View:	90.0 degre	es		Hear	y Truck	s: 97.	124			
FHWA Noise Mod	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	el	Barrier Att	en B	erm Atten
Autos:	71.78	-4.81		-4.4	3	-1.20		-4.77	0.0	000	0.000
Medium Trucks:	82.40	-22.05		-4.4	-	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-26.00		-4.4	13	-1.20		-5.16	0.0	000	0.000
Unmitigated Nois		-								1	
VehicleType	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn	_	CNEL
Autos:			59.4		57.7		51.6		60.2	_	60.8
Medium Trucks:			53.2		46.9		45.3		53.8	-	54.0
Heavy Trucks: Vehicle Noise:			53.3 61.2		44.3 58.2		45.6 53.3		53.9 61.9		54.0 62.4
Centerline Distan					30.2		33.0		01.3	,	02.4
Centernie Distan	re to Noise Co	nnour (iii feet	_	70	dBA	65	dBA	6	60 dBA	5	5 dBA
			Ldn:	- 2	29	6	32		133		288
		Ci	NEL:	3	31	6	67		144		309

	FH\	WA-RD-77-108	HIGH	WAY N	OISE P	REDICT	TION MO	DEL			
Road Nam	io: Existing ne: Corral Hollont: Btwn Spine	ow Road e Rd and N. Tra	acy Hill:	s Rd			t Name: Number:		Hills		
SITE	SPECIFIC IN	IPUT DATA					NOISE I	ИODE	L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard =	10, Sc	oft = 15)		
	Percentage:	6,330 vehicle 10%					rucks (2 /	,			
	lour Volume:	633 vehicle	:S		He	avy Tru	icks (3+ )	Axles):	15		
Ve	hicle Speed:	55 mph		ν	'ehicle	Mix					
Near/Far La	ne Distance:	48 feet		F		icleTyp	e	Dav	Evening	Night	Daily
Site Data								77.5%		9.6%	
Rai	rrier Height:	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	-	0.0				Heavy 7	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis		100.0 feet		_							
Centerline Dist.		100.0 feet		۸	loise S		levation		eet)		
Barrier Distance		0.0 feet				Auto		000			
Observer Height (		5.0 feet				m Truck		297			
	ad Elevation:	0.0 feet			Hear	ry Truck	ks: 8.	006	Grade Adj	ustment	0.0
	ad Elevation:	0.0 feet		L	ane Eo	uivalen	t Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto		206	,		
•	Left View:	-90.0 degre	20		Mediu	m Truck		115			
	Right View:	90.0 degre				y Truck		124			
FHWA Noise Mode	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	-4.81		-4.43		-1.20		-4.77	0.0	000	0.000
Medium Trucks:	82.40	-22.05		-4.43		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-26.00		-4.43		-1.20		-5.16	0.0	000	0.00
Unmitigated Noise			barrie	r attenu	uation)						
VehicleType	Leq Peak Hou			Leq Ev		Leq	Night		Ldn		VEL
Autos:	61		59.4		57.7		51.6		60.2	-	60.8
Medium Trucks:	54	.7	53.2		46.9		45.3	3	53.8	3	54.0
Heavy Trucks:	54	.8	53.3		44.3		45.6	3	53.9	)	54.0
Vehicle Noise:	62	2.9	61.2		58.2		53.3	3	61.9	)	62.4
Centerline Distant	ce to Noise C	ontour (in feet	t)								
			L	70 d			dBA	1 6	60 dBA		dBA
			Ldn:	29			62		133	_	88
		C	NEL:	31			67		144	3	09

	FHV	VA-RD-77-108	HIGH	WAY N	OISE P	REDICTI	ON MO	DEL			
	o: Existing e: Corral Hollo t: Btwn N. Tra		d Linne	e Rd		Project Job N	Name: umber:		Hills		
	PECIFIC IN	PUT DATA			Sito Cor	N			L INPUT	S	
Highway Data				3	site Cor	iditions	•				
Average Daily T		6,330 vehicle	S					Autos:	15		
Peak Hour F		10%				dium Tru		,	15		
	our Volume:	633 vehicle	S		He	avy Truc	ks (3+ )	Axles):	15		
	icle Speed:	55 mph		ν	/ehicle	Mix					
Near/Far Lan	e Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							lutos:	77.5%	12.9%	9.6%	97.429
Rari	rier Height:	0.0 feet			М	edium Tı	ucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wa		0.0				Heavy Ti	ucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis	t. to Barrier:	100.0 feet			loise S	ource El	evation	s (in fe	et)		
Centerline Dist. to	o Observer:	100.0 feet		- 1		Auto		000	,		
Barrier Distance to	o Observer:	0.0 feet			Mediu	m Truck:		297			
Observer Height (A	Above Pad):	5.0 feet				vy Trucks		.006	Grade Ad	iustment	. 0.0
Pa	d Elevation:	0.0 feet			ricai	ry much	s. 0.	.000	Orado ria	Juoumoni	. 0.0
Roa	d Elevation:	0.0 feet		L	.ane Eq	uivalent	Distan	ce (in i	eet)		
R	Road Grade:	0.0%				Autos	3: 97	.206			
	Left View:	-90.0 degre	es		Mediu	m Trucks	3: 97	.115			
	Right View:	90.0 degre	es		Heav	y Truck	3: 97.	.124			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	ance		Road	Fresi		Barrier Att		m Atten
Autos:	71.78	-4.81		-4.43	3	-1.20		-4.77	0.0	000	0.00
Medium Trucks:	82.40	-22.05		-4.43	3	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-26.00		-4.43	3	-1.20		-5.16	0.0	000	0.00
Unmitigated Noise	•							1			
	Leq Peak Hou			Leq Ev		_	Night		Ldn	_	NEL
Autos:	61.	-	59.4		57.7		51.0	-	60.2	_	60.
Medium Trucks:	54.		53.2		46.9		45.3	-	53.8	-	54.
Heavy Trucks: Vehicle Noise:	54. 62	-	53.3 61.2		44.3 58.2		45.0 53.1	-	53.9 61.9		54. 62.
Centerline Distance					00.2		00.		J1	-	JZ.
Centernile Distanc	e to Moise Co	nnour (III leel	,	70 d	IBA	65	dBA	6	0 dBA	55	dBA
			Ldn:	29	9	6	2		133	2	88

Wednesday, November 13, 2013

	FHV	/A-RD-77-108	HIGHWA	Y NOISE P	REDICTIO	N MODI	EL		
Road Name	o: Existing e: Corral Hollo ht: Btwn Linne	w Road Rd and Valpic	Rd		Project N Job Nur	ame: Tr nber: 85			
	SPECIFIC IN	PUT DATA		011 0			DEL IN		
Highway Data				Site Cor	ditions (F				
Average Daily	. ,	5,330 vehicles	3				tos: 1	-	
	Percentage:	10%			dium Truc				
	our Volume:	533 vehicles		He	avy Truck	s (3+ Ax	les): 1	5	
	nicle Speed:	55 mph		Vehicle	Mix				
Near/Far Lar	ne Distance:	48 feet		Veh	icleType	D	ay Eve	ning Ni	ght Daily
Site Data					Au	tos: 7	7.5% 12	2.9%	9.6% 97.42%
Bar	rier Heiaht:	0.0 feet		М	edium Tru	cks: 84	1.8%	1.9% 1	0.3% 1.84%
Barrier Type (0-W		0.0		1	Heavy Tru	cks: 86	6.5% 2	2.7% 1	0.8% 0.74%
Centerline Dis		100.0 feet		Maisa S	ource Elev	rations	(in foot)		
Centerline Dist.	to Observer:	100.0 feet		140/36 3	Autos:	0.00			
Barrier Distance to	o Observer:	0.0 feet		A deceller	m Trucks:	2.29			
Observer Height (	Above Pad):	5.0 feet			/y Trucks:	8.00		do Adiust	ment: 0.0
Pa	d Elevation:	0.0 feet		пеан	ry Trucks.	8.00	6 0/40	ic Aujust	mone. 0.0
Roa	d Elevation:	0.0 feet		Lane Eq	uivalent E	Distance	(in feet)		
F	Road Grade:	0.0%			Autos:	97.20	6		
	Left View:	-90.0 degree	:S	Mediu	m Trucks:	97.11	5		
	Right View:	90.0 degree	:S	Heav	y Trucks:	97.12	4		
FHWA Noise Mode	el Calculations	5							
VehicleType	REMEL	Traffic Flow	Distanc		Road	Fresnel		er Atten	Berm Atten
Autos:	71.78	-5.56		4.43	-1.20		.77	0.000	0.000
Medium Trucks:	82.40	-22.79		4.43	-1.20		.88	0.000	0.000
Heavy Trucks:	86.40	-26.75	-	4.43	-1.20	-5	.16	0.000	0.000
Unmitigated Noise			barrier at	ttenuation)					
	Leq Peak Hou			q Evening	Leq Ni	_	Ldn		CNEL
Autos:	60.	-	58.7	56.9		50.9		59.5	60.1
Medium Trucks:	54.	-	52.5	46.1		44.6		53.0	53.3
Heavy Trucks:	54.		52.6	43.6		44.8		53.2	53.3
Vehicle Noise:	62.	2	60.4	57.5		52.6		61.1	61.6
Centerline Distanc	e to Noise Co	ntour (in feet)							
				70 dBA	65 dE	BA	60 dB	A	55 dBA
			_dn:	26	55		119		256
		CI	IEL:	28	59		128		276

	FHV	VA-RD-77-108	HIGI	1 YAWH	NOISE PI	REDICTI	ION MO	DDEL							
Road Nar	rio: Existing me: Corral Hollo ent: Btwn Valpio		ulte R	d		Project Job N	Name: umber:		Hills						
	SPECIFIC IN	PUT DATA			Site Cor				L INPUT	s					
Highway Data					Site Con	laitions	(Hara :								
Average Daily	. ,	9,925 vehicle	S					Autos:							
	r Percentage:	10%				dium Tru									
	Hour Volume:	993 vehicle	S		Heavy Trucks (3+ Axles): 15										
	ehicle Speed:	55 mph			Vehicle	Mix									
Near/Far La	ane Distance:	48 feet		İ	VehicleType Day Evening Night										
Site Data					Autos: 77.5% 12.9% 9.6% 9										
Rs	arrier Height:	0.0 feet			Medium Trucks: 84.8% 4.9% 10.3% 1.8										
Barrier Type (0-V	Vall, 1-Berm):	0.0			1	Heavy Tr	rucks:	86.5%	2.7%	10.8%	0.74%				
	ist. to Barrier:	100.0 feet			Noise S	ource El	evatio	ns (in f	eet)						
Centerline Dist.		100.0 feet				Autos	s: 0	.000							
	arrier Distance to Observer: 0.0 feet						Medium Trucks: 2.297								
Observer Height	. ,	5.0 feet			Heav	y Trucks	s: 8	.006	Grade Ad	justmen	t: 0.0				
	Pad Elevation:	0.0 feet		-											
Ro	ad Elevation:	0.0 feet		L	Lane Eq				feet)						
	Road Grade:	0.0%				Autos		.206							
	Left View:	-90.0 degre			Medium Trucks: 97.115 Heavy Trucks: 97.124										
	Right View:	90.0 degre	es		Heav	y Trucks	s: 97	'.124							
FHWA Noise Mod	lel Calculation	s													
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fres		Barrier Att	en Be	rm Atten				
Autos:	71.78	-2.86		-4.4	4.43 -1.20 -4.77 0.000						0.000				
Medium Trucks.	82.40	-20.09		-4.4	3	-1.20		-4.88	0.0	000	0.000				
Heavy Trucks.	86.40	-24.05		-4.4	13	-1.20		-5.16	0.0	000	0.000				
Unmitigated Nois		-	barri	er atter	nuation)										
VehicleType	Leq Peak Hou			Leq E	vening	_	Night		Ldn		NEL				
Autos.			61.4		59.6 48.8		53.	-	62.	-	62.8				
Medium Trucks.							47.	.3	55.		56.0				
Heavy Trucks. Vehicle Noise			55.3 63.1		46.3 47.5 55.9 60.2 55.3 63.8					56.0 64.3					
Centerline Distan					00.2		55		03.0	,	04.0				
Centernine Distan	ice to Noise Co	nnour (iii feet	,	70	dBA	65	dBA	6	60 dBA	55	dBA				
Ldn:			3				388								
	CNEL:					180 388 12 90 194 417					417				

	FHW	A-RD-77-108 i	HIGI	HWAY N	OISE P	REDICTI	ON M	ODEL				
Road Nan	io: Existing ne: Corral Hollow nt: North of Sch					Project Job N	Name. umber.		Hills			
SITE	SPECIFIC INF	UT DATA				N	OISE	MODE	L INPUT	S		
Highway Data				5	Site Con	ditions	(Hard	= 10, Sc	oft = 15)			
Peak Hour Peak F		0,760 vehicles 10% 2,076 vehicles				dium Tru avy Truc		/	15 15 15			
Ve	hicle Speed:	55 mph		١	/ehicle l	Wix						
Near/Far La	ne Distance:	48 feet				icleType		Day	Evening	Night	Daily	
Site Data					Autos: 77.5% 12.9% 9.6%							
Ra	rrier Height:	0.0 feet			Medium Trucks: 84.8% 4.9% 10.3% 1.8							
Barrier Type (0-W		0.0			F	leavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%	
Centerline Di	st. to Barrier:	100.0 feet		,	Voise So	ource El	evatio	ns (in f	eet)			
Centerline Dist.	to Observer:	100.0 feet		F		Autos		.000	,			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks		.297				
Observer Height	(Above Pad):	5.0 feet				y Trucks		.006	Grade Ad	iustment.	0.0	
	ad Elevation:	0.0 feet		-								
	ad Elevation:	0.0 feet		1	ane Eq	uivalent		_	feet)			
	Road Grade:	0.0%				Autos		7.206				
	Left View:	-90.0 degrees				m Trucks		7.115				
	Right View:	90.0 degrees	S		Heav	y Trucks	s: 97	7.124				
FHWA Noise Mod												
VehicleType		Traffic Flow	Di	stance		Road	Fres		Barrier Att		m Atten	
Autos:	71.78	0.35		-4.43		-1.20		-4.77		000	0.000	
Medium Trucks:	82.40	-16.89		-4.43		-1.20		-4.88		000	0.000	
Heavy Trucks:	86.40	-20.84		-4.43		-1.20		-5.16	0.0	000	0.000	
Unmitigated Nois			arri									
VehicleType	Leq Peak Hour	' '		Leq Ev		Leq			Ldn		VEL	
Autos:	66.5		4.6		62.8		56		65.4		66.0	
Medium Trucks:	59.9		8.4		52.0		50		58.9		59.2	
Heavy Trucks:	59.9		8.5		49.5		50		59.1		59.2	
Vehicle Noise:	68.1		6.3		63.4		58	.5	67.0	)	67.5	
Centerline Distan	ce to Noise Cor	ntour (in feet)										
				70 a			dBA	6	60 dBA		dBA	
		L	.dn:	63	3	10	37	295		6	635	

CNEL: 68

l l	FHW.	A-RD-77-108 H	liGi	I YAWH	NOISE F	PREDICT	ION MO	DEL			
Scenario: Existing Road Name: Lamme Road Segment: Btwn Va	rs Ro		chul	te Rd			Name: lumber:		Hills		
SITE SPECIFIC	INF	UT DATA							L INPUT	s	
Highway Data					Site Co	nditions	(Hard =	10, S	oft = 15)		
Average Daily Traffic (Add	): 5	,600 vehicles						Autos:	15		
Peak Hour Percentage	э:	10%			М	edium Tr	ucks (2 /	Axles).	15		
Peak Hour Volume	э:	560 vehicles			Н	eavy Tru	cks (3+ A	Axles).	15		
Vehicle Spee	d:	55 mph		F	Vehicle	Miv					
Near/Far Lane Distance	э:	48 feet		H		hicleType	9	Dav	Evening	Nigh	nt Dai
Site Data								77.5%			6% 97.4
Barrier Heigh	<i>t</i> -	0.0 feet			٨	∕ledium T	rucks:	84.8%	4.9%	10.3	3% 1.8
Barrier Type (0-Wall, 1-Berm		0.0				Heavy T	rucks:	86.5%	6 2.7%	10.8	8% 0.7
Centerline Dist. to Barrie	r:	100.0 feet		ŀ	Noiso S	Source E	lovation	c (in f	inot)		
Centerline Dist. to Observe	r:	100.0 feet		ŀ	NOISE	Auto		000	eei)		
Barrier Distance to Observe	r:	0.0 feet			Modi	m Truck		297			
Observer Height (Above Pac	) <i>:</i>	5.0 feet				ani Truck ivy Truck		297 006	Grade Ad	iuetm	ont: 0 0
Pad Elevation	n:	0.0 feet			1100	ivy IIuck	3. 0.	000	Grade Adj	usum	Unt. 0.0
Road Elevation	n:	0.0 feet			Lane E	quivalen	t Distan	ce (in	feet)		
Road Grad	э:	0.0%				Auto	s: 97.	206			
Left View	v:	-90.0 degrees	3		Media	ım Truck	s: 97.	115			
Right View	V:	90.0 degrees	3		Hea	vy Truck	s: 97.	124			
FHWA Noise Model Calculat	ions										
VehicleType REMEL		Traffic Flow	Dis	stance	Finite	e Road	Fresr	nel	Barrier Att	en l	Berm Atte
Autos: 71	.78	-5.34		-4.4	13	-1.20		-4.77	0.0	000	0.0
Medium Trucks: 82	.40	-22.58		-4.4	13	-1.20		-4.88	0.0	000	0.0
Heavy Trucks: 86	.40	-26.53		-4.4	13	-1.20		-5.16	0.0	000	0.0
Unmitigated Noise Levels (v	vitho	ut Topo and b	arri	er atter	nuation)	)					
VehicleType Leq Peak	Hour	Leq Day		Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	60.8	5	8.9		57.	1	51.1	1	59.7	7	6
Medium Trucks:	54.2	5	2.7		46.3	3	44.8	3	53.2	2	5
Heavy Trucks:	54.2		2.8		43.8	_	45.0		53.4		5
Vehicle Noise:	62.4		0.6		57.	7	52.8	3	61.3	3	6
Centerline Distance to Noise	Cor	ntour (in feet)		==0		05	10.4				ee 10.4
					dBA		dBA		60 dBA	<u> </u>	55 dBA
		CN	dn:	_	26 29		57 51		123 132		265 285
		CN	EL:	2	29		0.1		132		285

Wednesday, November 13, 2013

	FHV	/A-RD-77-108	HIGHW	AY N	OISE PE	REDICTION	ON MC	DEL			
	o: Existing e: Lammers R t: Btwn Old So		Eleventh	n St		Project I Job Nu			Hills		
	PECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				5	ite Con	ditions (					
Average Daily	. ,	5,600 vehicles	3					Autos:			
Peak Hour I		10%				dium Tru					
	our Volume:	560 vehicles	\$		He	avy Truci	ks (3+ ,	4xles):	15		
	nicle Speed:	55 mph		ν	ehicle l	Mix					
Near/Far Lar	ne Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Bar	rier Heiaht:	0.0 feet			Me	edium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa		0.0			F	Heavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	100.0 feet			laisa Sa	ource Ele	wation	e (in f	not)		
Centerline Dist. t	o Observer:	100.0 feet		-	iorse sc	Autos		000	bei)		
Barrier Distance t	o Observer:	0.0 feet			A 4 15	Autos. m Trucks		000 297			
Observer Height (/	Above Pad):	5.0 feet				m Trucks. vy Trucks.		297 006	Grade Ad	iiiietmani	- 0.0
Pa	d Elevation:	0.0 feet			пеач	ry Trucks.	. 0.	006	Orado Adj	Justinoni	. 0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in	feet)		
F	Road Grade:	0.0%				Autos	97.	206			
	Left View:	-90.0 degree	es		Mediui	m Trucks	97.	115			
	Right View:	90.0 degree	es		Heav	y Trucks	97.	124			
FHWA Noise Mode		5									
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fresi		Barrier Att		rm Atten
Autos:	71.78	-5.34		-4.43		-1.20		-4.77		000	0.000
Medium Trucks:	82.40	-22.58		-4.43		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-26.53		-4.43		-1.20		-5.16	0.0	000	0.000
Unmitigated Noise		<del></del>									
	Leq Peak Hou			.eq Ev		Leq N			Ldn		NEL
Autos:	60.	-	58.9		57.1		51.		59.7		60.3
Medium Trucks:	54.		52.7		46.3		44.8	-	53.2	_	53.5
Heavy Trucks:	54.		52.8		43.8		45.0		53.4		53.5
Vehicle Noise:	62.	4	60.6		57.7		52.	3	61.3	3	61.8
Centerline Distanc	e to Noise Co	ntour (in feet)	)					_			
				70 di		65 d		(	60 dBA		dBA
			Ldn:	26		57			123	_	265
		CI	VEL:	29	)	61			132	2	285

Wednesday, November 13, 2013 Wednesday, November 13, 2013

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	FH\	WA-RD-77-108	HIGH	HWAY I	NOISE P	REDICTIO	N MO	DEL				
Scenar	rio: Existing					Project N	lame:	Tracy I	Hills			
	ne: Lammers F					Job Nur	mber:	8559				
Road Segme	ent: North of Ele	eventh St										
	SPECIFIC IN	IPUT DATA							L INPUT	S		
Highway Data					Site Cor	ditions (F						
Average Daily	. ,	3,990 vehicle	:S					Autos:	15			
	Percentage:	10%				dium Truc			15			
	lour Volume:	399 vehicle	:S		He	avy Truck	is (3+ ,	Axles):	15			
	ehicle Speed:	55 mph		ŀ	Vehicle	Mix						
Near/Far La	ane Distance:	36 feet		ľ	VehicleType Day Evening Night						Daily	
Site Data						Au	ıtos:	77.5%	12.9%	9.6%	97.42%	
Ra	rrier Height:	0.0 feet			Medium Trucks: 84.8% 4.9% 10.3% 1.84							
Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy Tru	cks:	86.5%	2.7%	10.8%	0.74%	
	ist. to Barrier:	100.0 feet		İ	Noise S	ource Ele	vation	s (in fe	eet)			
Centerline Dist.		100.0 feet 0.0 feet		İ		Autos:	0.	000				
Barrier Distance	to Observer:		Medium Trucks: 2.297									
Observer Height	. ,	5.0 feet			Heavy Trucks: 8.006 Grade Adjustment: 0.0							
	ad Elevation:	0.0 feet										
	ad Elevation:	0.0 feet			Lane Eq	uivalent L			feet)			
	Road Grade:	0.0%				Autos:		494				
	Left View:	-90.0 degre				m Trucks:		404				
	Right View:	90.0 degre	es		Hear	y Trucks:	98.	413				
FHWA Noise Mod	lel Calculation	s										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten	
Autos:	71.78	-6.81		-4.5	2	-1.20		-4.77	0.0	000	0.000	
Medium Trucks:	82.40	-24.05		-4.5	1	-1.20		-4.88	0.0	000	0.000	
Heavy Trucks:	86.40	-28.01		-4.5	1	-1.20		-5.16	0.0	000	0.000	
Unmitigated Nois			barri	er attei	nuation)							
VehicleType	Leq Peak Hou			Leq E	vening	Leq N	_		Ldn		NEL	
Autos:	59	.2	57.3		55.6		49.	5	58.2	2	58.8	
Medium Trucks:			51.1		44.8		43.2	2	51.7	7	51.9	
Heavy Trucks:		•••	51.3		42.2		43.	_	51.8		51.9	
Vehicle Noise:	60	1.8	59.1		56.1		51.2	2	59.8	3	60.3	
Centerline Distan	ce to Noise Co	ontour (in fee	t)									
			L		dBA	65 dE		6	0 dBA		dBA	
	Ldn:				21 45 97 209							
		С	NEL:	2	22	48			104	- 2	224	

Cooneri	o: Existing					Droinot	Mama	Trong	Lillo				
	o: Existing e: Linne Road					Project Job N			HIIIS				
	e. Liffie Road nt: Btwn Corral	Hollow Rd an	d Tra	cv Blvd		JOD IV	imber.	0009					
	SPECIFIC IN		0 110	o, 2a		N	OISE	MODE	L INPUT	e .			
Highway Data	or con to the	TOI DAIA			Site Cor	nditions							
Average Daily	Traffic (Adt):	3.915 vehicle	s					Autos:	15				
,	Percentage:	10%			Me	edium Tru	icks (2	Axles):	15				
	our Volume:	392 vehicle	s		He	avy Truc	ks (3+	Axles):	15				
Vei	hicle Speed:	55 mph		-	Vehicle								
Near/Far Lai	ne Distance:	48 feet		H		iviix nicleType		Day	Evening	Night	Daily		
Site Data				-	,, , , , ,								
					Autos: 77.5% 12.9% 9.6% 97.42  Medium Trucks: 84.8% 4.9% 10.3% 1.84								
	rier Height:	0.0 feet				Heavy Tr		86.5%		10.8%			
Barrier Type (0-W		0.0 100.0 feet				icavy ii	ucns.	00.07	0 2.170	10.070	0.147		
Centerline Dist		100.0 feet		1	Noise Source Elevations (in feet)								
	Parrier Distance to Observer: 0.0 feet					Autos	: (	0.000					
	Barrier Distance to Observer: 0.0 feet bserver Height (Above Pad): 5.0 feet					m Trucks	: 2	2.297					
	ad Elevation:	0.0 feet			Heav	vy Trucks	: 8	3.006	Grade Ad	justment	: 0.0		
	ad Elevation:	0.0 feet		- 17	Lane Ed	uivalent	Dista	nce (in	feet)				
	Road Grade:	0.0%		F		Autos		7.206	,				
•	Left View:	-90.0 degre	29		Mediu	m Trucks	: 97	7.115					
	Right View:	90.0 degre			Heav	vy Trucks	: 97	7.124					
FHWA Noise Mode	al Calaulatian												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	snel	Barrier Att	en Bei	m Atten		
Autos:	71.78	-6.90		-4.4		-1.20	,,,,,	-4.77		200	0.000		
Medium Trucks:	82.40	-24.13		-4.4	3	-1.20		-4.88	0.0	000	0.000		
Heavy Trucks:	86.40	-28.09		-4.43	3	-1.20		-5.16	0.0	000	0.000		
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)								
VehicleType	Leq Peak Hou	r Leq Day	′	Leq E	vening	Leq	Vight		Ldn	С	NEL		
Autos:	59.	3	57.4		55.6		49	.5	58.	2	58.8		
Medium Trucks:	Medium Trucks: 52.6						43	.2	51.	7	51.9		
Heavy Trucks:	Heavy Trucks: 52.7 5					42.2			51.8	В	52.0		
Vehicle Noise:	60.	.8	59.1		56.1		51	.2	59.	В	60.3		
Centerline Distanc	ce to Noise Co	ntour (in feet	)							,			
					70 dBA 65 dBA			60 dBA			dBA		
Ldn:				_	21 45 97				209				
	CNEL:						22 48 104 225						

	FHV	VA-RD-77-108	HIGH	I YAWI	NOISE P	REDICTI	ON MC	DDEL			
Scenari	o: Existing					Project	Name:	Tracy	Hills		
	e: Linne Road					Job No	ımber:	8559			
Road Segmer	nt: East of Tra	cy Blvd									
SITE :	SPECIFIC IN	IPUT DATA			Site Co.	N ditions			L INPUT	S	
• •					Site Coi	iditions	naru =				
Average Daily	. ,	3,680 vehicle	S					Autos:	15		
	Percentage:	10%				dium Tru		,			
	our Volume:	368 vehicle	S		He	avy Truc	ks (3+	Axles):	15		
	hicle Speed:	55 mph		Ī	Vehicle	Mix					
Near/Far Lai	ne Distance:	48 feet		Ī	Veh	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	77.5%	12.9%	9.6%	97.429
Rar	rier Height:	0.0 feet			M	edium Tr	ucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis		100.0 feet		ı	Noise S	ource Ele	evation	ıs (in f	eet)		
Centerline Dist.	to Observer:	100.0 feet		İ		Autos	: 0	.000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks	: 2	.297			
Observer Height (	Above Pad):	5.0 feet			Hear	vy Trucks	: 8	.006	Grade Ad	iustment	0.0
	ad Elevation:	0.0 feet				<u> </u>					
	nd Elevation:	0.0 feet		-	Lane Eq	uivalent			feet)		
F	Road Grade:	0.0%				Autos		.206			
	Left View:	-90.0 degre				m Trucks		.115			
	Right View:	90.0 degre	es		Hea	y Trucks	: 97	.124			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	71.78	-7.16		-4.4	-	-1.20		-4.77		000	0.00
Medium Trucks:	82.40	-24.40		-4.4	-	-1.20		-4.88		000	0.00
Heavy Trucks:	86.40	-28.36		-4.4	-	-1.20		-5.16	0.0	000	0.00
Unmitigated Noise								_			
,,	Leq Peak Hou			Leq E	vening	Leq I			Ldn		NEL
Autos:	59		57.1		55.3		49.		57.9		58.
Medium Trucks:	52		50.9		44.5		43.	-	51.4	•	51.
Heavy Trucks: Vehicle Noise:	52 60	• •	51.0 58.8		42.0 55.8		43. 51.		51.6 59.5		51. 60.
Centerline Distance	e to Noise C	ontour (in fee						-		-	
Contentine Distant	110138 00	Jui (iii iee	,	70	dBA	65 (	iBA	(	60 dBA	55	dBA
			Ldn:	2	20	4	3		93	2	:00
	CNEL:					22 46 100 215					

Wednesday, November 13, 2013

	FHW	A-RD-77-108	HIGHWA	AY NO	ISE PR	REDICTION	ON MC	DEL			
Scenario: E Road Name: \ Road Segment: E	/alpico Road		orral Hollo	w Rd		Project I Job Nu			Hills		
SITE SPE	CIFIC INF	UT DATA				N	DISE	MODE	L INPUT	S	
Highway Data				Si	te Con	ditions (	Hard :	= 10, Sc	oft = 15)		
Average Daily Trat	fic (Adt):	1,480 vehicles	S					Autos:	15		
Peak Hour Per	centage:	10%			Med	dium Tru	cks (2	Axles):	15		
Peak Hour	Volume:	448 vehicles	3		Hea	avy Truci	ks (3+	Axles):	15		
Vehicle	Speed:	55 mph		Ve	ehicle I	Niv					
Near/Far Lane D	Distance:	48 feet		VE		cleType		Dav	Evening	Night	Daily
Site Data							ıtos:	77.5%		9.69	,
Barrios	Height:	0.0 feet			Me	edium Tru	icks:	84.8%	4.9%	10.39	6 1.84%
Barrier Type (0-Wall,		0.0 reet			F	leavy Tru	icks:	86.5%	2.7%	10.89	6 0.74%
Centerline Dist. to	,	100.0 feet				·			-1		
Centerline Dist. to C		100.0 feet		N	oise So	urce Ele			eet)		
Barrier Distance to C	bserver:	0.0 feet				Autos.	-	.000			
Observer Height (Abo	ve Pad):	5.0 feet				n Trucks		.297			
	levation:	0.0 feet			Heav	y Trucks	8	.006	Grade Ad	justmen	t: 0.0
Road E	levation:	0.0 feet		La	ne Equ	uivalent	Distar	ice (in	feet)		
Roa	d Grade:	0.0%				Autos	97	.206			
L	eft View:	-90.0 degree	es		Mediur	n Trucks	97	.115			
Rig	ght View:	90.0 degree	es		Heav	y Trucks	97	.124			
FHWA Noise Model C	alculations										
VehicleType F	REMEL	Traffic Flow	Distan	се	Finite		Fres	-	Barrier Att	ten Be	erm Atten
Autos:	71.78	-6.31		4.43		-1.20		-4.77		000	0.000
Medium Trucks:	82.40	-23.55		4.43		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-27.50	-	-4.43		-1.20		-5.16	0.0	000	0.000
Inmitigated Noise Le	vels (witho	ut Topo and	barrier a	ttenua	ation)						
VehicleType Led	Peak Hour	Leq Day	Le	q Eve	ning	Leq N	light		Ldn	(	NEL
Autos:	59.8	3	57.9		56.2		50.	1	58.7	7	59.3
Medium Trucks:	53.2	-	51.7		45.4		43.	-	52.3	-	52.5
Heavy Trucks:	53.3	3	51.8		42.8		44.	1	52.4	4	52.5
Vehicle Noise:	61.4		59.7		56.7		51.	8	60.4	4	60.9
Centerline Distance to	Noise Cor	ntour (in feet,	)			-					
				70 dB	BA .	65 d		(	60 dBA		5 dBA
			Ldn:	23		49			106		228
		CI	VEL:	25		53	}		114		246

	FHV	VA-RD-77-108	HIGI	HWAY	NOISE P	REDICTI	ION MO	DDEL			
Road Nari	rio: Existing ne: Valpico Roa ent: Btwn Corral		d Tra	cy Blvd	ı	Project Job N	Name: umber:		Hills		
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	8,475 vehicle	S					Autos:			
Peak Hour	Percentage:	10%				edium Tru		,			
Peak I	Hour Volume:	848 vehicle	S		He	eavy Truc	cks (3+	Axles):	15		
Ve	ehicle Speed:	55 mph			Vehicle	Mix					
Near/Far La	ane Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6	% 97.42%
Ba	rrier Height:	0.0 feet			М	edium Tr	rucks:	84.8%	4.9%	10.3	% 1.84%
Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy Tr	rucks:	86.5%	2.7%	10.8	% 0.74%
	ist. to Barrier:	100.0 feet		ı	Noise S	ource El	evatio	ns (in f	eet)		
Centerline Dist.		100.0 feet		ı		Autos	s: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Trucks	s: 2	.297			
Observer Height	,,	5.0 feet			Hear	vy Trucks	s: 8	.006	Grade Ad	justme	nt: 0.0
-	ad Elevation:	0.0 feet									
	ad Elevation:	0.0 feet			Lane Eq			_ •	feet)		
	Road Grade:	0.0%				Autos		.206			
	Left View:	-90.0 degre				m Trucks		.115			
	Right View:	90.0 degre	es		Hear	vy Trucks	s: 97	.124			
FHWA Noise Mod	lel Calculations	S		·							
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fres		Barrier Att	en B	erm Atten
Autos:	71.78	-3.54		-4.4	43	-1.20		-4.77	0.0	000	0.000
Medium Trucks:	82.40	-20.78		-4.4	43	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-24.74		-4.4	43	-1.20		-5.16	0.0	000	0.000
Unmitigated Nois										1	
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		CNEL
Autos:		-	60.7		58.9		52.	-	61.	-	62.1
Medium Trucks:		-	54.5		48.1		46.	-	55.0	-	55.3
Heavy Trucks: Vehicle Noise:			54.6 62.4		45.6 59.5		46. 54.		55.1 63.1		55.3 63.6
Centerline Distan					00.0		0		00.		
Contonine Distan	00 10 110/36 00	mou. (III loci	_	70	dBA	65	dBA	6	60 dBA		i5 dBA
Ldn:				35 75 162 3		349					
	CNEL:					38 81 174 376					376

	FH	WA-RD-77-108	HIGHW	AY NC	DISE P	REDICT	ION MODEL			
	o: Existing e: Valpico Ro nt: East of Tra					.,	Name: Trac lumber: 855	,		
SITE	SPECIFIC IN	NPUT DATA					NOISE MOD	EL INPUT	S	
Highway Data				Si	ite Cor	ditions	(Hard = 10,	Soft = 15)		
Average Daily	Traffic (Adt):	12,320 vehicle	s				Auto	s: 15		
Peak Hour	Percentage:	10%			Me	dium Tı	ucks (2 Axle	s): 15		
Peak H	our Volume:	1,232 vehicle	s		He	avy Tru	cks (3+ Axle	s): 15		
Vei	hicle Speed:	55 mph		Ve	ehicle	Miv				
Near/Far Lar	ne Distance:	48 feet		-		icleTyp	e Day	Evening	Night	Daily
Site Data					V C//		Autos: 77.5		9.69	,
	rier Height:	0.0 feet			М	edium 7			10.39	
Barrier Type (0-W		0.0 reet			- 1	leavy 7	rucks: 86.5	5% 2.7%	10.89	% 0.74%
Centerline Dis		100.0 feet								
Centerline Dist.		100.0 feet		No	oise S		levations (ir	r feet)		
Barrier Distance		0.0 feet				Auto				
	server Height (Above Pad): 5.0 feet						s: 2.297			
	d Elevation:	0.0 feet			Heav	y Truck	s: 8.006	Grade Ad	ijustmei	nt: 0.0
Roa	d Elevation:	0.0 feet		Lá	ane Eq	uivalen	t Distance (i	n feet)		
F	Road Grade:	0.0%				Auto	s: 97.206			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 97.115			
	Right View:	90.0 degre	es		Heav	y Truck	s: 97.124			
FHWA Noise Mode	el Calculation	IS								
VehicleType	REMEL	Traffic Flow	Distar		Finite	Road	Fresnel	Barrier At		erm Atten
Autos:	71.78	-1.92		-4.43		-1.20	-4.7		000	0.000
Medium Trucks:	82.40			-4.43		-1.20	-4.8		000	0.000
Heavy Trucks:	86.40			-4.43		-1.20	-5.1	6 0.	000	0.000
Unmitigated Noise										
	Leq Peak Ho			eq Eve		Leq	Night	Ldn		CNEL
Autos: Medium Trucks:			62.3 56.1		60.6 49.8		54.5 48.2	63. 56.		63.7 56.9
Heavy Trucks:			56.2				48.2 48.4	56.		
Vehicle Noise:		5.8	64.0		47.2 61.1		56.2	64.		56.9 65.2
Centerline Distance	e to Noise C	ontour (in feet	)							
		(	Ĺ	70 dE	BA	65	dBA	60 dBA	5	5 dBA
	Ldn:							448		
	CNEL:									482

	FH\	VA-RD-77-108 I	HIGHW	AY N	NOISE PE	REDICTIO	N MOI	DEL			
	rio: Existing Plu					Project N			Hills		
	ne: Tracy Boul					Job Nui	mber: 1	3559			
Road Segme	ent: South of Li	nne Rd									
	SPECIFIC IN	IPUT DATA			0:: 0				L INPUTS	3	
Highway Data				_	Site Con	ditions (F					
Average Daily		1,070 vehicles						Autos:			
Peak Hour	Percentage:	10%				dium Truc					
Peak H	Hour Volume:	107 vehicles			He	avy Truck	s (3+ A	(xles	15		
Ve	ehicle Speed:	55 mph		Ħ	Vehicle I	Mix					
Near/Far La	ane Distance:	48 feet		f	Vehi	icleType		Day	Evening	Night	Daily
Site Data						Au	tos:	77.5%	12.9%	9.6%	97.429
Ba	rrier Height:	0.0 feet			Me	edium Tru	cks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V	-	0.0			F	leavy Tru	cks:	86.5%	2.7%	10.8%	0.74%
,, ,	ist. to Barrier:	100.0 feet		-	Maina Ca	urce Ele	ration	o (in f	0041		
Centerline Dist.	to Observer:	100.0 feet		H	Noise Sc	Autos:		900 000	eet)		
Barrier Distance	to Observer:	0.0 feet									
Observer Height	(Above Pad):	5.0 feet				n Trucks:		297	Grade Adj	o.tmo n	
P	ad Elevation:	0.0 feet			Heav	y Trucks:	8.0	006	Grade Adj	usunem	. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent L	Distand	ce (in	feet)		
	Road Grade:	0.0%				Autos:	97.2	206			
	Left View:	-90.0 degree	3		Mediur	n Trucks:	97.	115			
	Right View:	90.0 degree	3		Heav	y Trucks:	97.	124			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista			Road	Fresn		Barrier Atte	en Be	rm Atten
Autos:	71.78	-12.53		-4.4	3	-1.20		-4.77	0.0	00	0.00
Medium Trucks:	82.40	-29.77		-4.4	3	-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	86.40	-33.72		-4.4	3	-1.20		-5.16	0.0	00	0.00
Unmitigated Nois											
VehicleType	Leq Peak Hou		_	.eq E	vening	Leq N	_		Ldn		NEL
Autos:			1.7		50.0		43.9		52.5		53.
Medium Trucks:			5.5		39.1		37.6		46.1		46.
Heavy Trucks: Vehicle Noise:			5.6 3.4		36.6 50.5		37.8 45.6		46.2 54.2		46. 54.
			J. T		30.3		45.0		34.2	•	J4.
Centerline Distan	ce to Noise C	ontour (in feet)		70	dBA	65 dE	BA	(	60 dBA	55	dBA
		L	dn:			19			41		88
		CN	EL:	9	9	20			44		95
					-						

Wednesday, November 13, 2013

		WA-RD-77-108	11101111	/All IX	OIOL I I						
	io: Existing PI					Project I			Hills		
	e: Tracy Boul					Job Nu	ımber:	8559			
Road Segmer	nt: Btwn Linne	Rd and Valpic	o Rd								
	SPECIFIC II	IPUT DATA							L INPUT	S	
Highway Data					Site Con	ditions (	Hard =	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	10,200 vehicle	S					Autos:	15		
Peak Hour	Percentage:	10%				dium Tru					
Peak H	lour Volume:	1,020 vehicle	S		He	avy Truc	ks (3+	Axles):	15		
Ve	hicle Speed:	55 mph		,	/ehicle l	Miv					
Near/Far La	ne Distance:	48 feet		H.		icleType		Dav	Evening	Night	Daily
Site Data							utos:	77.5%		9.6%	
Pos	rrier Heiaht:	0.0 feet			Me	edium Tru	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0 reet			F	leavy Tru	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		100.0 feet									
Centerline Dist.		100.0 feet		1	loise So	ource Ele			eet)		
Barrier Distance		0.0 feet				Autos		.000			
Observer Height (		5.0 feet				n Trucks		.297			
	ad Elevation:	0.0 feet			Heav	y Trucks	: 8	.006	Grade Ad	justment	: 0.0
	ad Elevation:	0.0 feet		ı	ane Eq	uivalent	Distar	ice (in	feet)		
	Road Grade:	0.0%				Autos		.206	,		
	Left View:	-90.0 degre	20		Mediu	n Trucks		.115			
	Right View:	90.0 degre				y Trucks		.124			
	rugin rion.	50.0 degre			77007	, maono	. 0.				
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fres		Barrier Att		rm Atten
Autos:	71.78	-2.74		-4.43		-1.20		-4.77		000	0.000
Medium Trucks:	82.40			-4.43		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-23.93		-4.43	3	-1.20		-5.16	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	' L	eq Ev	rening	Leq N	light		Ldn	C	NEL
Autos:	63	3.4	61.5		59.7		53.	7	62.3	3	62.9
Medium Trucks:	56	8.8	55.3		48.9		47.	4	55.8	3	56.1
Heavy Trucks:	56	5.8	55.4		46.4		47.	6	56.0	)	56.1
Vehicle Noise:	65	5.0	63.2		60.3		55.	4	64.0	)	64.4
Centerline Distand	ce to Noise C	ontour (in feet	)								
				70 a	IBA .	65 a	IBA .		60 dBA	55	dBA
			Ldn:	40	)	85	5		183	3	395
		0	VEL:	43		92	,		197	/	125

	FHV	VA-RD-77-108	HIGH	HWAY I	NOISE P	REDICTION	ON MC	DEL			
Road Na	rio: Existing Plu me: Tracy Boule ent: North of Val	evard				Project I Job Nu			Hills		
	SPECIFIC IN	PUT DATA			0:- 0				L INPUT	S	
Peak Hou Peak	/ Traffic (Adt): 1 r Percentage: Hour Volume: ehicle Speed:	4,420 vehicle 10% 1,442 vehicle 55 mph			Ме Не	edium Tru eavy Truc	cks (2	Autos: Axles):	15 15 15 15		
	ane Distance:	48 feet			Vehicle	Mix nicleType		Dav	Evening	Niaht	Dailv
Site Data					ver		utos:	77.5%		9.6%	. ,
Barrier Type (0-1	arrier Height: Wall, 1-Berm):	0.0 feet 0.0				edium Tri Heavy Tri		84.8% 86.5%		10.3% 10.8%	
Centerline Dist Barrier Distance Observer Height	e to Observer:	100.0 feet 100.0 feet 0.0 feet 5.0 feet 0.0 feet		-	Mediu	Autos M Trucks Vy Trucks	: 0 : 2	000 297 006	<b>Grade Ad</b>	iustmeni	t: 0.0
Ro	pad Elevation: Road Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degree 90.0 degree		ŧ	Mediu	Autos Mutos m Trucks vy Trucks	: 97 : 97	ce (in 1 .206 .115 .124	feet)		
FHWA Noise Mod	del Calculations	5									
VehicleType Autos Medium Trucks Heavy Trucks	82.40	-1.23 -18.47 -22.43	Dis	-4.4 -4.4 -4.4	3	-1.20 -1.20 -1.20	Fres	-4.77 -4.88 -5.16	0.0	en Be. 000 000 000	0.000 0.000 0.000
Unmitigated Nois	se Levels (with	out Topo and	barri	er attei	nuation)						
VehicleType	Leq Peak Hou		_		vening	Leq I	Vight		Ldn	С	NEL
Autos Medium Trucks	: 58.	3	63.0 56.8 56.9		61.2 50.4 47.9		55. 48. 49.	9	63.8 57.4	1	64.4 57.6
Heavy Trucks Vehicle Noise			64.7		61.8		49. 56.		65.5		57.6 65.9
Centerline Distar	nce to Noise Co	ntour (in feet	)								
		•	Ldn:		dBA 50 54	65 d 10	7	6	0 dBA 231 249	4	i dBA 198 536
		Ci	VLL.		/ <del>-</del>	- 11	J		243	,	,00

Scenario	o: Existing Plu	s Project				Project	Name:	Tracy I	Hills		
Road Name	e: Corral Hollo	w Road					umber:				
Road Segmen	nt: Btwn I-580 I	EB Ramps and	d I-580	-WB Ra	mps						
SITE S	SPECIFIC IN	PUT DATA				ı	IOISE	MODE	L INPUT	5	
Highway Data				S	ite Con	ditions	(Hard:	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	8,960 vehicles	S					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	896 vehicles	S		He	avy Tru	cks (3+	Axles):	15		
Vel	hicle Speed:	55 mph		v	ehicle i	Mix					
Near/Far Lar	ne Distance:	48 feet		Ė		icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	-		97.42%
Par	rier Heiaht:	0.0 feet			Me	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			F	leavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		100.0 feet			O	ource E		(! 6-	4)		
Centerline Dist. t	to Observer:	100.0 feet		N	ioise so			- 1	eet)		
Barrier Distance t	to Observer:	0.0 feet			A de elle	Auto m Truck		.000			
Observer Height (/	Above Pad):	5.0 feet				m Truck √y Truck		.006	Grade Ad	iietmant	. 0.0
Pa	d Elevation:	0.0 feet			пеач	y Truck	s. o	.006	Orace Au	usuncin	. 0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Distai	nce (in i	feet)		
F	Road Grade:	0.0%				Auto		.206			
	Left View:	-90.0 degree	es			m Truck		.115			
	Right View:	90.0 degree	es		Heav	ry Truck	s: 97	.124			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dist	tance		Road	Fres		Barrier Att		m Atten
Autos:	71.78	-3.30		-4.43		-1.20		-4.77	0.0		0.00
Medium Trucks:	82.40	-20.54		-4.43		-1.20		-4.88	0.0		0.000
Heavy Trucks:	86.40	-24.49		-4.43		-1.20		-5.16	0.0	100	0.000
Unmitigated Noise								1		1	
	Leq Peak Hou			Leq Eve	-	Leq	Night		Ldn		NEL
Autos:	62.	-	60.9		59.2		53.		61.7		62.4
Medium Trucks:	56.	_	54.7		48.4		46.	-	55.3		55.5
Heavy Trucks: Vehicle Noise:	56. 64.	*	54.9 62.7		45.8 59.7		47. 54		55.4 63.4		55.5 63.5
					35.7		J4.	.0	03.4		03.
			)								
	e to Noise Co	ntour (in feet		70 di	RA .	65	dRA	6	O dRA	55	dBA
Centerline Distanc	e to Noise Co	, ,	Ldn:	70 dE			dBA '8	6	168		dBA 162

	FHW	A-RD-77-108	HIGH	NAY NO	DISE PI	REDICTI	ON MO	DEL			
	o: Existing Plus e: Corral Hollo t: Btwn I-580 \	w Road	nd Spine	e Rd		Project Job N	Name: umber:		Hills		
	PECIFIC IN	PUT DATA			4- 0				L INPUT	S	
Highway Data				3	ne con	ditions					
Average Daily T	. ,		S					Autos:	15		
Peak Hour F		10%				dium Tru		,	15		
		1,145 vehicle	S		He	avy Truc	ks (3+ )	Axles):	15		
	icle Speed:	55 mph		V	ehicle l	Mix					
Near/Far Lan	e Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.429
Barı	rier Height:	0.0 feet			M	edium Tr	ucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wa	all, 1-Berm):	0.0			I	Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis		100.0 feet		N	loise So	ource El	evation	s (in fe	et)		
Centerline Dist. to		100.0 feet				Autos	: 0.	000			
Barrier Distance to		0.0 feet			Mediu	m Trucks	: 2.	297			
Observer Height (A	,	5.0 feet			Heav	v Trucks	: 8.	006	Grade Ad	ustment.	0.0
	d Elevation:	0.0 feet		-							
	d Elevation:	0.0 feet		L	ane Eq	uivalent		_ •	eet)		
R	Road Grade:	0.0%				Autos		.206			
	Left View:	-90.0 degre				m Trucks		115			
	Right View:	90.0 degre	es		Heav	y Trucks	: 97.	.124			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		ance		Road	Fresi		Barrier Att		m Atten
Autos:	71.78	-2.23		-4.43		-1.20		-4.77		000	0.00
Medium Trucks:	82.40	-19.47		-4.43		-1.20		-4.88		000	0.00
Heavy Trucks:	86.40	-23.43		-4.43		-1.20		-5.16	0.0	000	0.00
Unmitigated Noise								1			
VehicleType I	Leq Peak Houl		62.0	Leq Eve	ening 60.2	Leq	vignt 54.1	2	Ldn 62.8		VEL 63.
Autos: Medium Trucks:	63.5 57.5	-	62.0 55.8		49.4		54.2 47.9	_	56.3		56.
Heavy Trucks:	57.	-	55.8 55.9		49.4		47.3	-	56.5		56.
Vehicle Noise:	65.		63.7		60.8		55.9		64.5		64.
Centerline Distance	e to Noise Co	ntour (in feet	)								
				70 dl	BA	65 (	BA .	6	0 dBA	55	dBA
			Ldn:	43		9	2		198	4	27

Wednesday, November 13, 2013

	FHV	VA-RD-77-108	HIGH	WAY N	IOISE PF	REDICTION	ON MC	DDEL			
	o: Existing Plue: Corral Hollo	ow Road	acy Hill:	s Rd		Project I Job Nu			Hills		
	PECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Con	ditions (	Hard :	= 10, S	oft = 15)		
Average Daily	Fraffic (Adt):	16,330 vehicle	S					Autos:			
Peak Hour I	Percentage:	10%			Me	dium Tru	cks (2	Axles):	15		
Peak He	our Volume:	1,633 vehicle	S		He	avy Truci	ks (3+	Axles):	15		
Vel	nicle Speed:	55 mph		-	Vehicle I	Mix					
Near/Far Lar	ne Distance:	48 feet		F		icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Rar	rier Height:	0.0 feet			Me	edium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa		0.0			F	leavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	. ,	100.0 feet		- H	Vaina Ca	ource Ele	u rodio	na (in f	004)		
Centerline Dist. t	o Observer:	100.0 feet		1	voise sc			.000	eet)		
Barrier Distance t	o Observer:	0.0 feet			A decellor	Autos. m Trucks	-	.000			
Observer Height (/	Above Pad):	5.0 feet							Grade Ad	iustmon	t 0.0
Pa	d Elevation:	0.0 feet			Heav	y Trucks	. 8	.006	Grade Au	jusunen	ı. 0.0
Roa	d Elevation:	0.0 feet		1	Lane Eq	uivalent	Distar	nce (in	feet)		
F	Road Grade:	0.0%				Autos.	97	.206			
	Left View:	-90.0 degre	es		Mediur	m Trucks.	97	.115			
	Right View:	90.0 degre	es		Heav	y Trucks	97	.124			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite		Fres	-	Barrier Att		rm Atten
Autos:	71.78	-0.69		-4.43	-	-1.20		-4.77		000	0.000
Medium Trucks:	82.40	-17.93		-4.43	-	-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-21.89		-4.43	3	-1.20		-5.16	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	r atten	uation)						
	Leq Peak Hοι			Leg E	_	Leq N	_		Ldn	_ ~	NEL
Autos:	65	.5	63.6		61.8		55.	7	64.4	4	65.0
Medium Trucks:	58		57.3		51.0		49.		57.9	-	58.1
Heavy Trucks:	58		57.5		48.4		49.		58.0		58.2
Vehicle Noise:	67	.0	65.3		62.3		57.	4	66.0	)	66.5
Centerline Distanc	e to Noise Co	ontour (in feet	)								
				70 c		65 d		(	60 dBA		5 dBA
			Ldn:	5		11			251		541
		C	NEL:	5	В	12	5		270		582

	FHV	VA-RD-77-108	HIGH	WAY I	NOISE P	REDICTI	ON MO	DEL			
Scena	rio: Existing Plu	s Project				Project	Name:	Tracy I	Hills		
Road Nar	ne: Corral Hollo	w Road				Job No	ımber:	8559			
Road Segme	ent: Btwn N. Tra	ıcy Hills Rd an	d Linn	e Rd							
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions (	Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 1	6,330 vehicle	S					Autos:	15		
Peak Hou	r Percentage:	10%			Me	dium Tru	icks (2 i	Axles):	15		
Peak	Hour Volume:	1,633 vehicle	S		He	avy Truc	ks (3+ )	Axles):	15		
V	ehicle Speed:	55 mph		ŀ	Vehicle	Mix					
Near/Far La	ane Distance:	48 feet		ı		icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Ba	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
	ist. to Barrier:	100.0 feet		Ī	Noise S	ource Ele	evation	s (in fe	eet)		
Centerline Dist		100.0 feet		Ī		Autos	: 0.	000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks	: 2.	297			
Observer Height	. ,	5.0 feet			Hear	y Trucks	: 8.	006	Grade Ad	justmen	t: 0.0
	Pad Elevation:	0.0 feet									
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent			feet)		
	Road Grade:	0.0%				Autos		206			
	Left View:	-90.0 degre				m Trucks		115			
	Right View:	90.0 degre	es		Hear	y Trucks	: 97.	124			
FHWA Noise Mod	del Calculations	S									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Autos	71.78	-0.69		-4.4	3	-1.20		-4.77	0.0	000	0.000
Medium Trucks	82.40	-17.93		-4.4	3	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	86.40	-21.89		-4.4	13	-1.20		-5.16	0.0	000	0.000
Unmitigated Nois			barri					,			
VehicleType	Leq Peak Hou			Leq E	vening	Leq I			Ldn		NEL
Autos		-	63.6		61.8		55.7		64.4	-	65.0
Medium Trucks		-	57.3		51.0		49.4		57.9	-	58.1
Heavy Trucks		-	57.5		48.4		49.7		58.0		58.2
Vehicle Noise			65.3		62.3		57.4	4	66.0	)	66.5
Centerline Distar	ice to Noise Co	ntour (in feet	)	70	-ID 4	05.	/D.4		0 -ID4		i dBA
			l dn:		dBA 54	65 d			251		541
			VFI:	-	58	12			270		582
		Ci	VLL.		00	12	J		210	,	JU2

	o: Existing PI e: Corral Holl nt: Btwn Linne	ow Road	co Rd				t Name. lumber.	Tracy 8559	Hills		
	SPECIFIC II	NPUT DATA			04- 0				L INPUT	s	
Highway Data					site Cor	iaitions	(Hara		oft = 15)		
Average Daily	. ,		es					Autos:			
	Percentage:	10%						Axles):			
	our Volume:	1,090 vehicle	es		He	avy Iru	icks (3+	Axles):	15		
	hicle Speed:	55 mph		١	Vehicle	Mix					
Near/Far Lar	ne Distance:	48 feet			Veh	icleType	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.42%
Rar	rier Heiaht:	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa		0.0				Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	100.0 feet		,	Voise S	ource F	levatio	ns (in f	oet)		
Centerline Dist. t	to Observer:	100.0 feet			10/36 0	Auto		0.000	JUL )		
Barrier Distance t	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (/	Above Pad):	5.0 feet				vy Truck		3.006	Grade Ad	iustment	. 0.0
Pa	d Elevation:	0.0 feet			пеа	ry Truck	is. c	5.006	Orace Au	изинсти	. 0.0
Roa	d Elevation:	0.0 feet		L	Lane Eq	uivalen	t Dista	nce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 97	7.206			
	Left View:	-90.0 degre	ees		Mediu	m Truck	rs: 97	7.115			
	Right View:	90.0 degre	ees		Hear	ry Truck	rs: 97	7.124			
FHWA Noise Mode	el Calculation	IS									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	71.78	-2.45	5	-4.43	3	-1.20		-4.77	0.0	000	0.00
Medium Trucks:	82.40	-19.69	9	-4.43	3	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-23.64	1	-4.43	3	-1.20		-5.16	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	d barr	ier atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Da	iy .	Leg Ev	/ening	Leq	Night		Ldn	C	NEL
Autos:	63	3.7	61.8		60.0		54	.0	62.6	3	63.
Medium Trucks:		7.1	55.6		49.2		47		56.1		56.
Heavy Trucks:	57	7.1	55.7		46.7		47	.9	56.3	3	56.
Vehicle Noise:	65	5.3	63.5		60.6		55	.7	64.2	2	64.
Centerline Distanc	e to Noise C	ontour (in fee	et)								
			Į	70 c			dBA	6	60 dBA		dBA
			Ldn:	4	-		89		192		13
	CNFI:					44 96 206 4					

Scenario: I	Existing Plu	s Project				Project N	lame.	Tracy I	Hills		
Road Name: (					,	Job Nu			iiiio		
Road Segment: I	Btwn Valpic	o Rd and Sch	ılte Rd								
	ECIFIC IN	PUT DATA							L INPUT	3	
Highway Data				S	ite Cond	litions (l	Hard =	10, Sc	oft = 15)		
Average Daily Trai	ffic (Adt): 1	3,945 vehicle	8					Autos:	15		
Peak Hour Per	centage:	10%			Med	ium Truc	cks (2 A	(xles	15		
Peak Hour	Volume:	1,395 vehicle	S		Hea	vy Truck	is (3+ A	(xles	15		
	e Speed:	55 mph		V	ehicle M	ix					
Near/Far Lane I	Distance:	48 feet		F		leType		Day	Evening	Night	Daily
Site Data						Au	ıtos:	77.5%	12.9%	9.6%	97.429
Barrie	r Height:	0.0 feet			Med	dium Tru	icks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall,	1-Berm):	0.0			He	eavy Tru	icks:	86.5%	2.7%	10.8%	0.749
Centerline Dist. to		100.0 feet		N	oise Sou	ırce Ele	vation	s (in fe	eet)		
Centerline Dist. to C		100.0 feet				Autos:	0.0	000			
Barrier Distance to C		0.0 feet			Medium	Trucks:	2.2	297			
Observer Height (Abo	,	5.0 feet			Heavy	Trucks:	8.0	006	Grade Adj	ustment.	0.0
	levation:	0.0 feet		-							
	levation:	0.0 feet		Li	ane Equ				reet)		
	d Grade:	0.0%				Autos:					
-	eft View:	-90.0 degree			Medium						
Rig	ght View:	90.0 degree	es		Heavy	Trucks:	97.	124			
FHWA Noise Model C											
	REMEL	Traffic Flow	Distai		Finite F		Fresn	_	Barrier Att	_	m Atten
Autos:	71.78	-1.38		-4.43		-1.20		-4.77	0.0		0.00
Medium Trucks:	82.40	-18.62		-4.43		-1.20		-4.88	0.0		0.00
Heavy Trucks:	86.40	-22.57		-4.43		-1.20		-5.16	0.0	00	0.00
VehicleType Lea	•			attenu eq Eve		1 1	li auta t	1	Ldn	0	VEL
Autos:	q Peak Hou 64		62.9	eq Eve	ening 61.1	Leq N	1gnt 55.0		63.7		VEL 64.
Medium Trucks:	58.	-	56.7		50.3		48.7		57.2		57.
Heavy Trucks:	58.	_	56.8		47.7		49.0		57.2		57.
Vehicle Noise:	66	_	64.6		61.6		56.8		65.3		65.
	o Noise Co	ntour (in feet	)								
Centerline Distance to			,				D.4	-	i0 dBA		-/D 4
Centerline Distance to				70 dE	BA	65 d	BA		U aBA	22	dBA
Centerline Distance to			Ldn:	70 dE 49		65 d		C	226		87

Wednesday, November 13, 2013

	FH'	WA-RD-77-10	8 HIGH	WAY I	NOISE PF	REDICTION	ON MC	DEL			
Road Nam	io: Existing Pl ie: Corral Holl int: North of So	low Road				Project I Job Nu			Hills		
	SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data					Site Con	ditions (	Hard =	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	24,360 vehicle	es					Autos:			
Peak Hour	Percentage:	10%			Me	dium Trud	cks (2	Axles):	15		
Peak H	lour Volume:	2,436 vehicle	es		He	avy Truck	ks (3+	Axles):	15		
Ve	hicle Speed:	55 mph		ŀ	Vehicle I	Nix					
Near/Far La	ne Distance:	48 feet		ŀ		cleType		Day	Evening	Night	Daily
Site Data						A	ıtos:	77.5%	12.9%	9.6%	97.42%
Ra	rrier Height:	0.0 feet			Me	edium Tru	icks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			F	leavy Tru	icks:	86.5%	2.7%	10.8%	0.74%
Centerline Di		100.0 feet		ŀ	Noise Sc	uras Ela	tio.	an /in f	004)		
Centerline Dist.	to Observer:	100.0 feet			Noise Sc			.000	eet)		
Barrier Distance	to Observer:	0.0 feet				Autos:	-	.000			
Observer Height	Above Pad):	5.0 feet				n Trucks:			Grade Ad	ii rotmon	4 0 0
P	ad Elevation:	0.0 feet			Heav	y Trucks:	8	.006	Grade Au	jusunen	. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ice (in	feet)		
	Road Grade:	0.0%				Autos:	97	.206			
	Left View:	-90.0 degre	ees		Mediur	n Trucks:	97	.115			
	Right View:	90.0 degre	ees		Heav	y Trucks:	97	.124			
FHWA Noise Mod	el Calculation	18									
VehicleType	REMEL	Traffic Flow		stance	Finite		Fres	-	Barrier Att		rm Atten
Autos:	71.78			-4.4	-	-1.20		-4.77		000	0.000
Medium Trucks:	82.40			-4.4	-	-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-20.1	5	-4.4	3	-1.20		-5.16	0.0	000	0.000
Unmitigated Nois			d barri	er atter	nuation)						
VehicleType	Leq Peak Ho		,	Leq E	vening	Leq ∧	_		Ldn		NEL
Autos:		7.2	65.3		63.5		57.	-	66.1		66.7
Medium Trucks:		0.6	59.1		52.7		51.	_	59.6	-	59.9
Heavy Trucks:		0.6	59.2		50.2		51.		59.8		59.9
Vehicle Noise:		3.8	67.0		64.1		59.	2	67.7	7	68.2
Centerline Distan	ce to Noise C	ontour (in fee	et)								
			L		dBA	65 d		(	60 dBA		dBA
			Ldn:		1	15	_		328		706
		(	ONEL:	7	6	16	4		353		760

	FHV	VA-RD-77-108	HIGI	HWAY	NOISE P	REDICTI	ION MO	DDEL			
Road Nan	rio: Existing Plu ne: Lammers R ent: Btwn Valpio	load	Schu	lte Rd		Project Job Ni	Name: umber:		Hills		
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	5,720 vehicle	S					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tru	ucks (2	Axles):	15		
Peak I	lour Volume:	572 vehicle	S		He	avy Truc	cks (3+	Axles):	15		
Ve	ehicle Speed:	55 mph		1	Vehicle	Mix					
Near/Far La	ane Distance:	48 feet				icleType		Day	Evening	Night	Daily
Site Data						A	Autos:	77.5%	12.9%	9.69	6 97.42%
Ba	rrier Height:	0.0 feet			М	edium Tr	rucks:	84.8%	4.9%	10.39	6 1.84%
Barrier Type (0-V		0.0				Heavy Tr	rucks:	86.5%	2.7%	10.89	6 0.74%
Centerline D	ist. to Barrier:	100.0 feet			Noise S	ource El	evatio	ns (in f	eet)		
Centerline Dist.	to Observer:	100.0 feet				Autos		.000	,		
Barrier Distance		0.0 feet			Mediu	m Trucks		.297			
Observer Height	,,	5.0 feet			Hear	y Trucks	s: 8	.006	Grade Ad	justmei	nt: 0.0
	ad Elevation:	0.0 feet									
	ad Elevation:	0.0 feet			Lane Eq			_ •	feet)		
	Road Grade:	0.0%				Autos		.206			
	Left View:	-90.0 degre				m Trucks		.115			
	Right View:	90.0 degre	es		Hear	y Trucks	s: 97	.124			
FHWA Noise Mod	lel Calculation:	s									
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fres		Barrier Att	_	erm Atten
Autos:		-5.25		-4.4		-1.20		-4.77		000	0.000
Medium Trucks:		-22.49		-4.4		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-26.44		-4.4	13	-1.20		-5.16	0.0	000	0.000
Unmitigated Nois		-								1	
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		CNEL
Autos:			59.0		57.2		51.	_	59.	-	60.4
Medium Trucks:			52.8		46.4		44.	-	53.	-	53.6
Heavy Trucks: Vehicle Noise:			52.9 60.7		43.9 57.8		45. 52.	•	53.9 61.4		53.6 61.9
Centerline Distan	ce to Noise Co	ontour (in feet	)								
		(111 1001		70	dBA	65 (	dBA	6	60 dBA	5	5 dBA
			Ldn:		27	5	8		125		269
		Ci	NEL:	:	29	6	2		134		289

0	. Cuintina Div	- Decises				Desired I		T	101-		
	<ul><li>io: Existing Plu</li><li>e: Lammers R</li></ul>	,				Project I			HIIIS		
	e: Lammers R nt: Btwn Old S		Eleve	anth Ct		JOD IVU	mber.	8559			
			LICV	enui oi							
Highway Data	SPECIFIC IN	PUIDAIA			Site Con	nditions (			L INPUT oft = 15)	<u> </u>	
Average Daily	Traffic (Adt):	5.670 vehicle	ae .					Autos:	15		
,	Percentage:	10%	,,,		Me	dium Tru	cks (2				
	our Volume:	567 vehicle	e e			avy Truci			15		
	hicle Speed:	55 mph	3				10 (01	Axics).	10		
Near/Far I ai		48 feet			Vehicle I	Mix					
iveai/rai Lai	ie Distance.	46 1661			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Bar	rier Heiaht:	0.0 feet			Me	edium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	all, 1-Berm):	0.0			F	Heavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	st. to Barrier:	100.0 feet		ŀ	Noico S	ource Ele	watio	ne (in f	no#)		
Centerline Dist.	to Observer:	100.0 feet		ŀ	NOISE SC				<del>(</del>		
Barrier Distance	to Observer:	0.0 feet			A de elle	Autos. m Trucks		1.000 1.297			
Observer Height (	Above Pad):	5.0 feet							Grade Ad	iuetmont	. 0.0
Pa	Pad Elevation: 0.0 feet				Heav	y Trucks.		.006	Grade Au	Justineni	. 0.0
Roa	Pad Elevation: Road Elevation:				Lane Eq	uivalent	Dista	nce (in	feet)		
F	Road Grade:	0.0%				Autos.	97	.206			
	Left View:	-90.0 degre	es		Mediu	m Trucks.	97	7.115			
	Right View:	90.0 degre	es		Heav	y Trucks.	97	7.124			
FHWA Noise Mode	el Calculations	3									
VehicleType	REMEL	Traffic Flow	Di	istance	Finite	Road	Fres	inel	Barrier Att	en Ber	m Atten
Autos:	71.78	-5.29		-4.4	3	-1.20		-4.77	0.0	000	0.000
Medium Trucks:	82.40	-22.52		-4.4	3	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-26.48		-4.4	3	-1.20		-5.16	0.0	000	0.000
Unmitigated Noise								_			
	Leq Peak Hou		,	Leq E	vening	Leq N	_		Ldn		NEL
Autos:	60.	-	59.0		57.2		51		59.8	-	60.4
Medium Trucks:	54.	-	52.7		46.4		44		53.3	-	53.5
Heavy Trucks:	54.	*	52.9		43.8		45		53.4		53.6
Vehicle Noise:	62.	4	60.7		57.7		52	.8	61.4	1	61.9
Centerline Distanc	ce to Noise Co	ntour (in fee	t)	70	10.4	05	-				10.4
			Lata		dBA	65 d		(	60 dBA		dBA
			Ldn:	- 2	27	58	5		124	2	67
		_	NFI:	,	9	62			133		87

	FHV	VA-RD-77-108	HIGH	VAY NO	DISE PI	REDICTI	ои мо	DEL			
Road Nam	io: Existing Plue: Lammers Fort: North of Ele	Road				Project Job No	Name: ımber:		Hills		
	SPECIFIC IN					N	OISE	MODE	L INPUT	s	
Highway Data				S	ite Con	ditions	Hard =	: 10, Sc	ft = 15)		
Average Daily	Traffic (Adt):	4,010 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tru	cks (2	Axles):	15		
	our Volume:	401 vehicle	s		He	avy Truc	ks (3+ ,	Axles):	15		
Vei	hicle Speed:	55 mph		1/	ehicle i	Miss					
Near/Far Lai	ne Distance:	36 feet				icleType		Dav	Evening	Night	Dailv
Site Data							utos:	77.5%	Ü		97.429
Rar	rier Height:	0.0 feet			M	edium Tr	ucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W	•	0.0			I	Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis	st. to Barrier:	100.0 feet		N	loise So	ource Ele	evation	s (in fe	et)		
Centerline Dist.	to Observer:	100.0 feet		F	0.00 0	Autos		000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks		297			
Observer Height (	Above Pad):	5.0 feet				y Trucks		006	Grade Ad	iustment	0.0
Pa	ad Elevation:	0.0 feet			ricas	y mucho	. 0.	000	07440714	doumont	0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in t	eet)		
F	Road Grade:	0.0%				Autos	: 98	494			
	Left View:	-90.0 degre	es			m Trucks		.404			
	Right View:	90.0 degre	es		Heav	y Trucks	: 98.	413			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance		Road	Fresi		Barrier Att		m Atten
Autos:	71.78	-6.79		-4.52		-1.20		-4.77		000	0.00
Medium Trucks:	82.40	-24.03		-4.51		-1.20		-4.88		000	0.00
Heavy Trucks:	86.40	-27.99		-4.51		-1.20		-5.16	0.0	000	0.00
Unmitigated Noise	•										
.,	Leq Peak Hou		_	Leq Eve		Leq I			Ldn		VEL
Autos:	59		57.4		55.6		49.0	-	58.2	-	58.
Medium Trucks:	52		51.2		44.8		43.2	_	51.7		51.
Heavy Trucks: Vehicle Noise:	52 60	•	51.3 59.1		42.2 56.1		43.5 51.3	-	51.8 59.8		52. 60.
Centerline Distance					00.1		01.		00.0	-	50.
Centernine Distant	e to Noise Co	miour (iii teet		70 dl	BA	65.0	IBA	6	0 dBA	55	dBA
			Ldn:	21		4			97		09

Wednesday, November 13, 2013

	FHW	/A-RD-77-108	HIGHWAY	NOISE P	REDICTIO	N MODEL			
	: Existing Plu : Linne Road : Btwn Corral	,	d Tracy Blv	d		lame: Trac mber: 8559			
SITE S	PECIFIC IN	PUT DATA			NC	ISE MOD	EL INPUT	s	
Highway Data				Site Con		lard = 10,			
Average Daily Ti	raffic (Adt):	7.935 vehicles	3			Auto	s: 15		
Peak Hour P	. ,	10%		Me	dium Truc	ks (2 Axles	:): 15		
Peak Ho	ur Volume:	794 vehicles	3	He	avy Truck	s (3+ Axles	:): 15		
Vehi	icle Speed:	55 mph		Vehicle I	Miss				
Near/Far Lane	e Distance:	48 feet			icleType	Dav	Evening	Night	Daily
Site Data				****		tos: 77.5	-	9.6%	
	ier Height:	0.0 feet		Me	edium Tru			10.3%	1.84%
Barrier Type (0-Wa		0.0 feet		ŀ	leavy Tru	cks: 86.5	% 2.7%	10.8%	0.74%
Centerline Dist.	. ,	100.0 feet							
Centerline Dist. to		100.0 feet		Noise Sc		vations (in	teet)		
Barrier Distance to	Observer:	0.0 feet			Autos:	0.000			
Observer Height (A	bove Pad):	5.0 feet			n Trucks:	2.297	0		
	Elevation:	0.0 feet		Heav	y Trucks:	8.006	Grade Ad	justment.	0.0
Road	l Elevation:	0.0 feet		Lane Eq	uivalent L	Distance (i	n feet)		
Ro	oad Grade:	0.0%			Autos:	97.206			
	Left View:	-90.0 degree	es	Mediui	n Trucks:	97.115			
1	Right View:	90.0 degree	es	Heav	y Trucks:	97.124			
FHWA Noise Model	Calculations	3							
VehicleType	REMEL	Traffic Flow	Distance	Finite		Fresnel	Barrier Att	en Ber	m Atten
Autos:	71.78	-3.83		43	-1.20	-4.7		000	0.000
Medium Trucks:	82.40	-21.07		43	-1.20	-4.8		000	0.000
Heavy Trucks:	86.40	-25.02	-4.	43	-1.20	-5.1	6 0.0	000	0.000
Unmitigated Noise	Levels (witho	out Topo and	barrier atte	enuation)					
VehicleType L	eq Peak Hou	r Leq Day	Leq	Evening	Leq N	ight	Ldn	CI	VEL
Autos:	62.	-	60.4	58.7		52.6	61.2	_	61.8
Medium Trucks:	55.		54.2	47.8		46.3	54.8	-	55.0
Heavy Trucks:	55.		54.3	45.3		46.5	54.9		55.0
Vehicle Noise:	63.	9 (	62.1	59.2		54.3	62.9	9	63.3
Centerline Distance	to Noise Co	ntour (in feet)							
				) dBA	65 dE	BA	60 dBA		dBA
			Ldn:	33	72		155	-	34
		CI	VEL:	36	77		167	3	60

	FHWA	A-RD-77-108	HIGI	1 YAWH	NOISE PI	REDICTION	ON MO	DDEL			
Scenario: Existing Road Name: Linne F Road Segment: East of	oad	,				Project I Job Nu			Hills		
SITE SPECIFIC Highway Data	INP	UT DATA			Cita Car	N ditions (			L INPUT	S	
Average Daily Traffic (Ad Peak Hour Percentag Peak Hour Volum Vehicle Spee Near/Far Lane Distanc	e: e: d:	,800 vehicle: 10% 580 vehicle: 55 mph 48 feet			Me He <b>Vehicle</b> i	dium Tru avy Truc	icks (2	Autos: Axles):	15 15	Nigh	Daily
Site Data  Barrier Heigh  Barrier Type (0-Wall, 1-Bern		0.0 feet 0.0				A edium Tri Heavy Tri		77.5% 84.8% 86.5%	4.9%	9.6 10.3 10.8	% 1.84%
Centerline Dist. to Barrie Centerline Dist. to Observe Barrier Distance to Observe Observer Height (Above Pac Pad Elevatio	r: r: ):	100.0 feet 100.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediu	Autos m Trucks ry Trucks	: 0	.000 .297 .006	eet) Grade Ad	justme	nt: 0.0
Road Elevatio Road Grad Left Vie Right Vie	9: V:	0.0 feet 0.0% -90.0 degree 90.0 degree			Mediu	Autos m Trucks y Trucks	: 97 : 97	.206 .115 .124	feet)		
FHWA Noise Model Calcula	ions			<u>'</u>							
Medium Trucks: 82 Heavy Trucks: 86	.78 .40 .40	-5.19 -22.43 -26.38		-4.4 -4.4 -4.4	3 3 3	-1.20 -1.20 -1.20	Fres	-4.77 -4.88 -5.16	0.0	en E 000 000 000	0.000 0.000 0.000
Unmitigated Noise Levels (								1		1	01/5/
VehicleType   Leq Peak Autos: Medium Trucks: Heavy Trucks:	61.0 54.3 54.4		59.1 52.8 53.0	Leq E	57.3 46.5 43.9		51. 44. 45.	9 2	59.5 53.4 53.5	9 4 5	CNEL 60.5 53.6 53.7
Vehicle Noise:	62.5		60.8		57.8		52.	9	61.	5	62.0
Centerline Distance to Noise	e Con	,	) Ldn: VEL:	2	dBA 27	65 d 58	В	6	60 dBA 126 135	4	55 dBA 271 292

	FHW	/A-RD-77-108 HIG	HWAY N	IOISE P	REDICTI	ом мо	DEL			
Scenar	io: Existing Plu	s Project			Project	Name:	Tracy H	Hills		
Road Nam	e: Valpico Roa	ıd			Job N	umber:	8559			
Road Segmen	nt: Btwn Lamm	ers Rd and Corral	Hollow R	td						
SITE	SPECIFIC IN	PUT DATA			N	OISE I	MODE	L INPUT	S	
Highway Data				Site Cor	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):					Autos:	15			
Peak Hour	Percentage:	10%		Me	dium Tru	icks (2 /	Axles):	15		
Peak H	lour Volume:	461 vehicles		He	avy Truc	ks (3+ )	Axles):	15		
Ve	hicle Speed:	55 mph	-	Vehicle	Mix					
Near/Far La	ne Distance:	48 feet			icleType		Dav	Evening	Night	Daily
Site Data						utos:	77.5%	0	9.6%	
Par	rrier Heiaht:	0.0 feet		М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		100.0 feet	-							
Centerline Dist.		100.0 feet	Ľ.	Noise S	ource El			et)		
Barrier Distance	to Observer:	0.0 feet			Autos		000			
Observer Height (	Above Pad):	5.0 feet			m Trucks		297	Grade Ad	i i otmont	
Pa	ad Elevation:	0.0 feet		Hear	ry Trucks	8: 8.	006	Grade Au	usuneni	0.0
Roa	ad Elevation:	0.0 feet	1	Lane Eq	uivalent	Distan	ce (in f	eet)		
1	Road Grade:	0.0%			Autos	: 97.	206			
	Left View:	-90.0 degrees		Mediu	m Trucks	3: 97.	115			
	Right View:	90.0 degrees		Hear	y Trucks	3: 97.	124			
FHWA Noise Mode	el Calculations	;								
VehicleType	REMEL	Traffic Flow Di	stance	Finite	Road	Fresr	nel .	Barrier Att	en Ber	m Atten
Autos:	71.78	-6.19	-4.43	3	-1.20		-4.77	0.0	000	0.000
Medium Trucks:	82.40	-23.43	-4.4	3	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-27.38	-4.43	3	-1.20		-5.16	0.0	000	0.000
Unmitigated Noise	e Levels (witho	out Topo and barr	ier atten	uation)						
VehicleType	Leq Peak Hou		Leq E	vening	Leq			Ldn		VEL
Autos:	60.			56.3		50.2		58.9		59.
Medium Trucks:	53.			45.5		43.9		52.4		52.6
Heavy Trucks:	53.			42.9		44.2		52.5		52.7
Vehicle Noise:	61.	5 59.8		56.8		51.9	9	60.5	5	61.0
Centerline Distant	ce to Noise Co	ntour (in feet)								
				dBA	65 (		6	0 dBA		dBA
		Ldn:	2	3	5	0		108	2	33
		CNFI:	2		5			116		50

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

FH	WA-RD-77-108	HIGHWA	ΥN	OISE PR	EDICTI	ои м	ODEL			
Scenario: Existing Pl					Project			Hills		
Road Name: Valpico Ro Road Segment: Btwn Corra		Trocy BI	vd		Job No	ımber.	8559			
SITE SPECIFIC II		Tracy Di	vu		N	OICE	MODE	L INPUT		
Highway Data	TOI DAIA		S	Site Con					<u> </u>	
Average Daily Traffic (Adt):	8,850 vehicles						Autos	15		
Peak Hour Percentage:	10%			Med	dium Tru	icks (2	Axles).	15		
Peak Hour Volume:	885 vehicles			Hea	avy Truc	ks (3+	Axles).	15		
Vehicle Speed:	55 mph		,	/ehicle I	Ai v					
Near/Far Lane Distance:	48 feet				cleType		Dav	Evening	Night	Daily
Site Data						utos:	77.5%			6 97.42%
Barrier Height:	0.0 feet		1	Me	edium Tr	ucks:	84.8%	4.9%	10.39	6 1.84%
Barrier Type (0-Wall, 1-Berm):	0.0			F	leavy Tr	ucks:	86.5%	2.7%	10.89	6 0.74%
Centerline Dist. to Barrier:	100.0 feet			loise So	uraa El	ovetie	no (in f	0.041		
Centerline Dist. to Observer:	100.0 feet		-	voise 30	Autos		0.000	eet)		
Barrier Distance to Observer:	0.0 feet			Modiur	n Trucks		.297			
Observer Height (Above Pad):	5.0 feet				y Trucks	-	3.006	Grade Ad	iiietman	t: 0.0
Pad Elevation:	0.0 feet			i icav	y ITUCKS	. (	.000	Orade Au	Justinon	i. 0.0
Road Elevation:	0.0 feet		L	ane Equ	uivalent	Dista	nce (in	feet)		
Road Grade:	0.0%				Autos	: 97	7.206			
Left View:	-90.0 degree	S		Mediur	n Trucks	: 97	7.115			
Right View:	90.0 degree	S		Heav	y Trucks	: 97	7.124			
FHWA Noise Model Calculation	ıs									
VehicleType REMEL	Traffic Flow	Distanc	e	Finite	Road	Fres	snel	Barrier Att	en Be	erm Atten
Autos: 71.78			4.43	3	-1.20		-4.77	0.0	000	0.000
Medium Trucks: 82.40	-20.59		4.43	3	-1.20		-4.88	0.0	000	0.000
Heavy Trucks: 86.40	-24.55	-	4.43	3	-1.20		-5.16	0.0	000	0.000
Unmitigated Noise Levels (with		_	_						1	
VehicleType Leq Peak Ho		_	q Ev	rening	Leq I			Ldn		CNEL
		0.9		59.1		53		61.7		62.3
		4.7		48.3		46		55.2	_	55.5
,		4.8 2.6		45.8 59.7		47 54		55.4 63.3		55.5 63.8
		2.0		39.7		34	.0	03.	)	63.0
Centerline Distance to Noise C	ontour (in feet)						_			
centernine distance to Noise C			70 d	IRA I	65.4			SO dRA	5	
Sentenine Distance to Noise C	1	dn:	70 d 36		65 d		-	60 dBA 167		5 dBA 359

Wednesday, November 13, 2013

0	in Eviation Di	Decises				Danie et i		т	100-		
	io: Existing Pl					Project I			HIIIS		
	ne: Valpico Ro nt: East of Tra					JOD IVL	imber:	8559			
SITE: Highway Data	SPECIFIC IN	IPUT DATA			Sito Con	ditions (			L INPUT	S	
· ·					site Con	aitions (					
Average Daily	. ,		S					Autos:			
	Percentage:	10%				dium Tru					
	lour Volume:	1,270 vehicle	S		не	avy Truc	KS (3+ )	Axies):	15		
	hicle Speed:	55 mph		1	/ehicle l	Иiх					
Near/Far La	ne Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	77.5%	12.9%	9.6%	97.42%
Rai	rrier Heiaht:	0.0 feet			Me	edium Tru	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			F	leavy Tro	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Di	. ,	100.0 feet		١,	Vaina Ce	urce Ele		o (in f	004)		
Centerline Dist.	to Observer:	100.0 feet		,	voise sc	Autos			eet)		
Barrier Distance	to Observer:	0.0 feet			A decellor	Autos n Trucks		000 297			
Observer Height (	(Above Pad):	5.0 feet					-		Grade Ad	iuctmont	. 0.0
Pa	ad Elevation:	0.0 feet			Heav	y Trucks	: 8.	006	Grade Au	Justineni	0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in	feet)		
1	Road Grade:	0.0%				Autos	: 97.	206			
	Left View:	-90.0 degre	es		Mediui	n Trucks	: 97.	115			
	Right View:	90.0 degre	es		Heav	y Trucks	: 97	124			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite		Fresi		Barrier Att		m Atten
Autos:	71.78			-4.43		-1.20		-4.77		000	0.000
Medium Trucks:				-4.43		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-22.98		-4.43	3	-1.20		-5.16	0.0	000	0.00
Inmitigated Noise				r atten	uation)						
VehicleType	Leq Peak Ho			Leg Ev		Leq N			Ldn		NEL
Autos:	-	1.4	62.5		60.7		54.0		63.3		63.9
Medium Trucks:		'.8	56.2		49.9		48.3	-	56.8	-	57.0
Heavy Trucks:		'.8	56.4		47.3		48.0	_	56.9		57.
Vehicle Noise:	65	5.9	64.2		61.2		56.	4	64.9	9	65.4
Centerline Distan	ce to Noise C	ontour (in feet	)								
				70 c		65 d		(	60 dBA		dBA
			Ldn:	46	-	99	-		212		57
		C	NEL:	49	2	10	6		228	4	92

	FHV	VA-RD-77-108	HIGI	YAWH	NOISE P	REDICTI	ON MO	DDEL			
Road Na	ario: Cumulative me: Tracy Boule ent: South of Lin	evard				Project Job No			Hills		
SITE Highway Data	SPECIFIC IN	PUT DATA			Cito Con	N nditions			L INPUT	S	
					Site Coi	iuitions	naru =				
	Traffic (Adt):	1,900 vehicle	S					Autos:	15		
	r Percentage:	10%				edium Tru					
	Hour Volume:	190 vehicle	S		He	eavy Truc	ks (3+	Axles):	15		
	'ehicle Speed:	55 mph		l	Vehicle	Mix					
Near/Far L	ane Distance:	48 feet		1	Veh	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	77.5%	12.9%	9.6	% 97.42%
В	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3	% 1.84%
Barrier Type (0-	Wall, 1-Berm):	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8	% 0.74%
	Dist. to Barrier:	100.0 feet		ı	Noise S	ource Ele	evatio	ns (in f	eet)		
Centerline Dist		100.0 feet		ı		Autos	3: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Trucks	: 2	.297			
Observer Height	,	5.0 feet			Hear	vy Trucks	: 8	.006	Grade Ad	justme	nt: 0.0
	Pad Elevation:	0.0 feet						-			
R	oad Elevation:	0.0 feet		-	Lane Eq	uivalent		_ •	feet)		
	Road Grade:	0.0%				Autos		.206			
	Left View:	-90.0 degre				m Trucks		.115			
	Right View:	90.0 degre	es		Hear	vy Trucks	s: 97	.124			
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en B	erm Atten
Autos	: 71.78	-10.03		-4.4	13	-1.20		-4.77	0.0	000	0.000
Medium Trucks	: 82.40	-27.27		-4.4	13	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	86.40	-31.23		-4.4	13	-1.20		-5.16	0.0	000	0.000
Unmitigated Noi			barri	er atte	nuation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq E	vening	Leq I			Ldn		CNEL
Autos	: 56	.1	54.2		52.4		46.	4	55.0	)	55.6
Medium Trucks	: 49	.5	48.0		41.6		40.	1	48.5	5	48.8
Heavy Trucks	: 49		48.1		39.1		40.	3	48.7		48.8
Vehicle Noise	: 57	.7	55.9		53.0		48.	1	56.7	7	57.1
Centerline Distar	nce to Noise Co	ontour (in feet	)			-	10.4				
			L		dBA	65 0		1 6	60 dBA		55 dBA
			Ldn:		13	2	-		60		129
		Ci	VEL:		14	3	U		64		139

	FH	WA-RD-77-108	HIGHV	VAY N	OISE PI	REDICT	ION MO	DEL				
Road Nam	io: Cumulative e: Tracy Boul nt: Btwn Linne		o Rd				Name: lumber:		Hills			
SITE	SPECIFIC II	NPUT DATA				- 1	IOISE	MODE	L INPUT	s		
Highway Data				5	ite Cor	ditions	(Hard =	10, S	oft = 15)			
Average Daily	Traffic (Adt):	12,000 vehicles	S					Autos	15			
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2 /	Axles)	: 15			
Peak H	our Volume:	1,200 vehicles	S		He	avy Tru	cks (3+ )	4xles)	: 15			
Vei	hicle Speed:	55 mph		1	/ehicle	Mix						
Near/Far Lar	ne Distance:	48 feet				icleType	,	Day	Evening	Nigh	it	Daily
Site Data							Autos:	77.59		9.6	5%	97.42%
Bar	rier Heiaht:	0.0 feet			М	edium T	rucks:	84.89	6 4.9%	10.3	3%	1.84%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	6 2.7%	10.8	3%	0.74%
Centerline Dis	st. to Barrier:	100.0 feet		,	loise Si	ource F	levation	s (in i	eet)			
Centerline Dist.	to Observer:	100.0 feet		Ė		Auto		000	,			
Barrier Distance		0.0 feet			Mediu	m Truck		297				
Observer Height (	,	5.0 feet			Heav	vy Truck	s: 8.	006	Grade Ad	ljustme	ent:	0.0
	ad Elevation:	0.0 feet						/!	f4\			
	ad Elevation:	0.0 feet		-	.ane Eq	uivaien Auto	t Distan	<b>ce (in</b> 206	reet)			
,	Road Grade:	0.0%			Modiu	m Truck		115				
	Right View:	-90.0 degree				vy Truck		124				
			<b>7</b> 5		ricar	ry Truck	3. 31.	12-7				
FHWA Noise Mode												
VehicleType Autos:	REMEL 71.78	Traffic Flow -2.03	Dista	-4.43		-1.20	Fresr	nei -4.77	Barrier At	ten L 000	sern	0.000
Medium Trucks:	82.40			-4.43		-1.20		-4.77		000		0.000
Heavy Trucks:	86.40			-4.43		-1.20		-5.16		000		0.000
Unmitigated Noise	l ovols (with	out Tono and	harrior	atton	uation)							
	Leg Peak Ho			Leg Ev		Lea	Night	Т	Ldn	T	CN	EL
Autos:			62.2	,	60.5		54.4	1	63.	0		63.6
Medium Trucks:	57	7.5	56.0		49.6		48.1		56.	6		56.8
Heavy Trucks:	57	7.5	56.1		47.1		48.3	3	56.	7		56.8
Vehicle Noise:	65	5.7	63.9		61.0		56.1	1	64.	7		65.1
Centerline Distanc	e to Noise C	ontour (in feet	)									
				70 a			dBA		60 dBA		55 c	
			Ldn:	44			95		204		44	-
		CI	VEL:	47	7	1	02		220		47	4

		A-RD-77-108	шопи	TAT NO	лос гі	ALDIC I	IOI4 IVIC	DEL			
	o: Cumulative					Project			Hills		
	e: Tracy Boule					Job N	umber:	8559			
Road Segmen	t: North of Val	oico Rd									
	PECIFIC IN	PUT DATA							LINPUT	S	
Highway Data				Si	ite Con	ditions	•				
Average Daily T	Traffic (Adt): 24	4,500 vehicles						Autos:	15		
Peak Hour I	Percentage:	10%				dium Tri		,	15		
Peak Ho	our Volume: 2	2,450 vehicles			He	avy Truc	cks (3+.	Axles):	15		
Veh	nicle Speed:	55 mph		V	ehicle l	Mix					
Near/Far Lar	ne Distance:	48 feet		_	Veh	icleType		Day	Evenina	Niaht	Dailv
Site Data							Autos:	77.5%	12.9%	9.6%	97.429
Par	rier Heiaht:	0.0 feet			Me	edium Ti	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wa		0.0			ŀ	Heavy Ti	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis	. ,	100.0 feet		-							
Centerline Dist. t		100.0 feet		N	oise So	ource El			et)		
Barrier Distance t	o Observer:	0.0 feet				Auto		.000			
Observer Height (A	Above Pad):	5.0 feet				m Truck		.297	0		
	d Elevation:	0.0 feet			Heav	y Truck	s: 8.	.006	Grade Adj	ustment	0.0
Roa	d Elevation:	0.0 feet		La	ane Eq	uivalen	t Distan	ce (in f	eet)		
F	Road Grade:	0.0%				Auto	s: 97	.206			
	Left View:	-90.0 degree	s		Mediui	m Truck	s: 97	.115			
	Right View:	90.0 degree	S		Heav	y Truck	s: 97	.124			
FHWA Noise Mode	l Calculations										
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fres	nel i	Barrier Att	en Ber	m Atten
Autos:	71.78	1.07		-4.43		-1.20		-4.77	0.0	000	0.00
Medium Trucks:	82.40	-16.17		-4.43		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-20.13		-4.43		-1.20		-5.16	0.0	000	0.00
Unmitigated Noise	•										
,,, .	Leq Peak Hour	., .,		.eq Eve		Leq	Night		Ldn		NEL
Autos:	67.2		55.3		63.6		57.		66.1		66
Medium Trucks:	60.6		9.1		52.7		51.		59.7		59.
Heavy Trucks: Vehicle Noise:	60.6		9.2 87.0		50.2 64.1		51. 59.		59.8 67.8		59. 68.
vernote (verse.			,, .0		04.1		33.		07.0	,	00.
04ii Di-4		ntour (in teet)									
Centerline Distanc	e to Noise Coi			70 dE	3A	65	dBA	6	0 dBA	55	dBA
Centerline Distanc	e to Noise Coi	, ,	dn:	70 dE 71	BA		dBA 53	6	0 dBA 329		dBA '09

Wednesday, November 13, 2013

	FHV	VA-RD-77-108	HIGHW	AY NO	DISE P	REDICTIO	ON MC	DEL			
Road Nam	io: Cumulative ne: Corral Hollo nt: Btwn I-580		I I-580-V	WB Ra	mps	Project N Job Nu			Hills		
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions (					
Average Daily	. ,	6,350 vehicles	3					Autos:			
	Percentage:	10%				dium Trud					
	lour Volume:	635 vehicles	\$		He	avy Truck	ks (3+.	Axles):	15		
	hicle Speed:	55 mph		V	ehicle l	Viix					
Near/Far La	ne Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Rai	rrier Heiaht:	0.0 feet			Me	edium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			F	leavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
Centerline Di	. ,	100.0 feet		A	laisa Sa	ource Ele	wation	e (in f	oot)		
Centerline Dist.	to Observer:	100.0 feet		/4	UISE SC	Autos		.000	eei)		
Barrier Distance	to Observer:	0.0 feet			Modiuu	Autos: n Trucks:		.000			
Observer Height (	(Above Pad):	5.0 feet				v Trucks:		.006	Grade Ad	liuetman	
Pa	ad Elevation:	0.0 feet			пеач	y Trucks.	. 0.	.000	Orade Ad	justinon	. 0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalent l	Distan	ce (in	feet)		
1	Road Grade:	0.0%				Autos:	97	.206			
	Left View:	-90.0 degree	es		Mediui	m Trucks:	97	.115			
	Right View:	90.0 degree	es		Heav	y Trucks:	97	.124			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fresi		Barrier At		rm Atten
Autos:	71.78	-4.79		-4.43		-1.20		-4.77		000	0.000
Medium Trucks:	82.40	-22.03		-4.43		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-25.99		-4.43		-1.20		-5.16	0.0	000	0.000
Unmitigated Nois											
VehicleType	Leq Peak Hou			eq Eve		Leq N			Ldn		NEL
Autos:	61		59.5		57.7		51.		60.		60.9
Medium Trucks:	54		53.2		46.9		45.	-	53.	-	54.0
Heavy Trucks:	54	-	53.4		44.3		45.	-	53.	_	54.1
Vehicle Noise:	62		61.2		58.2		53.	3	61.	9	62.4
Centerline Distant	ce to Noise Co	ntour (in feet)	)	TO				1			
			느	70 dl		65 d			60 dBA		dBA
			Ldn:	29		62	-		134		288
		CI	VEL:	31		67	,		144		310

	FHV	VA-RD-77-108	HIGH	I YAW	NOISE P	REDICT	ION MO	DEL			
Road Nar	rio: Cumulative me: Corral Hollo ent: Btwn I-580		ıd Spi	ne Rd			Name: ' lumber: '		Hills		
SITE	SPECIFIC IN	PUT DATA				ı	IOISE N	/IODE	L INPUT	S	
Highway Data					Site Cor	nditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	7,050 vehicle	s				,	Autos:	15		
Peak Hou	r Percentage:	10%			Me	dium Tr	ucks (2 A	(xles	15		
Peak I	Hour Volume:	705 vehicle	s		He	avy Tru	cks (3+ A	(xles	15		
Ve	ehicle Speed:	55 mph			Vehicle	Miss					
Near/Far La	ane Distance:	48 feet		-		iviix nicleType	,	Dav	Evening	Night	Daily
Site Data								77.5%	-	9.69	,
D.	arrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.39	% 1.84%
Barrier Type (0-V		0.0				Heavy T	rucks:	86.5%	2.7%	10.89	% 0.74%
Centerline D	ist. to Barrier:	100.0 feet		f	Noise S	ource E	levation	s (in f	eet)		
Centerline Dist.	to Observer:	100.0 feet		ı		Auto		000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck	s: 2.5	297			
Observer Height	. ,	5.0 feet			Hear	vy Truck	s: 8.0	006	Grade Ad	justmei	nt: 0.0
	Pad Elevation:	0.0 feet		-							
Ro	oad Elevation:	0.0 feet		-	Lane Eq				feet)		
	Road Grade:	0.0%				Auto					
	Left View:	-90.0 degre				m Truck					
	Right View:	90.0 degre	es		Hear	vy Truck	s: 97.	124			
FHWA Noise Mod	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	el	Barrier Att	en B	erm Atten
Autos:	71.78	-4.34		-4.4	3	-1.20		-4.77	0.0	000	0.000
Medium Trucks.	82.40	-21.58		-4.4	-	-1.20		-4.88	0.0	000	0.000
Heavy Trucks.	86.40	-25.53		-4.4	13	-1.20		-5.16	0.0	000	0.000
Unmitigated Nois		-									
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn	_	CNEL
Autos.			59.9		58.1		52.1		60.7		61.3
Medium Trucks.		_	53.7		47.3		45.8		54.2	_	54.5
Heavy Trucks. Vehicle Noise.		_	53.8 61.6		44.8 58.7		46.0 53.8		54.4 62.3		54.5 62.8
Centerline Distan									JE.,		
Co.nemine Distan	10 110/36 00	Jui (iii leet	_	70	dBA	65	dBA	-	60 dBA	5	5 dBA
			Ldn:	3	31	6	67	•	143		309
		Ci	NEL:	3	33	7	'2		154		332

	FH\	WA-RD-77-108	HIGHV	VAY NO	OISE PI	REDICT	ION MOD	DEL			
Road Nam	io: Cumulative le: Corral Holl nt: Btwn Spine		acy Hills	Rd			t Name: ٦ lumber: 8		Hills		
SITE	SPECIFIC IN	IPUT DATA					NOISE N	IODE	LINPUTS	3	
Highway Data				S	ite Con	ditions	(Hard =	10, So	ft = 15)		
	Traffic (Adt): Percentage: lour Volume:	7,050 vehicle 10% 705 vehicle					ucks (2 A	,	15 15 15		
	hicle Speed:	55 mph	3				0110 (0171	ліоо).	.0		
Near/Far Lai		48 feet		ν	ehicle I	<b>Mix</b> icleType		Dav	Evening	Night	Daily
Site Data				_	ven			77.5%	12.9%	9.6%	
		0.0 feet			Me	edium 7		34.8%	4.9%	10.3%	1.84%
Barrier Type (0-W	rrier Height:	0.0 reet 0.0				leavy T		36.5%		10.8%	0.74%
., .	. ,	100.0 feet			laina C		levations	(in fo	n41		
Barrier Distance Observer Height ( Pe Roa I	Centerline Dist. to Observer: 100.0 feet					Auto m Truck ry Truck <b>uivalen</b> Auto m Truck ry Truck	s: 2.2 s: 8.0 t Distances: 97.2 s: 97.1	97 06 <b>e</b> (in f	Grade Adji ieet)	ustment:	0.0
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	el l	Barrier Atte	en Ber	m Atten
Autos:	71.78	-4.34		-4.43		-1.20		4.77	0.0		0.00
Medium Trucks: Heavy Trucks:	82.40 86.40	-21.58 -25.53		-4.43 -4.43		-1.20 -1.20		-4.88 -5.16	0.0		0.00
Unmitigated Noise	Levels (with	out Topo and	barrier	attenu	uation)						
VehicleType	Leg Peak Hou			Leg Ev		Leq	Night		Ldn	CI	VEL
Autos:	61	.8	59.9		58.1		52.1		60.7		61.3
Medium Trucks:	55	i.2	53.7		47.3		45.8		54.2		54.5
Heavy Trucks:	55	i.2	53.8		44.8		46.0		54.4		54.5
Vehicle Noise:	63	3.4	61.6		58.7		53.8		62.3		62.8
Centerline Distance		ontour (in foo	t)								
	ce to Noise C	ontour (in ree									
	ce to Noise C	ontour (in ree		70 di	BA	65	dBA	6	0 dBA	55	dBA
	ce to Noise C	ontour (in ree	Ldn:	70 di 31			dBA 67	6	0 dBA 143		dBA 09

FH	WA-RD-77-108 H	HIGHWA	' NOISE F	REDICTI	ON MO	DEL			
Scenario: Cumulativ Road Name: Corral Hol Road Segment: Btwn N. T	low Road	Linne Rd			Name: umber:		Hills		
SITE SPECIFIC II	NPUT DATA		Cito Co	N nditions			L INPUT	S	
•	7.050 111		Site Co.	iuitions	•				
Average Daily Traffic (Adt):	7,050 vehicles		l			Autos:			
Peak Hour Percentage:	10%			edium Tru		,			
Peak Hour Volume:	705 vehicles		H	eavy Truc	ks (3+ /	Axles):	15		
Vehicle Speed:	55 mph		Vehicle	Mix					
Near/Far Lane Distance:	48 feet		Vei	hicleType		Day	Evening	Night	Daily
Site Data					lutos:	77.5%	12.9%	9.6%	6 97.42%
Barrier Height:	0.0 feet		٨	fedium Ti	ucks:	84.8%	4.9%	10.3%	6 1.84%
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy Tr	ucks:	86.5%	2.7%	10.89	6 0.74%
Centerline Dist. to Barrier:	100.0 feet								
Centerline Dist. to Observer:	100.0 feet		Noise S	ource El			eet)		
Barrier Distance to Observer:	0.0 feet			Autos		000			
Observer Height (Above Pad):	5.0 feet			ım Truck		297			
Pad Flevation:	0.0 feet		Hea	vy Trucks	3: 8.	006	Grade Ad	iustmen	t: 0.0
Road Flevation:	0.0 feet		Lane E	quivalent	Distan	ce (in	feet)		
Road Grade:	0.0%			Auto		206	,		
Left View:	-90.0 degrees		Media	ım Truck:		115			
Right View:	90.0 degrees			vy Trucks		124			
9 1				.,					
FHWA Noise Model Calculation		51.	F. 1	5 (			D : 40		***
VehicleType REMEL  Autos: 71.78	Traffic Flow	Distance		-1.20	Fresr		Barrier Att		erm Atten
			.43	-1.20 -1.20		-4.77		000	0.000
Medium Trucks: 82.40			.43			-4.88		000	0.000
Heavy Trucks: 86.40			.43	-1.20		-5.16	0.0	000	0.000
Unmitigated Noise Levels (with			,						21.51
VehicleType Leq Peak Ho			Evening	<del></del>	Night		Ldn		ONEL
		9.9	58.1		52.1		60.7		61.3
		3.7	47.3		45.8		54.2	-	54.5
,		3.8 1.6	44.8 58.7		46.0 53.8		54.4 62.3		54.5 62.8
Centerline Distance to Noise C			50.1		00.0	•	52.	-	02.0
Contentine Distance to NOISE C	romour (m reet)	7	0 dBA	65	dBA	(	60 dBA	5	5 dBA
	L	dn:	31	6	7		143		309

Wednesday, November 13, 2013

	FHV	VA-RD-77-108	HIGH	WAY N	IOISE PE	REDICTION	ON MC	DEL			
	o: Cumulative e: Corral Hollo nt: Btwn Linne	ow Road	o Rd			Project I Job Nu			Hills		
	SPECIFIC IN	IPUT DATA			o:. o				L INPUT	s	
Highway Data					Site Con	ditions (					
Average Daily	. ,		S					Autos:			
	Percentage:	10%				dium Tru					
	our Volume:	1,135 vehicle	S		He	avy Truci	ks (3+ /	Axles):	15		
	hicle Speed:	55 mph			Vehicle I	Vlix					
Near/Far Lai	ne Distance:	48 feet		Ī	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Rar	rier Heiaht:	0.0 feet			Me	edium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			F	leavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		100.0 feet		H	Noico Sa	ource Ele	wation	e (in f	oot)		
Centerline Dist.	to Observer:	100.0 feet		F.	V0/36 30	Autos		000	eet)		
Barrier Distance	to Observer:	0.0 feet			A de elle	Autos. n Trucks		297			
Observer Height (	Above Pad):	5.0 feet				т тискs. vy Trucks.		006	Grade Ad	iustmon	
Pa	ad Elevation:	0.0 feet			пеач	y Trucks.	. 0.	006	Orade Au	Justinoni	. 0.0
Roa	ad Elevation:	0.0 feet		I I	Lane Eq	uivalent	Distan	ce (in	feet)		
F	Road Grade:	0.0%				Autos.	97.	206			
	Left View:	-90.0 degre	es		Mediui	m Trucks.	97.	115			
	Right View:	90.0 degre	es		Heav	y Trucks	97.	124			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow		stance	Finite		Fresi		Barrier Att		rm Atten
Autos:	71.78	-2.27		-4.4	-	-1.20		-4.77		000	0.000
Medium Trucks:	82.40	-19.51		-4.4	-	-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-23.47		-4.4	3	-1.20		-5.16	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou	ır Leq Da	/	Leq E	vening	Leq N	light		Ldn	С	NEL
Autos:	63	.9	62.0		60.2		54.2	_	62.8	3	63.4
Medium Trucks:	57	.3	55.8		49.4		47.9	-	56.3	-	56.5
Heavy Trucks:	57		55.9		46.8		48.		56.4		56.6
Vehicle Noise:	65	.5	63.7		60.7		55.	9	64.4	4	64.9
Centerline Distand	e to Noise Co	ontour (in fee	t)								
			T	70 c		65 d	BA	6	60 dBA	55	dBA
			Ldn:	4	2	91	ı		197	- 4	124
		С	NEL:	4	6	98	3		212	4	157

Wednesday, November 13, 2013 Wednesday, November 13, 2013

	FH\	VA-RD-77-108	HIGH	YAWH	NOISE P	REDICTION	ON MO	DDEL			
Road Na	rio: Cumulative me: Corral Holle ent: Btwn Valpie	ow Road	ulte R	d		Project I Job Nu			Hills		
SITE Highway Data	SPECIFIC IN	IPUT DATA			Cito Co.	N ditions (			L INPUT	S	
					Site Coi	iuitions (	naru =				
	/ Traffic (Adt):		S					Autos:	15		
	r Percentage:	10%				dium Tru					
	Hour Volume:	1,580 vehicle	S		He	avy Truc	KS (3+	Axies):	15		
	ehicle Speed:	55 mph		ĺ	Vehicle	Mix					
Near/Far L	ane Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	77.5%	12.9%	9.6%	6 97.42%
В	arrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.39	6 1.84%
Barrier Type (0-	Vall, 1-Berm):	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.89	6 0.74%
	ist. to Barrier:	100.0 feet		ı	Noise S	ource Ele	evatio	ns (in f	eet)		
Centerline Dist		100.0 feet		ı		Autos	: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Trucks	: 2	.297			
Observer Height	. ,	5.0 feet			Hear	y Trucks	: 8	.006	Grade Ad	iustmer	t: 0.0
	Pad Elevation:	0.0 feet				·		-			
R	oad Elevation:	0.0 feet		-	Lane Eq	uivalent		_ •	feet)		
	Road Grade:	0.0%				Autos		.206			
	Left View:	-90.0 degre				m Trucks		.115			
	Right View:	90.0 degre	es		Hear	y Trucks	: 97	.124			
FHWA Noise Mo	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos	: 71.78	-0.84		-4.4	13	-1.20		-4.77	0.0	000	0.000
Medium Trucks	: 82.40	-18.07		-4.4	13	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	: 86.40	-22.03		-4.4	13	-1.20		-5.16	0.0	000	0.000
Unmitigated Noi	se Levels (with	out Topo and	barri	er atte	nuation)						
VehicleType	Leq Peak Hou	ır Leq Day	/	Leq E	vening	Leq I	Vight		Ldn	(	CNEL
Autos	: 65	.3	63.4		61.6		55.	6	64.2	2	64.8
Medium Trucks	: 58	.7	57.2		50.8		49.	3	57.7	7	58.0
Heavy Trucks	: 58	.7	57.3		48.3		49.	5	57.9	)	58.0
Vehicle Noise	: 66	.9	65.1		62.2		57.	3	65.9	9	66.3
Centerline Distar	nce to Noise Co	ontour (in feet	)					_		_	
			L		dBA	65 0		1 6	60 dBA		5 dBA
			Ldn:		53	11			246		529
		Ci	VEL:	;	57	12	3		264		569

	FH	WA-RD-77-108	HIGHWA	Y NOISE P	REDICTIO	N MODEL			
	io: Cumulative le: Corral Holl nt: North of So	low Road				lame: Tracy mber: 8559	Hills		
SITE	SPECIFIC II	NPUT DATA			NC	DISE MODE	L INPUTS	5	
Highway Data				Site Cor	ditions (F	Hard = 10, S	oft = 15)		
	Traffic (Adt): Percentage: lour Volume:	36,200 vehicle 10% 3.620 vehicle				Autos: cks (2 Axles): cs (3+ Axles):	: 15		
	hicle Speed:	55 mph	3		-	0 (01 7 0000).			
Near/Far La		48 feet		Vehicle Veh	Mix nicleType	Day	Evening	Night	Daily
Site Data					AL	itos: 77.5%	6 12.9%	9.6%	97.42%
Bar Barrier Type (0-W	rrier Height: 'all, 1-Berm):	0.0 feet 0.0			edium Tru Heavy Tru			10.3% 10.8%	1.84% 0.74%
Centerline Dis	st. to Barrier:	100.0 feet		Noise Se	ource Ele	vations (in f	eet)		
Ros	to Observer:	100.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0% -90.0 degre		Lane Eq	Autos: m Trucks: vy Trucks: uivalent I Autos: m Trucks: vy Trucks:	2.297 8.006 Distance (in 97.206 97.115	Grade Adj	ustment:	0.0
FHWA Noise Mode	el Calculation								
VehicleType	REMEL	Traffic Flow	Distant		Road	Fresnel	Barrier Atte		m Atten
Autos:	71.78			4.43	-1.20	-4.77	0.0		0.000
Medium Trucks: Heavy Trucks:	82.40 86.40			4.43 4.43	-1.20 -1.20	-4.88 -5.16	0.0		0.000
Unmitigated Noise	e Levels (with	nout Topo and	barrier a	ttenuation)					
VehicleType	Leq Peak Ho	ur Leq Day	/ Le	q Evening	Leq N	ight	Ldn	CI	VEL
Autos:	68	3.9	67.0	65.2		59.2	67.8	3	68.4
Medium Trucks:		2.3	60.8	54.4		52.9	61.3	3	61.6
Heavy Trucks:	62	2.3	60.9	51.9		53.1	61.5	;	61.6
Vehicle Noise:	70	0.5	68.7	65.8		60.9	69.5	i	69.9
Centerline Distand	ce to Noise C	ontour (in fee	t)						
				70 dBA	65 dl		60 dBA	55	dBA
									19
			Ldn: NFI:	92 99	198 213		427 459	-	19 89

	FH\	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICTI	ON MO	DEL			
Scenari	o: Cumulative					Project	Name:	Tracy	Hills		
Road Nam	e: Lammers F	Road				Job N	ımber:	8559			
Road Segmer	nt: Btwn Valpi	co Rd and Old	Schulte	e Rd							
SITE S	SPECIFIC IN	IPUT DATA			Cito Cor	N ditions			L INPUT	S	
• •					site Cor	iditions					
Average Daily	. ,		S					Autos:	15		
	Percentage:	10%				dium Tru		,	15		
	our Volume:	2,820 vehicle	S		He	avy Truc	ks (3+ A	Axles):	15		
	hicle Speed:	55 mph		١	Vehicle	Mix					
Near/Far Lai	ne Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.429
Rar	rier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W		0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis	st. to Barrier:	100.0 feet		,	Voise S	ource El	evation	s (in fe	eet)		
Centerline Dist.	to Observer:	100.0 feet				Autos		000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks	2.	297			
Observer Height (.	Above Pad):	5.0 feet			Hear	vy Trucks	. 81	006	Grade Ad	iustment	0.0
Pa	ad Elevation:	0.0 feet		L							
Roa	ad Elevation:	0.0 feet		L	Lane Eq	uivalent	Distan	ce (in :	feet)		
F	Road Grade:	0.0%				Autos		206			
	Left View:	-90.0 degre	es			m Trucks		115			
	Right View:	90.0 degre	es		Heav	y Trucks	: 97.	124			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		tance	_	Road	Fresr	_	Barrier Att		m Atten
Autos:	71.78	1.68		-4.43	-	-1.20		-4.77		000	0.00
Medium Trucks:	82.40	-15.56		-4.43	-	-1.20		-4.88		000	0.00
Heavy Trucks:	86.40	-19.51		-4.43	-	-1.20		-5.16	0.0	000	0.00
Unmitigated Noise											
,,	Leq Peak Hou			Leq Ev		Leq			Ldn		NEL
Autos:	67		65.9		64.2		58.1		66.7		67.
Medium Trucks:	61	-	59.7		53.3		51.8		60.3	-	60.
Heavy Trucks: Vehicle Noise:	61		59.8 67.6		50.8 64.7		52.0 59.8		60.4		60. 68.
Centerline Distance					07		00.0	-	30		50.
Centernile Distant	e to NOISE C	ontour (III leei	,	70 a	IRA	65.0	1BA	-	i0 dBA	55	dBA
						00 (					
			Ldn:	78		16			361		78

Wednesday, November 13, 2013

	FH\	WA-RD-77-10	8 HIG	I YAWI	NOISE PE	REDICTION	ON MC	DEL			
	o: Cumulative e: Lammers F at: Btwn Old S	Road	d Eleve	enth St		Project I Job Nu			Hills		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions (	Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	30,250 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tru	cks (2	Axles):	15		
Peak H	our Volume:	3,025 vehicl	es		He	avy Truci	ks (3+	Axles):	15		
Vel	nicle Speed:	55 mph		F	Vehicle I	Niv					
Near/Far Lar	ne Distance:	48 feet		ŀ		cleType		Dav	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Par	rier Height:	0.0 feet			Me	edium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0			F	leavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	. ,	100.0 feet		-					-1		
Centerline Dist.		100.0 feet			Noise Sc				eet)		
Barrier Distance		0.0 feet				Autos		.000			
Observer Height (	Above Pad):	5.0 feet				n Trucks		.297			
	d Flevation:	0.0 feet			Heav	y Trucks	: 8	.006	Grade Ad	justmen	t: 0.0
Roa	d Flevation:	0.0 feet		İ	Lane Eq	uivalent	Distar	ice (in	feet)		
F	Road Grade:	0.0%		Ī		Autos.	: 97	.206			
	Left View:	-90.0 degr	ees		Mediur	n Trucks.	97	.115			
	Right View:	90.0 degr			Heav	y Trucks	97	.124			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite		Fres	-	Barrier Att	en Be	rm Atten
Autos:	71.78	1.9	-	-4.4	-	-1.20		-4.77		000	0.000
Medium Trucks:	82.40	-15.2		-4.4	-	-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-19.2	1	-4.4	3	-1.20		-5.16	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo an	d barri	er atter	nuation)						
VehicleType	Leq Peak Hou	ır Leq Da	Эy	Leq E	vening	Leq N	light		Ldn	(	NEL
Autos:	68	.1	66.2		64.5		58.	4	67.0	)	67.6
Medium Trucks:	61		60.0		53.7		52.		60.6	-	60.8
Heavy Trucks:	61		60.1		51.1		52.		60.7		60.8
Vehicle Noise:	69	.7	67.9		65.0		60.	1	68.7	7	69.1
Centerline Distanc	e to Noise C	ontour (in fee	et)			-					
			Į		dBA	65 d		(	60 dBA		5 dBA
			Ldn:		32	17	-		379		816
		(	CNEL:	8	88	18	9		407		878

Wednesday, November 13, 2013 Wednesday, November 13, 2013

Autos: 77.5% 12.9% 9.6% 97.	Road Name:	Cumulative					REDICTI					
Average Daily Traffic (Adt): 16,900 vehicles   Peak Hour Percentage: 10%   Peak Hour Volume: 1,690 vehicles   Vehicle Speed: 55 mph   Neat/Far Lane Distance: 36 feet   Vehicle Type   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   Day   Evening   Night   Day   D		: Lammers Roa								Hills		
Average Daily Traffic (Adt): 16,900 vehicles Peak Hour Percentage: 10% Peak Hour Volume: 1,690 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 36 feet  Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 100.0 feet Centerline Dist. to Observer: 100.0 feet Barrier Pishance to Observer: 100.0 feet Barrier Pishance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Grade: 0.0% Left View: 90.0 degrees Right View: 90.0 degrees Right View: 90.0 degrees Right View: 90.0 degrees Right View: 90.0 degrees Vehicle Mix		PECIFIC INP	UT DATA			04- 0					s	
Peak Hour Percentage: 10% Peak Hour Volume: 1,690 vehicles Vehicle Speed: 55 mph Near/Far Lane Distance: 36 feet  Site Data  Barrier Height: Barrier Type (0·Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 100.0 feet Barrier Dists to Observer: 100.0 feet Barrier Height (Above Pad): 5.0 feet Pad Elevation: 0.1 feet Road Grade: 0.0% Left View: 90.0 degrees Right View: 90.0 degrees Right View: 90.0 degrees Right View: 90.0 degrees Welicle Type Day Evening Night D. Vehicle Mix Vehicle Type Day Evening Night D. Night Day Vehicle Type Day Day Evening Night D. Nedium Trucks: 84.8% 4.9% 10.3% 1. Heavy Trucks: 86.5% 2.7% 10.8% 0. Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 84.8% 4.9% 10.3% 1. Heavy Trucks: 86.5% 2.7% 10.8% 0. Noise Source Elevations (in feet) Heavy Trucks: 98.494 Autos: 98.494 Heavy Trucks: 98.413  FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A						Site Con	aitions (					
		. ,		3								
Vehicle Speed: 55 mph   Near/Far Lane Distance: 36 feet												
Near/Far Lane Distance: 36 feet   VehicleType   Day   Evening   Night   Day			,	3		He	avy Truc	ks (3+.	Axles):	15		
Site Data					1	Vehicle I	Wix					
Barrier Height: 0.0 feet	Near/Far Lane	Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Barrier reight:  Barrier Type (C-Wall, 1-5erm): Centerline Dist. to Barrier: Centerline Dist. to Observer: Centerline Dist. to	Site Data						Α.	utos:	77.5%	12.9%	9.6%	97.42%
Barrier Type (0-Wall, 1-Berm): 0.0   Heavy Trucks: 86.5% 2.7% 10.8% 0   Centerline Dist to Barrier: 100.0 feet Centerline Dist to Observer: 100.0 feet Barrier Distance to Observer: 0.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0%   Left View: 90.0 degrees Right View: 90.0 degrees   Reavy Trucks: 98.494   Heavy Trucks: 98.413	Rarrie	ier Height:	0.0 feet			Me	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Centerline Dist. to Observer: 100.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: 90.0 degrees Right View: 90.0 degrees Heavy Trucks: 98.404 Heavy Trucks: 98.413  FHWA Noise Model Calculations  VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A	Barrier Type (0-Wall	II, 1-Berm):	0.0			F	leavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Autos: 98.494 Autos: 98.494 Heavy Trucks: 98.404 Heavy Trucks: 98.413  FHWA Noise Model Calculations  Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A					1	Noise Sc	ource Ele	evation	ıs (in fe	eet)		
Observer Height (Above Pad):   5.0 feet   Heavy Trucks:   2.297   Heavy Trucks:   8.006   Grade Adjustment:   0.0 feet   Heavy Trucks:   8.006   Grade Adjustment:   0.0 feet   Lane Equivalent Distance (in feet)   Lane Equivalent Distance (in feet)   Lane Equivalent Distance (in feet)   Medium Trucks:   98.494   Heavy Trucks:   98.404   Heavy Trucks:   98.413   FHWA Noise Model Calculations   VehicleType   REMEL   Traffic Flow   Distance   Finite Road   Fresnel   Barrier Atten   Berm A   Distance   Finite Road   Fresnel   Barrier Atten   Barrier Atten   Barrier Atten   Barrier Atten   Barrier Atten   Barrier Atten   Barrier Atten   Barrier Atten   Barrier A							Autos	: 0.	.000			
Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: 90.0 degrees Right View: 90.0 degrees  Which Robe Model Calculations  VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A						Mediur	n Trucks	: 2.	297			
Road Elevation: 0.0 feet   Lane Equivalent Distance (in feet)						Heav	y Trucks	: 8.	.006	Grade Ad	iustmen	t: 0.0
Road Grade: 0.0%					L.			<b>5</b>				
Left View: -90.0 degrees Medium Trucks: 98.404 Right View: 90.0 degrees Heavy Trucks: 98.413  FHWA Noise Model Calculations  VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A					- 4	Lane Eq			_ •	reet)		
Right View: 90.0 degrees Heavy Trucks: 98.413  FHWA Noise Model Calculations  VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A												
FHWA Noise Model Calculations  VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A												
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A	R	Right View:	90.0 degree	es		Heav	y Trucks	: 98	.413			
	FHWA Noise Model	Calculations										
Autos: 71.78 -0.54 -4.52 -1.20 -4.77 0.000 (	7,1			Dis				Fresi				rm Atten
												0.000
												0.000
	,						-1.20		-5.16	0.0	000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)	-											
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL		,		_	Leq E		Leq I					
Autos: 65.5 63.6 61.9 55.8 64.4									-			65.0
Medium Trucks: 58.9 57.4 51.0 49.5 58.0									-			58.2
Heavy Trucks: 58.9 57.5 48.5 49.7 58.1  Vehicle Noise: 67.1 65.3 62.4 57.5 66.1	_											58.2 66.5
Centerline Distance to Noise Contour (in feet)	Vehicle Noise:	****								50.1		25.0
70 dBA 65 dBA 60 dBA 55 dBA			, 301)		70 4	JD A	65.0	IRΔ	-	SO dBA	56	dRA
Ldn: 55 118 253 546					700	IDM	00 0				- 0	
CNEL: 59 127 273 587			ı	Ldn:								

	FH	WA-RD-77-108	HIGH	NAY NO	DISE P	REDICT	TION MO	DEL			
Road Nar	rio: Cumulative ne: Linne Roa ent: Btwn Corra	-	d Tracy	/ Blvd			t Name: Number:		Hills		
SITE	SPECIFIC II	NPUT DATA					NOISE	ИODE	L INPUTS	3	
Highway Data				S	ite Cor	ditions	(Hard =	10, Sc	oft = 15)		
Peak Hou	Traffic (Adt): Percentage:	16,450 vehicle 10% 1.645 vehicle					rucks (2 )	,			
	ehicle Speed:	,	S		пе	avy IIu	ICKS (3+7	Axies).	15		
		55 mph		V	ehicle	Mix					
Near/Far La	ane Distance:	48 feet			Veh	icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.42%
Ba	rrier Height:	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-V		0.0			- 1	Heavy 7	rucks:	86.5%	2.7%	10.8%	0.74%
,, ,	ist, to Barrier:	100.0 feet			·- · ·			- // 6	41		
Centerline Dist.	to Observer:	100.0 feet		N	ioise s		levation		eet)		
Barrier Distance		0.0 feet				Auto		000			
Observer Height	(Above Pad):	5.0 feet				m Truck		297			
	ad Flevation:	0.0 feet			Heav	ry Truck	ks: 8.	006	Grade Adj	ustment.	0.0
Ro	ad Elevation:	0.0 feet		L	ane Ea	uivalen	t Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto	os: 97.	206			
	I eft View:	-90.0 degre	29		Mediu	m Truck	ks: 97.	115			
	Right View:	90.0 degre			Heav	y Truck	ks: 97.	124			
FHWA Noise Mod	lel Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresr	nel	Barrier Atte	en Ber	m Atten
Autos:	71.78	-0.66		-4.43		-1.20		-4.77	0.0	00	0.00
Medium Trucks:	82.40	-17.90		-4.43		-1.20		-4.88	0.0	00	0.00
Heavy Trucks:				-4.43		-1.20		-5.16	0.0	00	0.00
Unmitigated Nois											
VehicleType	Leq Peak Ho			Leq Eve		Leq	Night		Ldn		VEL
Autos:			63.6		61.8		55.8		64.4		65.0
Medium Trucks:			57.4		51.0		49.5		57.9		58.2
Heavy Trucks:			57.5		48.5		49.7		58.1		58.2
Vehicle Noise:	-		65.3		62.3		57.5	5	66.0	1	66.5
Centerline Distan	ce to Noise C	ontour (in feet	)	70 dE	DΛ	e E	dBA	-	60 dBA	FE	dBA
			I dn:	70 dz			117	1 6	252		43
			Lan: NFI:	54 58			126		252	-	43 85
		C	VEL.	38		1	120		2/1	5	oJ.

	FHV	VA-RD-77-108	HIGH	WAY	NOISE P	REDICTI	ON M	DDEL			
Scenario: Cum Road Name: Linne Road Segment: East	Road					Project Job Ni			Hills		
SITE SPECIF	IC IN	PUT DATA			Site Con				L INPUT	S	
• •					Site Con	uitions	i iai u				
Average Daily Traffic (	,							Autos:			
Peak Hour Percent		10%				dium Tru		,			
Peak Hour Volu		1,220 vehicles			He	avy Truc	KS (3+	Axies):	15		
Vehicle Sp		55 mph		Ī	Vehicle I	Wix					
Near/Far Lane Dista	nce:	48 feet		Ī	Veh	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	77.5%	12.9%	9.6%	97.42%
Barrier Hei	aht.	0.0 feet			Me	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Be	-	0.0			F	leavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Ba	,	100.0 feet		ļ							
Centerline Dist. to Obse		100.0 feet		Ļ	Noise So				eet)		
Barrier Distance to Obse		0.0 feet				Autos		.000			
Observer Height (Above F		5.0 feet				m Trucks	-	.297			
Pad Fleva	,	0.0 feet			Heav	y Trucks	:: 8	.006	Grade Ad	iustmen	t: 0.0
Road Fleva		0.0 feet		ŀ	Lane Eq	uivalent	Dista	nce (in	feet)		
Road Gr		0.0%		İ		Autos		206	,		
Left V		-90.0 degree	s		Mediui	n Trucks	: 97	1115			
Right V	iew:	90.0 degree			Heav	y Trucks	: 97	.124			
FHWA Noise Model Calcu	lation	s									
VehicleType REM	EL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	71.78	-1.96		-4.4	13	-1.20		-4.77	0.0	000	0.000
Medium Trucks:	82.40	-19.20		-4.4	13	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-23.15		-4.4	13	-1.20		-5.16	0.0	000	0.00
Unmitigated Noise Levels			_								
VehicleType Leq Per			_	Leq E	vening	Leq I		_	Ldn		NEL
Autos:	64		2.3		60.5		54		63.		63.
Medium Trucks:	57		6.1		49.7		48	_	56.6	-	56.9
Heavy Trucks: Vehicle Noise:	57 65		6.2		47.2 61.0		48 56		56.8 64.7		56.9 65.1
Centerline Distance to No	ise Co	ontour (in feet)									
		(1111000)		70	dBA	65 (	1BA		60 dBA	55	5 dBA
		L	.dn:	4	45	9	6		207		445
		C/V			48		)3		222		479

Wednesday, November 13, 2013

	FHV	VA-RD-77-10	8 HIGH	HWAY I	NOISE PF	REDICTION	ON MC	DEL			
	o: Cumulative e: Valpico Roa t: Btwn Lamm		Corral H	Hollow F	Rd	Project I Job Nu			Hills		
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Con	ditions (	Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 1	12,250 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Trud	cks (2	Axles):	15		
Peak H	our Volume:	1,225 vehicle	es		He	avy Truck	ks (3+	Axles):	15		
Ve	nicle Speed:	55 mph		ŀ	Vehicle I	Niv					
Near/Far Lai	ne Distance:	48 feet		ŀ		cleType		Dav	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.42%
Par	rier Height:	0.0 feet			Me	edium Tru	ıcks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-W		0.0 1001			F	leavy Tru	ıcks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		100.0 feet		-					.,		
Centerline Dist.		100.0 feet		-	Noise Sc				eet)		
Barrier Distance	o Observer:	0.0 feet				Autos:		.000			
Observer Height (	Above Pad):	5.0 feet				n Trucks:		.297			
	d Elevation:	0.0 feet			Heav	y Trucks:	: 8	.006	Grade Ad	justmen	t: 0.0
Ros	d Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ice (in	feet)		
F	Road Grade:	0.0%				Autos	: 97	.206			
	Left View:	-90.0 degre	ees		Mediur	n Trucks:	97	.115			
	Right View:	90.0 degre			Heav	y Trucks:	97	.124			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow		stance	Finite		Fres	-	Barrier Att		rm Atten
Autos:	71.78	-1.94	-	-4.4	-	-1.20		-4.77		000	0.000
Medium Trucks:	82.40	-19.18		-4.4	-	-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-23.14	1	-4.4	3	-1.20		-5.16	0.0	000	0.000
Unmitigated Noise			l barri	er atte	nuation)						
	Leq Peak Hou		,	Leq E	vening	Leq N			Ldn	_ ~	NEL
Autos:	64	.2	62.3		60.5		54.	-	63.	1	63.7
Medium Trucks:	57		56.1		49.7		48.	_	56.6	-	56.9
Heavy Trucks:	57		56.2		47.2		48.	•	56.8		56.9
Vehicle Noise:	65	.8	64.0		61.1		56.	2	64.7	7	65.2
Centerline Distand	e to Noise Co	ontour (in fee	t)								
					dBA	65 d		(	60 dBA		5 dBA
			Ldn:		15	96			207		446
			NEL:	4	18	10	3		223		480

Wednesday, November 13, 2013 Wednesday, November 13, 2013

_	FHW	A-RD-77-108	HIGH	WAY	NOISE P	REDICT	ION MOI	DEL			
Road Name	o: Cumulative e: Valpico Road t: Btwn Corral I	i				Project	Name: 1 lumber: 8	Fracy I	Hills		
	PECIFIC INP	UT DATA			0:: 0				L INPUT	S	
Highway Data					Site Cor	aitions					
Average Daily T	. ,		3					Autos:	15		
Peak Hour F		10%					ucks (2 A	,	15		
		,805 vehicles	3		He	eavy Trui	cks (3+ A	xles):	15		
	icle Speed:	55 mph		ı	Vehicle	Mix					
Near/Far Lan	e Distance:	48 feet		f	Veh	icleТуре		Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	12.9%	9.6%	97.42%
Barı	rier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		100.0 feet		ŀ					-1		
Centerline Dist. to		100.0 feet		-	Noise S			•	eet)		
Barrier Distance to		0.0 feet				Auto					
Observer Height (A		5.0 feet				m Truck					
	d Flevation:	0.0 feet			Hear	vy Truck	s: 8.0	006	Grade Adj	ustmen	f: 0.0
	d Elevation:	0.0 feet		ı	Lane Eq	uivalen	t Distanc	e (in	feet)		
	nad Grade:	0.0%		ı		Auto			,		
		-90.0 degree	20		Mediu	m Truck	s: 97.1	115			
	Right View:	90.0 degree			Hear	vy Truck	s: 97.1	124			
FHWA Noise Mode	I Calculations										
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresn	el	Barrier Atte	en Be	rm Atten
Autos:	71.78	-0.26		-4.4	13	-1.20		-4.77	0.0	100	0.000
Medium Trucks:	82.40	-17.50		-4.4	13	-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	86.40	-21.45		-4.4	13	-1.20		-5.16	0.0	00	0.000
Unmitigated Noise	Levels (withou	ut Topo and	barrie	r atte	nuation)						
VehicleType I	Leq Peak Hour	Leq Day		Leq E	vening	Leq	Night		Ldn	С	NEL
Autos:	65.9		64.0		62.2		56.2		64.8	3	65.4
Medium Trucks:	59.3		57.8		51.4		49.9		58.3	3	58.6
Heavy Trucks:	59.3		57.9		48.9		50.1		58.5	5	58.6
Vehicle Noise:	67.5		65.7		62.8		57.9		66.4		66.9
Centerline Distance	e to Noise Con	ntour (in feet)	)								
					dBA		dBA	$\epsilon$	0 dBA		dBA
		-	Ldn:		58		25		268		578
		CN	IEL:	6	62	1	34		289	6	522

0						Desired	A /	T	1.00-		
	o: Cumulative e: Valpico Ro					Project	ivame: iumber:		HIIIS		
Road Segmer						JOD IV	umber:	8559			
										_	
Highway Data	SPECIFIC IN	IPUT DATA			Site Con				L INPUT oft = $15$ )	5	
Average Daily	Traffic (Adt):	10 000 vehicle	20		0.110 00.1	annono	(//a/a	Autos:			
	Percentage:	10%	50		Me	dium Tri	icks (2				
	our Volume:	1.990 vehicle	25			avy Truc		,			
	hicle Speed:	55 mph	50	L			(				
Near/Far I a		48 feet		L	Vehicle						
	io Biolarioo.	10 1001			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%		9.6%	
Bar	rier Height:	0.0 feet				edium Ti		84.8%		10.3%	
Barrier Type (0-W	all, 1-Berm):	0.0			ŀ	Heavy Ti	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis		100.0 feet		Ī	Noise So	ource El	evation	ıs (in f	eet)		
Centerline Dist.		100.0 feet		Ī		Auto		.000	,		
Barrier Distance		0.0 feet			Mediu	m Truck:		.297			
Observer Height (		5.0 feet				y Truck		.006	Grade Ad	justmen	t: 0.0
	ad Elevation:	0.0 feet		L		•					
	ad Elevation:	0.0 feet		L	Lane Eq				feet)		
I	Road Grade:	0.0%				Auto		.206			
	Left View:	-90.0 degre	ees			m Truck		.115			
	Right View:	90.0 degre	ees		Heav	y Truck	s: 97	.124			
FHWA Noise Mode	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	71.78	0.17	7	-4.4	3	-1.20		-4.77	0.0	000	0.000
Medium Trucks:	82.40	-17.07	7	-4.4	3	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-21.03	3	-4.4	3	-1.20		-5.16	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	l barr	ier atter	nuation)						
VehicleType	Leq Peak Hou		,	Leq E	vening	Leq	Night		Ldn		NEL
Autos:	66	i.3	64.4		62.6		56.	6	65.2	2	65.8
Medium Trucks:	59		58.2		51.8		50.	-	58.		59.0
Heavy Trucks:	59		58.3		49.3		50.	_	58.	-	59.0
Vehicle Noise:	67	'.9	66.1		63.2		58.	3	66.	9	67.3
Centerline Distand	e to Noise Co	ontour (in fee	t)								
			Į		dBA		dBA	- (	60 dBA		dBA
			Ldn:	6	62	13	33		286	6	617
			NFI:		6		43		308		364