

MIT1d Mitigation analysis for Walls at R52 to R66								
Receptor	16ft x 1020ft			18ft x 1020ft		18ft x 550ft		
57	1	4		5.5	5.5	<3		
58	3	3.4		4.8		3.6		
67	1	<3		4.2		3.9		
118	3	5.8	17.4	6.9	20.7	4.9		
320	4	<3		3.6		3.4		
322	1	3.8		5.3	5.3	4.9		
323	4	4.7		6.3	25.2	5.6	22.4	
58b	1	3		4.3		3.7		
sum dBA			17.4		56.7		22.4	
Wall Ht	Wall Length	Unit Cost	Decibel Red	CBI				
16	1020	45 *						
18	1020	45	56.7	\$14,571				
18	550	45 *						

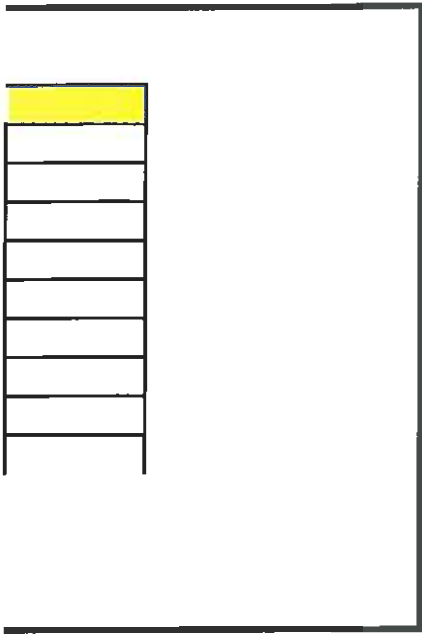
2011 Guidelines

MIT1d Mitigation analysis for Walls at R52 to R66								
Receptor	16ft x 1020ft			18ft x 1020ft		18ft x 550ft		
57	1	4	4	5.5	5.5	<3		
58	3	3.4	10.2	4.8	14.4	3.6	10.8	
67	1	<3	0	4.2	4.2	3.9	3.9	
118	3	5.8	17.4	6.9	20.7	4.9	14.7	
320	4	<3	0	3.6	14.4	3.4	13.6	
322	1	3.8	3.8	5.3	5.3	4.9	4.9	
323	4	4.7	18.8	6.3	25.2	5.6	22.4	
58b	1	3	3	4.3	4.3	3.7	3.7	
sum dBA			57.2		94		74	
Wall Ht	Wall Length	Unit Cost	Decibel Red	CBI				
16	1020	30	57.2	\$8,559				
18	1020	30	94	\$5,860				
18	550	30	74	\$4,014				

2002 Guidelines

18 x 550 wall along WB US160 ramp
 Feasible
 CBI

< see MIT1c >



RESULTS: SOUND LEVELS

Supplemental EIS US160/550 Grandview

Root filename: SEISModG
jts 110506 walls southside frontage rd

9 May 2011
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT:

Supplemental EIS US160/550 Grandview
MIT1d walls along ramp 18ft x 550ft
INPUT HEIGHTS

RUN:

BARRIER DESIGN:
68 deg F, 50% RH

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier		Increase over existing		Type Impact	With Barrier		Noise Reduction	Calculated minus Goal	
				LAeq1h	Calculated	Crit'n	Calculated		Crit'n Sub'l Inc	LAeq1h			Calculated
			dBA	dBA	dBA	dBA	dB	dB	dB	dB	dB	dB	
52		56	1	62.9	62.7	66	-0.2	10	---	62.7	0.0	5	-5.0
55		60	1	61.4	61.1	66	-0.3	10	---	61.1	0.0	5	-5.0
56		61	3	62.3	62.3	66	0.0	10	---	61.3	1.0	5	-4.0
C57		90	1	67.0	66.9	71	-0.1	10	---	65.5	1.4	5	-3.6
58		91	3	65.9	66.0	66	0.1	10	Snd Lvl	62.4	3.6	5	-1.4
63		92	1	66.3	66.2	66	-0.1	10	Snd Lvl	65.8	0.4	5	-4.6
65		93	1	65.2	65.2	66	0.0	10	---	64.8	0.4	5	-4.6
66		94	1	69.6	69.2	66	-0.4	10	Snd Lvl	68.5	0.7	5	-4.3
67		95	1	71.5	70.8	66	-0.7	10	Snd Lvl	66.9	3.9	5	-1.1
118		142	3	67.7	67.8	66	0.1	10	Snd Lvl	62.9	4.9	5	-0.1
119		143	2	65.6	65.5	66	-0.1	10	---	65.4	0.1	5	-4.9
304		155	1	54.1	53.8	66	-0.3	10	---	53.6	0.2	5	-4.8
305		156	1	53.5	53.1	66	-0.4	10	---	53.0	0.1	5	-4.9
306		157	1	55.5	55.2	66	-0.3	10	---	55.2	0.0	5	-5.0
307		158	1	54.3	54.0	66	-0.3	10	---	53.9	0.1	5	-4.9
309		159	1	59.2	59.1	66	-0.1	10	---	59.1	0.0	5	-5.0
310		160	1	60.7	60.7	66	0.0	10	---	60.7	0.0	5	-5.0
312		161	1	61.7	61.7	66	0.0	10	---	61.6	0.1	5	-4.9
315		162	1	63.1	63.2	66	0.1	10	---	63.1	0.1	5	-4.9
318		163	1	68.3	68.3	66	0.0	10	Snd Lvl	67.4	0.9	5	-4.1
320		164	4	67.6	67.6	66	0.0	10	Snd Lvl	64.2	3.4	5	-1.6
322		165	1	67.3	67.3	66	0.0	10	Snd Lvl	62.4	4.9	5	-0.1
323		167	4	70.3	70.3	66	0.0	10	Snd Lvl	64.7	5.6	5	0.6

Handwritten notes:
110710
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

	169	1	61.1	60.9	66	Supplemental EIS US160/550 Grandview									
						-0.2	10	-----	60.9	0.0	5	-5.0			
C326	171	1	57.1	56.7	66	-0.4	10	-----	56.8	-0.1	5	-5.1			
Grand4	173	1	61.4	61.3	66	-0.1	10	-----	60.5	0.8	5	-4.2			
56a	174	1	65.7	65.7	66	0.0	10	-----	64.0	1.7	5	-3.3			
58a	175	1	67.0	67.0	66	0.0	10	Snd Lvl	63.3	3.7	5	-1.3			
58b	176	1	60.2	60.2	66	0.0	10	---	60.1	0.1	5	-4.9			
311	177	1	61.6	61.5	66	-0.1	10	---	61.4	0.1	5	-4.9			
312a	178	1	62.5	62.3	66	-0.2	10	-----	62.2	0.1	5	-4.9			
C325															
Dwelling Units		# DUs	Noise Reduction												
			Min	Avg	Max										
			dB	dB	dB										
All Selected		44	-0.1	1.2	5.6										
All Impacted		20	0.4	3.2	5.6										
All that meet NR Goal		4	5.6	5.6	5.6										

INPUT: BARRIERS

Supplemental EIS US160/550 Grandview

Root filename: SEISModG
 its 110506 walls southside frontage rd

9 May 2011
 TNM 2.5

INPUT: BARRIERS

PROJECT/CONTRACT: Supplemental EIS US160/550 Grandview
RUN: MIT1d walls along ramp 18ft x 650ft

Barrier Name	Type	Height		If Wall \$ per Unit Area	If Berm \$ per Unit Vol.	Top Width	Run:Rise	Add'l \$ per Unit Length	Points Name	No.	Coordinates (bottom)			Height at Point	Segment			Important Reflec-tions?
		Min	Max								X	Y	Z		Incre-ment	#Up	#Dn	
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft				
Barrier3	W	0.00	99.99	0.00				0.00	point12	12	2,322,680.0	1,213,531.0	6,706.00	20.00	0.00	0	0	
									point13	13	2,322,879.8	1,213,497.0	6,710.00	20.00	0.00	0	0	
									point14	14	2,323,017.8	1,213,469.6	6,719.00	20.00	0.00	0	0	
									point15	15	2,323,148.0	1,213,436.0	6,722.00	15.00	0.00	0	0	
									point16	16	2,323,280.5	1,213,397.9	6,725.00	15.00	0.00	0	0	
									point17	17	2,323,429.8	1,213,348.9	6,755.00	10.00	0.00	0	0	
									point18	18	2,323,575.0	1,213,296.2	6,755.00	10.00	0.00	0	0	
MIT1a wall along ramp	W	0.00	99.99	0.00				0.00	point29	29	2,324,172.8	1,213,084.5	6,759.00	18.00	2.00	0	0	
									point30	30	2,324,318.2	1,213,034.5	6,760.00	18.00	2.00	0	0	
									point36	36	2,324,453.6	1,212,986.0	6,761.00	18.00	2.00	0	0	
									point37	37	2,324,605.0	1,212,950.9	6,762.00	18.00	2.00	0	0	
									point31	31	2,324,694.2	1,212,881.2	6,766.00	18.00	2.00	0	0	

RESULTS: SOUND LEVELS

Root filename: SEISM0DG
jts 110506 walls southside frontage rd

RESULTS: SOUND LEVELS
PROJECT/CONTRACT:

RUN:
BARRIER DESIGN:

ATMOSPHERICS:
Receiver

Supplemental EIS US160/550 Grandview
MIT1d walls along ramp 18ft x 550ft
INPUT HEIGHTS *16ft*

68 deg F, 50% RH

Supplemental EIS US160/550 Grandview

9 May 2011
TNM 2.5
Calculated with TNM 2.5

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

No.	#DUs	Existing LAeq1h dBA	No Barrier		Increase over existing		Type Impact	With Barrier		Calculated Goal minus Goal dB	
			LAeq1h Calculated dBA	Crit'n dBA	Calculated dB	Crit'n dB		LAeq1h Calculated dBA	Noise Reduction Calculated dB		
52	1	62.9	62.7	66	-0.2	10	---	62.7	0.0	5	-5.0
55	1	61.4	61.1	66	-0.3	10	---	61.1	0.0	5	-5.0
56	3	62.3	62.3	66	0.0	10	---	61.8	0.5	5	-4.5
C57	1	67.0	66.9	71	-0.1	10	---	66.0	0.9	5	-4.1
58	3	65.9	66.0	66	0.1	10	Snd Lvl	63.3	2.7	5	-2.3
63	1	66.3	66.2	66	-0.1	10	Snd Lvl	66.1	0.1	5	-4.9
65	1	65.2	65.2	66	0.0	10	---	65.0	0.2	5	-4.8
66	1	69.6	69.1	66	-0.5	10	Snd Lvl	68.9	0.2	5	-4.8
67	1	71.5	70.7	66	-0.8	10	Snd Lvl	69.5	1.2	5	-3.8
118	3	67.7	67.8	66	0.1	10	Snd Lvl	63.7	4.1	5	-0.9
143	2	65.6	65.5	66	-0.1	10	---	65.4	0.1	5	-4.9
155	1	54.1	53.8	66	-0.3	10	---	53.6	0.2	5	-4.8
156	1	53.5	53.1	66	-0.4	10	---	53.0	0.1	5	-4.9
157	1	55.5	55.2	66	-0.3	10	---	55.2	0.0	5	-5.0
158	1	54.3	54.0	66	-0.3	10	---	53.9	0.1	5	-4.9
159	1	59.2	59.1	66	-0.1	10	---	59.1	0.0	5	-5.0
160	1	60.7	60.7	66	0.0	10	---	60.7	0.0	5	-5.0
161	1	61.7	61.7	66	0.0	10	---	61.7	0.0	5	-5.0
162	1	63.1	63.2	66	0.1	10	---	63.2	0.0	5	-5.0
163	1	68.3	68.3	66	0.0	10	Snd Lvl	67.9	0.4	5	-4.6
164	4	67.6	67.6	66	0.0	10	Snd Lvl	65.7	1.9	5	-3.1
165	1	67.3	67.3	66	0.0	10	Snd Lvl	64.2	3.1	5	-1.9
167	4	70.3	70.3	66	0.0	10	Snd Lvl	66.8	3.5	5	-1.5

RESULTS: SOUND LEVELS

										Supplemental EIS US160/550 Grandview				
C326	169	1	61.1	60.9	66	-0.2	10	---	60.9	0.0	5	-5.0		
Grand4	171	1	57.1	56.7	66	-0.4	10	---	56.9	-0.2	5	-5.2		
56a	173	1	61.4	61.3	66	-0.1	10	---	60.9	0.4	5	-4.6		
58a	174	1	66.7	65.7	66	0.0	10	---	64.6	1.1	5	-3.9		
58b	175	1	67.0	67.0	66	0.0	10	Std Lvl	64.3	2.7	5	-2.3		
311	176	1	60.2	60.2	66	0.0	10	---	60.2	0.0	5	-5.0		
312a	177	1	61.6	61.5	66	-0.1	10	---	61.5	0.0	5	-5.0		
C325	178	1	62.5	62.3	66	-0.2	10	---	62.2	0.1	5	-4.9		
Dwelling Units		# DUS	Noise Reduction											
			Min	Avg	Max									
			dB	dB	dB									
All Selected		44	-0.2	0.8	4.1									
All Impacted		20	0.1	2.0	4.1									
All that meet NRR Goal		0	0.0	0.0	0.0									

RESULTS: SOUND LEVELS

Supplemental EIS US160/550 Grandview

Root filename: SEISModG
jts 110506 walls southside frontage rd

MIT 1d
Supplemental EIS US160/550 Grandview
MIT1a walls along ramp 18ft X10LO
INPUT HEIGHTS

9 May 2011
TNM 2.5
Calculated with TNM 2.5

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

ATMOSPHERICS:
Receiver 68 deg F, 50% RH

No.	#DUS	Existing LAeq1h	No Barrier		Increase over existing		Type Impact	With Barrier		Noise Reduction	Calculated minus Goal
			LAeq1h	Crit'n	Calculated	Crit'n Sub'l Inc		LAeq1h	Calculated		
		dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
52	1	62.9	62.8	66	-0.1	10	---	61.5	1.3	5	-3.7
55	1	61.4	61.4	66	0.0	10	---	60.4	1.0	5	-4.0
56	3	62.3	62.4	66	0.1	10	---	60.4	2.0	5	-3.0
C57	1	67.0	67.2	71	0.2	10	---	61.7	5.5	5	0.5
58	3	65.9	66.0	66	0.1	10	Snd Lvl	61.2	4.8	5	-0.2
63	1	66.3	66.2	66	-0.1	10	Snd Lvl	65.8	0.4	5	-4.6
65	1	65.2	65.1	66	-0.1	10	---	64.9	0.2	5	-4.8
66	1	69.6	69.1	66	-0.5	10	Snd Lvl	68.4	0.7	5	-4.3
67	1	71.5	70.7	66	-0.8	10	Snd Lvl	66.5	4.2	5	-0.8
118	3	67.7	67.8	66	0.1	10	Snd Lvl	60.9	6.9	5	1.9
119	2	65.6	65.9	66	0.3	10	---	63.0	2.9	5	-2.1
304	1	54.1	53.7	66	-0.4	10	---	53.6	0.1	5	-4.9
305	1	53.5	53.1	66	-0.4	10	---	52.9	0.2	5	-4.8
306	1	55.5	55.2	66	-0.3	10	---	55.1	0.1	5	-4.9
307	1	54.3	53.9	66	-0.4	10	---	53.8	0.1	5	-4.9
309	1	59.2	59.1	66	-0.1	10	---	59.1	0.0	5	-5.0
310	1	60.7	60.6	66	-0.1	10	---	60.6	0.0	5	-5.0
312	1	61.7	61.7	66	0.0	10	---	61.6	0.1	5	-4.9
315	1	63.1	63.1	66	0.0	10	---	63.0	0.1	5	-4.9
318	1	68.3	68.3	66	0.0	10	Snd Lvl	67.1	1.2	5	-3.8
320	4	67.6	67.5	66	-0.1	10	Snd Lvl	63.9	3.6	5	-1.4
322	1	67.3	67.3	66	0.0	10	Snd Lvl	62.0	5.3	5	0.3
323	4	70.3	70.4	66	0.1	10	Snd Lvl	64.1	6.3	5	1.3

feasible
5586
Obtain + mark C&I

RESULTS: SOUND LEVELS

Dwelling Units	# DUS	Noise Reduction				Supplemental EIS US160/550 Grandview											
		Min		Avg		Max											
		dB	dB	dB	dB	dB	dB										
C326	1	61.1	60.9	66	-0.2	10	---	60.9	0.0	5	-5.0						
Grand4	1	57.1	56.8	66	-0.3	10	---	56.5	0.3	5	-4.7						
56a	1	61.4	61.4	66	0.0	10	---	59.6	1.8	5	-3.2						
58a	1	65.7	65.7	66	0.0	10	---	63.0	2.7	5	-2.3						
58b	1	67.0	67.0	66	0.0	10	Snd Lvl	62.7	4.3	5	-0.7						
311	1	60.2	60.1	66	-0.1	10	---	60.1	0.0	5	-5.0						
312a	1	61.6	61.4	66	-0.2	10	---	61.4	0.0	5	-5.0						
C325	1	62.5	62.3	66	-0.2	10	---	62.2	0.1	5	-4.9						
All Selected		44	0.0	1.8	6.9												
All Impacted		20	0.4	3.8	6.9												
All that meet NR Goal		9	5.3	6.0	6.9												

RESULTS: SOUND LEVELS

Root filename: SEISModG
jts 110506 walls southside frontage rd

RESULTS: SOUND LEVELS
PROJECT/CONTRACT:

RUN:
BARRIER DESIGN:

ATMOSPHERICS:

68 deg F, 50% RH

9 May 2011
TNM 2.5
Calculated with TNM 2.5

MIT1d
Supplemental EIS US160/550 Grandview
MIT1a walls along ramp 16ft x1020
INPUT HEIGHTS

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type		With Barrier		Calculated minus Goal dB	
			LAeq1h dBA	LAeq1h dBA	LAeq1h dBA	Crit'n dBA	Calculated dB	Crit'n dB	Impact	Calculated LAeq1h dBA	Calculated dB	Goal dB		
52		56	1	62.9	62.8	66	66	-0.1	10	---	61.9	0.9	5	-4.1
55		60	1	61.4	61.4	66	66	0.0	10	---	60.6	0.8	5	-4.2
56		61	3	62.3	62.4	66	66	0.1	10	---	61.2	1.2	5	-3.8
C57		90	1	67.0	67.1	71	71	0.1	10	---	63.1	4.0	5	-1.0
58		91	3	65.9	66.0	66	66	0.1	10	Snd Lvl	62.6	3.4	5	-1.6
63		92	1	66.3	66.2	66	66	-0.1	10	Snd Lvl	66.0	0.2	5	-4.8
65		93	1	65.2	65.1	66	66	-0.1	10	---	65.0	0.1	5	-4.9
66		94	1	69.6	69.1	66	66	-0.5	10	Snd Lvl	68.8	0.3	5	-4.7
67		95	1	71.5	70.7	66	66	-0.8	10	Snd Lvl	68.8	1.9	5	-3.1
118		142	3	67.7	67.8	66	66	0.1	10	Snd Lvl	62.0	5.8	5	0.8
119		143	2	65.6	65.9	66	66	0.3	10	---	63.5	2.4	5	-2.6
304		155	1	54.1	53.7	66	66	-0.4	10	---	53.6	0.1	5	-4.9
305		156	1	53.5	53.1	66	66	-0.4	10	---	52.9	0.2	5	-4.8
306		157	1	55.5	55.2	66	66	-0.3	10	---	55.1	0.1	5	-4.9
307		158	1	54.3	53.9	66	66	-0.4	10	---	53.8	0.1	5	-4.9
309		159	1	59.2	59.1	66	66	-0.1	10	---	59.1	0.0	5	-5.0
310		160	1	60.7	60.6	66	66	-0.1	10	---	60.7	-0.1	5	-5.1
312		161	1	61.7	61.7	66	66	0.0	10	---	61.7	0.0	5	-5.0
315		162	1	63.1	63.1	66	66	0.0	10	---	63.2	-0.1	5	-5.1
318		163	1	68.3	68.2	66	66	-0.1	10	Snd Lvl	67.7	0.5	5	-4.5
320		164	4	67.6	67.5	66	66	-0.1	10	Snd Lvl	65.1	2.4	5	-2.6
322		165	1	67.3	67.3	66	66	0.0	10	Snd Lvl	63.5	3.8	5	-1.2
323		167	4	70.3	70.4	66	66	0.1	10	Snd Lvl	65.7	4.7	5	-0.3

RESULTS: SOUND LEVELS

										Supplemental EIS US160/550 Grandview				
C326	169	1	61.1	60.9	66	-0.2	10	----	60.9	0.0	5	-5.0		
Grand4	171	1	57.1	56.8	66	-0.3	10	----	56.6	0.2	5	-4.8		
56a	173	1	61.4	61.4	66	0.0	10	----	60.3	1.1	5	-3.9		
58a	174	1	65.7	65.7	66	0.0	10	----	63.8	1.9	5	-3.1		
58b	175	1	67.0	67.0	66	0.0	10	Snd Lvl	64.0	3.0	5	-2.0		
311	176	1	60.2	60.1	66	-0.1	10	----	60.2	-0.1	5	-5.1		
312a	177	1	61.6	61.4	66	-0.2	10	----	61.4	0.0	5	-5.0		
C325	178	1	62.5	62.3	66	-0.2	10	----	62.2	0.1	5	-4.9		
Dwelling Units		# DUS	Noise Reduction											
			Min	Avg	Max									
			dB	dB	dB									
All Selected		44	-0.1	1.3	5.8									
All Impacted		20	0.2	2.6	5.8									
All that meet NLR Goal		3	5.8	5.8	5.8									

RESULTS: SOUND LEVELS

Root filename: SEISModG
jts 110506 walls southside frontage rd

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Supplemental EIS US160/550 Grandview

RUN: MIT1a walls along ramp **14 ft**

BARRIER DESIGN: INPUT HEIGHTS

ATMOSPHERICS: 68 deg F, 50% RH

Supplemental EIS US160/550 Grandview

9 May 2011

TNM 2.5

Calculated with TNM 2.5

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal		
			L _{Aeq1h}	dBA	L _{Aeq1h}	Calculated	Crit'n	Calculated		L _{Aeq1h}	Noise Reduction			
52		56	1	62.9	62.8	66	66	-0.1	10	---	62.4	0.4	5	-4.6
55		60	1	61.4	61.4	66	66	0.0	10	---	61.2	0.2	5	-4.8
56		61	3	62.3	62.3	66	66	0.0	10	---	61.7	0.6	5	-4.4
C57		90	1	67.0	67.1	71	71	0.1	10	---	64.1	3.0	5	-2.0
58		91	3	65.9	66.0	66	66	0.1	10	Snd Lvl	63.8	2.4	5	-2.6
63		92	1	66.3	66.2	66	66	-0.1	10	Snd Lvl	66.1	0.1	5	-4.9
65		93	1	65.2	65.1	66	66	-0.1	10	---	65.1	0.0	5	-5.0
66		94	1	69.6	69.1	66	66	-0.5	10	Snd Lvl	69.0	0.1	5	-4.9
67		95	1	71.5	70.7	66	66	-0.8	10	Snd Lvl	70.1	0.6	5	-4.4
118		142	3	67.7	67.8	66	66	0.1	10	Snd Lvl	63.5	4.3	5	-0.7
119		143	2	65.6	65.8	66	66	0.2	10	---	64.3	1.5	5	-3.5
304		155	1	54.1	53.7	66	66	-0.4	10	---	53.6	0.1	5	-4.9
305		156	1	53.5	53.1	66	66	-0.4	10	---	53.0	0.1	5	-4.9
306		157	1	55.5	55.2	66	66	-0.3	10	---	55.2	0.0	5	-5.0
307		158	1	54.3	53.9	66	66	-0.4	10	---	53.9	0.0	5	-5.0
309		159	1	59.2	59.1	66	66	-0.1	10	---	59.1	0.0	5	-5.0
310		160	1	60.7	60.6	66	66	-0.1	10	---	60.7	-0.1	5	-5.1
312		161	1	61.7	61.7	66	66	0.0	10	---	61.7	0.0	5	-5.0
315		162	1	63.1	63.1	66	66	0.0	10	---	63.2	-0.1	5	-5.1
318		163	1	68.3	68.2	66	66	-0.1	10	Snd Lvl	68.0	0.2	5	-4.8
320		164	4	67.6	67.5	66	66	-0.1	10	Snd Lvl	66.2	1.3	5	-3.7
322		165	1	67.3	67.3	66	66	0.0	10	Snd Lvl	64.7	2.6	5	-2.4
323		167	4	70.3	70.4	66	66	0.1	10	Snd Lvl	68.0	2.4	5	-2.6

Handwritten notes:
 10/1/11
 M...
 10/1/11

RESULTS: SOUND LEVELS

Dwelling Units	# DUs	Noise Reduction			Supplemental EIS US160/550 Grandview						
		Min	Avg	Max	dB	dB	dB	dB	dB		
		dB	dB	dB							
C326	1	61.1	60.9	66	-0.2	10	---	60.9	0.0	5	-5.0
Grand4	1	57.1	56.7	66	-0.4	10	---	56.8	-0.1	5	-5.1
56a	1	61.4	61.4	66	0.0	10	---	60.8	0.6	5	-4.4
58a	1	65.7	65.7	66	0.0	10	---	64.5	1.2	5	-3.8
58b	1	67.0	67.0	66	0.0	10	Snd Lvl	65.0	2.0	5	-3.0
311	1	60.2	60.1	66	-0.1	10	---	60.3	-0.2	5	-5.2
312a	1	61.6	61.4	66	-0.2	10	---	61.5	-0.1	5	-5.1
C325	1	62.5	62.3	66	-0.2	10	---	62.2	0.1	5	-4.9
All Selected	44	-0.2	0.7	4.3							
All Impacted	20	0.1	1.6	4.3							
All that meet NR Goal	0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

Root filename: SEISModG
jts 110506 walls southside frontage rd

RESULTS: SOUND LEVELS
PROJECT/CONTRACT:

RUN:
BARRIER DESIGN:

ATMOSPHERICS:

68 deg F, 50% RH

Supplemental EIS US160/550 Grandview
MIT1a walls along ramp ^{12ft}
INPUT HEIGHTS

13ft

Average pavement type shall be used unless
a State highway agency substantiates the use
of a different type with approval of FHWA.

Receiver	No.	#DUs	Existing LAeq1h	No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal	
				LAeq1h	Calculated	Crit'n	Calculated		Crit'n	LAeq1h		Calculated
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	
52		56	1	62.9	62.8	66	-0.1	10	62.5	0.3	5	-4.7
55		60	1	61.4	61.4	66	0.0	10	61.2	0.2	5	-4.8
56		61	3	62.3	62.3	66	0.0	10	61.9	0.4	5	-4.6
C57		90	1	67.0	67.1	71	0.1	10	64.7	2.4	5	-2.6
58		91	3	65.9	66.0	66	0.1	10	64.3	1.7	5	-3.3
63		92	1	66.3	66.2	66	-0.1	10	66.1	0.1	5	-4.9
65		93	1	65.2	65.1	66	-0.1	10	65.1	0.0	5	-5.0
66		94	1	69.6	69.1	66	-0.5	10	69.0	0.1	5	-4.9
67		95	1	71.5	70.7	66	-0.8	10	70.4	0.3	5	-4.7
118		142	3	67.7	67.8	66	0.1	10	64.1	3.7	5	-1.3
119		143	2	65.6	65.8	66	0.2	10	64.6	1.2	5	-3.8
304		155	1	54.1	53.7	66	-0.4	10	53.7	0.0	5	-5.0
305		156	1	53.5	53.1	66	-0.4	10	53.0	0.1	5	-4.9
306		157	1	55.5	55.2	66	-0.3	10	55.2	0.0	5	-5.0
307		158	1	54.3	53.9	66	-0.4	10	53.9	0.0	5	-5.0
309		159	1	59.2	59.1	66	-0.1	10	59.1	0.0	5	-5.0
310		160	1	60.7	60.6	66	-0.1	10	60.8	-0.2	5	-5.2
312		161	1	61.7	61.7	66	0.0	10	61.7	0.0	5	-5.0
315		162	1	63.1	63.1	66	0.0	10	63.3	-0.2	5	-5.2
318		163	1	68.3	68.2	66	-0.1	10	68.0	0.2	5	-4.8
320		164	4	67.6	67.5	66	-0.1	10	66.7	0.8	5	-4.2
322		165	1	67.3	67.3	66	0.0	10	65.5	1.8	5	-3.2
323		167	4	70.3	70.3	66	0.0	10	68.9	1.4	5	-3.6

Maximum of predicted noise reduction

RESULTS: SOUND LEVELS

	169	1	61.1	60.9	66	Supplemental EIS US160/550 Grandview									
						-0.2	10	----	60.9	0.0	5	-5.0			
C326	171	1	57.1	56.7	66	-0.4	10	----	56.8	-0.1	5	-5.1			
Grand4	173	1	61.4	61.4	66	0.0	10	----	61.0	0.4	5	-4.6			
56a	174	1	65.7	65.7	66	0.0	10	----	64.9	0.8	5	-4.2			
58a	175	1	67.0	67.0	66	0.0	10	Snd Lvl	65.5	1.5	5	-3.5			
58b	176	1	60.2	60.1	66	-0.1	10	----	60.3	-0.2	5	-5.2			
311	177	1	61.6	61.4	66	-0.2	10	----	61.5	-0.1	5	-5.1			
312a	178	1	62.5	62.3	66	-0.2	10	----	62.2	0.1	5	-4.9			
C325															
Dwelling Units		# DUs	Noise Reduction												
			Min	Avg	Max										
			dB	dB	dB										
All Selected		44	-0.2	0.5	3.7										
All Impacted		20	0.1	1.2	3.7										
All that meet NR Goal		0	0.0	0.0	0.0										

RESULTS: SOUND LEVELS

Root filename: SEISModG
 jts 110506 walls southside frontage rd

RESULTS: SOUND LEVELS
 PROJECT/CONTRACT:

RUN:
 BARRIER DESIGN:

ATMOSPHERICS:

Supplemental EIS US160/550 Grandview
 MIT1a walls along ramp 12ft
 INPUT HEIGHTS

68 deg F, 50% RH

Supplemental EIS US160/550 Grandview

9 May 2011
 TNM 2.5
 Calculated with TNM 2.5

Average pavement type shall be used unless
 a State highway agency substantiates the use
 of a different type with approval of FHWA.

*Insufficient
 reduction
 not possible*

Receiver	Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type		With Barrier		Noise Reduction		Calculated minus Goal	dB
				LAeq1h	dB	LAeq1h	dB	Calculated	Crit'n	Calculated	Crit'n	Impact	Calculated	Goal	Calculated		
		52	1	62.9	66	62.8	66	-0.1	10	---	10	62.8	0.0	5	-5.0		
		55	1	61.4	66	61.4	66	0.0	10	---	10	61.2	0.2	5	-4.8		
		56	3	62.3	66	62.3	66	0.0	10	---	10	62.0	0.3	5	-4.7		
		C57	1	67.0	71	67.1	71	0.1	10	---	10	65.2	1.9	5	-3.1		
		58	3	65.9	66	65.9	66	0.0	10	---	10	64.6	1.3	5	-3.7		
		63	1	66.3	66	66.2	66	-0.1	10	Snd Lvl	10	66.2	0.0	5	-5.0		
		65	1	65.2	66	65.1	66	-0.1	10	---	10	65.2	-0.1	5	-5.1		
		66	1	69.6	66	69.1	66	-0.5	10	Snd Lvl	10	69.1	0.0	5	-5.0		
		67	1	71.5	66	70.7	66	-0.8	10	Snd Lvl	10	70.5	0.2	5	-4.8		
		118	3	67.7	66	67.8	66	0.1	10	Snd Lvl	10	65.0	2.8	5	-2.2		
		119	2	65.6	66	65.8	66	0.2	10	---	10	65.1	0.7	5	-4.3		
		304	1	54.1	66	53.7	66	-0.4	10	---	10	53.7	0.0	5	-5.0		
		305	1	53.5	66	53.1	66	-0.4	10	---	10	53.0	0.1	5	-4.9		
		306	1	55.5	66	55.2	66	-0.3	10	---	10	55.2	0.0	5	-5.0		
		307	1	54.3	66	53.9	66	-0.4	10	---	10	53.9	0.0	5	-5.0		
		309	1	59.2	66	59.1	66	-0.1	10	---	10	59.2	-0.1	5	-5.1		
		310	1	60.7	66	60.6	66	-0.1	10	---	10	60.8	-0.2	5	-5.2		
		312	1	61.7	66	61.7	66	0.0	10	---	10	61.8	-0.1	5	-5.1		
		315	1	63.1	66	63.1	66	0.0	10	---	10	63.3	-0.2	5	-5.2		
		318	1	68.3	66	68.2	66	-0.1	10	Snd Lvl	10	68.2	0.0	5	-5.0		
		320	4	67.6	66	67.5	66	-0.1	10	Snd Lvl	10	67.0	0.5	5	-4.5		
		322	1	67.3	66	67.3	66	0.0	10	Snd Lvl	10	66.0	1.3	5	-3.7		
		323	4	70.3	66	70.3	66	0.0	10	Snd Lvl	10	69.6	0.7	5	-4.3		

RESULTS: SOUND LEVELS

				Noise Reduction				Supplemental EIS US160/550 Grandview				
				Min dB	Avg dB	Max dB						
C326	169	1	61.1	60.9	66	-0.2	10	---	60.9	0.0	5	-5.0
Grand4	171	1	57.1	56.7	66	-0.4	10	---	56.9	-0.2	5	-5.2
56a	173	1	61.4	61.4	66	0.0	10	---	61.1	0.3	5	-4.7
58a	174	1	65.7	65.7	66	0.0	10	---	65.1	0.6	5	-4.4
58b	175	1	67.0	67.0	66	0.0	10	Snd Lvl	66.0	1.0	5	-4.0
311	176	1	60.2	60.1	66	-0.1	10	---	60.3	-0.2	5	-5.2
312a	177	1	61.6	61.4	66	-0.2	10	---	61.5	-0.1	5	-5.1
C325	178	1	62.5	62.3	66	-0.2	10	---	62.3	0.0	5	-5.0
Dwelling Units		# DUs										
All Selected		44	-0.2	0.3	2.8							
All Impacted		17	0.0	0.7	2.8							
All that meet NR Goal		0	0.0	0.0	0.0							

INPUT: BARRIERS

Supplemental EIS US160/550 Grandview

9 May 2011
TNM 2.5

Root filename: SEISModG
fts 110506 walls southside frontage rd

INPUT: BARRIERS

PROJECT/CONTRACT: Supplemental EIS US160/550 Grandview
RUN: MIT1a walls along ramp 12ft

Barrier Name	Type	Height		If Wall \$ per Unit Area	If Berm \$ per Unit Vol.	Top Width	Run:Rise	Add'l \$ per Unit Length	Points			Coordinates (bottom)			Height at Point	Segment			Important Reflec-tions?			
		Min	Max						Name	No.	X	Y	Z	Incre- ment		#Up	#Dn	Struct?		On		
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft		ft	ft	ft	ft	ft								
Barrier3	W	0.00	99.99	0.00				0.00		point12	12	2,322,680.0	1,213,531.0	6,706.00	20.00	0.00	0	0				
										point13	13	2,322,879.8	1,213,497.0	6,710.00	20.00	0.00	0	0				
										point14	14	2,323,017.8	1,213,469.6	6,719.00	20.00	0.00	0	0				
										point15	15	2,323,148.0	1,213,436.0	6,722.00	15.00	0.00	0	0				
										point16	16	2,323,280.5	1,213,397.9	6,725.00	15.00	0.00	0	0				
										point17	17	2,323,429.8	1,213,348.8	6,755.00	10.00	0.00	0	0				
										point18	18	2,323,575.0	1,213,286.2	6,755.00	10.00							
MIT 1c	W	0.00	99.99	0.00				0.00		point28	28	2,323,583.2	1,213,293.4	6,752.00	12.00	2.00	0	0				
										point29	29	2,323,990.2	1,213,144.5	6,759.00	12.00	2.00	0	0				
										point30	30	2,324,300.2	1,213,039.1	6,760.00	12.00	2.00	0	0				
										point36	36	2,324,602.2	1,212,953.9	6,763.00	12.00	2.00	0	0				
										point31	31	2,324,936.2	1,212,879.0	6,766.00	12.00	2.00	0	0				

