

MIT6 along East Alignment R13e-R18e

MIT6		12ftx900ft along US59		12 x 460		20x460	
13e	1	8.1	8.1	6.4	6.4	7.1	
14e	1	3.7		<3		<3	
15e/16e	2	<3		<3		<3	
17e/18e	2	<3		<3		<3	
			8.1		6.4		7.1
Wall Ht	Wall Length	Unit Cost	Decibel Req	CBI			
12	900	45	8.1	\$60,000	MIT6		
12	460	45 *					
14	600	45 *					
14	460	45 *					
20	460	45	7.1	\$58,310			

*Could not achieve 7 dBA minimum at 1 receptor

2011 Guidelines

MIT6 along East Alignment R13e-R18e

MIT6	12ftx900ft along USS9	12 x 460	20x460
13e	1	8.1	6.4
14e	1	3.7	6.4
15e/16e	2	<3	<3
17e/18e	2	<3	<3
Wall Ht	Wall Length	Unit Cost	Decibel Re[CBI
12	900	11.8	11.8
12	460	6.4	6.4
14	600	6.8	6.4
14	460	6.8	6.4
20	460	7.1	7.1

MIT6

12	900	11.8	\$27,458
12	460	6.4	\$25,875
14	600	6.8	\$37,059
14	460	6.8	\$28,412
20	460	7.1	\$38,873

*Could not achieve 5 dBA minimum at 1 receptor

2002 Guidelines

MIT6

RESULTS: SOUND LEVELS

Supplemental EIS US160/550 Grandview

CDOT filename: MIT6

19 May 2011

jts 110519 2030traffic 4f reeval;220count

TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

Supplemental EIS US160/550 Grandview

2030 MIT6 on East Alignt 20 x 460

INPUT HEIGHTS

BARRIER DESIGN:

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

ATMOSPHERICS: 68 deg F, 50% RH

Receiver	Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal		
				LAEq1h	dBA	LAEq1h	dBA	Calculated	Crit'n		Calculated	LAEq1h		Calculated	Goal
300		121	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
301		122	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
302		123	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
312a		145	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
1E		167	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
2E		168	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
3E		169	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
4E		170	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
5E		171	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
6E		172	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
7E		173	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
8E		174	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
9E		175	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
10E		176	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
11E		177	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
12E		178	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
13E		179	1	63.6	63.6	56.5	56.5	-7.1	-7.1	10	---	56.5	56.5	7	-7.0
14E		180	1	55.1	55.1	52.6	52.6	-2.5	-2.5	10	---	52.6	52.6	7	-7.0
15E		181	1	46.3	46.3	45.7	45.7	-0.6	-0.6	10	---	45.7	45.7	7	-7.0
16E		182	1	44.8	44.8	44.1	44.1	-0.7	-0.7	10	---	44.1	44.1	7	-7.0
17E		183	1	47.9	47.9	47.2	47.2	-0.7	-0.7	10	---	47.2	47.2	7	-7.0
18E		184	1	0.0	0.0	0.0	0.0	0.0	0.0	10	inactive	0.0	0.0	7	0.0
19E		185	1	64.0	64.0	64.0	64.0	0.0	0.0	10	---	64.0	64.0	7	-7.0

RESULTS: SOUND LEVELS

									Supplemental EIS US 160/550 Grandview			
20E	186	1	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0
21E	187	1	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0
22E	188	1	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0
24E	165	1	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0
23E	190	1	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0
Dwelling Units												
		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		28	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NLR Goal		0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS

Supplemental EIS US160/550 Grandview

CDOT filename: MIT6

19 May 2011

jfs_110519_2030traffic_4f_reeval;220count

TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Supplemental EIS US160/550 Grandview

RUN: 2030 MIT6 on East Aligmt 14x 600

BARRIER DESIGN: INPUT HEIGHTS

ATMOSPHERICS: 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.

Receiver Name	#DUs	Existing LAeq1h	No Barrier		Increase over existing		Type Impact	With Barrier		Calculated minus Goal		
			LAeq1h	Crit'n	Calculated	Crit'n Sub'l Inc		Calculated LAeq1h	Noise Reduction			
		dBA	dBA	dBA	dBA	dBA		dBA	dB	dB		
300	121	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
301	122	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
302	123	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
312a	145	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
1E	167	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
2E	168	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
3E	169	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
4E	170	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
5E	171	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
6E	172	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
7E	173	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
8E	174	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
9E	175	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
10E	176	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
11E	177	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
12E	178	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
13E	179	63.6	56.8	56.8	66	-6.8	10	----	56.8	0.0	7	-7.0
14E	180	55.1	52.3	52.3	66	-2.8	10	----	52.3	0.0	7	-7.0
15E	181	46.3	45.7	45.7	66	-0.6	10	----	45.7	0.0	7	-7.0
16E	182	44.8	44.2	44.2	66	-0.6	10	----	44.2	0.0	7	-7.0
17E	183	47.9	47.3	47.3	66	-0.6	10	----	47.3	0.0	7	-7.0
18E	184	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
19E	185	64.0	64.0	64.0	66	0.0	10	----	64.0	0.0	7	-7.0

RESULTS: SOUND LEVELS

						Supplemental EIS US160/550 Grandview									
20E	186	1	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0			
21E	187	1	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0			
22E	188	1	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0			
24E	165	1	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0			
23E	190	1	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0			
Dwelling Units		# DUs	Noise Reduction												
			Min	Avg	Max										
			dB	dB	dB										
All Selected		28	0.0	0.0	0.0										
All Impacted		0	0.0	0.0	0.0										
All that meet NR Goal		0	0.0	0.0	0.0										

INPUT: BARRIERS

Supplemental EIS US160/550 Grandview

19 May 2011
TNM 2.5

CDOT filename: MIT6
Its 110519 2030traffic 4f reeval;220coun

INPUT: BARRIERS

Supplemental EIS US160/550 Grandview
2030 MIT6 on East Aligmnt 14x 600

PROJECT/CONTRACT:

RUN:

Barrier Name	Type	Height		If Wall \$ per Unit Area \$/sq ft	If Berm \$ per Unit Vol. \$/cu yd ft	Top Width ft	Run:Rise ft:ft	Add'tnl \$ per Unit Length \$/ft	Coordinates (bottom)			Height at Point ft	Segment Ince- ment ft	Seg Ht Perturbs #Up #Dn	On Struct?	Important Reflec- tions?	
		Min ft	Max ft						X ft	Y ft	Z ft						
MIT6	W	0.00	98.99	0.00				0.00	point23	23	2,322,212.8	1,205,381.8	6,809.00	14.00	0.00	0	0
									point24	24	2,322,305.8	1,205,488.5	6,822.00	14.00	0.00	0	0
									point25	25	2,322,413.0	1,205,606.2	6,826.00	14.00	0.00	0	0
									point26	26	2,322,502.5	1,205,701.9	6,830.00	14.00	0.00	0	0
									point28	28	2,322,611.8	1,205,835.9	6,840.00	14.00	0.00	0	0

RESULTS: SOUND LEVELS

Supplemental EIS US160/550 Grandview

CDOT filename: MIT6

19 May 2011

its 110519 2030traffic 4f reeval;220count

TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

Supplemental EIS US160/550 Grandview

2030 MIT6 on East Alignmt 12x 460

BARRIER DESIGN: INPUT HEIGHTS

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

ATMOSPHERICS:

68 deg F, 50% RH

Receiver	Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact		With Barrier		Calculated minus Goal	
				L _{Aeq} 1h	dBA	L _{Aeq} 1h	dBA	Calculated	Crit'n	Calculated	Crit'n	Calculated	dB		Calculated
300				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
301				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
302				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
312a				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
1E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
2E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
3E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
4E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
5E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
6E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
7E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
8E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
9E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
10E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
11E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
12E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
13E				1	63.6	63.6	57.2	66	-6.4	10	---	57.2	0.0	7	-7.0
14E				1	55.1	55.1	52.9	66	-2.2	10	---	52.9	0.0	7	-7.0
15E				1	46.3	46.3	45.9	66	-0.4	10	---	45.9	0.0	7	-7.0
16E				1	44.8	44.8	44.4	66	-0.4	10	---	44.4	0.0	7	-7.0
17E				1	47.9	47.9	47.4	66	-0.5	10	---	47.4	0.0	7	-7.0
18E				1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0
19E				1	64.0	64.0	64.0	66	0.0	10	---	64.0	0.0	7	-7.0

RESULTS: SOUND LEVELS

										Supplemental EIS US160/550 Grandview			
20E	186	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0	
21E	187	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0	
22E	188	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0	
24E	165	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0	
23E	190	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	7	0.0	
Dwelling Units													
		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		28	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NRR Goal		0	0.0	0.0	0.0								

INPUT: BARRIERS

Supplemental EIS US160/550 Grandview

19 May 2011
TNM 2.5

CDOT filename: MIT6
Its 110519 2030traffic 4f reeval;220count

INPUT: BARRIERS

PROJECT/CONTRACT: Supplemental EIS US160/550 Grandview
RUN: 2030 MIT6 on East Alignmt 12x 460

Barrier Name	Type	Height		If Wall \$ per Unit Area	If Berm \$ per Unit Vol.	Top Width	Run:Rise	Add'l Length \$/ft	Name	No.	Coordinates (bottom)			Height at Point	Segment Increase	Seg Ht Perturbs #Up #Dn	On Struct?	Important Reflec-tions?
		Min	Max								X	Y	Z					
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft				
MIT6	W	0.00	99.99	0.00				0.00	point23	23	2,322,206.0	1,205,368.0	6,809.00	12.00	0.00	0	0	
									point24	24	2,322,305.8	1,205,466.5	6,822.00	12.00	0.00	0	0	
									point25	25	2,322,413.0	1,205,606.2	6,826.00	12.00	0.00	0	0	
									point26	26	2,322,502.5	1,205,701.9	6,830.00	12.00	0.00	0	0	
									point28	28	2,322,550.0	1,205,758.8	6,840.00	12.00	0.00	0	0	

RESULTS: SOUND LEVELS

Supplemental EIS US160/550 Grandview

CDOT filename: MIT6

19 May 2011

Its 110519 2030traffic 4f reeval:220count

TNM 2.5

Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: Supplemental EIS US160/550 Grandview

RUN: 2030 MIT6 on East Alignmt

BARRIER DESIGN: INPUT HEIGHTS

ATMOSPHERICS: 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.

Receiver	Name	No.	#DUs	Existing		No Barrier		Increase over existing		Type Impact	With Barrier		Noise Reduction				
				L _{Aeq1h}	dBA	L _{Aeq1h}	dBA	Calculated	Crit'n		Calculated	dBA	Calculated	dBA	Calculated	Goal	Calculated minus Goal
300			121	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
301			122	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
302			123	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
312a			145	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
1E			167	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
2E			168	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
3E			169	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
4E			170	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
5E			171	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
6E			172	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
7E			173	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
8E			174	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
9E			175	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
10E			176	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
11E			177	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
12E			178	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
13E			179	1	63.6	63.6	55.5	66	-8.1	10	---	55.5	55.5	0.0	7	-7.0	-7.0
14E			180	1	55.1	55.1	51.4	66	-3.7	10	---	51.4	51.4	0.0	7	-7.0	-7.0
15E			181	1	46.3	46.3	45.6	66	-0.7	10	---	45.6	45.6	0.0	7	-7.0	-7.0
16E			182	1	44.8	44.8	44.1	66	-0.7	10	---	44.1	44.1	0.0	7	-7.0	-7.0
17E			183	1	47.9	47.9	47.1	66	-0.8	10	---	47.1	47.1	0.0	7	-7.0	-7.0
18E			184	1	0.0	0.0	0.0	66	0.0	10	inactive	0.0	0.0	0.0	7	0.0	0.0
19E			185	1	64.0	64.0	64.0	66	0.0	10	---	64.0	64.0	0.0	7	-7.0	-7.0

RESULTS: SOUND LEVELS

										Supplemental EIS US-160/550 Grandview			
20E	186	1	0.0	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0
21E	187	1	0.0	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0
22E	188	1	0.0	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0
24E	165	1	0.0	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0
23E	190	1	0.0	0.0	0.0	66	0.0	10	Inactive	0.0	0.0	7	0.0
Dwelling Units													
		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		28	0.0	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0	0.0							

INPUT: BARRIERS

Supplemental EIS US 160/550 Grandview

19 May 2011
TNM 2.5

CDOT filename: MIT6
jts 110519 2030traffic.4f reeval;220count

INPUT: BARRIERS

Supplemental EIS US160/550 Grandview
2030 MIT6 on East Alignmt

PROJECT/CONTRACT:

RUN:

Barrier Name	Type	Height		If Wall \$ per Unit Area \$/sq ft	If Berm \$ per Unit Vol. \$/cu yd ft	Top Width	Run:Rise	Add'tnl \$ per Unit Length \$/ft	Points			Coordinates (bottom)			Height at Point ft	Segment Incre- ment ft	#Up	#Dn	On Struct?	Important Reflec- tions?
		Min ft	Max ft						Name	No.	X ft	Y ft	Z ft							
MIT6	W	0.00	99.99	0.00				0.00	point23	23	2,322,099.8	1,205,242.8	6,809.00	12.00	0.00	0	0			
									point24	24	2,322,287.0	1,205,460.8	6,822.00	12.00	0.00	0	0			
									point25	25	2,322,392.2	1,205,578.9	6,826.00	12.00	0.00	0	0			
									point26	26	2,322,502.5	1,205,701.9	6,830.00	12.00	0.00	0	0			
									point27	27	2,322,625.8	1,205,848.1	6,836.00	12.00	0.00	0	0			
									point28	28	2,322,692.2	1,205,925.1	6,840.00	12.00	0.00	0	0			

