

## ***APPENDIX C***

### ***TNM Input/Output***

**RESULTS: SOUND LEVELS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

23 May 2005  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Validation Data 1  
**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 LAeq1h dBA	No Barrier			Increase over existing			Type Impact	With Barrier					
				LAeq1h Calculated dBA	Crit'n dBA	66	Calculated dB	Crit'n dB	Sub'l Inc		15	Snd Lvl	Calculated LAeq1h dBA	Noise Reduction		
														Calculated dB	Goal dB	Calculated minus Goal dB
Receiver32	32	1	0.0	67.2	66	67.2	15	Snd Lvl	67.2	0.0	5	-5.0				
Dwelling Units		# DUs	Noise Reduction													
			Min	Avg	Max											
			dB	dB	dB											
All Selected		1	0.0	0.0	0.0											
All Impacted		1	0.0	0.0	0.0											
All that meet NR Goal		0	0.0	0.0	0.0											

INPUT: ROADWAYS

118th Avenue Improvements

American Consulting Engineers  
Anna Peterfreund

23 May 2005  
TNM 2.5

INPUT: ROADWAYS

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue Validation Data 1

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

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement)			Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			X	Y	Z		mph	%		
				ft	ft	ft					
Bryan Dairy Rd EB outside lane	20.0	point247	247	423,565.4	1,288,871.8	15.00				Average	
		point248	248	424,286.6	1,289,203.0	15.00				Average	
		point249	249	424,433.3	1,289,270.0	15.00				Average	
		point250	250	424,538.1	1,289,307.8	15.00				Average	
		point251	251	424,668.1	1,289,341.2	15.00				Average	
		point252	252	424,790.8	1,289,356.0	15.00				Average	
		point253	253	425,222.6	1,289,356.0	15.00				Average	
		point254	254	425,498.2	1,289,345.5	15.00				Average	
		point255	255	425,586.3	1,289,337.1	15.00				Average	
		point394	394	426,233.0	1,289,336.0	15.00				Average	
		point257	257	426,621.8	1,289,345.5	15.00				Average	
		point258	258	426,789.5	1,289,353.9	15.00					
Bryan Dairy Rd EB Middle Lane	13.0	point264	264	423,557.1	1,288,884.4	15.00				Average	
		point265	265	424,328.5	1,289,236.5	15.00				Average	
		point266	266	424,466.8	1,289,295.2	15.00				Average	
		point267	267	424,542.3	1,289,324.5	15.00				Average	
		point268	268	424,680.7	1,289,353.9	15.00				Average	
		point269	269	424,806.4	1,289,370.6	15.00				Average	
		point270	270	425,494.0	1,289,361.2	15.00				Average	
		point271	271	425,594.7	1,289,348.8	15.00				Average	
		Bobs point	333	426,152.0	1,289,347.0	15.00				Average	
		point391	391	426,223.0	1,289,350.0	15.00				Average	
		point273	273	426,617.7	1,289,358.1	15.00				Average	
		point274	274	426,793.7	1,289,370.6	15.00					
Bryan Dairy Rd EB Inside Lane	12.0	point277	277	423,552.9	1,288,892.8	15.00				Average	

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point278	278	424,169.2	1,289,173.6	15.00				Average
		point279	279	424,416.5	1,289,286.8	15.00				Average
		point280	280	424,529.8	1,289,332.9	15.00				Average
		point281	281	424,672.3	1,289,366.5	15.00				Average
		point282	282	424,852.6	1,289,383.2	15.00				Average
		point283	283	425,297.0	1,289,379.0	15.00				Average
		point284	284	425,502.4	1,289,370.6	15.00				Average
		point285	285	425,636.6	1,289,358.1	15.00				Average
		point387	387	426,207.0	1,289,360.0	15.00				Average
		point287	287	426,621.8	1,289,370.6	15.00				Average
		point288	288	426,772.8	1,289,383.2	15.00				
Bryan Dairy Rd WB Inside Lane	12.0	newpoint1	359	426,738.1	1,289,410.8	15.00				Average
		point298	298	426,192.0	1,289,401.0	15.00				Average
		point373	348	426,088.0	1,289,400.0	15.00				Average
		point300	300	425,663.0	1,289,402.0	15.00				Average
		point301	301	424,835.7	1,289,406.0	15.00				Average
		point302	302	424,688.2	1,289,393.8	15.00				Average
		point303	303	424,524.4	1,289,352.9	15.00				Average
		point304	304	424,233.6	1,289,225.9	15.00				Average
		point305	305	423,549.6	1,288,910.5	15.00				
Bryan Dairy Rd WB Middle Lane	13.0	point308	308	426,732.1	1,289,422.5	15.00				Average
		point309	309	426,159.0	1,289,415.0	15.00				Average
		point372	349	426,080.0	1,289,413.0	15.00				Average
		point310	310	424,839.8	1,289,418.4	15.00				Average
		point311	311	424,700.5	1,289,406.0	15.00				Average
		point312	312	424,549.0	1,289,369.2	15.00				Average
		point313	313	424,409.7	1,289,319.9	15.00				Average
		point314	314	423,545.5	1,288,918.5	15.00				
Bryan Dairy Rd WB Outside Lane	20.0	point317	317	426,795.7	1,289,437.4	15.00				Average
		Bobs point	341	426,099.0	1,289,428.0	15.00				Average
		point224	342	426,069.0	1,289,428.0	15.00				Average
		point319	319	424,807.5	1,289,429.2	15.00				Average
		point320	320	424,661.9	1,289,412.9	15.00				Average
		point321	321	424,519.3	1,289,376.2	15.00				Average
		point322	322	424,376.8	1,289,319.2	15.00				Average
		point323	323	423,537.9	1,288,932.4	15.00				
Bryan Dairy Road inside left turn lane	13.0	point291	395	425,598.8	1,289,372.1	15.00				Average
		point292	396	426,057.6	1,289,370.2	15.00				

**INPUT: ROADWAYS****118th Avenue Improvements**

Bryan Dairy road outside left turn lane	12.0	point294	397	425,599.8	1,289,383.9	15.00				Average	
		point295	398	426,055.8	1,289,382.1	15.00					
Bryan Dairy Road Right Turn Lane	13.0	point262	399	425,598.8	1,289,324.5	15.00				Average	
		point263	400	426,068.4	1,289,324.5	15.00					

**INPUT: RECEIVERS**

**118th Avenue Improvements**

American Consulting Engineers  
 Anna Peterfreund

23 May 2005  
 TNM 2.5

**INPUT: RECEIVERS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Validation Data 1

**Receiver**

Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	
			ft	ft	ft		ft	dBA	dBA	dB	
Receiver32	32	1	424,973.7	1,289,293.8	15.00	5.00	0.00	66	15.0	5.0	Y

**RESULTS: SOUND LEVELS**

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**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Validation Data 2  
**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 Goal	Calculated minus Goal
			LAeq1h	LAeq1h	LAeq1h	Crit'n	Calculated	Crit'n		Calculated	Crit'n		
			dB	dB	dB	dB	dB	dB		dB	dB		
Receiver32	32	1	0.0	67.2	66	67.2	15	Snd Lvl	67.2	0.0	5	-5.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		1	0.0	0.0	0.0								
All Impacted		1	0.0	0.0	0.0								
All that meet NR Goal		0	0.0	0.0	0.0								

**INPUT: ROADWAYS**

**118th Avenue Improvements**

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**INPUT: ROADWAYS**

**PROJECT/CONTRACT:**

118th Avenue Improvements

**RUN:**

118th Avenue Validation Data 2

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

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement)			Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			X	Y	Z		mph	%		
Bryan Dairy Rd EB outside lane	20.0	point247	247	423,565.4	1,288,871.8	15.00				Average	
		point248	248	424,286.6	1,289,203.0	15.00				Average	
		point249	249	424,433.3	1,289,270.0	15.00				Average	
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Bryan Dairy Rd EB Middle Lane	13.0	point257	257	426,621.8	1,289,345.5	15.00				Average	
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		point372	349	426,080.0	1,289,413.0	15.00				Average
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**INPUT: ROADWAYS****118th Avenue Improvements**

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		point295	398	426,055.8	1,289,382.1	15.00					
Bryan Dairy Road Right Turn Lane	13.0	point262	399	425,598.8	1,289,324.5	15.00				Average	
		point263	400	426,068.4	1,289,324.5	15.00					

**INPUT: RECEIVERS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

23 May 2005  
TNM 2.5

**INPUT: RECEIVERS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Validation Data 2

**Receiver**

Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	
			ft	ft	ft		dBA	dBA	dB	dB	
Receiver32	32	1	424,973.7	1,289,293.8	15.00	5.00	0.00	66	15.0	5.0	Y

**RESULTS: SOUND LEVELS**

**118th Avenue Improvements**

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23 May 2005  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Validation Data 3  
**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 LAeq1h	No Barrier			Increase over existing		Type Impact	With Barrier			
				LAeq1h Calculated	Crit'n		Calculated	Crit'n Sub'l Inc		Calculated LAeq1h	Noise Reduction		Calculated minus Goal
			dB	dB	dB	dB	dB		dB	dB	dB	dB	
Receiver32	32	1	0.0	66.2	66	66.2	15	Snd Lvl	66.2	0.0	5	-5.0	
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
		dB	dB	dB									
All Selected		1	0.0	0.0	0.0								
All Impacted		1	0.0	0.0	0.0								
All that meet NR Goal		0	0.0	0.0	0.0								

INPUT: ROADWAYS

118th Avenue Improvements

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23 May 2005  
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INPUT: ROADWAYS

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue Validation Data 3

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

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement)			Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			X	Y	Z		mph	%		
				ft	ft	ft					
Bryan Dairy Rd EB outside lane	20.0	point247	247	423,565.4	1,288,871.8	15.00				Average	
		point248	248	424,286.6	1,289,203.0	15.00				Average	
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Bryan Dairy Rd WB Outside Lane	20.0	point317	317	426,795.7	1,289,437.4	15.00				Average
		Bobs point	341	426,099.0	1,289,428.0	15.00				Average
		point224	342	426,069.0	1,289,428.0	15.00				Average
		point319	319	424,807.5	1,289,429.2	15.00				Average
		point320	320	424,661.9	1,289,412.9	15.00				Average
		point321	321	424,519.3	1,289,376.2	15.00				Average
		point322	322	424,376.8	1,289,319.2	15.00				Average
		point323	323	423,537.9	1,288,932.4	15.00				
Byran Dairy Road inside left turn lane	13.0	point291	395	425,598.8	1,289,372.1	15.00				Average
		point292	396	426,057.6	1,289,370.2	15.00				

**INPUT: ROADWAYS****118th Avenue Improvements**

Bryan Dairy Road outside left turn lane	12.0	point294	397	425,599.8	1,289,383.9	15.00				Average	
		point295	398	426,055.8	1,289,382.1	15.00					
Bryan Dairy road right turn lane	13.0	point262	399	425,598.8	1,289,324.5	15.00				Average	
		point263	400	426,068.4	1,289,324.5	15.00					

**INPUT: RECEIVERS**

**118th Avenue Improvements**

American Consulting Engineers  
 Anna Peterfreund

23 May 2005  
 TNM 2.5

**INPUT: RECEIVERS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Validation Data 3

**Receiver**

Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	
			ft	ft	ft		dB	dB	dB	dB	
Receiver32	32	1	424,973.7	1,289,293.8	15.00	5.00	0.00	66	15.0	5.0	Y



**RESULTS: SOUND LEVELS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Existing Conditions  
**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 LAeq1h dBA	No Barrier			With Barrier			Type Impact	Noise Reduction		
				LAeq1h Calculated dBA	Crit'n dBA	Increase over existing Calculated dB	Crit'n Sub'l Inc dB	Calculated LAeq1h dBA	Calculated dB		Goal dB	Calculated minus Goal dB	
Receiver17	1	1	0.0	58.3	66	58.3	15	----	58.3	0.0	5	-5.0	
Receiver3	3	1	0.0	60.0	66	60.0	15	----	60.0	0.0	5	-5.0	
Receiver4	4	1	0.0	61.1	66	61.1	15	----	61.1	0.0	5	-5.0	
Receiver5	5	1	0.0	61.2	66	61.2	15	----	61.2	0.0	5	-5.0	
Receiver6	6	1	0.0	62.2	66	62.2	15	----	62.2	0.0	5	-5.0	
Receiver7	7	1	0.0	62.4	66	62.4	15	----	62.4	0.0	5	-5.0	
Receiver8	8	1	0.0	63.0	66	63.0	15	----	63.0	0.0	5	-5.0	
Receiver9	9	1	0.0	63.9	66	63.9	15	----	63.9	0.0	5	-5.0	
Receiver1	20	1	0.0	60.4	66	60.4	15	----	60.4	0.0	5	-5.0	
Receiver2	22	1	0.0	58.6	66	58.6	15	----	58.6	0.0	5	-5.0	
Receiver10	23	1	0.0	57.1	66	57.1	15	----	57.1	0.0	5	-5.0	
Receiver11	24	1	0.0	56.4	66	56.4	15	----	56.4	0.0	5	-5.0	
Receiver12	25	1	0.0	58.1	66	58.1	15	----	58.1	0.0	5	-5.0	
Receiver13	26	1	0.0	58.9	66	58.9	15	----	58.9	0.0	5	-5.0	
Receiver14	27	1	0.0	59.3	66	59.3	15	----	59.3	0.0	5	-5.0	
Receiver15	28	1	0.0	59.6	66	59.6	15	----	59.6	0.0	5	-5.0	
Receiver16	29	1	0.0	60.3	66	60.3	15	----	60.3	0.0	5	-5.0	

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	17	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: ROADWAYS

118th Avenue Improvements

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5

INPUT: ROADWAYS

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue Existing Conditions

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

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement)			Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			X	Y	Z		mph	%		
				ft	ft	ft					
US 19 SB Right Turn Lane	12.0	point203	203	425,733.5	1,289,949.6	15.00				Average	
		point204	204	425,988.5	1,289,540.1	15.00				Average	
		point205	205	425,997.9	1,289,515.6	15.00				Average	
		point206	206	425,999.1	1,289,485.1	15.00				Average	
		point207	207	425,988.5	1,289,463.0	15.00				Average	
		point208	208	425,965.1	1,289,443.1	15.00				Average	
US 19 SB Outside Left Turn Lane	13.0	point209	209	425,939.4	1,289,430.2	15.00				Average	
		point211	211	425,827.1	1,289,887.6	15.00				Average	
US 19 SB Inside Turn Lane	12.0	point212	212	426,071.6	1,289,493.4	15.00				Average	
		point213	213	425,838.8	1,289,887.6	15.00				Average	
US 19 SB Inside Lane	12.0	point214	214	426,082.1	1,289,501.6	15.00				Average	
		point215	215	424,979.4	1,291,223.4	15.00				Average	
		Bobs point	216	426,099.0	1,289,428.0	15.00				Average	
		Bobs point	340	426,108.0	1,289,414.0	15.00				Average	
		Bobs point	338	426,117.0	1,289,400.0	15.00				Average	
		point386	336	426,146.0	1,289,359.0	15.00				Average	
		Bobs point	334	426,152.0	1,289,347.0	15.00				Average	
		Bob's poin	332	426,160.0	1,289,334.0	15.00				Average	
		point217	217	426,565.4	1,288,684.5	15.00				Average	
US 19 SB Middle Lane	13.0	point218	218	427,216.5	1,287,637.0	15.00				Average	
		point219	219	424,972.0	1,291,214.4	15.00				Average	
		point220	220	426,081.0	1,289,428.0	15.00				Average	
		point220.5	343	426,090.0	1,289,414.0	15.00				Average	
		point220.7	345	426,099.0	1,289,400.0	15.00				Average	
		point361	364	426,126.0	1,289,358.0	15.00				Average	

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point362	365	426,133.0	1,289,347.0	15.00			Average
		point363	366	426,141.0	1,289,334.0	15.00			Average
		point221	221	426,554.5	1,288,669.9	15.00			Average
		point222	222	427,200.2	1,287,627.1	15.00			
US 19 SB Outside Lane	20.0	point223	223	424,957.8	1,291,216.5	15.00			Average
		point224	224	426,069.0	1,289,428.0	15.00			Average
		point372	372	426,080.0	1,289,413.0	15.00			Average
		point373	373	426,088.0	1,289,400.0	15.00			Average
		point286	347	426,116.0	1,289,358.0	15.00			Average
		point272	374	426,123.0	1,289,347.0	15.00			Average
		point256	350	426,132.0	1,289,333.0	15.00			Average
		point225	225	427,076.5	1,287,796.8	15.00			Average
		point226	226	427,178.1	1,287,617.8	15.00			
US 19 NB Right Turn Lane	16.0	point227	227	426,736.6	1,288,549.9	15.00			Average
		point228	228	426,311.4	1,289,232.2	15.00			Average
		point229	229	426,306.5	1,289,260.2	15.00			Average
		point230	230	426,321.3	1,289,301.4	15.00			Average
		point231	231	426,347.7	1,289,326.1	15.00			Average
		point232	232	426,370.8	1,289,334.4	15.00			
US 19 NB Outside Lane	13.0	point233	233	427,287.3	1,287,653.6	15.00			Average
		point352	352	426,534.8	1,288,856.2	15.00			Average
		point394	382	426,233.0	1,289,336.0	15.00			Average
		point391	385	426,223.0	1,289,350.0	15.00			Average
		point388	384	426,215.0	1,289,361.0	15.00			Average
		point298	383	426,192.0	1,289,401.0	15.00			Average
		newpoin2	381	426,184.0	1,289,415.0	15.00			Average
		point354	234	426,175.0	1,289,430.0	15.00			Average
		point235	235	425,032.7	1,291,260.4	15.00			
US 19 NB Middle Lane	13.0	point237	237	427,273.4	1,287,652.6	15.00			Average
		point375	375	426,305.8	1,289,201.0	15.00			Average
		point393	380	426,221.0	1,289,336.0	15.00			Average
		point390	379	426,213.0	1,289,349.0	15.00			Average
		point387	378	426,207.0	1,289,360.0	15.00			Average
		point360	377	426,179.0	1,289,401.0	15.00			Average
		newpoint3	376	426,171.0	1,289,415.0	15.00			Average
		point353	238	426,161.0	1,289,430.0	15.00			Average
		point239	239	425,024.9	1,291,259.4	15.00			
US 19 NB Inside Lane	13.0	point240	240	427,268.3	1,287,635.6	15.00			Average

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point392	241	426,210.0	1,289,336.0	15.00			Average
		point389	370	426,201.0	1,289,349.0	15.00			Average
		Bobs point	371	426,194.0	1,289,360.0	15.00			Average
		Bobs point	369	426,166.0	1,289,401.0	15.00			Average
		point309	368	426,159.0	1,289,415.0	15.00			Average
		point318	367	426,151.0	1,289,429.0	15.00			Average
		point242	242	425,015.8	1,291,258.2	15.00			
US 19 NB Outside Left Turn Lane	13.0	point243	243	426,478.7	1,288,879.0	15.00			Average
		point244	244	426,210.5	1,289,303.9	15.00			
US 19 NB Inside Left Turn Lane	12.0	point245	245	426,466.5	1,288,873.8	15.00			Average
		point246	246	426,200.1	1,289,300.4	15.00			
Bryan Dairy Rd EB outside lane	20.0	point247	247	423,565.4	1,288,871.8	15.00			Average
		point248	248	424,286.6	1,289,203.0	15.00			Average
		point249	249	424,433.3	1,289,270.0	15.00			Average
		point250	250	424,538.1	1,289,307.8	15.00			Average
		point251	251	424,668.1	1,289,341.2	15.00			Average
		point252	252	424,790.8	1,289,356.0	15.00			Average
		point253	253	425,222.6	1,289,356.0	15.00			Average
		point254	254	425,498.2	1,289,345.5	15.00			Average
		point255	255	425,586.3	1,289,337.1	15.00			Average
		point256	256	426,132.0	1,289,333.0	15.00			Average
		point363	363	426,141.0	1,289,334.0	15.00			Average
		Bob's point	331	426,160.0	1,289,334.0	15.00			Average
		point392	392	426,210.0	1,289,336.0	15.00			Average
		point393	393	426,221.0	1,289,336.0	15.00			Average
		point394	394	426,233.0	1,289,336.0	15.00			Average
		point257	257	426,621.8	1,289,345.5	15.00			Average
		point258	258	426,789.5	1,289,353.9	15.00			Average
		point259	259	427,041.1	1,289,387.4	15.00			Average
		point260	260	427,208.8	1,289,395.8	15.00			Average
		point261	261	427,590.3	1,289,395.8	15.00			
Bryan Dairy Rd EB Right Turn Lane	13.0	point262	262	425,598.8	1,289,324.5	15.00			Average
		point263	263	426,068.4	1,289,324.5	15.00			
Bryan Dairy Rd EB Middle Lane	13.0	point264	264	423,557.1	1,288,884.4	15.00			Average
		point265	265	424,328.5	1,289,236.5	15.00			Average
		point266	266	424,466.8	1,289,295.2	15.00			Average
		point267	267	424,542.3	1,289,324.5	15.00			Average
		point268	268	424,680.7	1,289,353.9	15.00			Average

INPUT: ROADWAYS

118th Avenue Improvements

		point269	269	424,806.4	1,289,370.6	15.00			Average
		point270	270	425,494.0	1,289,361.2	15.00			Average
		point271	271	425,594.7	1,289,348.8	15.00			Average
		point272	272	426,123.0	1,289,347.0	15.00			Average
		point362	362	426,133.0	1,289,347.0	15.00			Average
		Bobs point	333	426,152.0	1,289,347.0	15.00			Average
		point389	389	426,201.0	1,289,349.0	15.00			Average
		point390	390	426,213.0	1,289,349.0	15.00			Average
		point391	391	426,223.0	1,289,350.0	15.00			Average
		point273	273	426,617.7	1,289,358.1	15.00			Average
		point274	274	426,793.7	1,289,370.6	15.00			Average
		point275	275	427,066.2	1,289,404.2	15.00			Average
		point276	276	427,602.9	1,289,408.4	15.00			Average
Bryan Dairy Rd EB Inside Lane	12.0	point277	277	423,552.9	1,288,892.8	15.00			Average
		point278	278	424,169.2	1,289,173.6	15.00			Average
		point279	279	424,416.5	1,289,286.8	15.00			Average
		point280	280	424,529.8	1,289,332.9	15.00			Average
		point281	281	424,672.3	1,289,366.5	15.00			Average
		point282	282	424,852.6	1,289,383.2	15.00			Average
		point283	283	425,297.0	1,289,379.0	15.00			Average
		point284	284	425,502.4	1,289,370.6	15.00			Average
		point285	285	425,636.6	1,289,358.1	15.00			Average
		point286	286	426,116.0	1,289,358.0	15.00			Average
		point361	361	426,126.0	1,289,358.0	15.00			Average
		point386	386	426,146.0	1,289,359.0	15.00			Average
		Bobs point	335	426,194.0	1,289,360.0	15.00			Average
		point387	387	426,207.0	1,289,360.0	15.00			Average
		point388	388	426,215.0	1,289,361.0	15.00			Average
		point287	287	426,621.8	1,289,370.6	15.00			Average
		point288	288	426,772.8	1,289,383.2	15.00			Average
		point289	289	427,062.1	1,289,416.8	15.00			Average
		point290	290	427,598.7	1,289,421.0	15.00			Average
Bryan Dairy Rd Inside Left Turn Lane	13.0	point291	291	425,598.8	1,289,372.1	15.00			Average
		point292	292	426,057.6	1,289,370.2	15.00			Average
Bryan Dairy Rd Outside Left Turn Lane	12.0	point294	294	425,599.8	1,289,383.9	15.00			Average
		point295	295	426,055.8	1,289,382.1	15.00			Average
Bryan Dairy Rd WB Inside Lane	12.0	point296	296	427,620.8	1,289,447.0	15.00			Average
		point297	297	427,084.3	1,289,442.9	15.00			Average

INPUT: ROADWAYS

118th Avenue Improvements

		point358	358	426,900.0	1,289,428.6	15.00			Average
		newpoint1	359	426,738.1	1,289,410.8	15.00			Average
		point298	298	426,192.0	1,289,401.0	15.00			Average
		point360	360	426,179.0	1,289,401.0	15.00			Average
		Bobs point	299	426,166.0	1,289,401.0	15.00			Average
		Bobs point	337	426,117.0	1,289,400.0	15.00			Average
		point220.7	346	426,099.0	1,289,400.0	15.00			Average
		point373	348	426,088.0	1,289,400.0	15.00			Average
		point300	300	425,663.0	1,289,402.0	15.00			Average
		point301	301	424,835.7	1,289,406.0	15.00			Average
		point302	302	424,688.2	1,289,393.8	15.00			Average
		point303	303	424,524.4	1,289,352.9	15.00			Average
		point304	304	424,233.6	1,289,225.9	15.00			Average
		point305	305	423,549.6	1,288,910.5	15.00			Average
Bryan Dairy Rd WB Middle Lane	13.0	point306	306	427,616.8	1,289,459.2	15.00			Average
		point307	307	427,067.9	1,289,455.2	15.00			Average
		point308	308	426,732.1	1,289,422.5	15.00			Average
		newpoint1	355	426,200.0	1,289,415.0	15.00			Average
		newpoint2	356	426,184.0	1,289,415.0	15.00			Average
		newpoint3	357	426,171.0	1,289,415.0	15.00			Average
		point309	309	426,159.0	1,289,415.0	15.00			Average
		Bobs point	339	426,108.0	1,289,414.0	15.00			Average
		point220.5	344	426,090.0	1,289,414.0	15.00			Average
		point372	349	426,080.0	1,289,413.0	15.00			Average
		point310	310	424,839.8	1,289,418.4	15.00			Average
		point311	311	424,700.5	1,289,406.0	15.00			Average
		point312	312	424,549.0	1,289,369.2	15.00			Average
		point313	313	424,409.7	1,289,319.9	15.00			Average
		point314	314	423,545.5	1,288,918.5	15.00			Average
Bryan Dairy Rd WB Outside Lane	20.0	point315	315	427,622.3	1,289,469.9	15.00			Average
		point316	316	427,072.6	1,289,465.9	15.00			Average
		point317	317	426,795.7	1,289,437.4	15.00			Average
		point354	354	426,175.0	1,289,430.0	15.00			Average
		point353	353	426,161.0	1,289,430.0	15.00			Average
		point318	318	426,151.0	1,289,429.0	15.00			Average
		Bobs point	341	426,099.0	1,289,428.0	15.00			Average
		point220	351	426,081.0	1,289,428.0	15.00			Average
		point224	342	426,069.0	1,289,428.0	15.00			Average

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point319	319	424,807.5	1,289,429.2	15.00				Average
		point320	320	424,661.9	1,289,412.9	15.00				Average
		point321	321	424,519.3	1,289,376.2	15.00				Average
		point322	322	424,376.8	1,289,319.2	15.00				Average
		point323	323	423,537.9	1,288,932.4	15.00				
118th Avenue Right Turn Lane	12.0	point324	324	426,483.0	1,289,443.1	15.00				Average
		point325	325	426,229.4	1,289,439.9	15.00				
118th Avenue Inside Left Turn Lane	13.0	point326	326	426,709.3	1,289,398.1	15.00				Average
		point327	327	426,285.6	1,289,391.8	15.00				
118th Avenue Outside Left Turn Lane	12.0	point328	328	426,693.2	1,289,385.4	15.00				Average
		point329	329	426,284.0	1,289,380.5	15.00				

INPUT: TRAFFIC FOR LAeq1h Volumes

118th Avenue Improvements

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue Existing Conditions

Roadway Name	Points											
	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
US 19 SB Right Turn Lane	point203	203	192	55	3	55	3	55	1	55	1	55
	point204	204	192	55	3	55	3	55	1	55	1	55
	point205	205	192	55	3	55	3	55	1	55	1	55
	point206	206	192	55	3	55	3	55	1	55	1	55
	point207	207	192	55	3	55	3	55	1	55	1	55
	point208	208	192	55	3	55	3	55	1	55	1	55
US 19 SB Outside Left Turn Lane	point209	209										
	point211	211	178	55	2	55	2	55	1	55	1	55
US 19 SB Inside Turn Lane	point212	212										
	point213	213	178	55	2	55	2	55	1	55	1	55
US 19 SB Inside Lane	point214	214										
	point215	215	731	55	10	55	10	55	4	55	4	55
	Bobs point 6	216	913	55	12	55	12	55	5	55	5	55
	Bobs point 5	340	913	55	12	55	12	55	5	55	5	55
	Bobs point 4	338	913	55	12	55	12	55	5	55	5	55
	point386	336	913	55	12	55	12	55	5	55	5	55
	Bobs point 2	334	913	55	12	55	12	55	5	55	5	55
	Bob's point 1	332	913	55	12	55	12	55	5	55	5	55
US 19 SB Middle Lane	point217	217	913	55	12	55	12	55	5	55	5	55
	point218	218										
	point219	219	731	55	10	55	10	55	4	55	4	55
	point220	220	913	55	12	55	12	55	5	55	5	55



**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point220.5	343	913	55	12	55	12	55	5	55	5	55
	point220.7	345	913	55	12	55	12	55	5	55	5	55
	point361	364	913	55	12	55	12	55	5	55	5	55
	point362	365	913	55	12	55	12	55	5	55	5	55
	point363	366	913	55	12	55	12	55	5	55	5	55
	point221	221	913	55	12	55	12	55	5	55	5	55
	point222	222										
US 19 SB Outside Lane	point223	223	731	55	10	55	10	55	4	55	4	55
	point224	224	913	55	12	55	12	55	5	55	5	55
	point372	372	913	55	12	55	12	55	5	55	5	55
	point373	373	913	55	12	55	12	55	5	55	5	55
	point286	347	913	55	12	55	12	55	5	55	5	55
	point272	374	913	55	12	55	12	55	5	55	5	55
	point256	350	913	55	12	55	12	55	5	55	5	55
	point225	225	913	55	12	55	12	55	5	55	5	55
	point226	226										
US 19 NB Right Turn Lane	point227	227	44	55	1	55	1	55	0	0	0	0
	point228	228	44	55	1	55	1	55	0	0	0	0
	point229	229	44	55	1	55	1	55	0	0	0	0
	point230	230	44	55	1	55	1	55	0	0	0	0
	point231	231	44	55	1	55	1	55	0	0	0	0
	point232	232										
US 19 NB Outside Lane	point233	233	611	55	8	55	8	55	3	55	3	55
	point352	352	611	55	8	55	8	55	3	55	3	55
	point394	382	728	55	10	55	10	55	4	55	4	55
	point391	385	728	55	10	55	10	55	4	55	4	55
	point388	384	728	55	10	55	10	55	4	55	4	55
	point298	383	728	55	10	55	10	55	4	55	4	55
	newpoin2	381	728	55	10	55	10	55	4	55	4	55
	point354	234	728	55	10	55	10	55	4	55	4	55
	point235	235										
US 19 NB Middle Lane	point237	237	611	55	8	55	8	55	5	55	5	55
	point375	375	611	55	8	55	8	55	5	55	5	55
	point393	380	728	55	10	55	10	55	4	55	4	55

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point390	379	728	55	10	55	10	55	4	55	4	55
	point387	378	728	55	10	55	10	55	4	55	4	55
	point360	377	728	55	10	55	10	55	4	55	4	55
	newpoint3	376	728	55	10	55	10	55	4	55	4	55
	point353	238	728	55	10	55	10	55	4	55	4	55
	point239	239										
US 19 NB Inside Lane	point240	240	611	55	8	55	8	55	5	55	5	55
	point392	241	728	55	10	55	10	55	4	55	4	55
	point389	370	728	55	10	55	10	55	4	55	4	55
	Bobs point 3	371	728	55	10	55	10	55	4	55	4	55
	Bobs point 4	369	728	55	10	55	10	55	4	55	4	55
	point309	368	728	55	10	55	10	55	4	55	4	55
	point318	367	728	55	10	55	10	55	4	55	4	55
	point242	242										
US 19 NB Outside Left Turn Lane	point243	243	153	55	2	55	2	55	1	55	1	55
	point244	244										
US 19 NB Inside Left Turn Lane	point245	245	153	55	2	55	2	55	1	55	1	55
	point246	246										
Bryan Dairy Rd EB outside lane	point247	247	547	45	10	45	10	45	3	45	3	45
	point248	248	547	45	10	45	10	45	3	45	3	45
	point249	249	547	45	10	45	10	45	3	45	3	45
	point250	250	547	45	10	45	10	45	3	45	3	45
	point251	251	547	45	10	45	10	45	3	45	3	45
	point252	252	547	45	10	45	10	45	3	45	3	45
	point253	253	547	45	10	45	10	45	3	45	3	45
	point254	254	547	45	10	45	10	45	3	45	3	45
	point255	255	317	45	6	45	6	45	2	45	2	45
	point256	256	317	45	6	45	6	45	2	45	2	45
	point363	363	317	45	6	45	6	45	2	45	2	45
	Bob's point 1	331	317	45	6	45	6	45	2	45	2	45
	point392	392	317	45	6	45	6	45	2	45	2	45
	point393	393	317	45	6	45	6	45	2	45	2	45
	point394	394	411	45	8	45	8	45	2	45	2	45
	point257	257	411	45	8	45	8	45	2	45	2	45

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point258	258	411	45	8	45	8	45	2	45	2	45
	point259	259	411	45	8	45	8	45	2	45	2	45
	point260	260	411	45	8	45	8	45	2	45	2	45
	point261	261										
Bryan Dairy Rd EB Right Turn Lane	point262	262	279	45	5	45	5	45	1	45	1	45
	point263	263										
Bryan Dairy Rd EB Middle Lane	point264	264	547	45	10	45	10	45	3	45	3	45
	point265	265	547	45	10	45	10	45	3	45	3	45
	point266	266	547	45	10	45	10	45	3	45	3	45
	point267	267	547	45	10	45	10	45	3	45	3	45
	point268	268	547	45	10	45	10	45	3	45	3	45
	point269	269	547	45	10	45	10	45	3	45	3	45
	point270	270	547	45	10	45	10	45	3	45	3	45
	point271	271	317	45	6	45	6	45	2	45	2	45
	point272	272	317	45	6	45	6	45	2	45	2	45
	point362	362	317	45	6	45	6	45	2	45	2	45
	Bobs point 2	333	317	45	6	45	6	45	2	45	2	45
	point389	389	317	45	6	45	6	45	2	45	2	45
	point390	390	317	45	6	45	6	45	2	45	2	45
	point391	391	411	45	8	45	8	45	2	45	2	45
	point273	273	411	45	8	45	8	45	2	45	2	45
	point274	274	411	45	8	45	8	45	2	45	2	45
	point275	275	411	45	8	45	8	45	2	45	2	45
	point276	276										
Bryan Dairy Rd EB Inside Lane	point277	277	547	45	10	45	10	45	3	45	3	45
	point278	278	547	45	10	45	10	45	3	45	3	45
	point279	279	547	45	10	45	10	45	3	45	3	45
	point280	280	547	45	10	45	10	45	3	45	3	45
	point281	281	547	45	10	45	10	45	3	45	3	45
	point282	282	547	45	10	45	10	45	3	45	3	45
	point283	283	547	45	10	45	10	45	3	45	3	45
	point284	284	547	45	10	45	10	45	3	45	3	45
	point285	285	317	45	6	45	6	45	2	45	2	45
	point286	286	317	45	6	45	6	45	2	45	2	45

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point361	361	317	45	6	45	6	45	2	45	2	45
	point386	386	317	45	6	45	6	45	2	45	2	45
	Bobs point 3	335	317	45	6	45	6	45	2	45	2	45
	point387	387	317	45	6	45	6	45	2	45	2	45
	point388	388	411	45	8	45	8	45	2	45	2	45
	point287	287	411	45	8	45	8	45	2	45	2	45
	point288	288	411	45	8	45	8	45	2	45	2	45
	point289	289	411	45	8	45	8	45	2	45	2	45
	point290	290										
Bryan Dairy Rd Inside Left Turn Lane	point291	291	205	45	4	45	4	45	1	45	1	45
	point292	292										
Bryan Dairy Rd Outside Left Turn Lane	point294	294	205	45	4	45	4	45	1	45	1	45
	point295	295										
Bryan Dairy Rd WB Inside Lane	point296	296	327	45	6	45	6	45	2	45	2	45
	point297	297	327	45	6	45	6	45	2	45	2	45
	point358	358	327	45	6	45	6	45	2	45	2	45
	newpoint1	359	187	45	3	45	3	45	1	45	1	45
	point298	298	187	45	3	45	3	45	1	45	1	45
	point360	360	187	45	3	45	3	45	1	45	1	45
	Bobs point 4	299	187	45	3	45	3	45	1	45	1	45
	Bobs point 4	337	187	45	3	45	3	45	1	45	1	45
	point220.7	346	187	45	3	45	3	45	1	45	1	45
	point373	348	436	45	8	45	8	45	2	45	2	45
	point300	300	436	45	8	45	8	45	2	45	2	45
	point301	301	436	45	8	45	8	45	2	45	2	45
	point302	302	436	45	8	45	8	45	2	45	2	45
	point303	303	436	45	8	45	8	45	2	45	2	45
	point304	304	436	45	8	45	8	45	2	45	2	45
	point305	305										
Bryan Dairy Rd WB Middle Lane	point306	306	327	45	6	45	6	45	2	45	2	45
	point307	307	327	45	6	45	6	45	2	45	2	45
	point308	308	187	45	3	45	3	45	1	45	1	45
	newpoint1	355	187	45	3	45	3	45	1	45	1	45
	newpoin2	356	187	45	3	45	3	45	1	45	1	45

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	newpoint3	357	187	45	3	45	3	45	1	45	1	45
	point309	309	187	45	3	45	3	45	1	45	1	45
	Bobs point 5	339	187	45	3	45	3	45	1	45	1	45
	point220.5	344	187	45	3	45	3	45	1	45	1	45
	point372	349	436	45	8	45	8	45	2	45	2	45
	point310	310	436	45	8	45	8	45	2	45	2	45
	point311	311	436	45	8	45	8	45	2	45	2	45
	point312	312	436	45	8	45	8	45	2	45	2	45
	point313	313	436	45	8	45	8	45	2	45	2	45
	point314	314										
Bryan Dairy Rd WB Outside Lane	point315	315	328	45	6	45	6	45	2	45	2	45
	point316	316	328	45	6	45	6	45	2	45	2	45
	point317	317	187	45	3	45	3	45	1	45	1	45
	point354	354	187	45	3	45	3	45	1	45	1	45
	point353	353	187	45	3	45	3	45	1	45	1	45
	point318	318	187	45	3	45	3	45	1	45	1	45
	Bobs point 6	341	187	45	3	45	3	45	1	45	1	45
	point220	351	187	45	3	45	3	45	1	45	1	45
	point224	342	436	45	8	45	8	45	2	45	2	45
	point319	319	436	45	8	45	8	45	2	45	2	45
	point320	320	436	45	8	45	8	45	2	45	2	45
	point321	321	436	45	8	45	8	45	2	45	2	45
	point322	322	436	45	8	45	8	45	2	45	2	45
	point323	323										
118th Avenue Right Turn Lane	point324	324	315	45	6	45	6	45	2	45	2	45
	point325	325										
118th Avenue Inside Left Turn Lane	point326	326	54	45	1	45	1	45	0	0	0	0
	point327	327										
118th Avenue Outside Left Turn Lane	point328	328	54	45	1	45	1	45	0	0	0	0
	point329	329										

**INPUT: RECEIVERS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5

**INPUT: RECEIVERS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Existing Conditions

**Receiver**

Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	
			ft	ft	ft		dBA	dBA	dB	dB	
Receiver17	1	1	425,207.8	1,289,020.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver3	3	1	425,425.7	1,289,071.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver4	4	1	425,530.2	1,289,091.1	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver5	5	1	425,586.9	1,289,084.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver6	6	1	425,672.0	1,289,100.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver7	7	1	425,755.3	1,289,087.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver8	8	1	425,831.5	1,289,092.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver9	9	1	425,900.6	1,289,103.5	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver1	20	1	425,103.8	1,289,130.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver2	22	1	425,419.4	1,288,995.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver10	23	1	425,410.1	1,288,903.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver11	24	1	425,410.1	1,288,852.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver12	25	1	425,530.4	1,288,930.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver13	26	1	425,637.4	1,288,934.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver14	27	1	425,708.3	1,288,930.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver15	28	1	425,753.8	1,288,933.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver16	29	1	425,850.0	1,288,933.0	15.00	5.00	0.00	66	15.0	5.0	Y

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10 May 2005  
TNM 2.5

INPUT: BARRIERS

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue Existing Conditions

Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height at Point	Segment				
		Min	Max	\$ per Unit Area	\$ per Unit Vol.	Top Width	Run:Rise	\$ per Unit Length			X	Y	Z		Seg Ht	Perturbs	On	Important	
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft				
Drive Time	W	0.00	20.00	0.00				0.00	point1	1	426,082.3	1,289,154.0	15.00	20.00	0.00	0	0		
									point2	2	426,114.7	1,289,109.1	15.00	20.00					
Sunoco	W	0.00	20.00	0.00				0.00	point3	3	426,175.4	1,288,933.2	15.00	20.00	0.00	0	0		
									point4	4	426,261.0	1,288,931.1	15.00	20.00	0.00	0	0		
									point5	5	426,269.2	1,288,878.0	15.00	20.00					

**RESULTS: SOUND LEVELS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue No Build Conditions in 2025  
**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 LAeq1h dBA	No Barrier		Increase over existing		Type Impact	With Barrier Calculated LAeq1h dBA	Noise Reduction		
				LAeq1h dBA	Crit'n dBA	Calculated dB	Crit'n dB			Calculated dB	Goal dB	Calculated minus Goal dB
Receiver17	23	1	0.0	60.8	66	60.8	15	----	60.8	0.0	5	-5.0
Receiver3	24	1	0.0	62.7	66	62.7	15	----	62.7	0.0	5	-5.0
Receiver4	25	1	0.0	63.7	66	63.7	15	----	63.7	0.0	5	-5.0
Receiver5	26	1	0.0	64.0	66	64.0	15	----	64.0	0.0	5	-5.0
Receiver6	27	1	0.0	65.0	66	65.0	15	----	65.0	0.0	5	-5.0
Receiver7	28	1	0.0	65.7	66	65.7	15	----	65.7	0.0	5	-5.0
Receiver8	29	1	0.0	66.4	66	66.4	15	Snd Lvl	66.4	0.0	5	-5.0
Receiver9	30	1	0.0	67.1	66	67.1	15	Snd Lvl	67.1	0.0	5	-5.0
Receiver1	31	1	0.0	62.4	66	62.4	15	----	62.4	0.0	5	-5.0
Receiver2	32	1	0.0	61.6	66	61.6	15	----	61.6	0.0	5	-5.0
Receiver10	33	1	0.0	60.5	66	60.5	15	----	60.5	0.0	5	-5.0
Receiver11	34	1	0.0	60.0	66	60.0	15	----	60.0	0.0	5	-5.0
Receiver12	35	1	0.0	61.6	66	61.6	15	----	61.6	0.0	5	-5.0
Receiver13	36	1	0.0	62.3	66	62.3	15	----	62.3	0.0	5	-5.0
Receiver14	37	1	0.0	62.9	66	62.9	15	----	62.9	0.0	5	-5.0
Receiver15	38	1	0.0	63.4	66	63.4	15	----	63.4	0.0	5	-5.0
Receiver16	39	1	0.0	64.5	66	64.5	15	----	64.5	0.0	5	-5.0

Dwelling Units	# DUs	Noise Reduction		
		Min dB	Avg dB	Max dB
All Selected	17	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0



INPUT: ROADWAYS

118th Avenue Improvements

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5

INPUT: ROADWAYS

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue No Build Conditions in 2025

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

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement)			Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			X	Y	Z		mph	%		
				ft	ft	ft					
N Frontage Road SB Outside Thru Lane	16.0	point201	201	425,313.7	1,290,569.2	15.00				Average	
		point202	202	426,009.1	1,289,452.4	15.00					
N Frontage Road SB Inside Thru Lane	13.0	point203	203	425,319.8	1,290,575.2	15.00				Average	
		point204	204	426,021.2	1,289,458.4	15.00					
N Frontage Rd SB Out Left Turn Lane	13.0	point206	206	425,691.4	1,290,003.8	15.00				Average	
		point207	207	426,030.2	1,289,460.6	15.00					
N Frontage Rd SB Inside Left Turn Lane	12.0	point208	208	425,700.1	1,290,011.0	15.00				Average	
		point209	209	426,040.4	1,289,465.0	15.00					
S Frontage Road SB Outside Thru Lane	16.0	point210	210	426,099.1	1,289,306.6	15.00				Average	
		point211	211	427,309.2	1,287,335.1	15.00					
S Frontage Rd SB Inside Turn Lane	13.0	point212	212	426,116.3	1,289,309.1	15.00				Average	
		point213	213	427,310.1	1,287,352.2	15.00					
S Frontage Rd NB Inside Left Turn Lane	12.0	point256	256	426,573.6	1,288,796.5	15.00				Average	
		point257	257	426,262.7	1,289,295.4	15.00					
S Frontage Rd NB Out Left Turn Lane	13.0	point258	258	426,585.1	1,288,802.2	15.00				Average	
		point259	259	426,272.3	1,289,301.2	15.00					
S Frontage Rd NB Inside Thru Lane	13.0	point260	260	427,414.6	1,287,481.2	15.00				Average	
		point261	261	426,281.9	1,289,305.0	15.00					
S Frontage Rd NB Outside Thru Lane	16.0	point262	262	427,433.9	1,287,478.0	15.00				Average	
		point263	263	426,331.8	1,289,249.4	15.00				Average	
		point264	264	426,326.0	1,289,282.0	15.00				Average	
		point265	265	426,345.2	1,289,314.6	15.00				Average	
		point266	266	426,379.8	1,289,337.6	15.00				Average	
N Frontage Rd/Ramp NB Inside Lane	12.0	point267	267	426,395.1	1,289,337.6	15.00					
		point268	268	426,176.7	1,289,474.2	15.00				Average	

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point269	269	425,556.8	1,290,462.2	15.00			Average	
		point270	270	425,487.5	1,290,575.5	15.00			Average	
		point271	271	425,311.3	1,290,824.1	15.00				
N Frontage Rd NB Outside Lane	16.0	point275	275	426,189.2	1,289,480.5	15.00			Average	
		point276	276	425,814.8	1,290,072.0	15.00			Average	
		point277	277	425,632.3	1,290,374.1	15.00			Average	
		point278	278	425,408.9	1,290,723.4	15.00				
US 19 SB Inside Lane	12.0	point462	462	424,979.0	1,291,223.0	15.00			Average	
		point215	286	425,635.0	1,290,173.5	26.10			Average	Y
		Bobs point	287	426,099.0	1,289,428.0	46.50			Average	Y
		Bobs point	288	426,108.0	1,289,414.0	46.50			Average	Y
		Bobs point	289	426,117.0	1,289,400.0	46.60			Average	Y
		point386	290	426,146.0	1,289,359.0	46.70			Average	Y
		Bobs point	291	426,152.0	1,289,347.0	46.80			Average	Y
		Bob's poin	292	426,160.0	1,289,334.0	46.80			Average	Y
		point470	470	426,252.9	1,289,179.1	46.00			Average	Y
		point217	293	426,565.4	1,288,684.5	36.20			Average	Y
		point218	294	427,346.6	1,287,362.8	27.40				
US 19 SB Middle Lane	13.0	point463	463	424,972.0	1,291,214.0	15.00			Average	
		point219	295	425,621.6	1,290,168.0	26.10			Average	Y
		point220	296	426,081.0	1,289,428.4	46.50			Average	Y
		point220.5	297	426,090.0	1,289,414.0	46.50			Average	Y
		point220.7	298	426,099.0	1,289,400.0	46.60			Average	Y
		point361	299	426,126.0	1,289,358.0	46.70			Average	Y
		point362	300	426,133.0	1,289,347.0	46.80			Average	Y
		point363	301	426,141.0	1,289,334.0	46.80			Average	Y
		point469	469	426,242.0	1,289,165.0	46.00			Average	Y
		point221	302	426,554.5	1,288,669.9	36.20			Average	Y
		point222	303	427,336.6	1,287,349.5	27.40				
US 19 SB Outside Lane	20.0	point464	464	424,957.0	1,291,216.0	15.00			Average	
		point223	304	425,612.9	1,290,163.8	26.10			Average	Y
		point224	305	426,070.2	1,289,427.4	46.50			Average	Y
		point372	306	426,080.0	1,289,413.0	46.50			Average	Y
		point373	307	426,088.0	1,289,400.0	46.60			Average	Y
		point286	308	426,116.0	1,289,358.0	46.70			Average	Y
		point272	309	426,123.0	1,289,347.0	46.80			Average	Y
		point256	310	426,132.0	1,289,333.0	46.80			Average	Y
		point468	468	426,235.6	1,289,155.4	46.00			Average	Y

INPUT: ROADWAYS

118th Avenue Improvements

		point225	311	426,539.5	1,288,677.2	36.20			Average	Y
		point226	312	427,330.2	1,287,339.9	27.40				
US 19 NB Outside Lane	13.0	point465	465	427,407.5	1,287,433.2	27.40			Average	Y
		point233	313	426,629.1	1,288,704.5	36.20			Average	Y
		point352	314	426,534.8	1,288,856.2	41.40			Average	Y
		point394	315	426,233.0	1,289,336.0	46.80			Average	Y
		point391	316	426,223.0	1,289,350.0	46.80			Average	Y
		point388	317	426,215.0	1,289,361.0	46.70			Average	Y
		point298	318	426,192.0	1,289,401.0	46.60			Average	Y
		newpoin2	319	426,184.0	1,289,415.0	46.50			Average	Y
		point354	320	426,175.0	1,289,430.0	46.50			Average	Y
		point471	471	426,025.9	1,289,668.4	43.70			Average	Y
		point235	321	425,032.7	1,291,260.4	15.00				
US 19 NB Middle Lane	13.0	point466	466	427,397.2	1,287,423.0	27.40			Average	Y
		point237	322	426,619.0	1,288,699.8	36.20			Average	Y
		point375	323	426,305.8	1,289,201.0	46.10			Average	Y
		point393	324	426,221.0	1,289,336.0	46.80			Average	Y
		point390	325	426,213.0	1,289,349.0	46.80			Average	Y
		point387	326	426,207.0	1,289,360.0	46.70			Average	Y
		point360	327	426,179.0	1,289,401.0	46.60			Average	Y
		newpoint3	328	426,171.0	1,289,415.0	46.50			Average	Y
		point353	329	426,161.0	1,289,430.0	46.50			Average	Y
		point472	472	426,016.2	1,289,665.5	43.70			Average	Y
		point239	330	425,024.9	1,291,259.4	15.00				
US 19 NB Inside Lane	13.0	point467	467	427,394.7	1,287,408.5	27.40			Average	Y
		point240	340	426,609.3	1,288,694.6	36.20			Average	Y
		point392	341	426,210.0	1,289,336.0	46.80			Average	Y
		point389	342	426,201.0	1,289,349.0	46.80			Average	Y
		Bobs point	343	426,194.0	1,289,360.0	46.70			Average	Y
		Bobs point	344	426,166.0	1,289,401.0	46.60			Average	Y
		point309	345	426,159.0	1,289,415.0	46.50			Average	Y
		point318	346	426,151.0	1,289,429.0	46.50			Average	Y
		point473	473	426,009.0	1,289,658.2	43.70			Average	Y
		point242	347	425,015.8	1,291,258.2	15.00				
Bryan Dairy Rd EB outside Lane	20.0	point247	348	423,565.4	1,288,871.8	15.00			Average	
		point248	349	424,286.6	1,289,203.0	15.00			Average	
		point249	350	424,433.3	1,289,270.0	15.00			Average	
		point250	351	424,538.1	1,289,307.8	15.00			Average	

INPUT: ROADWAYS

118th Avenue Improvements

		point251	352	424,668.1	1,289,341.2	15.00			Average
		point252	353	424,790.8	1,289,356.0	15.00			Average
		point253	354	425,222.6	1,289,356.0	15.00			Average
		point254	355	425,498.2	1,289,345.5	15.00			Average
		point255	356	425,586.3	1,289,337.1	15.00			Average
		point256	357	426,132.0	1,289,333.0	15.00			Average
		point363	358	426,141.0	1,289,334.0	15.00			Average
		Bob's poin	359	426,160.0	1,289,334.0	15.00			Average
		point392	360	426,210.0	1,289,336.0	15.00			Average
		point393	361	426,221.0	1,289,336.0	15.00			Average
		point394	362	426,233.0	1,289,336.0	15.00			Average
		point257	363	426,621.8	1,289,345.5	15.00			Average
		point258	364	426,789.5	1,289,353.9	15.00			Average
		point259	365	427,041.1	1,289,387.4	15.00			Average
		point260	366	427,208.8	1,289,395.8	15.00			Average
		point261	367	427,590.3	1,289,395.8	15.00			
Bryan Dairy Rd EB Right Turn Lane	13.0	point262	368	425,598.8	1,289,324.5	15.00			Average
		point263	369	426,068.4	1,289,324.5	15.00			
Bryan Dairy Rd EB Middle Lane	13.0	point264	370	423,557.1	1,288,884.4	15.00			Average
		point265	371	424,328.5	1,289,236.5	15.00			Average
		point266	372	424,466.8	1,289,295.2	15.00			Average
		point267	373	424,542.3	1,289,324.5	15.00			Average
		point268	374	424,680.7	1,289,353.9	15.00			Average
		point269	375	424,806.4	1,289,370.6	15.00			Average
		point270	376	425,494.0	1,289,361.2	15.00			Average
		point271	377	425,594.7	1,289,348.8	15.00			Average
		point272	378	426,123.0	1,289,347.0	15.00			Average
		point362	379	426,133.0	1,289,347.0	15.00			Average
		Bobs point	380	426,152.0	1,289,347.0	15.00			Average
		point389	381	426,201.0	1,289,349.0	15.00			Average
		point390	382	426,213.0	1,289,349.0	15.00			Average
		point391	383	426,223.0	1,289,350.0	15.00			Average
		point273	384	426,617.7	1,289,358.1	15.00			Average
		point274	385	426,793.7	1,289,370.6	15.00			Average
		point275	386	427,066.3	1,289,404.2	15.00			Average
		point276	387	427,602.9	1,289,408.4	15.00			
Bryan Dairy Rd EB Inside Lane	12.0	point277	388	423,552.9	1,288,892.8	15.00			Average
		point278	389	424,169.2	1,289,173.6	15.00			Average

INPUT: ROADWAYS

118th Avenue Improvements

		point279	390	424,416.5	1,289,286.8	15.00			Average
		point280	391	424,529.8	1,289,332.9	15.00			Average
		point281	392	424,672.3	1,289,366.5	15.00			Average
		point282	393	424,852.6	1,289,383.2	15.00			Average
		point283	394	425,297.0	1,289,379.0	15.00			Average
		point284	395	425,502.4	1,289,370.6	15.00			Average
		point285	396	425,636.6	1,289,358.1	15.00			Average
		point286	397	426,116.0	1,289,358.0	15.00			Average
		point361	398	426,126.0	1,289,358.0	15.00			Average
		point386	399	426,146.0	1,289,359.0	15.00			Average
		Bobs point	400	426,194.0	1,289,360.0	15.00			Average
		point387	401	426,207.0	1,289,360.0	15.00			Average
		point388	402	426,215.0	1,289,361.0	15.00			Average
		point287	403	426,621.8	1,289,370.6	15.00			Average
		point288	404	426,772.8	1,289,383.2	15.00			Average
		point289	405	427,062.1	1,289,416.8	15.00			Average
		point290	406	427,598.7	1,289,421.0	15.00			Average
Bryan Dairy Rd Inside Left Turn Lane	13.0	point291	407	425,598.8	1,289,372.1	15.00			Average
		point292	408	426,057.6	1,289,370.2	15.00			Average
Bryan Dairy Rd Outside Left Turn Lane	12.0	point294	409	425,599.8	1,289,383.9	15.00			Average
		point295	410	426,055.8	1,289,382.1	15.00			Average
Bryan Dairy Rd WB Inside Lane	12.0	point296	411	427,620.8	1,289,447.0	15.00			Average
		point297	412	427,084.3	1,289,442.9	15.00			Average
		point358	413	426,900.0	1,289,428.6	15.00			Average
		newpoint1	414	426,738.1	1,289,410.8	15.00			Average
		point298	415	426,192.0	1,289,401.0	15.00			Average
		point360	416	426,179.0	1,289,401.0	15.00			Average
		Bobs point	417	426,166.0	1,289,401.0	15.00			Average
		Bobs point	418	426,117.0	1,289,400.0	15.00			Average
		point220.7	419	426,099.0	1,289,400.0	15.00			Average
		point373	420	426,088.0	1,289,400.0	15.00			Average
		point300	421	425,663.0	1,289,402.0	15.00			Average
		point301	422	424,835.7	1,289,406.0	15.00			Average
		point302	423	424,688.2	1,289,393.8	15.00			Average
		point303	424	424,524.4	1,289,352.9	15.00			Average
		point304	425	424,233.6	1,289,225.9	15.00			Average
		point305	426	423,549.6	1,288,910.5	15.00			Average
Bryan Dairy Rd WB Middle Lane	13.0	point306	427	427,616.8	1,289,459.2	15.00			Average

INPUT: ROADWAYS

118th Avenue Improvements

		point307	428	427,067.9	1,289,455.2	15.00				Average
		point308	429	426,732.1	1,289,422.5	15.00				Average
		newpoint1	430	426,200.0	1,289,415.0	15.00				Average
		newpoint2	431	426,184.0	1,289,415.0	15.00				Average
		newpoint3	432	426,171.0	1,289,415.0	15.00				Average
		point309	433	426,159.0	1,289,415.0	15.00				Average
		Bobs point	434	426,108.0	1,289,414.0	15.00				Average
		point220.5	435	426,090.0	1,289,414.0	15.00				Average
		point372	436	426,080.0	1,289,413.0	15.00				Average
		point310	437	424,839.8	1,289,418.4	15.00				Average
		point311	438	424,700.5	1,289,406.0	15.00				Average
		point312	439	424,549.0	1,289,369.2	15.00				Average
		point313	440	424,409.7	1,289,319.9	15.00				Average
		point314	441	423,545.5	1,288,918.5	15.00				
Bryan Dairy Rd WB Outside Lane	20.0	point315	442	427,622.3	1,289,469.9	15.00				Average
		point316	443	427,072.6	1,289,465.9	15.00				Average
		point317	444	426,795.7	1,289,437.4	15.00				Average
		point354	445	426,175.0	1,289,430.0	15.00				Average
		point353	446	426,161.0	1,289,430.0	15.00				Average
		point318	447	426,151.0	1,289,429.0	15.00				Average
		Bobs point	448	426,099.0	1,289,428.0	15.00				Average
		point220	449	426,081.0	1,289,428.0	15.00				Average
		point224	450	426,069.0	1,289,428.0	15.00				Average
		point319	451	424,807.5	1,289,429.2	15.00				Average
		point320	452	424,661.9	1,289,412.9	15.00				Average
		point321	453	424,519.3	1,289,376.2	15.00				Average
		point322	454	424,376.8	1,289,319.2	15.00				Average
		point323	455	423,537.9	1,288,932.4	15.00				
118th Avenue Right Turn Lane	12.0	point324	456	426,483.0	1,289,443.1	15.00				Average
		point325	457	426,229.4	1,289,439.9	15.00				
118th Avenue Inside Left Turn Lane	13.0	point326	458	426,709.3	1,289,398.1	15.00				Average
		point327	459	426,285.6	1,289,391.8	15.00				
118th Avenue Outside Left Turn Lane	12.0	point328	460	426,693.2	1,289,385.4	15.00				Average
		point329	461	426,284.0	1,289,380.5	15.00				

INPUT: TRAFFIC FOR LAeq1h Volumes

118th Avenue Improvements

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes

PROJECT/CONTRACT: 118th Avenue Improvements  
RUN: 118th Avenue No Build Conditions in 2025

Roadway Name	Points											
	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
N Frontage Road SB Outside Thru Lane	point201	201	287	40	4	40	4	40	1	40	1	40
	point202	202										
N Frontage Road SB Inside Thru Lane	point203	203	287	40	4	40	4	40	1	40	1	40
	point204	204										
N Frontage Rd SB Out Left Turn Lane	point206	206	431	40	6	40	6	40	2	40	2	40
	point207	207										
N Frontage Rd SB Inside Left Turn Lane	point208	208	431	40	6	40	6	40	2	40	2	40
	point209	209										
S Frontage Road SB Outside Thru Lane	point210	210	416	40	6	40	6	40	2	40	2	40
	point211	211										
S Frontage Rd SB Inside Turn Lane	point212	212	416	40	6	40	6	40	2	40	2	40
	point213	213										
S Frontage Rd NB Inside Left Turn Lane	point256	256	196	40	3	40	3	40	1	40	1	40
	point257	257										
S Frontage Rd NB Out Left Turn Lane	point258	258	196	40	3	40	3	40	1	40	1	40
	point259	259										
S Frontage Rd NB Inside Thru Lane	point260	260	333	40	4	40	4	40	2	40	2	40
	point261	261										
S Frontage Rd NB Outside Thru Lane	point262	262	333	40	4	40	4	40	2	40	2	40
	point263	263	333	40	4	40	4	40	2	40	2	40
	point264	264	333	40	4	40	4	40	2	40	2	40
	point265	265	333	40	4	40	4	40	2	40	2	40

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point266	266	333	40	4	40	4	40	2	40	2	40
	point267	267										
N Frontage Rd/Ramp NB Inside Lane	point268	268	737	40	10	40	10	40	4	40	4	40
	point269	269	737	40	10	40	10	40	4	40	4	40
	point270	270	737	40	10	40	10	40	4	40	4	40
	point271	271										
N Frontage Rd NB Outside Lane	point275	275	737	40	10	40	10	40	4	40	4	40
	point276	276	737	40	10	40	10	40	4	40	4	40
	point277	277	737	40	10	40	10	40	4	40	4	40
	point278	278										
US 19 SB Inside Lane	point462	462	1418	55	19	55	19	55	7	55	7	55
	point215	286	1418	55	19	55	19	55	7	55	7	55
	Bobs point 6	287	1418	55	19	55	19	55	7	55	7	55
	Bobs point 5	288	1418	55	19	55	19	55	7	55	7	55
	Bobs point 4	289	1418	55	19	55	19	55	7	55	7	55
	point386	290	1418	55	19	55	19	55	7	55	7	55
	Bobs point 2	291	1418	55	19	55	19	55	7	55	7	55
	Bob's point 1	292	1418	55	19	55	19	55	7	55	7	55
	point470	470	1418	55	19	55	19	55	7	55	7	55
	point217	293	1418	55	19	55	19	55	7	55	7	55
	point218	294										
US 19 SB Middle Lane	point463	463	1418	55	19	55	19	55	7	55	7	55
	point219	295	1418	55	19	55	19	55	7	55	7	55
	point220	296	1418	55	19	55	19	55	7	55	7	55
	point220.5	297	1418	55	19	55	19	55	7	55	7	55
	point220.7	298	1418	55	19	55	19	55	7	55	7	55
	point361	299	1418	55	19	55	19	55	7	55	7	55
	point362	300	1418	55	19	55	19	55	7	55	7	55
	point363	301	1418	55	19	55	19	55	7	55	7	55
	point469	469	1418	55	19	55	19	55	7	55	7	55
	point221	302	1418	55	19	55	19	55	7	55	7	55
	point222	303										
US 19 SB Outside Lane	point464	464	1418	55	19	55	19	55	7	55	7	55
	point223	304	1418	55	19	55	19	55	7	55	7	55



**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point224	305	1418	55	19	55	19	55	7	55	7	55
	point372	306	1418	55	19	55	19	55	7	55	7	55
	point373	307	1418	55	19	55	19	55	7	55	7	55
	point286	308	1418	55	19	55	19	55	7	55	7	55
	point272	309	1418	55	19	55	19	55	7	55	7	55
	point256	310	1418	55	19	55	19	55	7	55	7	55
	point468	468	1418	55	19	55	19	55	7	55	7	55
	point225	311	1418	55	19	55	19	55	7	55	7	55
	point226	312										
US 19 NB Outside Lane	point465	465	1130	55	15	55	15	55	6	55	6	55
	point233	313	1130	55	15	55	15	55	6	55	6	55
	point352	314	1130	55	15	55	15	55	6	55	6	55
	point394	315	1130	55	15	55	15	55	6	55	6	55
	point391	316	1130	55	15	55	15	55	6	55	6	55
	point388	317	1130	55	15	55	15	55	6	55	6	55
	point298	318	1130	55	15	55	15	55	6	55	6	55
	newpoin2	319	1130	55	15	55	15	55	6	55	6	55
	point354	320	1130	55	15	55	15	55	6	55	6	55
	point471	471	1130	55	15	55	15	55	6	55	6	55
	point235	321										
US 19 NB Middle Lane	point466	466	1130	55	15	55	15	55	6	55	6	55
	point237	322	1130	55	15	55	15	55	6	55	6	55
	point375	323	1130	55	15	55	15	55	6	55	6	55
	point393	324	1130	55	15	55	15	55	6	55	6	55
	point390	325	1130	55	15	55	15	55	6	55	6	55
	point387	326	1130	55	15	55	15	55	6	55	6	55
	point360	327	1130	55	15	55	15	55	6	55	6	55
	newpoint3	328	1130	55	15	55	15	55	6	55	6	55
	point353	329	1130	55	15	55	15	55	6	55	6	55
	point472	472	1130	55	15	55	15	55	6	55	6	55
	point239	330										
US 19 NB Inside Lane	point467	467	1130	55	15	55	15	55	6	55	6	55
	point240	340	1130	55	15	55	15	55	6	55	6	55
	point392	341	1130	55	15	55	15	55	6	55	6	55

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point389	342	1130	55	15	55	15	55	6	55	6	55
	Bobs point 3	343	1130	55	15	55	15	55	6	55	6	55
	Bobs point 4	344	1130	55	15	55	15	55	6	55	6	55
	point309	345	1130	55	15	55	15	55	6	55	6	55
	point318	346	1130	55	15	55	15	55	6	55	6	55
	point473	473	1130	55	15	55	15	55	6	55	6	55
	point242	347										
Bryan Dairy Rd EB outside Lane	point247	348	699	45	13	45	13	45	4	45	4	45
	point248	349	699	45	13	45	13	45	4	45	4	45
	point249	350	699	45	13	45	13	45	4	45	4	45
	point250	351	699	45	13	45	13	45	4	45	4	45
	point251	352	699	45	13	45	13	45	4	45	4	45
	point252	353	699	45	13	45	13	45	4	45	4	45
	point253	354	699	45	13	45	13	45	4	45	4	45
	point254	355	699	45	13	45	13	45	4	45	4	45
	point255	356	493	45	9	45	9	45	3	45	3	45
	point256	357	493	45	9	45	9	45	3	45	3	45
	point363	358	493	45	9	45	9	45	3	45	3	45
	Bob's point 1	359	493	45	9	45	9	45	3	45	3	45
	point392	360	493	45	9	45	9	45	3	45	3	45
	point393	361	493	45	9	45	9	45	3	45	3	45
	point394	362	699	45	13	45	13	45	4	45	4	45
	point257	363	699	45	13	45	13	45	4	45	4	45
	point258	364	699	45	13	45	13	45	4	45	4	45
	point259	365	699	45	13	45	13	45	4	45	4	45
	point260	366	699	45	13	45	13	45	4	45	4	45
	point261	367										
Bryan Dairy Rd EB Right Turn Lane	point262	368	315	45	6	45	6	45	2	45	2	45
	point263	369										
Bryan Dairy Rd EB Middle Lane	point264	370	699	45	13	45	13	45	4	45	4	45
	point265	371	699	45	13	45	13	45	4	45	4	45
	point266	372	699	45	13	45	13	45	4	45	4	45
	point267	373	699	45	13	45	13	45	4	45	4	45
	point268	374	493	45	9	45	9	45	3	45	3	45

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point269	375	699	45	13	45	13	45	4	45	4	45
	point270	376	699	45	13	45	13	45	4	45	4	45
	point271	377	493	45	9	45	9	45	3	45	3	45
	point272	378	493	45	9	45	9	45	3	45	3	45
	point362	379	493	45	9	45	9	45	3	45	3	45
	Bobs point 2	380	493	45	9	45	9	45	3	45	3	45
	point389	381	493	45	9	45	9	45	3	45	3	45
	point390	382	493	45	9	45	9	45	3	45	3	45
	point391	383	699	45	13	45	13	45	4	45	4	45
	point273	384	699	45	13	45	13	45	4	45	4	45
	point274	385	699	45	13	45	13	45	4	45	4	45
	point275	386	699	45	13	45	13	45	4	45	4	45
	point276	387										
Bryan Dairy Rd EB Inside Lane	point277	388	699	45	13	45	13	45	4	45	4	45
	point278	389	699	45	13	45	13	45	4	45	4	45
	point279	390	699	45	13	45	13	45	4	45	4	45
	point280	391	699	45	13	45	13	45	4	45	4	45
	point281	392	699	45	13	45	13	45	4	45	4	45
	point282	393	699	45	13	45	13	45	4	45	4	45
	point283	394	699	45	13	45	13	45	4	45	4	45
	point284	395	699	45	13	45	13	45	4	45	4	45
	point285	396	493	45	9	45	9	45	3	45	3	45
	point286	397	493	45	9	45	9	45	3	45	3	45
	point361	398	493	45	9	45	9	45	3	45	3	45
	point386	399	493	45	9	45	9	45	3	45	3	45
	Bobs point 3	400	493	45	9	45	9	45	3	45	3	45
	point387	401	493	45	9	45	9	45	3	45	3	45
	point388	402	699	45	13	45	13	45	4	45	4	45
	point287	403	699	45	13	45	13	45	4	45	4	45
	point288	404	699	45	13	45	13	45	4	45	4	45
	point289	405	699	45	13	45	13	45	4	45	4	45
	point290	406										
Bryan Dairy Rd Inside Left Turn Lane	point291	407	152	45	3	45	3	45	1	45	1	45
	point292	408										

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

Bryan Dairy Rd Outside Left Turn Lane	point294	409	152	45	3	45	3	45	1	45	1	45
	point295	410										
Bryan Dairy Rd WB Inside Lane	point296	411	557	45	10	45	10	45	3	45	3	45
	point297	412	557	45	10	45	10	45	3	45	3	45
	point358	413	557	45	10	45	10	45	3	45	3	45
	newpoint1	414	318	45	6	45	6	45	2	45	2	45
	point298	415	318	45	6	45	6	45	2	45	2	45
	point360	416	318	45	6	45	6	45	2	45	2	45
	Bobs point 4	417	318	45	6	45	6	45	2	45	2	45
	Bobs point 4	418	318	45	6	45	6	45	2	45	2	45
	point220.7	419	318	45	6	45	6	45	2	45	2	45
	point373	420	557	45	10	45	10	45	3	45	3	45
	point300	421	557	45	10	45	10	45	3	45	3	45
	point301	422	557	45	10	45	10	45	3	45	3	45
	point302	423	557	45	10	45	10	45	3	45	3	45
	point303	424	557	45	10	45	10	45	3	45	3	45
	point304	425	557	45	10	45	10	45	3	45	3	45
	point305	426										
Bryan Dairy Rd WB Middle Lane	point306	427	318	45	6	45	6	45	2	45	2	45
	point307	428	318	45	6	45	6	45	2	45	2	45
	point308	429	318	45	6	45	6	45	2	45	2	45
	newpoint1	430	318	45	6	45	6	45	2	45	2	45
	newpoin2	431	318	45	6	45	6	45	2	45	2	45
	newpoint3	432	318	45	6	45	6	45	2	45	2	45
	point309	433	318	45	6	45	6	45	2	45	2	45
	Bobs point 5	434	318	45	6	45	6	45	2	45	2	45
	point220.5	435	318	45	6	45	6	45	2	45	2	45
	point372	436	557	45	10	45	10	45	3	45	3	45
	point310	437	557	45	10	45	10	45	3	45	3	45
	point311	438	557	45	10	45	10	45	3	45	3	45
	point312	439	557	45	10	45	10	45	3	45	3	45
	point313	440	557	45	10	45	10	45	3	45	3	45
	point314	441										
Bryan Dairy Rd WB Outside Lane	point315	442	557	45	10	45	10	45	3	45	3	45

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point316	443	557	45	10	45	10	45	3	45	3	45
	point317	444	318	45	6	45	6	45	2	45	2	45
	point354	445	318	45	6	45	6	45	2	45	2	45
	point353	446	318	45	6	45	6	45	2	45	2	45
	point318	447	318	45	6	45	6	45	2	45	2	45
	Bobs point 6	448	318	45	6	45	6	45	2	45	2	45
	point220	449	318	45	6	45	6	45	2	45	2	45
	point224	450	557	45	10	45	10	45	3	45	3	45
	point319	451	557	45	10	45	10	45	3	45	3	45
	point320	452	557	45	10	45	10	45	3	45	3	45
	point321	453	557	45	10	45	10	45	3	45	3	45
	point322	454	557	45	10	45	10	45	3	45	3	45
	point323	455										
118th Avenue Right Turn Lane	point324	456	535	45	10	45	10	45	3	45	3	45
	point325	457										
118th Avenue Inside Left Turn Lane	point326	458	92	45	2	45	2	45	0	0	0	0
	point327	459										
118th Avenue Outside Left Turn Lane	point328	460	92	45	2	45	2	45	0	0	0	0
	point329	461										

**INPUT: RECEIVERS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5

**INPUT: RECEIVERS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue No Build Conditions in 2025

**Receiver**

Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	
			ft	ft	ft		dBA	dBA	dB	dB	
Receiver17	23	1	425,207.8	1,289,020.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver3	24	1	425,425.7	1,289,071.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver4	25	1	425,530.2	1,289,091.1	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver5	26	1	425,586.9	1,289,084.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver6	27	1	425,672.0	1,289,100.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver7	28	1	425,755.3	1,289,087.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver8	29	1	425,831.5	1,289,092.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver9	30	1	425,900.6	1,289,103.5	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver1	31	1	425,103.8	1,289,130.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver2	32	1	425,419.4	1,288,995.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver10	33	1	425,410.1	1,288,903.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver11	34	1	425,410.1	1,288,852.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver12	35	1	425,530.4	1,288,930.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver13	36	1	425,637.4	1,288,934.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver14	37	1	425,708.3	1,288,930.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver15	38	1	425,753.8	1,288,933.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver16	39	1	425,850.0	1,288,933.0	15.00	5.00	0.00	66	15.0	5.0	Y

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10 May 2005  
TNM 2.5

INPUT: BARRIERS

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue No Build Conditions in 2025

Barrier									Points										
Name	Type	Height		If Wall \$ per Unit Area	If Berm \$ per Unit Vol.	Top Width ft	Run:Rise ft:ft	Add'l \$ per Unit Length \$/ft	Name	No.	Coordinates (bottom)			Height at Point ft	Segment				
		Min ft	Max ft								X ft	Y ft	Z ft		Seg Ht ft	Perturbs #Up	#Dn	On Struct?	Important Reflec- tions?
Drive Time	W	0.00	20.00	0.00				0.00	point1	1	426,082.3	1,289,154.0	15.00	20.00	0.00	0	0		
									point2	2	426,114.7	1,289,109.1	15.00	20.00					
Sunoco	W	0.00	20.00	0.00				0.00	point3	3	426,175.4	1,288,933.2	15.00	20.00	0.00	0	0		
									point4	4	426,261.0	1,288,931.1	15.00	20.00	0.00	0	0		
									point5	5	426,269.3	1,288,878.0	15.00	20.00					

RESULTS: SOUND LEVELS

118th Avenue Improvements

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10 May 2005  
TNM 2.5  
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT: 118th Avenue Improvements  
RUN: 118th Avenue Build Conditions in 2025  
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 LAeq1h dBA	No Barrier			With Barrier			Type Impact	Calculated LAeq1h dBA	Noise Reduction		Calculated minus Goal dB
				LAeq1h Calculated dBA	Crit'n dBA	Increase over existing Calculated dB	Crit'n Sub'l Inc dB	Calculated dB	Goal dB					
Receiver17	19	1	0.0	60.7	66	60.7	15	----	60.7	0.0	5	-5.0		
Receiver3	20	1	0.0	62.7	66	62.7	15	----	62.7	0.0	5	-5.0		
Receiver4	21	1	0.0	63.7	66	63.7	15	----	63.7	0.0	5	-5.0		
Receiver5	22	1	0.0	64.0	66	64.0	15	----	64.0	0.0	5	-5.0		
Receiver6	23	1	0.0	65.1	66	65.1	15	----	65.1	0.0	5	-5.0		
Receiver7	24	1	0.0	65.7	66	65.7	15	----	65.7	0.0	5	-5.0		
Receiver8	25	1	0.0	66.4	66	66.4	15	Snd Lvl	66.4	0.0	5	-5.0		
Receiver9	26	1	0.0	67.1	66	67.1	15	Snd Lvl	67.1	0.0	5	-5.0		
Receiver1	27	1	0.0	62.3	66	62.3	15	----	62.3	0.0	5	-5.0		
Receiver2	28	1	0.0	61.6	66	61.6	15	----	61.6	0.0	5	-5.0		
Receiver10	29	1	0.0	60.5	66	60.5	15	----	60.5	0.0	5	-5.0		
Receiver11	30	1	0.0	60.0	66	60.0	15	----	60.0	0.0	5	-5.0		
Receiver12	31	1	0.0	61.6	66	61.6	15	----	61.6	0.0	5	-5.0		
Receiver13	32	1	0.0	62.4	66	62.4	15	----	62.4	0.0	5	-5.0		
Receiver14	33	1	0.0	63.0	66	63.0	15	----	63.0	0.0	5	-5.0		
Receiver15	34	1	0.0	63.5	66	63.5	15	----	63.5	0.0	5	-5.0		
Receiver16	35	1	0.0	64.6	66	64.6	15	----	64.6	0.0	5	-5.0		

Dwelling Units	# DUs	Noise Reduction		
		Min dB	Avg dB	Max dB
All Selected	17	0.0	0.0	0.0
All Impacted	2	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0



INPUT: ROADWAYS

118th Avenue Improvements

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5

INPUT: ROADWAYS

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue Build Conditions in 2025

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

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement)			Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			X	Y	Z		mph	%		
S Frontage Road SB Outside Thru Lane	16.0	point210	210	426,099.1	1,289,306.6	15.00				Average	
		point211	211	427,132.9	1,287,645.6	15.00					
S Frontage Rd SB Inside Turn Lane	13.0	point212	212	426,116.3	1,289,309.1	15.00				Average	
		point213	213	427,143.6	1,287,646.4	15.00					
US 19 SB Outside Lane	20.0	point216	216	424,960.0	1,291,216.5	15.00				Average	
		point217	217	425,646.2	1,290,119.4	29.00				Average	Y
		point218	218	426,057.7	1,289,455.0	46.60				Average	Y
		point219	219	426,254.4	1,289,140.2	46.00				Average	Y
		point220	220	427,058.4	1,287,866.6	37.00				Average	Y
US 19 SB Middle Lane	13.0	point221	221	427,193.9	1,287,635.0	15.00					
		point227	227	424,972.1	1,291,218.8	15.00				Average	
		point228	228	425,656.8	1,290,125.1	29.00				Average	Y
		point229	229	426,061.4	1,289,471.5	46.60				Average	Y
		point230	230	426,270.3	1,289,129.1	46.00				Average	Y
		point231	231	426,519.3	1,288,751.2	37.00				Average	Y
US 19 SB Inside Lane	12.0	point232	232	427,212.5	1,287,640.8	15.00					
		point233	233	424,985.8	1,291,233.4	15.00				Average	
		point234	234	425,666.2	1,290,130.6	29.00				Average	Y
		point235	235	426,075.2	1,289,472.5	46.60				Average	Y
		point236	236	426,288.7	1,289,139.0	46.00				Average	Y
		point237	237	426,528.8	1,288,747.6	37.00				Average	Y
US 19 NB Inside Lane	12.0	point238	238	427,241.8	1,287,619.6	15.00					
		point240	240	427,264.2	1,287,634.1	15.00				Average	
		point241	241	426,631.1	1,288,641.0	33.00				Average	Y
		point242	242	426,173.1	1,289,370.2	46.60				Average	Y

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point243	243	426,004.1	1,289,645.9	44.00			Average	Y
		point244	244	425,003.6	1,291,246.8	15.00				
US 19 NB Middle Lane	13.0	point246	246	427,266.5	1,287,652.8	15.00			Average	
		point247	247	426,626.7	1,288,667.6	33.00			Average	Y
		point248	248	426,164.2	1,289,405.8	46.60			Average	Y
		point249	249	426,013.0	1,289,650.4	44.00			Average	Y
		point250	250	425,008.0	1,291,255.6	15.00				
US 19 NB Outside Lane	20.0	point251	251	427,282.0	1,287,647.4	15.00			Average	
		point252	252	426,631.1	1,288,681.0	33.00			Average	Y
		point253	253	426,182.0	1,289,405.8	46.60			Average	Y
		point254	254	426,021.9	1,289,659.2	44.00			Average	Y
		point255	255	425,025.8	1,291,260.1	15.00				
S Frontage Rd NB Inside Left Turn Lane	12.0	point256	256	426,573.6	1,288,796.5	15.00			Average	
		point257	257	426,262.7	1,289,295.4	15.00				
S Frontage Rd NB Out Left Turn Lane	13.0	point258	258	426,585.1	1,288,802.2	15.00			Average	
		point259	259	426,272.3	1,289,301.2	15.00				
S Frontage Rd NB Inside Thru Lane	13.0	point260	260	427,290.8	1,287,681.9	15.00			Average	
		point261	261	426,281.9	1,289,305.0	15.00				
S Frontage Rd NB Outside Thru Lane	16.0	point262	262	427,300.8	1,287,696.2	15.00			Average	
		point263	263	426,331.8	1,289,249.4	15.00			Average	
		point264	264	426,326.0	1,289,282.0	15.00			Average	
		point265	265	426,345.2	1,289,314.6	15.00			Average	
		point266	266	426,379.8	1,289,337.6	15.00			Average	
		point267	267	426,395.1	1,289,337.6	15.00				
N Frontage Rd/Ramp NB Inside Lane	12.0	point268	268	426,176.7	1,289,474.2	15.00			Average	
		point269	269	425,556.8	1,290,462.2	15.00			Average	
		point270	270	425,487.5	1,290,575.5	15.00			Average	
		point271	271	425,311.3	1,290,824.1	15.00				
N Frontage Rd NB Outside Lane	16.0	point275	275	426,189.2	1,289,480.5	15.00			Average	
		point276	276	425,814.8	1,290,072.0	15.00			Average	
		point277	277	425,632.3	1,290,374.1	15.00			Average	
		point278	278	425,408.9	1,290,723.4	15.00				
N Frontage Rd SB Out Right Turn Lane	16.0	point279	279	424,789.2	1,291,403.0	15.00			Average	
		point280	280	424,932.4	1,291,171.4	15.00			Average	
		point281	281	424,983.5	1,291,072.5	15.00			Average	
		point282	282	425,021.0	1,290,977.1	15.00			Average	
		point283	283	425,055.0	1,290,857.9	15.00			Average	
		point284	284	425,065.2	1,290,718.1	15.00			Average	

INPUT: ROADWAYS

118th Avenue Improvements

		point285	285	425,082.3	1,290,575.0	15.00			Average
		point286	286	425,089.1	1,290,527.4	15.00			Average
		point287	287	425,123.2	1,290,408.1	15.00			Average
		point288	288	425,184.5	1,290,265.0	15.00			Average
		point289	289	425,262.9	1,290,138.9	15.00			Average
		point290	290	425,361.7	1,290,026.5	15.00			Average
		point291	291	425,433.3	1,289,965.1	15.00			Average
		point292	292	425,552.5	1,289,879.9	15.00			Average
		point293	293	425,675.2	1,289,808.4	15.00			Average
		point294	294	425,757.0	1,289,757.2	15.00			Average
		point295	295	425,801.3	1,289,699.4	15.00			Average
		point296	296	425,862.6	1,289,631.1	15.00			Average
		point297	297	425,944.4	1,289,515.4	15.00			Average
		point298	298	425,947.8	1,289,477.9	15.00			Average
		point299	299	425,934.2	1,289,447.1	15.00			Average
		point300	300	425,910.3	1,289,433.5	15.00			
N Frontage Rd SB Inside Lane	13.0	point301	301	424,802.9	1,291,406.5	15.00			Average
		point302	302	424,932.4	1,291,191.8	15.00			Average
		point303	303	424,986.9	1,291,099.8	15.00			Average
		point304	304	425,024.4	1,291,007.8	15.00			Average
		point305	305	425,058.4	1,290,881.8	15.00			Average
		point306	306	425,082.3	1,290,721.6	15.00			Average
		point307	307	425,089.1	1,290,612.5	15.00			Average
		point308	308	425,113.0	1,290,486.5	15.00			Average
		point309	309	425,136.8	1,290,408.1	15.00			Average
		point310	310	425,187.9	1,290,282.0	15.00			Average
		point311	311	425,262.9	1,290,162.8	15.00			Average
		point312	312	425,337.9	1,290,067.4	15.00			Average
		point313	313	425,429.9	1,289,978.8	15.00			Average
		point314	314	425,576.4	1,289,876.5	15.00			Average
		point315	315	425,716.1	1,289,801.5	15.00			Average
		point316	316	425,780.8	1,289,753.9	15.00			Average
		point317	317	425,835.3	1,289,702.8	15.00			Average
		point318	318	425,886.5	1,289,638.0	15.00			Average
		point319	319	426,029.6	1,289,443.8	15.00			
N Frontage Rd SB Outside Thru Lane	13.0	point320	320	425,812.2	1,289,706.0	0.00			Average
		point321	321	425,858.4	1,289,656.0	0.00			Average
		point322	322	425,886.9	1,289,618.6	0.00			Average

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point323	323	426,013.3	1,289,441.8	0.00					
N Frontage Rd SB Out Left Turn Lane	13.0	point324	324	425,908.4	1,289,629.6	15.00				Average	
		point325	325	426,042.9	1,289,441.8	15.00					
N Frontage Rd SB Inside Left Turn Lane	12.0	point326	326	425,916.1	1,289,638.4	15.00				Average	
		point327	327	426,058.9	1,289,440.6	15.00					
Flyover	35.0	point328	328	424,933.9	1,291,254.2	18.50				Average	Y
		point329	329	425,385.4	1,290,398.2	13.90				Average	Y
		point330	330	425,425.1	1,290,326.0	20.70				Average	Y
		point331	331	425,457.6	1,290,239.4	24.90				Average	Y
		point332	332	425,479.3	1,290,156.2	33.40				Average	Y
		point333	333	425,519.0	1,289,936.0	41.90				Average	Y
		point334	334	425,547.9	1,289,769.9	46.00				Average	Y
		point335	335	425,573.2	1,289,683.1	50.30				Average	Y
		point336	336	425,616.5	1,289,571.2	54.50				Average	Y
		point337	337	425,699.6	1,289,459.2	58.70				Average	Y
		point338	338	425,779.1	1,289,383.4	67.20				Average	Y
		point339	339	425,862.1	1,289,322.0	71.50				Average	Y
		point340	340	425,992.2	1,289,264.2	75.60				Average	Y
		point341	341	426,158.3	1,289,235.4	79.00				Average	Y
		point342	342	426,245.0	1,289,235.4	83.20				Average	Y
		point343	343	426,371.4	1,289,260.6	83.90				Average	Y
		point344	344	426,786.7	1,289,350.9	69.30				Average	Y
		point345	345	427,068.4	1,289,412.2	63.70				Average	Y
		point346	346	427,245.4	1,289,437.6	58.00				Average	Y
		point347	347	427,422.4	1,289,452.0	55.20				Average	Y
		point348	348	427,595.8	1,289,455.6	52.40					
Bryan Dairy Rd EB Outside Lane	20.0	point247	349	423,565.4	1,288,871.8	15.00				Average	
		point248	350	424,286.6	1,289,203.0	15.00				Average	
		point249	351	424,433.3	1,289,270.0	15.00				Average	
		point250	352	424,538.1	1,289,307.8	15.00				Average	
		point251	353	424,668.1	1,289,341.2	15.00				Average	
		point252	354	424,790.8	1,289,356.0	15.00				Average	
		point253	355	425,222.6	1,289,356.0	15.00				Average	
		point254	356	425,498.2	1,289,345.5	15.00				Average	
		point255	357	425,586.3	1,289,337.1	15.00				Average	
		point256	358	426,132.0	1,289,333.0	15.00				Average	
		point363	359	426,141.0	1,289,334.0	15.00				Average	
		Bob's poin	360	426,160.0	1,289,334.0	15.00				Average	

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point392	361	426,210.0	1,289,336.0	15.00			Average
		point393	362	426,221.0	1,289,336.0	15.00			Average
		point394	363	426,233.0	1,289,336.0	15.00			Average
		point257	364	426,621.8	1,289,345.5	15.00			Average
		point258	365	426,789.5	1,289,353.9	15.00			Average
		point259	366	427,041.1	1,289,387.4	15.00			Average
		point260	367	427,208.8	1,289,395.8	15.00			Average
		point261	368	427,590.3	1,289,395.8	15.00			
Bryan Dairy Rd EB Right Turn Lane	13.0	point262	369	425,598.8	1,289,324.5	15.00			Average
		point263	370	426,068.4	1,289,324.5	15.00			
Bryan Dairy Rd EB Middle Lane	13.0	point264	371	423,557.1	1,288,884.4	15.00			Average
		point265	372	424,328.5	1,289,236.5	15.00			Average
		point266	373	424,466.8	1,289,295.2	15.00			Average
		point267	374	424,542.3	1,289,324.5	15.00			Average
		point268	375	424,680.7	1,289,353.9	15.00			Average
		point269	376	424,806.4	1,289,370.6	15.00			Average
		point270	377	425,494.0	1,289,361.2	15.00			Average
		point271	378	425,594.7	1,289,348.8	15.00			Average
		point272	379	426,123.0	1,289,347.0	15.00			Average
		point362	380	426,133.0	1,289,347.0	15.00			Average
		Bobs point	381	426,152.0	1,289,347.0	15.00			Average
		point389	382	426,201.0	1,289,349.0	15.00			Average
		point390	383	426,213.0	1,289,349.0	15.00			Average
		point391	384	426,223.0	1,289,350.0	15.00			Average
		point273	385	426,617.7	1,289,358.1	15.00			Average
		point274	386	426,793.7	1,289,370.6	15.00			Average
		point275	387	427,066.3	1,289,404.2	15.00			Average
		point276	388	427,602.9	1,289,408.4	15.00			
Bryan Dairy Rd EB Inside Lane	12.0	point277	389	423,552.9	1,288,892.8	15.00			Average
		point278	390	424,169.2	1,289,173.6	15.00			Average
		point279	391	424,416.5	1,289,286.8	15.00			Average
		point280	392	424,529.8	1,289,332.9	15.00			Average
		point281	393	424,672.3	1,289,366.5	15.00			Average
		point282	394	424,852.6	1,289,383.2	15.00			Average
		point283	395	425,297.0	1,289,379.0	15.00			Average
		point284	396	425,502.4	1,289,370.6	15.00			Average
		point285	397	425,636.6	1,289,358.1	15.00			Average
		point286	398	426,116.0	1,289,358.0	15.00			Average

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point361	399	426,126.0	1,289,358.0	15.00			Average
		point386	400	426,146.0	1,289,359.0	15.00			Average
		Bobs point	401	426,194.0	1,289,360.0	15.00			Average
		point387	402	426,207.0	1,289,360.0	15.00			Average
		point388	403	426,215.0	1,289,361.0	15.00			Average
		point287	404	426,621.8	1,289,370.6	15.00			Average
		point288	405	426,772.8	1,289,383.2	15.00			Average
		point289	406	427,062.1	1,289,416.8	15.00			Average
		point290	407	427,598.7	1,289,421.0	15.00			
Bryan Dairy Rd Inside Left Turn Lane	13.0	point291	408	425,598.8	1,289,372.1	15.00			Average
		point292	409	426,057.6	1,289,370.2	15.00			
Bryan Dairy Rd Outside Left Turn Lane	12.0	point294	410	425,599.8	1,289,383.9	15.00			Average
		point295	411	426,055.8	1,289,382.1	15.00			
bryan Dairy Rd WB Inside Lane	12.0	point296	412	427,620.8	1,289,447.0	15.00			Average
		point297	413	427,084.3	1,289,442.9	15.00			Average
		point358	414	426,900.0	1,289,428.6	15.00			Average
		newpoint1	415	426,738.1	1,289,410.8	15.00			Average
		point298	416	426,192.0	1,289,401.0	15.00			Average
		point360	417	426,179.0	1,289,401.0	15.00			Average
		Bobs point	418	426,166.0	1,289,401.0	15.00			Average
		Bobs point	419	426,117.0	1,289,400.0	15.00			Average
		point220.7	420	426,099.0	1,289,400.0	15.00			Average
		point373	421	426,088.0	1,289,400.0	15.00			Average
		point300	422	425,663.0	1,289,402.0	15.00			Average
		point301	423	424,835.7	1,289,406.0	15.00			Average
		point302	424	424,688.2	1,289,393.8	15.00			Average
		point303	425	424,524.4	1,289,352.9	15.00			Average
		point304	426	424,233.6	1,289,225.9	15.00			Average
		point305	427	423,549.6	1,288,910.5	15.00			
Bryan Dairy Rd WB Middle Lane	13.0	point306	428	427,616.8	1,289,459.2	15.00			Average
		point307	429	427,067.9	1,289,455.2	15.00			Average
		point308	430	426,732.1	1,289,422.5	15.00			Average
		newpoint1	431	426,200.0	1,289,415.0	15.00			Average
		newpoin2	432	426,184.0	1,289,415.0	15.00			Average
		newpoint3	433	426,171.0	1,289,415.0	15.00			Average
		point309	434	426,159.0	1,289,415.0	15.00			Average
		Bobs point	435	426,108.0	1,289,414.0	15.00			Average
		point220.5	436	426,090.0	1,289,414.0	15.00			Average

INPUT: ROADWAYS

118th Avenue Improvements

		point372	437	426,080.0	1,289,413.0	15.00			Average
		point310	438	424,839.8	1,289,418.4	15.00			Average
		point311	439	424,700.5	1,289,406.0	15.00			Average
		point312	440	424,549.0	1,289,369.2	15.00			Average
		point313	441	424,409.7	1,289,319.9	15.00			Average
		point314	442	423,545.5	1,288,918.5	15.00			
Bryan Dairy Rd WB Outside Lane	20.0	point315	443	427,622.3	1,289,469.9	15.00			Average
		point316	444	427,072.6	1,289,465.9	15.00			Average
		point317	445	426,795.7	1,289,437.4	15.00			Average
		point354	446	426,175.0	1,289,430.0	15.00			Average
		point353	447	426,161.0	1,289,430.0	15.00			Average
		point318	448	426,151.0	1,289,429.0	15.00			Average
		Bobs point	449	426,099.0	1,289,428.0	15.00			Average
		point220	450	426,081.0	1,289,428.0	15.00			Average
		point224	451	426,069.0	1,289,428.0	15.00			Average
		point319	452	424,807.5	1,289,429.2	15.00			Average
		point320	453	424,661.9	1,289,412.9	15.00			Average
		point321	454	424,519.3	1,289,376.2	15.00			Average
		point322	455	424,376.8	1,289,319.2	15.00			Average
		point323	456	423,537.9	1,288,932.4	15.00			
118th Avenue Right Turn Lane	12.0	point324	457	426,483.0	1,289,443.1	15.00			Average
		point325	458	426,229.4	1,289,439.9	15.00			
118th Avenue Left Turn Lane	13.0	point326	459	426,709.3	1,289,398.1	15.00			Average
		point327	460	426,285.6	1,289,391.8	15.00			
118th Avenue Outside Left Turn Lane	12.0	point328	461	426,693.2	1,289,385.4	15.00			Average
		point329	462	426,284.0	1,289,380.5	15.00			

INPUT: TRAFFIC FOR LAeq1h Volumes

118th Avenue Improvements

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue Build Conditions in 2025

Roadway	Points											
Name	Name	No.	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
S Frontage Road SB Outside Thru Lane	point210	210	463	45	6	45	6	45	2	45	2	45
	point211	211										
S Frontage Rd SB Inside Turn Lane	point212	212	463	45	6	45	6	45	2	45	2	45
	point213	213										
US 19 SB Outside Lane	point216	216	1432	55	19	55	19	55	7	55	7	55
	point217	217	1432	55	19	55	19	55	7	55	7	55
	point218	218	1432	55	19	55	19	55	7	55	7	55
	point219	219	1432	55	19	55	19	55	7	55	7	55
	point220	220	1432	55	19	55	19	55	7	55	7	55
	point221	221										
US 19 SB Middle Lane	point227	227	1432	55	19	55	19	55	7	55	7	55
	point228	228	1432	55	19	55	19	55	7	55	7	55
	point229	229	1432	55	19	55	19	55	7	55	7	55
	point230	230	1432	55	19	55	19	55	7	55	7	55
	point231	231	1432	55	19	55	19	55	7	55	7	55
	point232	232										
US 19 SB Inside Lane	point233	233	1432	55	19	55	19	55	7	55	7	55
	point234	234	1432	55	19	55	19	55	7	55	7	55
	point235	235	1432	55	19	55	19	55	7	55	7	55
	point236	236	1432	55	19	55	19	55	7	55	7	55
	point237	237	1432	55	19	55	19	55	7	55	7	55
	point238	238										



**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

US 19 NB Inside Lane	point240	240	1141	55	15	55	15	55	6	55	6	55
	point241	241	1141	55	15	55	15	55	6	55	6	55
	point242	242	1141	55	15	55	15	55	6	55	6	55
	point243	243	1141	55	15	55	15	55	6	55	6	55
	point244	244										
US 19 NB Middle Lane	point246	246	1141	55	15	55	15	55	6	55	6	55
	point247	247	1141	55	15	55	15	55	6	55	6	55
	point248	248	1141	55	15	55	15	55	6	55	6	55
	point249	249	1141	55	15	55	15	55	6	55	6	55
	point250	250										
US 19 NB Outside Lane	point251	251	1141	55	15	55	15	55	6	55	6	55
	point252	252	1141	55	15	55	15	55	6	55	6	55
	point253	253	1141	55	15	55	15	55	6	55	6	55
	point254	254	1141	55	15	55	15	55	6	55	6	55
	point255	255										
S Frontage Rd NB Inside Left Turn Lane	point256	256	149	45	2	45	2	45	1	45	1	45
	point257	257										
S Frontage Rd NB Out Left Turn Lane	point258	258	149	45	2	45	2	45	1	45	1	45
	point259	259										
S Frontage Rd NB Inside Thru Lane	point260	260	333	45	4	45	4	45	2	45	2	45
	point261	261										
S Frontage Rd NB Outside Thru Lane	point262	262	333	45	4	45	4	45	2	45	2	45
	point263	263	333	45	4	45	4	45	2	45	2	45
	point264	264	333	45	4	45	4	45	2	45	2	45
	point265	265	333	45	4	45	4	45	2	45	2	45
	point266	266	333	45	4	45	4	45	2	45	2	45
	point267	267										
N Frontage Rd/Ramp NB Inside Lane	point268	268	737	45	10	45	10	45	4	45	4	45
	point269	269	737	45	10	45	10	45	4	45	4	45
	point270	270	737	45	10	45	10	45	4	45	4	45
	point271	271										
N Frontage Rd NB Outside Lane	point275	275	737	45	10	45	10	45	4	45	4	45
	point276	276	737	45	10	45	10	45	4	45	4	45
	point277	277	737	45	10	45	10	45	4	45	4	45

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point278	278										
N Frontage Rd SB Out Right Turn Lane	point279	279	315	40	4	40	4	40	2	40	2	40
	point280	280	315	40	4	40	4	40	2	40	2	40
	point281	281	315	40	4	40	4	40	2	40	2	40
	point282	282	315	40	4	40	4	40	2	40	2	40
	point283	283	315	40	4	40	4	40	2	40	2	40
	point284	284	315	40	4	40	4	40	2	40	2	40
	point285	285	315	40	4	40	4	40	2	40	2	40
	point286	286	315	40	4	40	4	40	2	40	2	40
	point287	287	315	40	4	40	4	40	2	40	2	40
	point288	288	315	40	4	40	4	40	2	40	2	40
	point289	289	315	40	4	40	4	40	2	40	2	40
	point290	290	315	40	4	40	4	40	2	40	2	40
	point291	291	315	40	4	40	4	40	2	40	2	40
	point292	292	315	40	4	40	4	40	2	40	2	40
	point293	293	315	40	4	40	4	40	2	40	2	40
	point294	294	315	40	4	40	4	40	2	40	2	40
	point295	295	315	40	4	40	4	40	2	40	2	40
	point296	296	315	40	4	40	4	40	2	40	2	40
	point297	297	315	40	4	40	4	40	2	40	2	40
	point298	298	315	40	4	40	4	40	2	40	2	40
	point299	299	315	40	4	40	4	40	2	40	2	40
	point300	300										
N Frontage Rd SB Inside Lane	point301	301	88	40	1	40	1	40	0	0	0	0
	point302	302	88	40	1	40	1	40	0	0	0	0
	point303	303	88	40	1	40	1	40	0	0	0	0
	point304	304	88	40	1	40	1	40	0	0	0	0
	point305	305	88	40	1	40	1	40	0	0	0	0
	point306	306	88	40	1	40	1	40	0	0	0	0
	point307	307	88	40	1	40	1	40	0	0	0	0
	point308	308	88	40	1	40	1	40	0	0	0	0
	point309	309	88	40	1	40	1	40	0	0	0	0
	point310	310	88	40	1	40	1	40	0	0	0	0
	point311	311	88	40	1	40	1	40	0	0	0	0

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point312	312	88	40	1	40	1	40	0	0	0	0
	point313	313	88	40	1	40	1	40	0	0	0	0
	point314	314	88	40	1	40	1	40	0	0	0	0
	point315	315	88	40	1	40	1	40	0	0	0	0
	point316	316	88	40	1	40	1	40	0	0	0	0
	point317	317	88	40	1	40	1	40	0	0	0	0
	point318	318	88	40	1	40	1	40	0	0	0	0
	point319	319										
N Frontage Rd SB Outside Thru Lane	point320	320	88	40	1	40	1	40	0	0	0	0
	point321	321	88	40	1	40	1	40	0	0	0	0
	point322	322	88	40	1	40	1	40	0	0	0	0
	point323	323										
N Frontage Rd SB Out Left Turn Lane	point324	324	307	40	4	40	4	40	2	40	2	40
	point325	325										
N Frontage Rd SB Inside Left Turn Lane	point326	326	307	40	4	40	4	40	2	40	2	40
	point327	327										
Flyover	point328	328	841	35	11	35	11	35	4	35	4	35
	point329	329	841	35	11	35	11	35	4	35	4	35
	point330	330	841	35	11	35	11	35	4	35	4	35
	point331	331	841	35	11	35	11	35	4	35	4	35
	point332	332	841	35	11	35	11	35	4	35	4	35
	point333	333	841	35	11	35	11	35	4	35	4	35
	point334	334	841	35	11	35	11	35	4	35	4	35
	point335	335	841	35	11	35	11	35	4	35	4	35
	point336	336	841	35	11	35	11	35	4	35	4	35
	point337	337	841	35	11	35	11	35	4	35	4	35
	point338	338	841	35	11	35	11	35	4	35	4	35
	point339	339	841	35	11	35	11	35	4	35	4	35
	point340	340	841	35	11	35	11	35	4	35	4	35
	point341	341	841	35	11	35	11	35	4	35	4	35
	point342	342	841	35	11	35	11	35	4	35	4	35
	point343	343	841	35	11	35	11	35	4	35	4	35
	point344	344	841	35	11	35	11	35	4	35	4	35
	point345	345	841	35	11	35	11	35	4	35	4	35

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point346	346	841	35	11	35	11	35	4	35	4	35
	point347	347	841	35	11	35	11	35	4	35	4	35
	point348	348										
Bryan Dairy Rd EB Outside Lane	point247	349	699	45	13	45	13	45	4	45	4	45
	point248	350	699	45	13	45	13	45	4	45	4	45
	point249	351	699	45	13	45	13	45	4	45	4	45
	point250	352	699	45	13	45	13	45	4	45	4	45
	point251	353	699	45	13	45	13	45	4	45	4	45
	point252	354	699	45	13	45	13	45	4	45	4	45
	point253	355	699	45	13	45	13	45	4	45	4	45
	point254	356	699	45	13	45	13	45	4	45	4	45
	point255	357	458	45	8	45	8	45	2	45	2	45
	point256	358	458	45	8	45	8	45	2	45	2	45
	point363	359	458	45	8	45	8	45	2	45	2	45
	Bob's point 1	360	458	45	8	45	8	45	2	45	2	45
	point392	361	458	45	8	45	8	45	2	45	2	45
	point393	362	458	45	8	45	8	45	2	45	2	45
	point394	363	699	45	13	45	13	45	4	45	4	45
	point257	364	699	45	13	45	13	45	4	45	4	45
	point258	365	699	45	13	45	13	45	4	45	4	45
	point259	366	699	45	13	45	13	45	4	45	4	45
	point260	367	699	45	13	45	13	45	4	45	4	45
	point261	368										
Bryan Dairy Rd EB Right Turn Lane	point262	369	325	45	6	45	6	45	2	45	2	45
	point263	370										
Bryan Dairy Rd EB Middle Lane	point264	371	699	45	13	45	13	45	4	45	4	45
	point265	372	699	45	13	45	13	45	4	45	4	45
	point266	373	699	45	13	45	13	45	4	45	4	45
	point267	374	699	45	13	45	13	45	4	45	4	45
	point268	375	699	45	13	45	13	45	4	45	4	45
	point269	376	699	45	13	45	13	45	4	45	4	45
	point270	377	699	45	13	45	13	45	4	45	4	45
	point271	378	458	45	8	45	8	45	2	45	2	45
	point272	379	458	45	8	45	8	45	2	45	2	45

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point362	380	458	45	8	45	8	45	2	45	2	45
	Bobs point 2	381	458	45	8	45	8	45	2	45	2	45
	point389	382	458	45	8	45	8	45	2	45	2	45
	point390	383	458	45	8	45	8	45	2	45	2	45
	point391	384	699	45	13	45	13	45	4	45	4	45
	point273	385	699	45	13	45	13	45	4	45	4	45
	point274	386	699	45	13	45	13	45	4	45	4	45
	point275	387	699	45	13	45	13	45	4	45	4	45
	point276	388										
Bryan DairyRd EB Inside Lane	point277	389	699	45	13	45	13	45	4	45	4	45
	point278	390	699	45	13	45	13	45	4	45	4	45
	point279	391	699	45	13	45	13	45	4	45	4	45
	point280	392	699	45	13	45	13	45	4	45	4	45
	point281	393	699	45	13	45	13	45	4	45	4	45
	point282	394	699	45	13	45	13	45	4	45	4	45
	point283	395	699	45	13	45	13	45	4	45	4	45
	point284	396	699	45	13	45	13	45	4	45	4	45
	point285	397	458	45	8	45	8	45	2	45	2	45
	point286	398	458	45	8	45	8	45	2	45	2	45
	point361	399	458	45	8	45	8	45	2	45	2	45
	point386	400	458	45	8	45	8	45	2	45	2	45
	Bobs point 3	401	458	45	8	45	8	45	2	45	2	45
	point387	402	458	45	8	45	8	45	2	45	2	45
	point388	403	699	45	13	45	13	45	4	45	4	45
	point287	404	699	45	13	45	13	45	4	45	4	45
	point288	405	699	45	13	45	13	45	4	45	4	45
	point289	406	699	45	13	45	13	45	4	45	4	45
	point290	407										
Bryan Dairy Rd Inside Left Turn Lane	point291	408	199	45	4	45	4	45	1	45	1	45
	point292	409										
Bryan Dairy Rd Outside Left Turn Lane	point294	410	199	45	4	45	4	45	1	45	1	45
	point295	411										
bryan Dairy Rd WB Inside Lane	point296	412	557	45	10	45	10	45	3	45	3	45
	point297	413	557	45	10	45	10	45	3	45	3	45

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point358	414	557	45	10	45	10	45	3	45	3	45
	newpoint1	415	323	45	6	45	6	45	2	45	2	45
	point298	416	323	45	6	45	6	45	2	45	2	45
	point360	417	323	45	6	45	6	45	2	45	2	45
	Bobs point 4	418	323	45	6	45	6	45	2	45	2	45
	Bobs point 4	419	323	45	6	45	6	45	2	45	2	45
	point220.7	420	323	45	6	45	6	45	2	45	2	45
	point373	421	557	45	10	45	10	45	3	45	3	45
	point300	422	557	45	10	45	10	45	3	45	3	45
	point301	423	557	45	10	45	10	45	3	45	3	45
	point302	424	557	45	10	45	10	45	3	45	3	45
	point303	425	557	45	10	45	10	45	3	45	3	45
	point304	426	557	45	10	45	10	45	3	45	3	45
	point305	427										
Bryan Dairy Rd WB Middle Lane	point306	428	323	45	6	45	6	45	2	45	2	45
	point307	429	323	45	6	45	6	45	2	45	2	45
	point308	430	323	45	6	45	6	45	2	45	2	45
	newpoint1	431	323	45	6	45	6	45	2	45	2	45
	newpoin2	432	557	45	10	45	10	45	3	45	3	45
	newpoint3	433	557	45	10	45	10	45	3	45	3	45
	point309	434	557	45	10	45	10	45	3	45	3	45
	Bobs point 5	435	557	45	10	45	10	45	3	45	3	45
	point220.5	436	557	45	10	45	10	45	3	45	3	45
	point372	437	557	45	10	45	10	45	3	45	3	45
	point310	438	557	45	10	45	10	45	3	45	3	45
	point311	439	557	45	10	45	10	45	3	45	3	45
	point312	440	557	45	10	45	10	45	3	45	3	45
	point313	441	557	45	10	45	10	45	3	45	3	45
	point314	442										
Bryan Dairy Rd WB Outside Lane	point315	443	323	45	6	45	6	45	2	45	2	45
	point316	444	323	45	6	45	6	45	2	45	2	45
	point317	445	323	45	6	45	6	45	2	45	2	45
	point354	446	557	45	10	45	10	45	3	45	3	45
	point353	447	557	45	10	45	10	45	3	45	3	45

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**118th Avenue Improvements**

	point318	448	557	45	10	45	10	45	3	45	3	45
	Bobs point 6	449	557	45	10	45	10	45	3	45	3	45
	point220	450	557	45	10	45	10	45	3	45	3	45
	point224	451	557	45	10	45	10	45	3	45	3	45
	point319	452	557	45	10	45	10	45	3	45	3	45
	point320	453	557	45	10	45	10	45	3	45	3	45
	point321	454	557	45	10	45	10	45	3	45	3	45
	point322	455	557	45	10	45	10	45	3	45	3	45
	point323	456										
118th Avenue Right Turn Lane	point324	457	552	45	10	45	10	45	3	45	3	45
	point325	458										
118th Avenue Left Turn Lane	point326	459	75	45	1	45	1	45	0	0	0	0
	point327	460										
118th Avenue Outside Left Turn Lane	point328	461	75	45	1	45	1	45	0	0	0	0
	point329	462										

**INPUT: RECEIVERS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

10 May 2005  
TNM 2.5

**INPUT: RECEIVERS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Build Conditions in 2025

**Receiver**

Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	
			ft	ft	ft		dBA	dBA	dB	dB	
Receiver17	19	1	425,207.8	1,289,020.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver3	20	1	425,425.7	1,289,071.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver4	21	1	425,530.2	1,289,091.1	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver5	22	1	425,586.9	1,289,084.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver6	23	1	425,672.0	1,289,100.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver7	24	1	425,755.3	1,289,087.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver8	25	1	425,831.5	1,289,092.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver9	26	1	425,900.6	1,289,103.5	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver1	27	1	425,103.8	1,289,130.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver2	28	1	425,419.4	1,288,995.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver10	29	1	425,410.1	1,288,903.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver11	30	1	425,410.1	1,288,852.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver12	31	1	425,530.4	1,288,930.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver13	32	1	425,637.4	1,288,934.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver14	33	1	425,708.3	1,288,930.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver15	34	1	425,753.8	1,288,933.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver16	35	1	425,850.0	1,288,933.0	15.00	5.00	0.00	66	15.0	5.0	Y



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10 May 2005  
TNM 2.5

INPUT: BARRIERS

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue Build Conditions in 2025

Barrier									Points										
Name	Type	Height		If Wall \$ per Unit Area	If Berm \$ per Unit Vol.	Top Width ft	Run:Rise ft:ft	Add'l \$ per Unit Length	Name	No.	Coordinates (bottom)			Height at Point ft	Segment				
		Min ft	Max ft								X ft	Y ft	Z ft		Seg Ht ft	Perturbs #Up	#Dn	On Struct?	Important Reflec- tions?
Drive Time	W	0.00	20.00	0.00				0.00	point1	1	426,082.3	1,289,154.0	15.00	20.00	0.00	0	0		
									point2	2	426,114.7	1,289,109.1	15.00	20.00					
Sunoco	W	0.00	20.00	0.00				0.00	point3	3	426,175.4	1,288,933.2	15.00	20.00	0.00	0	0		
									point4	4	426,261.0	1,288,931.1	15.00	20.00	0.00	0	0		
									point5	5	426,269.3	1,288,878.0	15.00	20.00					

**RESULTS: SOUND LEVELS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

23 May 2005  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Build Flyover Contours  
**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 LAeq1h	No Barrier			Increase over existing		Type Impact	With Barrier			
				LAeq1h Calculated	Crit'n		Calculated	Crit'n Sub'l Inc		Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	
Receiver19	37	1	0.0	60.8	66	60.8	15	----	60.8	0.0	5	-5.0	
Receiver20	38	1	0.0	61.5	66	61.5	15	----	61.5	0.0	5	-5.0	
Receiver21	39	1	0.0	62.2	66	62.2	15	----	62.2	0.0	5	-5.0	
Receiver22	40	1	0.0	63.0	66	63.0	15	----	63.0	0.0	5	-5.0	
Receiver23	41	1	0.0	63.9	66	63.9	15	----	63.9	0.0	5	-5.0	
Receiver24	42	1	0.0	64.6	66	64.6	15	----	64.6	0.0	5	-5.0	
Receiver25	43	1	0.0	65.5	66	65.5	15	----	65.5	0.0	5	-5.0	
Receiver26	44	1	0.0	66.1	66	66.1	15	Snd Lvl	66.1	0.0	5	-5.0	
Receiver28	45	1	0.0	67.7	66	67.7	15	Snd Lvl	67.7	0.0	5	-5.0	
Receiver29	46	1	0.0	68.7	66	68.7	15	Snd Lvl	68.7	0.0	5	-5.0	
Receiver30	47	1	0.0	69.6	66	69.6	15	Snd Lvl	69.6	0.0	5	-5.0	
Receiver31	48	1	0.0	70.6	66	70.6	15	Snd Lvl	70.6	0.0	5	-5.0	
Receiver32	49	1	0.0	71.8	66	71.8	15	Snd Lvl	71.8	0.0	5	-5.0	
Receiver33	50	1	0.0	72.5	66	72.5	15	Snd Lvl	72.5	0.0	5	-5.0	
Receiver36	51	1	0.0	72.3	66	72.3	15	Snd Lvl	72.3	0.0	5	-5.0	
Receiver37	52	1	0.0	71.3	66	71.3	15	Snd Lvl	71.3	0.0	5	-5.0	
Receiver38	53	1	0.0	70.2	66	70.2	15	Snd Lvl	70.2	0.0	5	-5.0	
Receiver39	54	1	0.0	69.4	66	69.4	15	Snd Lvl	69.4	0.0	5	-5.0	
Receiver40	55	1	0.0	68.5	66	68.5	15	Snd Lvl	68.5	0.0	5	-5.0	
Receiver41	56	1	0.0	67.7	66	67.7	15	Snd Lvl	67.7	0.0	5	-5.0	
Receiver42	57	1	0.0	66.8	66	66.8	15	Snd Lvl	66.8	0.0	5	-5.0	
Receiver43	58	1	0.0	65.9	66	65.9	15	----	65.9	0.0	5	-5.0	
Receiver44	59	1	0.0	65.0	66	65.0	15	----	65.0	0.0	5	-5.0	

**RESULTS: SOUND LEVELS**

**118th Avenue Improvements**

Receiver45	60	1	0.0	64.2	66	64.2	15	----	64.2	0.0	5	-5.0
Receiver46	61	1	0.0	63.1	66	63.1	15	----	63.1	0.0	5	-5.0
Receiver47	62	1	0.0	62.4	66	62.4	15	----	62.4	0.0	5	-5.0
Receiver48	63	1	0.0	61.7	66	61.7	15	----	61.7	0.0	5	-5.0
Receiver49	64	1	0.0	61.2	66	61.2	15	----	61.2	0.0	5	-5.0
<b>Dwelling Units</b>	<b># DUs</b>	<b>Noise Reduction</b>										
		<b>Min</b>	<b>Avg</b>	<b>Max</b>								
		<b>dB</b>	<b>dB</b>	<b>dB</b>								
All Selected	28	0.0	0.0	0.0								
All Impacted	14	0.0	0.0	0.0								
All that meet NR Goal	0	0.0	0.0	0.0								

**INPUT: ROADWAYS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

23 May 2005  
TNM 2.5

**INPUT: ROADWAYS**

**PROJECT/CONTRACT:**

118th Avenue Improvements

**RUN:**

118th Avenue Build Flyover Contours

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

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement)			Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			X	Y	Z		mph	%		
				ft	ft	ft					
S Frontage Road SB Outside Thru Lane	16.0	point210	210	426,099.1	1,289,306.6	15.00				Average	
		point211	211	427,132.9	1,287,645.6	15.00					
S Frontage Rd SB Inside Turn Lane	13.0	point212	212	426,116.3	1,289,309.1	15.00				Average	
		point213	213	427,143.6	1,287,646.4	15.00					
US 19 SB Outside Lane	20.0	point216	216	424,960.0	1,291,216.5	15.00				Average	
		point217	217	425,646.2	1,290,119.4	29.00				Average	Y
		point218	218	426,057.7	1,289,455.0	46.60				Average	Y
		point219	219	426,254.4	1,289,140.2	46.00				Average	Y
		point220	220	427,058.4	1,287,866.6	37.00				Average	Y
		point221	221	427,193.9	1,287,635.0	15.00					
US 19 SB Middle Lane	13.0	point227	227	424,972.1	1,291,218.8	15.00				Average	
		point228	228	425,656.8	1,290,125.1	29.00				Average	Y
		point229	229	426,061.4	1,289,471.5	46.60				Average	Y
		point230	230	426,270.3	1,289,129.1	46.00				Average	Y
		point231	231	426,519.3	1,288,751.2	37.00				Average	Y
		point232	232	427,212.5	1,287,640.8	15.00					
US 19 SB Inside Lane	12.0	point233	233	424,985.8	1,291,233.4	15.00				Average	
		point234	234	425,666.2	1,290,130.6	29.00				Average	Y
		point235	235	426,075.2	1,289,472.5	46.60				Average	Y
		point236	236	426,288.7	1,289,139.0	46.00				Average	Y
		point237	237	426,528.8	1,288,747.6	37.00				Average	Y
		point238	238	427,241.8	1,287,619.6	15.00					
US 19 NB Inside Lane	12.0	point240	240	427,264.2	1,287,634.1	15.00				Average	
		point241	241	426,631.1	1,288,641.0	33.00				Average	Y
		point242	242	426,173.1	1,289,370.2	46.60				Average	Y

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point243	243	426,004.1	1,289,645.9	44.00				Average	Y
		point244	244	425,003.6	1,291,246.8	15.00					
US 19 NB Middle Lane	13.0	point246	246	427,266.5	1,287,652.8	15.00				Average	
		point247	247	426,626.7	1,288,667.6	33.00				Average	Y
		point248	248	426,164.2	1,289,405.8	46.60				Average	Y
		point249	249	426,013.0	1,289,650.4	44.00				Average	Y
		point250	250	425,008.0	1,291,255.6	15.00					
US 19 NB Outside Lane	20.0	point251	251	427,282.0	1,287,647.4	15.00				Average	
		point252	252	426,631.1	1,288,681.0	33.00				Average	Y
		point253	253	426,182.0	1,289,405.8	46.60				Average	Y
		point254	254	426,021.9	1,289,659.2	44.00				Average	Y
		point255	255	425,025.8	1,291,260.1	15.00					
S Frontage Rd NB Inside Left Turn Lane	12.0	point256	256	426,573.6	1,288,796.5	15.00				Average	
		point257	257	426,262.7	1,289,295.4	15.00					
S Frontage Rd NB Out Left Turn Lane	13.0	point258	258	426,585.1	1,288,802.2	15.00				Average	
		point259	259	426,272.3	1,289,301.2	15.00					
S Frontage Rd NB Inside Thru Lane	13.0	point260	260	427,290.8	1,287,681.9	15.00				Average	
		point261	261	426,281.9	1,289,305.0	15.00					
S Frontage Rd NB Outside Thru Lane	16.0	point262	262	427,300.8	1,287,696.2	15.00				Average	
		point263	263	426,331.8	1,289,249.4	15.00				Average	
		point264	264	426,326.0	1,289,282.0	15.00				Average	
		point265	265	426,345.2	1,289,314.6	15.00				Average	
		point266	266	426,379.8	1,289,337.6	15.00				Average	
		point267	267	426,395.1	1,289,337.6	15.00					
N Frontage Rd/Ramp NB Inside Lane	12.0	point268	268	426,176.7	1,289,474.2	15.00				Average	
		point269	269	425,556.8	1,290,462.2	15.00				Average	
		point270	270	425,487.5	1,290,575.5	15.00				Average	
		point271	271	425,311.3	1,290,824.1	15.00					
N Frontage Rd NB Outside Lane	16.0	point275	275	426,189.2	1,289,480.5	15.00				Average	
		point276	276	425,814.8	1,290,072.0	15.00				Average	
		point277	277	425,632.3	1,290,374.1	15.00				Average	
		point278	278	425,408.9	1,290,723.4	15.00					
N Frontage Rd SB Out Right Turn Lane	16.0	point279	279	424,789.2	1,291,403.0	15.00				Average	
		point280	280	424,932.4	1,291,171.4	15.00				Average	
		point281	281	424,983.5	1,291,072.5	15.00				Average	
		point282	282	425,021.0	1,290,977.1	15.00				Average	
		point283	283	425,055.0	1,290,857.9	15.00				Average	
		point284	284	425,065.2	1,290,718.1	15.00				Average	

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point285	285	425,082.3	1,290,575.0	15.00			Average
		point286	286	425,089.1	1,290,527.4	15.00			Average
		point287	287	425,123.2	1,290,408.1	15.00			Average
		point288	288	425,184.5	1,290,265.0	15.00			Average
		point289	289	425,262.9	1,290,138.9	15.00			Average
		point290	290	425,361.7	1,290,026.5	15.00			Average
		point291	291	425,433.3	1,289,965.1	15.00			Average
		point292	292	425,552.5	1,289,879.9	15.00			Average
		point293	293	425,675.2	1,289,808.4	15.00			Average
		point294	294	425,757.0	1,289,757.2	15.00			Average
		point295	295	425,801.3	1,289,699.4	15.00			Average
		point296	296	425,862.6	1,289,631.1	15.00			Average
		point297	297	425,944.4	1,289,515.4	15.00			Average
		point298	298	425,947.8	1,289,477.9	15.00			Average
		point299	299	425,934.2	1,289,447.1	15.00			Average
		point300	300	425,910.3	1,289,433.5	15.00			Average
N Frontage Rd SB Inside Lane	13.0	point301	301	424,802.9	1,291,406.5	15.00			Average
		point302	302	424,932.4	1,291,191.8	15.00			Average
		point303	303	424,986.9	1,291,099.8	15.00			Average
		point304	304	425,024.4	1,291,007.8	15.00			Average
		point305	305	425,058.4	1,290,881.8	15.00			Average
		point306	306	425,082.3	1,290,721.6	15.00			Average
		point307	307	425,089.1	1,290,612.5	15.00			Average
		point308	308	425,113.0	1,290,486.5	15.00			Average
		point309	309	425,136.8	1,290,408.1	15.00			Average
		point310	310	425,187.9	1,290,282.0	15.00			Average
		point311	311	425,262.9	1,290,162.8	15.00			Average
		point312	312	425,337.9	1,290,067.4	15.00			Average
		point313	313	425,429.9	1,289,978.8	15.00			Average
		point314	314	425,576.4	1,289,876.5	15.00			Average
		point315	315	425,716.1	1,289,801.5	15.00			Average
		point316	316	425,780.8	1,289,753.9	15.00			Average
		point317	317	425,835.3	1,289,702.8	15.00			Average
		point318	318	425,886.5	1,289,638.0	15.00			Average
		point319	319	426,029.6	1,289,443.8	15.00			Average
N Frontage Rd SB Outside Thru Lane	13.0	point320	320	425,812.2	1,289,706.0	0.00			Average
		point321	321	425,858.4	1,289,656.0	0.00			Average
		point322	322	425,886.9	1,289,618.6	0.00			Average

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point323	323	426,013.3	1,289,441.8	0.00					
N Frontage Rd SB Out Left Turn Lane	13.0	point324	324	425,908.4	1,289,629.6	15.00				Average	
		point325	325	426,042.9	1,289,441.8	15.00					
N Frontage Rd SB Inside Left Turn Lane	12.0	point326	326	425,916.1	1,289,638.4	15.00				Average	
		point327	327	426,058.9	1,289,440.6	15.00					
Flyover	35.0	point328	328	424,933.9	1,291,254.2	18.50				Average	Y
		point329	329	425,385.4	1,290,398.2	13.90				Average	Y
		point330	330	425,425.1	1,290,326.0	20.70				Average	Y
		point331	331	425,457.6	1,290,239.4	24.90				Average	Y
		point332	332	425,479.3	1,290,156.2	33.40				Average	Y
		point333	333	425,519.0	1,289,936.0	41.90				Average	Y
		point334	334	425,547.9	1,289,769.9	46.00				Average	Y
		point335	335	425,573.2	1,289,683.1	50.30				Average	Y
		point336	336	425,616.5	1,289,571.2	54.50				Average	Y
		point337	337	425,699.6	1,289,459.2	58.70				Average	Y
		point338	338	425,779.1	1,289,383.4	67.20				Average	Y
		point339	339	425,862.1	1,289,322.0	71.50				Average	Y
		point340	340	425,992.2	1,289,264.2	75.60				Average	Y
		point341	341	426,158.3	1,289,235.4	79.00				Average	Y
		point342	342	426,245.0	1,289,235.4	83.20				Average	Y
		point343	343	426,371.4	1,289,260.6	83.90				Average	Y
		point344	344	426,786.7	1,289,350.9	69.30				Average	Y
		point345	345	427,068.4	1,289,412.2	63.70				Average	Y
		point346	346	427,245.4	1,289,437.6	58.00				Average	Y
		point347	347	427,422.4	1,289,452.0	55.20				Average	Y
		point348	348	427,595.8	1,289,455.6	52.40					

**INPUT: RECEIVERS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

23 May 2005  
TNM 2.5

**INPUT: RECEIVERS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Build Flyover Contours

**Receiver**

Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	
			ft	ft	ft		dBA	dBA	dB	dB	
Receiver19	37	1	425,351.2	1,289,389.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver20	38	1	425,402.1	1,289,389.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver21	39	1	425,452.0	1,289,390.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver22	40	1	425,500.8	1,289,388.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver23	41	1	425,552.8	1,289,389.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver24	42	1	425,601.6	1,289,388.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver25	43	1	425,651.5	1,289,389.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver26	44	1	425,702.5	1,289,390.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver28	45	1	425,802.2	1,289,389.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver29	46	1	425,853.2	1,289,390.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver30	47	1	425,901.9	1,289,390.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver31	48	1	425,952.9	1,289,388.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver32	49	1	426,002.8	1,289,390.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver33	50	1	426,050.4	1,289,390.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver36	51	1	426,236.8	1,289,395.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver37	52	1	426,286.7	1,289,396.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver38	53	1	426,337.7	1,289,396.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver39	54	1	426,384.2	1,289,396.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver40	55	1	426,437.4	1,289,396.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver41	56	1	426,485.0	1,289,395.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver42	57	1	426,534.9	1,289,396.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver43	58	1	426,585.9	1,289,395.2	15.00	5.00	0.00	66	15.0	5.0	Y



**INPUT: RECEIVERS****118th Avenue Improvements**

Receiver44	59	1	426,635.8	1,289,395.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver45	60	1	426,684.5	1,289,396.4	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver46	61	1	426,736.6	1,289,395.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver47	62	1	426,784.2	1,289,395.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver48	63	1	426,836.3	1,289,395.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver49	64	1	426,886.0	1,289,396.4	15.00	5.00	0.00	66	15.0	5.0	Y

**RESULTS: SOUND LEVELS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

23 May 2005  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** 118th Avenue Improvements  
**RUN:** 118th Avenue Build BDR Contours  
**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 LAeq1h	No Barrier				Type Impact	With Barrier			
				Calculated	Crit'n	Increase over existing			Calculated LAeq1h	Noise Reduction		
						Calculated	Crit'n			Sub'l Inc	Calculated	Goal
			dB	dB	dB	dB	dB		dB	dB	dB	dB
Receiver74	74	1	0.0	54.6	66	54.6	15	----	54.6	0.0	5	-5.0
Receiver75	75	1	0.0	55.5	66	55.5	15	----	55.5	0.0	5	-5.0
Receiver76	76	1	0.0	56.4	66	56.4	15	----	56.4	0.0	5	-5.0
Receiver77	77	1	0.0	57.2	66	57.2	15	----	57.2	0.0	5	-5.0
Receiver78	78	1	0.0	58.3	66	58.3	15	----	58.3	0.0	5	-5.0
Receiver79	79	1	0.0	59.5	66	59.5	15	----	59.5	0.0	5	-5.0
Receiver80	80	1	0.0	61.1	66	61.1	15	----	61.1	0.0	5	-5.0
Receiver81	81	1	0.0	63.3	66	63.3	15	----	63.3	0.0	5	-5.0
Receiver82	82	1	0.0	66.1	66	66.1	15	Snd Lvl	66.1	0.0	5	-5.0
Receiver83	83	1	0.0	66.9	66	66.9	15	Snd Lvl	66.9	0.0	5	-5.0
Receiver84	84	1	0.0	67.7	66	67.7	15	Snd Lvl	67.7	0.0	5	-5.0
Receiver85	85	1	0.0	68.4	66	68.4	15	Snd Lvl	68.4	0.0	5	-5.0
Receiver86	86	1	0.0	69.0	66	69.0	15	Snd Lvl	69.0	0.0	5	-5.0
Receiver87	87	1	0.0	69.7	66	69.7	15	Snd Lvl	69.7	0.0	5	-5.0
Receiver91	91	1	0.0	69.4	66	69.4	15	Snd Lvl	69.4	0.0	5	-5.0
Receiver92	92	1	0.0	68.5	66	68.5	15	Snd Lvl	68.5	0.0	5	-5.0
Receiver93	93	1	0.0	67.9	66	67.9	15	Snd Lvl	67.9	0.0	5	-5.0
Receiver94	94	1	0.0	67.2	66	67.2	15	Snd Lvl	67.2	0.0	5	-5.0
Receiver95	95	1	0.0	66.6	66	66.6	15	Snd Lvl	66.6	0.0	5	-5.0
Receiver96	96	1	0.0	66.2	66	66.2	15	Snd Lvl	66.2	0.0	5	-5.0
Receiver97	97	1	0.0	63.4	66	63.4	15	----	63.4	0.0	5	-5.0
Receiver98	98	1	0.0	61.5	66	61.5	15	----	61.5	0.0	5	-5.0
Receiver99	99	1	0.0	59.9	66	59.9	15	----	59.9	0.0	5	-5.0

**RESULTS: SOUND LEVELS**

**118th Avenue Improvements**

Receiver100	100	1	0.0	58.6	66	58.6	15	----	58.6	0.0	5	-5.0
Receiver101	101	1	0.0	57.5	66	57.5	15	----	57.5	0.0	5	-5.0
Receiver102	102	1	0.0	56.5	66	56.5	15	----	56.5	0.0	5	-5.0
Receiver103	103	1	0.0	55.6	66	55.6	15	----	55.6	0.0	5	-5.0
Receiver104	104	1	0.0	54.7	66	54.7	15	----	54.7	0.0	5	-5.0
<b>Dwelling Units</b>	<b># DUs</b>	<b>Noise Reduction</b>										
		<b>Min</b>	<b>Avg</b>	<b>Max</b>								
		<b>dB</b>	<b>dB</b>	<b>dB</b>								
All Selected	28	0.0	0.0	0.0								
All Impacted	12	0.0	0.0	0.0								
All that meet NR Goal	0	0.0	0.0	0.0								

INPUT: ROADWAYS

118th Avenue Improvements

American Consulting Engineers  
Anna Peterfreund

23 May 2005  
TNM 2.5

INPUT: ROADWAYS

PROJECT/CONTRACT:

118th Avenue Improvements

RUN:

118th Avenue Build BDR Contours

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

Roadway		Points					Flow Control			Segment	
Name	Width	Name	No.	Coordinates (pavement)			Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			X	Y	Z		mph	%		
				ft	ft	ft					
Bryan Dairy Rd EB Outside Lane	20.0	point247	349	423,565.4	1,288,871.8	15.00				Average	
		point248	350	424,286.6	1,289,203.0	15.00				Average	
		point249	351	424,433.3	1,289,270.0	15.00				Average	
		point250	352	424,538.1	1,289,307.8	15.00				Average	
		point251	353	424,668.1	1,289,341.2	15.00				Average	
		point252	354	424,790.8	1,289,356.0	15.00				Average	
		point253	355	425,222.6	1,289,356.0	15.00				Average	
		point254	356	425,498.2	1,289,345.5	15.00				Average	
		point255	357	425,586.3	1,289,337.1	15.00				Average	
		point256	358	426,132.0	1,289,333.0	15.00				Average	
		point363	359	426,141.0	1,289,334.0	15.00				Average	
		Bob's poin	360	426,160.0	1,289,334.0	15.00				Average	
		point392	361	426,210.0	1,289,336.0	15.00				Average	
		point393	362	426,221.0	1,289,336.0	15.00				Average	
		point394	363	426,233.0	1,289,336.0	15.00				Average	
		point257	364	426,621.8	1,289,345.5	15.00				Average	
point258	365	426,789.5	1,289,353.9	15.00				Average			
point259	366	427,041.1	1,289,387.4	15.00				Average			
point260	367	427,208.8	1,289,395.8	15.00				Average			
point261	368	427,590.3	1,289,395.8	15.00				Average			
Bryan Dairy Rd EB Right Turn Lane	13.0	point262	369	425,598.8	1,289,324.5	15.00				Average	
		point263	370	426,068.4	1,289,324.5	15.00					
Bryan Dairy Rd EB Middle Lane	13.0	point264	371	423,557.1	1,288,884.4	15.00				Average	
		point265	372	424,328.5	1,289,236.5	15.00				Average	
		point266	373	424,466.8	1,289,295.2	15.00				Average	

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point267	374	424,542.3	1,289,324.5	15.00				Average
		point268	375	424,680.7	1,289,353.9	15.00				Average
		point269	376	424,806.4	1,289,370.6	15.00				Average
		point270	377	425,494.0	1,289,361.2	15.00				Average
		point271	378	425,594.7	1,289,348.8	15.00				Average
		point272	379	426,123.0	1,289,347.0	15.00				Average
		point362	380	426,133.0	1,289,347.0	15.00				Average
		Bobs point	381	426,152.0	1,289,347.0	15.00				Average
		point389	382	426,201.0	1,289,349.0	15.00				Average
		point390	383	426,213.0	1,289,349.0	15.00				Average
		point391	384	426,223.0	1,289,350.0	15.00				Average
		point273	385	426,617.7	1,289,358.1	15.00				Average
		point274	386	426,793.7	1,289,370.6	15.00				Average
		point275	387	427,066.3	1,289,404.2	15.00				Average
		point276	388	427,602.9	1,289,408.4	15.00				
Bryan DairyRd EB Inside Lane	12.0	point277	389	423,552.9	1,288,892.8	15.00				Average
		point278	390	424,169.2	1,289,173.6	15.00				Average
		point279	391	424,416.5	1,289,286.8	15.00				Average
		point280	392	424,529.8	1,289,332.9	15.00				Average
		point281	393	424,672.3	1,289,366.5	15.00				Average
		point282	394	424,852.6	1,289,383.2	15.00				Average
		point283	395	425,297.0	1,289,379.0	15.00				Average
		point284	396	425,502.4	1,289,370.6	15.00				Average
		point285	397	425,636.6	1,289,358.1	15.00				Average
		point286	398	426,116.0	1,289,358.0	15.00				Average
		point361	399	426,126.0	1,289,358.0	15.00				Average
		point386	400	426,146.0	1,289,359.0	15.00				Average
		Bobs point	401	426,194.0	1,289,360.0	15.00				Average
		point387	402	426,207.0	1,289,360.0	15.00				Average
		point388	403	426,215.0	1,289,361.0	15.00				Average
		point287	404	426,621.8	1,289,370.6	15.00				Average
		point288	405	426,772.8	1,289,383.2	15.00				Average
		point289	406	427,062.1	1,289,416.8	15.00				Average
		point290	407	427,598.7	1,289,421.0	15.00				
Bryan Dairy Rd Inside Left Turn Lane	13.0	point291	408	425,598.8	1,289,372.1	15.00				Average
		point292	409	426,057.6	1,289,370.2	15.00				
Bryan Dairy Rd Outside Left Turn Lane	12.0	point294	410	425,599.8	1,289,383.9	15.00				Average
		point295	411	426,055.8	1,289,382.1	15.00				

**INPUT: ROADWAYS**

**118th Avenue Improvements**

bryan Dairy Rd WB Inside Lane	12.0	point296	412	427,620.8	1,289,447.0	15.00				Average
		point297	413	427,084.3	1,289,442.9	15.00				Average
		point358	414	426,900.0	1,289,428.6	15.00				Average
		newpoint1	415	426,738.1	1,289,410.8	15.00				Average
		point298	416	426,192.0	1,289,401.0	15.00				Average
		point360	417	426,179.0	1,289,401.0	15.00				Average
		Bobs point	418	426,166.0	1,289,401.0	15.00				Average
		Bobs point	419	426,117.0	1,289,400.0	15.00				Average
		point220.7	420	426,099.0	1,289,400.0	15.00				Average
		point373	421	426,088.0	1,289,400.0	15.00				Average
		point300	422	425,663.0	1,289,402.0	15.00				Average
		point301	423	424,835.7	1,289,406.0	15.00				Average
		point302	424	424,688.2	1,289,393.8	15.00				Average
		point303	425	424,524.4	1,289,352.9	15.00				Average
		point304	426	424,233.6	1,289,225.9	15.00				Average
		point305	427	423,549.6	1,288,910.5	15.00				
Bryan Dairy Rd WB Middle Lane	13.0	point306	428	427,616.8	1,289,459.2	15.00				Average
		point307	429	427,067.9	1,289,455.2	15.00				Average
		point308	430	426,732.1	1,289,422.5	15.00				Average
		newpoint1	431	426,200.0	1,289,415.0	15.00				Average
		newpoin2	432	426,184.0	1,289,415.0	15.00				Average
		newpoint3	433	426,171.0	1,289,415.0	15.00				Average
		point309	434	426,159.0	1,289,415.0	15.00				Average
		Bobs point	435	426,108.0	1,289,414.0	15.00				Average
		point220.5	436	426,090.0	1,289,414.0	15.00				Average
		point372	437	426,080.0	1,289,413.0	15.00				Average
		point310	438	424,839.8	1,289,418.4	15.00				Average
		point311	439	424,700.5	1,289,406.0	15.00				Average
		point312	440	424,549.0	1,289,369.2	15.00				Average
		point313	441	424,409.7	1,289,319.9	15.00				Average
		point314	442	423,545.5	1,288,918.5	15.00				
Bryan Dairy Rd WB Outside Lane	20.0	point315	443	427,622.3	1,289,469.9	15.00				Average
		point316	444	427,072.6	1,289,465.9	15.00				Average
		point317	445	426,795.7	1,289,437.4	15.00				Average
		point354	446	426,175.0	1,289,430.0	15.00				Average
		point353	447	426,161.0	1,289,430.0	15.00				Average
		point318	448	426,151.0	1,289,429.0	15.00				Average
		Bobs point	449	426,099.0	1,289,428.0	15.00				Average

**INPUT: ROADWAYS**

**118th Avenue Improvements**

		point220	450	426,081.0	1,289,428.0	15.00				Average	
		point224	451	426,069.0	1,289,428.0	15.00				Average	
		point319	452	424,807.5	1,289,429.2	15.00				Average	
		point320	453	424,661.9	1,289,412.9	15.00				Average	
		point321	454	424,519.3	1,289,376.2	15.00				Average	
		point322	455	424,376.8	1,289,319.2	15.00				Average	
		point323	456	423,537.9	1,288,932.4	15.00					
118th Avenue Right Turn Lane	12.0	point324	457	426,483.0	1,289,443.1	15.00				Average	
		point325	458	426,229.4	1,289,439.9	15.00					
118th Avenue Left Turn Lane	13.0	point326	459	426,709.3	1,289,398.1	15.00				Average	
		point327	460	426,285.6	1,289,391.8	15.00					
118th Avenue Outside Left Turn Lane	12.0	point328	461	426,693.2	1,289,385.4	15.00				Average	
		point329	462	426,284.0	1,289,380.5	15.00					

**INPUT: RECEIVERS**

**118th Avenue Improvements**

American Consulting Engineers  
Anna Peterfreund

23 May 2005  
TNM 2.5

**INPUT: RECEIVERS**

**PROJECT/CONTRACT:**

118th Avenue Improvements

**RUN:**

118th Avenue Build BDR Contours

**Receiver**

Name	No.	#DUs	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.
			X	Y	Z		Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	
			ft	ft	ft		dBA	dBA	dB	dB	
Receiver74	74	1	425,489.3	1,289,930.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver75	75	1	425,490.6	1,289,879.5	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver76	76	1	425,490.6	1,289,829.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver77	77	1	425,489.3	1,289,779.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver78	78	1	425,490.6	1,289,729.6	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver79	79	1	425,491.9	1,289,681.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver80	80	1	425,489.3	1,289,629.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver81	81	1	425,490.6	1,289,579.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver82	82	1	425,490.6	1,289,531.1	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver83	83	1	425,490.6	1,289,519.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver84	84	1	425,489.3	1,289,508.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver85	85	1	425,488.0	1,289,498.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver86	86	1	425,488.0	1,289,489.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver87	87	1	425,490.6	1,289,481.1	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver91	91	1	425,492.8	1,289,292.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver92	92	1	425,492.8	1,289,280.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver93	93	1	425,492.8	1,289,271.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver94	94	1	425,492.8	1,289,260.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver95	95	1	425,492.8	1,289,251.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver96	96	1	425,492.8	1,289,244.9	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver97	97	1	425,490.2	1,289,192.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver98	98	1	425,491.5	1,289,142.2	15.00	5.00	0.00	66	15.0	5.0	Y



**INPUT: RECEIVERS****118th Avenue Improvements**

Receiver99	99	1	425,490.2	1,289,091.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver100	100	1	425,492.8	1,289,042.2	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver101	101	1	425,492.8	1,288,989.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver102	102	1	425,494.0	1,288,941.0	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver103	103	1	425,492.8	1,288,889.8	15.00	5.00	0.00	66	15.0	5.0	Y
Receiver104	104	1	425,494.0	1,288,839.8	15.00	5.00	0.00	66	15.0	5.0	Y