

TRAFFIC NOISE ANALYSIS VOLUME IV

For

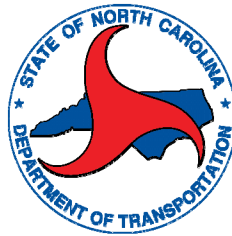
ADMINISTRATIVE ACTION
ENVIRONMENTAL IMPACT STATEMENT



Wake and Johnston Counties

STIP Project Nos. R-2721, R-2828, and R-2829
State Project Nos. 6.401078, 6.401079, and 6.401080
Federal Aid Project Nos. STP-0540(19), STP-0540(20), and STP-0540(21)
WBS Nos. 37673.1.TA2, 35516.1.TA2, and 35517.1.TA1

Prepared for:



Prepared By:
H.W. Lochner, Inc.

LOCHNER

May, 2015

APPENDIX 2

NOT USED

APPENDIX 3

IMPACT ANALYSIS TABLE

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)														
						2035														
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build					
Build ¹	Build ²	Increase ³	Build ¹	Build ²	Increase ³	Build ¹	Build ²	Increase ³	Build ¹	Build ²	Increase ³	Build ¹	Build ²	Increase ³	Build ¹	Build ²	Increase ³			
R0033A	202 SUNSHINE CREST CT	1	B	48		67	19												48	0
R0033B	200 SUNSHINE CREST CT	1	B	48		65	17												49	1
R0034A	112 SUNSHINE CREST CT	1	B	48		62	14												49	1
R0034B	110 SUNSHINE CREST CT	1	B	48		60	12												50	2
R0035A	108 SUNSHINE CREST CT	1	B	48		58	10												51	3
R0035B	104 SUNSHINE CREST CT	1	B	48		59	11												51	3
R0036A	100 SUNSHINE CREST CT	1	B	48		58	10												50	2
R0036B	102 SUNSHINE CREST CT	1	B	48		58	10												50	2
R0037A	501 STONEGREEK DR	1	B	48		58	10												50	2
R0037B	503 STONEGREEK DR	1	B	48		57	9												50	2
R0038A	505 STONEGREEK DR	1	B	48		59	11												50	2
R0038B	507 STONEGREEK DR	1	B	48		61	13												49	1
R0039A	509 STONEGREEK DR	1	B	48		66	18												48	0
R0039B	511 STONEGREEK DR	1	B	48		71	23												48	0
R0040A	512 STONEGREEK DR	1	B	48		72	24												48	0
R0040B	510 STONEGREEK DR	1	B	48		71	23												48	0
R0041A	504 STONEGREEK DR	1	B	48		67	19												48	0
R0041B	508 STONEGREEK DR	1	B	48		69	21												48	0
R0041C	500 STONEGREEK DR	1	B	48		64	16												48	0
R0042A	405 THORNGREST DR	1	B	48		69	20												48	0
R0042B	403 THORNGREST DR	1	B	48		67	19												48	0
R0043A	407 THORNGREST DR	1	B	48		68	20												48	0
R0043B	409 THORNGREST DR	1	B	48		69	21												48	0
R0044A	411 THORNGREST DR	1	B	48		68	20												48	0
R0044B	413 THORNGREST DR	1	B	48		67	19												48	0
R0045A	401 THORNGREST DR	1	B	48		65	17												48	0
R0045B	415 THORNGREST DR	1	B	48		65	17												48	0
R0046A	503 THORNGREST DR	1	B	48		66	18												48	0
R0046B	505 THORNGREST DR	1	B	48		68	20												48	0
R0047A	509 THORNGREST DR	1	B	48		69	21												48	0
R0047B	507 THORNGREST DR	1	B	48		69	21												48	0
R0048A	508 THORNGREST DR	1	B	48		67	19												48	0
R0048B	506 THORNGREST DR	1	B	48		64	16												48	0
R0049A	101 WEEPING OAK CT	1	B	48		62	14												48	0
R0049B	504 THORNGREST DR	1	B	48		62	14												48	0
R0050A	103 WEEPING OAK CT	1	B	48		62	14												48	0
R0050B	104 WEEPING OAK CT	1	B	48		57	9												49	1
R0051A	414 THORNGREST DR	1	B	48		58	10												48	0
R0051B	102 WEEPING OAK CT	1	B	48		56	8												49	1
R0052A	412 THORNGREST DR	1	B	48		58	10												48	0
R0052B	406 THORNGREST DR	1	B	48		58	10												48	0
R0053A	412 STONEGREEK DR	1	B	48		60	12												48	0
R0053B	410 STONEGREEK DR	1	B	48		59	11												48	0
R0054A	200 REUNION PARK DR	1	B	48		62	14												48	0
R0054B	200 REUNION PARK DR	1	B	48		64	16												48	0
R0054C	200 REUNION PARK DR	1	B	48		62	14												48	0
R0054D	200 REUNION PARK DR	1	B	48		64	16												48	0
R0054E	200 REUNION PARK DR	1	B	48		62	14												48	0
R0054F	200 REUNION PARK DR	1	B	48		64	16												48	0
R0054G	200 REUNION PARK DR	1	B	48		62	14												48	0
R0054H	200 REUNION PARK DR	1	B	48		64	16												48	0
R0054I	200 REUNION PARK DR	1	B	48		55	7												48	0
R0054J	200 REUNION PARK DR	1	B	48		57	9												48	0
R0054K	200 REUNION PARK DR	1	B	48		56	8												48	0
R0054L	200 REUNION PARK DR	1	B	48		57	9												48	0
R0054M	200 REUNION PARK DR	1	B	48		57	9												48	0
R0054N	200 REUNION PARK DR	1	B	48		59	11												48	0
R0054O	200 REUNION PARK DR	1	B	48		60	12												48	0
R0054P	200 REUNION PARK DR	1	B	48		62	14												48	0
R0055A	200 REUNION PARK DR	1	B	48		62	14												48	0
R0055B	200 REUNION PARK DR	1	B	48		64	16												48	0
R0055C	200 REUNION PARK DR	1	B	48		65	17												48	0
R0055D	200 REUNION PARK DR	1	B	48		61	13												48	0

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.
2 Noise level increases highlighted in red are above the substantial noise level increase criteria.
3 Noise levels reported if the traffic noise was dominant noise

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																	
						Orange		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build	
						Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²
R0213A	8207 BELLS LAKE RD	1	B	46	54	62	8													57	3		
R0213B	8201 BELLS LAKE RD	1	B	46	53	64	9													56	3		
R0214A	2926 BELLS POINT CT	1	B	46	64	64	18													47	1		
R0214B	2929 BELLS POINT CT	1	B	46	49	65	16													52	3		
R0214C	2925 BELLS POINT CT	1	B	46	55	68	13													58	3		
R0215A	2922 BELLS POINT CT	1	B	46	60	60	14													46	0		
R0215B	2918 BELLS POINT CT	1	B	46	60	60	14													46	0		
R0216A	2921 BELLS POINT CT	1	B	46	56	66	10													58	2		
R0216B	2917 BELLS POINT CT	1	B	46	55	65	10													58	3		
R0217A	2914 BELLS POINT CT	1	B	46	59	59	13													46	0		
R0217B	2912 BELLS POINT CT	1	B	46	58	58	12													47	1		
R0218A	2913 BELLS POINT CT	1	B	46	56	64	8													58	2		
R0218B	2909 BELLS POINT CT	1	B	46	56	64	8													58	2		
R0219	2901 BELLS POINT CT	1	B	46	57	65	8													60	3		
R0220A	2908 BELLS POINT CT	1	B	46	57	57	11													47	1		
R0220B	7524 ORCHARD CREST CT	1	B	46	56	56	10													47	1		
R0221A	7525 ORCHARD CREST CT	1	B	46	53	61	8													56	3		
R0221B	2900 BELLS POINT CT	1	B	46	57	64	7													60	3		
R0222A	7520 ORCHARD CREST CT	1	B	46	55	55	9													47	1		
R0222B	7516 ORCHARD CREST CT	1	B	46	55	55	9													47	1		
R0222C	7512 ORCHARD CREST CT	1	B	46	54	54	8													46	0		
R0223A	7517 ORCHARD CREST CT	1	B	46	61	61	7													46	0		
R0223B	7513 ORCHARD CREST CT	1	B	46	54	62	8													57	3		
R0224A	7504 ORCHARD CREST CT	1	B	46	47	55	8													49	2		
R0224B	7500 ORCHARD CREST CT	1	B	46	49	57	8													52	3		
R0225A	7501 ORCHARD CREST CT	1	B	46	55	62	7													58	3		
R0225B	7505 ORCHARD CREST CT	1	B	46	58	64	6													61	3		
R0225C	7509 ORCHARD CREST CT	1	B	46	56	63	7													61	5		
R0226A	7801 BELLS LAKE RD	1	B	46	56	62	6													59	3		
R0226B	7801 BELLS LAKE RD	1	B	46	55	61	6													60	5		
R0227A	3008 GEIGER CIR	1	B	46	48	58	10													55	7		
R0227B	3004 GEIGER CIR	1	B	46	49	57	8													51	2		
R0228	7737 BELLS LAKE RD	1	B	46	55	61	6													57	2		
R0229A	3620 HIGHLAND CREEK DR	1	B	46	46	56	10													49	3		
R0229B	3616 HIGHLAND CREEK DR	1	B	46	48	57	9													51	3		
R0230A	3608 HIGHLAND CREEK DR	1	B	46	51	59	8													54	3		
R0230B	3600 HIGHLAND CREEK DR	1	B	46	56	62	6													59	3		
R0231A	3601 HIGHLAND CREEK DR	1	B	46	57	63	6													60	3		
R0231B	3605 HIGHLAND CREEK DR	1	B	46	52	60	8													55	3		
R0232A	3613 HIGHLAND CREEK DR	1	B	46	46	55	9													49	3		
R0232B	3609 HIGHLAND CREEK DR	1	B	46	48	56	8													51	3		
R0232C	3617 HIGHLAND CREEK DR	1	B	46	48	54	8													47	1		
R0233	8036 RHODES RD	1	B	46	69	69	23													46	0		
R0234A	8036 RHODES RD	1	B	46	46	73	27													48	2		
R0234B	8036 RHODES RD	1	B	46	46	72	26													46	0		
R0234C	8036 RHODES RD	1	B	46	52	72	20													54	2		
R0235A	8036 RHODES RD	1	B	46	63	63	17													48	2		
R0235B	8036 RHODES RD	1	B	46	49	64	15													51	2		
R0235C	8036 RHODES RD	1	B	46	53	64	11													55	2		
R0236A	8036 RHODES RD	1	B	46	62	62	16													47	1		
R0236B	8036 RHODES RD	1	B	46	48	62	14													50	2		
R0236C	8036 RHODES RD	1	B	46	52	63	11													54	2		
R0236D	8036 RHODES RD	1	B	46	55	62	7													57	2		
R0236E	8036 RHODES RD	1	B	46	51	61	10													53	2		
R0236F	8036 RHODES RD	1	B	46	47	60	13													50	3		
R0236G	8036 RHODES RD	1	B	46	60	60	14													46	0		
R0237A	8036 RHODES RD	1	B	46	52	68	16													54	2		
R0237B	8036 RHODES RD	1	B	46	65	65	11													56	2		
R0237C	8036 RHODES RD	1	B	46	51	72	21													54	3		
R0238A	8036 RHODES RD	1	B	46	68	68	22													47	1		
R0238B	8036 RHODES RD	1	B	46	67	67	21													47	1		
R0238C	8036 RHODES RD	1	B	46	66	66	20													47	1		
R0239A	8036 RHODES RD	1	B	46	65	65	19													48	2		

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.

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3 Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																			
						Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build	
						Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase
R0330E	8800 JUAQUIN LN	1	B	54	55	64	9																58	3	
R0331A	8801 JUAQUIN LN	1	B	54	57	63	7																60	3	
R0331B	8805 JUAQUIN LN	1	B	54		63	9																56	2	
R0331C	8809 JUAQUIN LN	1	B	54		62	8																54	0	
R0332A	8804 REIGATE LN	1	B	54		62	8																55	1	
R0332B	8808 REIGATE LN	1	B	54		61	7																54	0	
R0333A	8809 REIGATE LN	1	B	54		65	11																56	2	
R0333B	8813 REIGATE LN	1	B	54		63	9																54	0	
R0333C	8817 REIGATE LN	1	B	54		62	8																54	0	
R0333D	8821 REIGATE LN	1	B	54		61	7																54	0	
R0334A	8820 REIGATE LN	1	B	54		59	5																54	0	
R0334B	8816 REIGATE LN	1	B	54		60	6																54	0	
R0334C	8812 REIGATE LN	1	B	54		60	6																54	0	
R0335A	8824 REIGATE LN	1	B	54		59	5																54	0	
R0335B	8828 REIGATE LN	1	B	54		59	5																54	0	
R0335C	8832 REIGATE LN	1	B	54		58	4																54	0	
R0336A	8825 REIGATE LN	1	B	54		61	7																54	0	
R0336B	8829 REIGATE LN	1	B	54		59	5																54	0	
R0336C	8833 REIGATE LN	1	B	54		59	5																54	0	
R0337A	8840 REIGATE LN	1	B	54		58	4																54	0	
R0337B	8836 REIGATE LN	1	B	54		58	4																54	0	
R0337C	8837 REIGATE LN	1	B	54		59	5																54	0	
R0338A	4900 CHANDLER RIDGE CIR	1	B	54		56	2																54	0	
R0338B	4900 CHANDLER RIDGE CIR	1	B	54		58	4																54	0	
R0338C	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0338D	4900 CHANDLER RIDGE CIR	1	B	54		57	3																54	0	
R0338E	4900 CHANDLER RIDGE CIR	1	B	54		58	4																54	0	
R0338F	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0338G	4900 CHANDLER RIDGE CIR	1	B	54		57	3																54	0	
R0338H	4900 CHANDLER RIDGE CIR	1	B	54		58	4																54	0	
R0338I	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0338J	4900 CHANDLER RIDGE CIR	1	B	54		56	2																54	0	
R0338K	4900 CHANDLER RIDGE CIR	1	B	54		57	3																54	0	
R0338L	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0338M	4900 CHANDLER RIDGE CIR	1	B	54		57	3																54	0	
R0338N	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0338O	4900 CHANDLER RIDGE CIR	1	B	54		60	6																54	0	
R0338P	4900 CHANDLER RIDGE CIR	1	B	54		58	4																54	0	
R0338Q	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0338R	4900 CHANDLER RIDGE CIR	1	B	54		60	6																54	0	
R0338S	4900 CHANDLER RIDGE CIR	1	B	54		58	4																54	0	
R0338T	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0338U	4900 CHANDLER RIDGE CIR	1	B	54		60	6																54	0	
R0338V	4900 CHANDLER RIDGE CIR	1	B	54		58	4																54	0	
R0338W	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0338X	4900 CHANDLER RIDGE CIR	1	B	54		60	6																54	0	
R0338Y	4900 CHANDLER RIDGE CIR	1	B	54		58	4																55	1	
R0338Z	4900 CHANDLER RIDGE CIR	1	B	54		59	5																55	1	
R0339A	4900 CHANDLER RIDGE CIR	1	B	54		60	6																55	1	
R0339B	4900 CHANDLER RIDGE CIR	1	B	54		58	4																54	0	
R0339C	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0339D	4900 CHANDLER RIDGE CIR	1	B	54		58	4																54	0	
R0339E	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0339F	4900 CHANDLER RIDGE CIR	1	B	54		60	6																54	0	
R0339G	4900 CHANDLER RIDGE CIR	1	B	54		58	4																54	0	
R0339H	4900 CHANDLER RIDGE CIR	1	B	54		59	5																54	0	
R0339I	4900 CHANDLER RIDGE CIR	1	B	54		60	6																54	0	
R0339J	4900 CHANDLER RIDGE CIR	1	B	54		58	4																55	1	
R0339K	4900 CHANDLER RIDGE CIR	1	B	54		59	5																55	1	
R0339L	4900 CHANDLER RIDGE CIR	1	B	54		60	6																55	1	
R0339M	4900 CHANDLER RIDGE CIR	1	B	54		58	4																55	1	
R0339N	4900 CHANDLER RIDGE CIR	1	B	54		59	5																55	1	
R0339O	4900 CHANDLER RIDGE CIR	1	B	54		60	6																55	1	
R0339P	4900 CHANDLER RIDGE CIR	1	B	54		57	3																55	1	
R0339Q	4900 CHANDLER RIDGE CIR	1	B	54		58	4																55	1	

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3 Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																				
						Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build		
						Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹
R0345H	4900 CHANDLER RIDGE CIR	1	B	54	55	60	5																	58	3	
R0345I	4900 CHANDLER RIDGE CIR	1	B	54	56	62	6																		60	4
R0345J	4900 CHANDLER RIDGE CIR	1	B	54	56	56	2																		55	1
R0345K	4900 CHANDLER RIDGE CIR	1	B	54	55	58	4																		57	3
R0345L	4900 CHANDLER RIDGE CIR	1	B	54	55	60	5																		59	4
R0346A	4900 CHANDLER RIDGE CIR	1	B	54	59	63	4																		63	4
R0346B	4900 CHANDLER RIDGE CIR	1	B	54	63	67	4																		66	3
R0346C	4900 CHANDLER RIDGE CIR	1	B	54	65	69	4																		68	3
R0346D	4900 CHANDLER RIDGE CIR	1	B	54	65	56	2																		55	1
R0346E	4900 CHANDLER RIDGE CIR	1	B	54	58	58	4																		57	3
R0346F	4900 CHANDLER RIDGE CIR	1	B	54	55	59	4																		58	3
R0346G	4900 CHANDLER RIDGE CIR	1	B	54	55	56	2																		54	0
R0346H	4900 CHANDLER RIDGE CIR	1	B	54	55	58	4																		54	0
R0346I	4900 CHANDLER RIDGE CIR	1	B	54	54	58	4																		54	0
R0346J	4900 CHANDLER RIDGE CIR	1	B	54	54	60	6																		54	0
R0346K	4900 CHANDLER RIDGE CIR	1	B	54	59	63	4																		63	4
R0346L	4900 CHANDLER RIDGE CIR	1	B	54	64	67	4																		63	0
R0347A	4900 CHANDLER RIDGE CIR	1	B	54	64	69	5																		63	-1
R0347B	4900 CHANDLER RIDGE CIR	1	B	54	58	62	4																		62	4
R0347C	4900 CHANDLER RIDGE CIR	1	B	54	61	65	4																		62	1
R0347D	4900 CHANDLER RIDGE CIR	1	B	54	64	69	4																		62	-2
R0347E	4900 CHANDLER RIDGE CIR	1	B	54	56	2																			54	0
R0347F	4900 CHANDLER RIDGE CIR	1	B	54	57	3																			54	0
R0347G	4900 CHANDLER RIDGE CIR	1	B	54	58	4																			54	0
R0347H	4900 CHANDLER RIDGE CIR	1	B	54	55	1																			54	0
R0347I	4900 CHANDLER RIDGE CIR	1	B	54	57	3																			54	0
R0347J	4900 CHANDLER RIDGE CIR	1	B	54	59	5																			54	0
R0347K	4900 CHANDLER RIDGE CIR	1	B	54	62	4																			62	4
R0347L	4900 CHANDLER RIDGE CIR	1	B	54	65	3																			62	0
R0347M	4900 CHANDLER RIDGE CIR	1	B	54	63	68	5																		62	-1
R0348A	4900 CHANDLER RIDGE CIR	1	B	54	56	2																			54	0
R0348B	4900 CHANDLER RIDGE CIR	1	B	54	57	3																			54	0
R0348C	4900 CHANDLER RIDGE CIR	1	B	54	59	5																			54	0
R0348D	4900 CHANDLER RIDGE CIR	1	B	54	54	58	4																		54	0
R0348E	4900 CHANDLER RIDGE CIR	1	B	54	56	2																			54	0
R0348F	4900 CHANDLER RIDGE CIR	1	B	54	57	3																			54	0
R0348G	4900 CHANDLER RIDGE CIR	1	B	54	54	58	4																		54	0
R0348H	4900 CHANDLER RIDGE CIR	1	B	54	56	2																			55	1
R0348I	4900 CHANDLER RIDGE CIR	1	B	54	60	5																			58	3
R0348J	4900 CHANDLER RIDGE CIR	1	B	54	55	1																			55	1
R0348K	4900 CHANDLER RIDGE CIR	1	B	54	56	2																			55	1
R0348L	4900 CHANDLER RIDGE CIR	1	B	54	54	58	4																		55	0
R0348M	4900 CHANDLER RIDGE CIR	1	B	54	60	5																			55	0
R0348N	4900 CHANDLER RIDGE CIR	1	B	54	56	2																			59	3
R0348O	4900 CHANDLER RIDGE CIR	1	B	54	60	4																			59	1
R0348P	4900 CHANDLER RIDGE CIR	1	B	54	58	4																			59	0
R0348Q	4900 CHANDLER RIDGE CIR	1	B	54	59	5																			61	4
R0348R	4900 CHANDLER RIDGE CIR	1	B	54	57	3																			61	2
R0348S	4900 CHANDLER RIDGE CIR	1	B	54	61	5																			61	0
R0348T	4900 CHANDLER RIDGE CIR	1	B	54	66	5																			61	0
R0348U	4900 CHANDLER RIDGE CIR	1	B	54	60	4																			59	3
R0348V	4900 CHANDLER RIDGE CIR	1	B	54	56	2																			59	1
R0348W	4900 CHANDLER RIDGE CIR	1	B	54	58	4																			59	-1
R0348X	4900 CHANDLER RIDGE CIR	1	B	54	65	5																			58	3
R0348Y	4900 CHANDLER RIDGE CIR	1	B	54	59	4																			58	1
R0348Z	4900 CHANDLER RIDGE CIR	1	B	54	61	4																			58	1
R0350A	4900 CHANDLER RIDGE CIR	1	B	54	63	68	5																		67	4
R0350B	4900 CHANDLER RIDGE CIR	1	B	54	67	71	3																		67	0
R0350C	4900 CHANDLER RIDGE CIR	1	B	54	67	71	4																		67	0
R0350D	4900 CHANDLER RIDGE CIR	1	B	54	60	65	5																		64	4
R0350E	4900 CHANDLER RIDGE CIR	1	B	54	63	68	5																		64	1
R0350F	4900 CHANDLER RIDGE CIR	1	B	54	65	69	4																		64	-1
R0350G	4900 CHANDLER RIDGE CIR	1	B	54	64	64	4																		63	3
R0350H	4900 CHANDLER RIDGE CIR	1	B	54	62	67	5																		63	1
R0350I	4900 CHANDLER RIDGE CIR	1	B	54	64	68	4																		63	-1
R0350J	4900 CHANDLER RIDGE CIR	1	B	54	56	60	4																		59	3

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.

2 Noise level increases highlighted in red are above the substantial noise level increase criteria.

3 Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dBA																			
						Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build	
						Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase
R0350K	4900 CHANDLER RIDGE CIR	1	B	54	59	63	4																59	0	
R0350L	4900 CHANDLER RIDGE CIR	1	B	54	60	64	4																59	-1	
R0351	9101 FAYETTEVILLE RD	SCHOOL	C	54	54	62	8																58	4	
R0352	9101 FAYETTEVILLE RD	SCHOOL	D	0	40	48	8																40	0	
R0353	9101 FAYETTEVILLE RD	SCHOOL	C	54	40	63	9																54	0	
R0354	8304 OLD MCCULLERS RD	1	B	54	54	72	18																56	2	
R0356A	9013 FANNY BROWN RD	1	B	54	54	59	5																54	0	
R0356B	9200 FANNY BROWN RD	1	B	54	54	61	7																56	2	
R0357	9304 FANNY BROWN RD	1	B	54	54	64	10																54	0	
R0358A	9317 FANNY BROWN RD	1	B	54	54	69	15																54	0	
R0358B	9309 FANNY BROWN RD	1	B	54	54	65	11																54	0	
R0359	9500 FANNY BROWN RD	1	B	54	54	62	8																54	0	
R0360A	9520 FANNY BROWN RD	1	B	54	54	59	5																54	0	
R0360B	9600 FANNY BROWN RD	1	B	54	54	58	4																54	0	
R0361A	1421 LANERIDGE CT	1	B	54	55	61	6																57	2	
R0361B	1417 LANERIDGE CT	1	B	54	54	59	5																54	0	
R0362A	4516 CHESHIRE DOWNS CT	1	B	54	54	64	10																56	2	
R0362B	4512 CHESHIRE DOWNS CT	1	B	54	54	66	12																56	2	
R0362C	4508 CHESHIRE DOWNS CT	1	B	54	54	67	13																56	2	
R0363A	4504 CHESHIRE DOWNS CT	1	B	54	59	70	11																61	2	
R0363B	4500 CHESHIRE DOWNS CT	1	B	54	55	72	17																57	2	
R0363C	4501 CHESHIRE DOWNS CT	1	B	54	54	75	21																54	0	
R0364	1400 LANERIDGE CT	1	B	54	54	72	18																54	0	
R0365A	1348 LANERIDGE CT	1	B	54	54	69	15																54	0	
R0365B	1344 LANERIDGE CT	1	B	54	54	71	17																54	0	
R0365C	1352 LANERIDGE CT	1	B	54	54	66	12																54	0	
R0366A	1328 LANERIDGE CT	1	B	54	54	73	19																54	0	
R0366B	1332 LANERIDGE CT	1	B	54	54	73	19																54	0	
R0366C	1336 LANERIDGE CT	1	B	54	54	72	18																54	0	
R0367A	1320 LANERIDGE CT	1	B	54	54	66	12																54	0	
R0367B	1324 LANERIDGE CT	1	B	54	54	70	16																54	0	
R0367C	1316 LANERIDGE CT	1	B	54	54	64	10																54	0	
R0368A	1349 LANERIDGE CT	1	B	54	54	60	6																54	0	
R0368B	1341 LANERIDGE CT	1	B	54	54	60	6																54	0	
R0370A	1313 LANERIDGE CT	1	B	54	54	57	3																54	0	
R0370B	1317 LANERIDGE CT	1	B	54	54	58	4																54	0	
R0370C	1329 LANERIDGE CT	1	B	54	54	60	6																54	0	
R0371	1312 LANERIDGE CT	1	B	54	54	60	6																54	0	
R0375A	4817 TROTTER DR	1	B	54	54	61	7																54	0	
R0375B	4821 TROTTER DR	1	B	54	54	63	9																54	0	
R0376A	4905 TROTTER DR	1	B	54	54	66	12																54	0	
R0376B	4909 TROTTER DR	1	B	54	54	66	12																54	0	
R0376C	4901 TROTTER DR	1	B	54	54	64	10																54	0	
R0377A	4917 TROTTER DR	1	B	54	54	68	14																54	0	
R0377B	4921 TROTTER DR	1	B	54	54	68	14																54	0	
R0377C	4925 TROTTER DR	1	B	54	54	69	15																54	0	
R0378A	4941 TROTTER DR	1	B	54	54	70	16																54	0	
R0378B	4937 TROTTER DR	1	B	54	54	71	17																54	0	
R0378C	4945 TROTTER DR	1	B	54	54	69	15																54	0	
R0379A	4808 TROTTER DR	1	B	54	54	58	4																54	0	
R0379B	4812 TROTTER DR	1	B	54	54	61	7																54	0	
R0379C	1300 WYNNCREST CT	1	B	54	54	62	8																54	0	
R0380A	4900 TROTTER DR	1	B	54	54	62	8																54	0	
R0380B	4908 TROTTER DR	1	B	54	54	63	9																54	0	
R0381A	4912 TROTTER DR	1	B	54	54	65	11																54	0	
R0381B	4916 TROTTER DR	1	B	54	54	63	9																54	0	
R0383A	1309 WYNNCREST CT	1	B	54	54	60	6																54	0	
R0383B	1313 WYNNCREST CT	1	B	54	54	60	6																54	0	
R0387A	1221 ROLLING FARM DR	1	B	54	54	74	20																54	0	
R0387B	1225 ROLLING FARM DR	1	B	54	54	75	21																54	0	
R0388A	1220 ROLLING FARM DR	1	B	54	54	69	15																54	0	
R0388B	1224 ROLLING FARM DR	1	B	54	54	66	12																54	0	
R0389A	1216 ROLLING FARM DR	1	B	54	54	64	10																54	0	

1Noise levels highlighted in red are levels above the Noise Abatement Criteria.

2Noise level increases highlighted in red are above the substantial noise level increase criteria.

3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing ¹	Noise Levels dB(A)													
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build				
Build ²	Increase ³	Build ²	Increase ³	Build ²	Increase ³	Build ²	Increase ³	Build ²	Increase ³	Build ²	Increase ³	Build ²	Increase ³	Build ²	Increase ³	Build ²	Increase ³		
R0534B	9009 DUVAL HILL ST	1	B	45		60	15									56	11	45	0
R0534C	9005 DUVAL HILL ST	1	B	45		61	16									58	13	45	0
R0536	1020 TAVERNIER KNOLL LN	1	B	45		58	13											45	0
R0537	1016 TAVERNIER KNOLL LN	1	B	45		60	15											47	2
R0538	1012 TAVERNIER KNOLL LN	1	B	45	49	59	10											52	3
R0539	1004 TAVERNIER KNOLL LN	1	B	45	57	63	6											59	2
R0540	9114 SAULS RD	1	B	45	53	61	8									44	4	55	2
R0541	9104 SAULS RD	CHURCH	D	0	40	45	5									60	13	40	0
R0542	9016 SAULS RD	1	B	45	47	61	14											50	3
R0543	9109 SAULS RD	SCHOOL	D	0	40	43	3									40	0	46	0
R0544A	717 COMMUNITY GARDEN RD	1	B	46		65	19											46	0
R0544B	729 COMMUNITY GARDEN RD	1	B	46		69	23											46	0
R0545	9137 SAULS RD	1	B	46		60	14											48	2
R0546	9125 SAULS RD	1	B	46		73	27											46	0
R0547	2028 PONDSEDGE TRL	1	B	46		61	15											46	0
R0548A	9828 HUNTWYCK DR	1	B	46		59	13											46	0
R0548B	9824 HUNTWYCK DR	1	B	46		58	12											46	0
R0549A	9937 HUNTWYCK DR	1	B	46		58	12											46	0
R0549B	9925 HUNTWYCK DR	1	B	46		57	11											46	0
R0550	9941 HUNTWYCK DR	1	B	46		58	12									69	23	46	0
R0551A	9940 HUNTWYCK DR	1	B	46		62	16									67	21	46	0
R0551B	9936 HUNTWYCK DR	1	B	46		61	15									69	23	46	0
R0552	9944 HUNTWYCK DR	1	B	46		63	17									64	18	46	0
R0553	9948 HUNTWYCK DR	1	B	46		65	19									62	16	46	0
R0554A	9952 HUNTWYCK DR	1	B	46		68	22									57	11	46	0
R0554B	9957 HUNTWYCK DR	1	B	46		69	23									57	11	46	0
R0555A	9953 HUNTWYCK DR	1	B	46		66	20									59	13	46	0
R0555B	9949 HUNTWYCK DR	1	B	46		61	15									62	16	46	0
R0556C	9945 HUNTWYCK DR	1	B	46		61	15									62	16	46	0
R0556A	905 SHANNONDALE DR	1	B	46		70	24											46	0
R0556B	909 SHANNONDALE DR	1	B	46		67	21											46	0
R0556C	913 SHANNONDALE DR	1	B	46		64	18											46	0
R0557A	912 SHANNONDALE DR	1	B	46		65	19											46	0
R0557B	904 SHANNONDALE DR	1	B	46		65	19											46	0
R0558A	920 SHANNONDALE DR	1	B	46		64	18											46	0
R0558B	928 SHANNONDALE DR	1	B	46		63	17											46	0
R0559A	10136 JOE LEACH RD	1	B	46		65	19											46	0
R0559B	10132 JOE LEACH RD	1	B	46		64	18											46	0
R0559C	10140 JOE LEACH RD	1	B	46		69	23											46	0
R0560A	10173 JOE LEACH RD	1	B	46		64	18											46	0
R0560B	10165 JOE LEACH RD	1	B	46		61	15											46	0
R0562	10175 JOE LEACH RD	1	B	46		71	25											46	0
R0563A	200 LASSITER FARM RD	1	B	46		61	15									60	14	46	0
R0563B	204 LASSITER FARM RD	1	B	46		61	15									60	14	46	0
R0564A	208 LASSITER FARM RD	1	B	46		61	15									59	13	46	0
R0564B	212 LASSITER FARM RD	1	B	46		59	13									60	14	46	0
R0564C	0 JOE LEACH RD	1	B	46		59	13									63	17	46	0
R0565A	201 LASSITER FARM RD	1	B	46		58	12									64	18	46	0
R0565B	205 LASSITER FARM RD	1	B	46		57	11									65	19	46	0
R0568A	213 HUNTERS FARM DR	1	B	46												65	19	46	0
R0568B	10004 JOE LEACH RD	1	B	46												65	19	46	0
R0572A	10005 JOE LEACH RD	1	B	46												64	18	46	0
R0572B	225 HUNTERS FARM DR	1	B	46												63	17	46	0
R0576A	10037 JOE LEACH RD	1	B	46												66	20	46	0
R0576B	10101 JOE LEACH RD	1	B	46												65	19	46	0
R0577A	10113 JOE LEACH RD	1	B	46												63	17	46	0
R0577B	10109 JOE LEACH RD	1	B	46												62	16	46	0
R0577C	10105 JOE LEACH RD	1	B	46												64	18	46	0
R0578	224 HUNTERS FARM DR	1	B	46												67	21	46	0
R0579	236 HUNTERS FARM DR	1	B	46												66	20	46	0
R0580	9000 BRITT FARM DR	1	B	46												67	21	46	0
R0582A	1017 SHANNONDALE DR	1	B	46												63	17	46	0
R0582B	1021 SHANNONDALE DR	1	B	46												64	18	46	0

¹Noise levels highlighted in red are levels above the Noise Abatement Criteria.

²Noise level increases highlighted in red are above the substantial noise level increase criteria.

³Noise levels reported if the traffic noise was dominant noise

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																								
						Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build						
						Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase			
R0681A	5505 SIMMONS DR	1	B	50	53											61	8												54	1
R0681B	1105 GOLDEN GRAIN RD	1	B	50	59											62	3												60	1
R0681C	1109 GOLDEN GRAIN RD	1	B	50	56											60	4												56	0
R0682	1108 GOLDEN GRAIN RD	1	B	50	58	58	0									60	2												59	1
R0683	5501 QUAILS CALL CT	1	B	50												65	15												50	0
R0684A	5504 QUAILS CALL CT	1	B	50												66	16												50	0
R0684B	5509 QUAILS CALL CT	1	B	50												67	17												50	0
R0685A	5116 GLEN COX DR	1	B	50												66	16												50	0
R0685B	5517 ROLLING FIELD DR	1	B	50												66	16												50	0
R0686	5112 GLEN COX DR	1	B	50												67	17												50	0
R0689A	5117 GLEN COX DR	1	B	50												73	23												50	0
R0689B	5525 ROLLING FIELD DR	1	B	50												69	19												50	0
R0690A	5520 ROLLING FIELD DR	1	B	50												60	10												50	0
R0690B	5524 ROLLING FIELD DR	1	B	50												61	11												50	0
R0691A	1108 TURNER FARMS RD	1	B	50												88	18												50	0
R0691B	1112 TURNER FARMS RD	1	B	50												66	16												50	0
R0691C	1104 TURNER FARMS RD	1	B	50												68	18												50	0
R0692	5533 ROLLING FIELD DR	1	B	50												75	25												50	0
R0693A	5100 GREY DOVE LN	1	B	50												89	19												50	0
R0693B	5101 GREY DOVE LN	1	B	50												71	21												50	0
R0694	1114 TURNER FARMS RD	RECREATIONAL	C	50																									50	0
R0695A	5532 ROLLING FIELD DR	1	B	50												63	13												50	0
R0695B	5528 ROLLING FIELD DR	1	B	50												63	13												50	0
R0696A	5540 ROLLING FIELD DR	1	B	50												62	12												50	0
R0696B	5536 ROLLING FIELD DR	1	B	50												61	11												50	0
R0697	5544 ROLLING FIELD DR	1	B	50												66	16												50	0
R0699A	1445 TURNER FARMS RD	1	B	50												66	16												50	0
R0699B	1441 TURNER FARMS RD	1	B	50												88	18												50	0
R0700A	1448 TURNER FARMS RD	1	B	50												85	15												50	0
R0700B	1440 TURNER FARMS RD	1	B	50												70	20												50	0
R0701	5508 DEER HUNTER CT	1	B	50												67	17												50	0
R0702A	5500 DEER HUNTER CT	1	B	50												62	12												50	0
R0702B	5504 DEER HUNTER CT	1	B	50												63	13												50	0
R0703A	5540 BRICKYARD CT	1	B	50												60	10												50	0
R0703B	5544 BRICKYARD CT	1	B	50												59	9												50	0
R0704A	5548 BRICKYARD CT	1	B	50												59	9												50	0
R0704B	5552 BRICKYARD CT	1	B	50												59	9												50	0
R0705	5604 TREESTAND CT	1	B	50												63	13												50	0
R0706A	5600 TREESTAND CT	1	B	50												60	10												50	0
R0706B	5605 TREESTAND CT	1	B	50												62	12												50	0
R0707A	5556 BRICKYARD CT	1	B	50												58	8												50	0
R0707B	1308 TURNER FARMS RD	1	B	50												58	8												50	0
R0708A	1320 TURNER FARMS RD	1	B	50												62	12												50	0
R0708B	1324 TURNER FARMS RD	1	B	50												65	15												50	0
R0709	1313 TURNER FARMS RD	1	B	50												59	9												50	0
R0710	1321 TURNER FARMS RD	1	B	50												63	13												50	0
R0712	1421 TURNER FARMS RD	1	B	50												64	14												50	0
R0713	1416 TURNER FARMS RD	1	B	50												88	18												50	0
R0714	1409 TURNER FARMS RD	1	B	50												61	11												50	0
R0715A	1404 TURNER FARMS RD	1	B	50												68	18												50	0
R0715B	1408 TURNER FARMS RD	1	B	50												69	19												50	0
R0715C	1400 TURNER FARMS RD	1	B	50												67	17												50	0
R0716A	1401 TURNER FARMS RD	1	B	50												60	10												50	0
R0716B	1369 TURNER FARMS RD	1	B	50												60	10												50	0
R0716C	1365 TURNER FARMS RD	1	B	50												60	10												50	0
R0717A	1364 TURNER FARMS RD	1	B	50												88	18												50	0
R0717B	1356 TURNER FARMS RD	1	B	50												67	17												50	0
R0718A	1361 TURNER FARMS RD	1	B	50												60	10												50	0
R0718B	1357 TURNER FARMS RD	1	B	50												61	11												50	0
R0720A	1353 TURNER FARMS RD	1	B	50												62	12												50	0
R0720B	1349 TURNER FARMS RD	1	B	50												64	14												50	0
R0722A	5308 SERATHER CT	1	B	50												62	12												50	0
R0722B	5304 SERATHER CT	1	B	50												64	14												50	0

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 2 Noise level increases highlighted in red are above the substantial noise level increase criteria.
 3 Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																			
						Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build	
						Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase
R0723A	5301 SERATHER CT	1	B	50		70	20																50	0	
R0723B	5300 SERATHER CT	1	B	50		67	17																50	0	
R0724A	5305 SERATHER CT	1	B	50		68	18																50	0	
R0724B	5309 SERATHER CT	1	B	50		67	17																50	0	
R0725	3704 BENSON RD	CHURCH	C	50	55																		56	1	
R0726A	921 TURNER POND DR	1	B	50	60	59	-1					61	6	62	7								56	1	
R0726B	917 TURNER POND DR	1	B	50	58	58	0					60	2	61	3								58	0	
R0727A	3741 WAKEFIELD LN	1	B	50								58	8	57	7								50	0	
R0727B	3753 WAKEFIELD LN	1	B	50								57	7	57	7								50	0	
R0728A	3757 WAKEFIELD LN	1	B	50																			50	0	
R0728B	3761 WAKEFIELD LN	1	B	50																			50	0	
R0729A	3756 WAKEFIELD LN	1	B	50																			50	0	
R0729B	3760 WAKEFIELD LN	1	B	50																			50	0	
R0729C	3752 WAKEFIELD LN	1	B	50																			50	0	
R0730A	909 TURNER POND DR	1	B	50	53	57	4					58	5	59	6								53	0	
R0730B	913 TURNER POND DR	1	B	50	54	56	2					59	5	60	6								55	1	
R0731	905 TURNER POND DR	1	B	50	51	57	6																52	1	
R0732	901 TURNER POND DR	1	B	50	51	57	6																51	0	
R0733A	5208 DOUBLE D ACRES DR	1	B	50																			50	0	
R0733B	5204 DOUBLE D ACRES DR	1	B	50																			50	0	
R0734	1236 GRISSOM FARM RD	1	B	50	59	62	3																60	1	
R0735	1216 GRISSOM FARM RD	1	B	50		59	9																50	0	
R0736A	1200 GRISSOM FARM RD	1	B	50		60	10																50	0	
R0736B	1208 GRISSOM FARM RD	1	B	50		60	10																50	0	
R0737A	1113 GRISSOM FARM RD	1	B	50																			50	0	
R0737B	1201 GRISSOM FARM RD	1	B	50																			50	0	
R0738	1109 GRISSOM FARM RD	1	B	50																			50	0	
R0741A	5505 TREKWOOD DR	1	B	50		61	11																50	0	
R0741B	5601 TREKWOOD DR	1	B	50		60	10																50	0	
R0741C	5509 TREKWOOD DR	1	B	50		62	12																50	0	
R0745A	5517 TREKWOOD DR	1	B	50		64	14																50	0	
R0745B	5521 TREKWOOD DR	1	B	50		65	15																50	0	
R0745C	5513 TREKWOOD DR	1	B	50		63	13																50	0	
R0746A	5324 WOODBREK DR	1	B	50		64	14																50	0	
R0746B	5328 WOODBREK DR	1	B	50		65	15																50	0	
R0746C	5332 WOODBREK DR	1	B	50		66	16																50	0	
R0747A	5333 WOODBREK DR	1	B	50		67	17																50	0	
R0747B	5336 WOODBREK DR	1	B	50		68	18																50	0	
R0747C	5525 TREKWOOD DR	1	B	50		65	15																50	0	
R0747D	5528 TREKWOOD DR	1	B	50		61	11																50	0	
R0747E	5520 TREKWOOD DR	1	B	50		60	10																50	0	
R0748A	933 OPEN FIELD DR	1	B	50		64	14																50	0	
R0748B	929 OPEN FIELD DR	1	B	50		64	14																50	0	
R0749A	1001 OPEN FIELD DR	1	B	50		63	13																50	0	
R0749B	1005 OPEN FIELD DR	1	B	50		63	13																50	0	
R0750A	932 OPEN FIELD DR	1	B	50		59	9																50	0	
R0750B	928 OPEN FIELD DR	1	B	50		59	9																50	0	
R0750C	1004 OPEN FIELD DR	1	B	50		58	8																50	0	
R0751A	1012 OPEN FIELD DR	1	B	50		57	7																50	0	
R0751B	1020 OPEN FIELD DR	1	B	50		57	7																50	0	
R0752A	1009 OPEN FIELD DR	1	B	50	50	62	12																50	0	
R0752B	1013 OPEN FIELD DR	1	B	50	51	61	10																52	1	
R0753A	1017 OPEN FIELD DR	1	B	50	55	61	6																55	0	
R0753B	1021 OPEN FIELD DR	1	B	50	54	61	7																55	1	
R0754	1029 OPEN FIELD DR	1	B	50	54	62	8																55	1	
R0755	4012 BENSON RD	1	B	50	61	63	2																61	0	
R0756	3933 BENSON RD	1	B	50	58	65	7																59	1	
R0757A	1033 OPEN FIELD DR	1	B	50	53	61	8																53	0	
R0757B	1037 OPEN FIELD DR	1	B	50	53	58	5																54	1	
R0758A	4020 BENSON RD	1	B	50	62	67	5																62	0	
R0758B	4024 BENSON RD	1	B	50	62	67	5																62	0	
R0759A	1112 OPEN FIELD DR	1	B	50	51	55	4																52	1	
R0759B	1100 OPEN FIELD DR	1	B	50	51	57	6																51	0	

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3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																			
						Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build	
						Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²
R0760A	1105 OPEN FIELD DR	1	B	50	63	67	4																64	1	
R0760B	1109 OPEN FIELD DR	1	B	50	59	60	1																59	0	
R0760C	1101 OPEN FIELD DR	1	B	50	59	63	4																59	0	
R0761A	1116 OPEN FIELD DR	1	B	50	51	58	7																51	0	
R0761B	1120 OPEN FIELD DR	1	B	50	50	53	3																51	1	
R0762A	6929 STEVENS OAKS DR	1	B	50	59	63	4																60	1	
R0762B	1117 OPEN FIELD DR	1	B	50	56	62	6																57	1	
R0762C	1113 OPEN FIELD DR	1	B	50	59	65	6																60	1	
R0763	6924 STEVENS OAKS DR	1	B	50	53	53	3																50	0	
R0764	1209 OPEN FIELD DR	1	B	50	54	59	5																55	1	
R0765A	7001 CLEVELAND SCHOOL RD	1	B	50	56	61	5																57	1	
R0765B	3530 PARRISH FARM RD	1	B	50	53	54	1																54	1	
R0803	#N/A	1	B	51	57	65	8																60	3	
R0804A	2420 NEW BETHEL CHURCH RD	1	B	49	60	67	7																63	3	
R0804B	2432 NEW BETHEL CHURCH RD	1	B	49	56	59	3																59	3	
R0804C	2428 NEW BETHEL CHURCH RD	1	B	49	62	69	6																65	3	
R0805	2425 NEW BETHEL CHURCH RD	1	B	49	64	71	7																67	3	
R0806	2520 NEW BETHEL CHURCH RD	1	B	49	64	67	3																67	3	
R0807	2509 NEW BETHEL CHURCH RD	1	B	49	67	72	5																70	3	
R0808A	4504 BARRINGTON HILLS LN	1	B	49	60	66	6																63	3	
R0808B	4512 BARRINGTON HILLS LN	1	B	49	56	61	5																59	3	
R0809A	4505 BARRINGTON HILLS LN	1	B	49	61	67	6																65	4	
R0809B	4509 BARRINGTON HILLS LN	1	B	49	59	67	8																62	3	
R0811A	7101 LITTLE SHANNON DR	1	B	49	59	62	3																62	3	
R0811B	7105 LITTLE SHANNON DR	1	B	49	57	62	5																60	3	
R0816A	7117 BREEZY BRANCH LN	1	B	49	50	50																	53	3	
R0816B	7113 BREEZY BRANCH LN	1	B	49	51	53	2																53	2	
R0817A	7125 BREEZY BRANCH LN	1	B	49	49	53	4																52	3	
R0817B	7121 BREEZY BRANCH LN	1	B	49	50	54	4																52	2	
R0820	4616 BARRINGTON HILLS LN	1	B	49	51	55	4																53	2	
R0821A	7108 FLAT CREEK CT	1	B	49	50	56	6																52	2	
R0821B	7104 FLAT CREEK CT	1	B	49	51	57	6																52	2	
R0823A	7112 FLAT CREEK CT	1	B	49	50	56	6																52	2	
R0823B	7116 FLAT CREEK CT	1	B	49	50	55	5																52	2	
R0824A	4624 BARRINGTON HILLS LN	1	B	49	51	58	7																53	2	
R0824B	7109 FLAT CREEK CT	1	B	49	50	58	8																52	2	
R0833A	4628 LOW GROUND CT	1	B	49	49	60	11																51	2	
R0833B	4632 LOW GROUND CT	1	B	49	49	59	10																51	2	
R0834A	4624 LOW GROUND CT	1	B	49	49	62	13																52	3	
R0834B	4620 LOW GROUND CT	1	B	49	49	62	13																51	2	
R0835A	4613 LOW GROUND CT	1	B	49	49	63	14																51	2	
R0835B	4617 LOW GROUND CT	1	B	49	49	63	14																51	2	
R0836A	4612 LOW GROUND CT	1	B	49	49	64	15																51	2	
R0836B	4616 LOW GROUND CT	1	B	49	49	63	14																51	2	
R0837A	4600 LOW GROUND CT	1	B	49	49	68	19																50	1	
R0837B	4608 LOW GROUND CT	1	B	49	49	67	18																51	2	
R0838A	4601 LOW GROUND CT	1	B	49	49	59	10																49	0	
R0838B	4728 ALONZO RD	1	B	49	49	61	12																50	1	
R0839A	4725 ALONZO RD	1	B	49	49	65	16																49	0	
R0839B	4729 ALONZO RD	1	B	49	49	63	14																49	0	
R0840A	4721 ALONZO RD	1	B	49	49	66	17																49	0	
R0840B	4717 ALONZO RD	1	B	49	49	70	21																51	2	
R0841A	4608 BUSHY BRANCH DR	1	B	49	49	68	19																52	3	
R0841B	4604 BUSHY BRANCH DR	1	B	49	49	66	17																52	3	
R0844	4600 BUSHY BRANCH DR	1	B	49	49	63	14																52	3	
R0851A	4536 BUSHY BRANCH DR	1	B	49	49	60	11																52	3	
R0851B	4532 BUSHY BRANCH DR	1	B	49	49	68	19																49	0	
R0852A	2500 WRANGLER CT	1	B	49	49	70	21																51	2	
R0852B	2508 WRANGLER CT	1	B	49	49	63	14																49	0	
R0853A	2505 WRANGLER CT	1	B	49	49	65	16																49	0	
R0853B	2509 WRANGLER CT	1	B	49	49	66	17																49	0	
R0853C	2513 WRANGLER CT	1	B	49	49	63	14																49	0	
R0854A	2520 BIG BUCK LN	1	B	49	49	63	14																50	1	

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3 Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																
						Orange Build ¹ Increase ²	Green Build ¹ Increase ²	Mint Build ¹ Increase ²	Red Build ¹ Increase ²	Purple/Blue Build ¹ Increase ²	Lilac Build ¹ Increase ²	Teal Build ¹ Increase ²	Brown Build ¹ Increase ²	Tan Build ¹ Increase ²	No Build Increase ²							
R0854B	2524 BIG BUCK LN	1	B	49									65	16							49	0
R0855A	2528 BIG BUCK LN	1	B	49									66	17							49	0
R0855B	2529 BIG BUCK LN	1	B	49									64	15							49	0
R0855C	2525 BIG BUCK LN	1	B	49									63	14							49	0
R0856	4608 SELLIE DR	1	B	49	64								70	6							66	2
R0857	4517 HICKS RD	1	B	49	66				69	5			71	5							68	2
R0858A	4501 HICKS RD	1	B	49	62				68	6			70	6							65	3
R0858B	4425 HICKS RD	1	B	49	61				67	6			67	6							63	2
R0859	4302 HICKS RD	1	B	49	65				71	6			72	7							68	3
R0860A	4312 SMITH LANDING DR	1	B	49	68				74	6			75	7							71	3
R0860B	4308 SMITH LANDING DR	1	B	49	68				74	6			75	7							71	3
R0861	9433 WHITE OAK RD	CHURCH	C	49	62																65	3
R0862A	9428 CARLEY CIR	1	B	49	53																59	2
R0862B	9432 CARLEY CIR	1	B	49	57																59	2
R0863A	9420 CARLEY CIR	1	B	49	49																51	2
R0863B	9424 CARLEY CIR	1	B	49	50																52	2
R0864A	2904 HAYWARD CT	1	B	49	59				64	5			64	5							60	1
R0864B	2908 HAYWARD CT	1	B	49	56				60	4			61	5							57	1
R0865A	2912 HAYWARD CT	1	B	49	51				56	5			58	7							52	1
R0865B	2916 HAYWARD CT	1	B	49	49				53	4											50	1
R0866A	2905 HAYWARD CT	1	B	49	56				61	5			61	5							58	2
R0866B	2909 HAYWARD CT	1	B	49	52				57	5			58	6							53	1
R0867	2913 HAYWARD CT	1	B	49	49				53	4			53	4							50	1
R0868	9220 WHITE OAK RD	1	B	49	53				61	8			62	9							54	1
R0869	9305 CARLEY CIR	1	B	49																	65	16
R0870	2917 ESCONDIDO FARM RD	1	B	49																	49	0
R0871	2913 ESCONDIDO FARM RD	1	B	49																	49	0
R0872	2908 ESCONDIDO FARM RD	1	B	49																	55	6
R0873	2824 ESCONDIDO FARM RD	1	B	49																	49	0
R0874	2800 ESCONDIDO FARM RD	1	B	49	54				57	8			52	3							49	0
R0875	8849 OLD CASCADE DR	1	B	49	51																55	1
R0876	8817 OLD CASCADE DR	1	B	49	57																52	1
R0877A	4220 SAND CASTLE DR	1	B	49	60				66	6			48	-1							59	2
R0877B	4220 SAND CASTLE DR	1	B	49	54				60	6											61	1
R0878	4220 SAND CASTLE DR	1	B	49	52																56	2
R0879A	4220 SAND CASTLE DR	1	B	49	51				58	7			59	8							53	1
R0879B	4220 SAND CASTLE DR	1	B	49	50				56	6			58	8							52	2
R0880A	4220 SAND CASTLE DR	1	B	49	49				56	7			57	8							51	2
R0880B	4220 SAND CASTLE DR	1	B	49	49				57	8			58	9							51	2
R0881A	8924 OLD CASCADE DR	1	B	49					55	6			57	8							50	1
R0881B	8932 OLD CASCADE DR	1	B	49					53	4			56	7							50	1
R0888A	8952 OLD CASCADE DR	1	B	49					54	5			55	6							50	1
R0888B	8964 OLD CASCADE DR	1	B	49					55	6											50	1
R0889A	9024 OLD CASCADE DR	1	B	49					52	3			54	5							51	2
R0889B	9012 OLD CASCADE DR	1	B	49					53	4			54	5							50	1
R0890A	9020 MUSTARD SEED LN	1	B	49	49				52	3			54	5							51	2
R0890B	9024 MUSTARD SEED LN	1	B	49	49				53	4			54	5							51	2
R0890C	9016 MUSTARD SEED LN	1	B	49	49				54	5			55	6							51	2
R0891A	9008 MUSTARD SEED LN	1	B	49	49				55	6			55	6							51	2
R0891B	9012 MUSTARD SEED LN	1	B	49	49				55	6			55	6							51	2
R0892A	9004 MUSTARD SEED LN	1	B	49	49				56	7			56	7							51	2
R0892B	9000 MUSTARD SEED LN	1	B	49	49				57	8			56	7							51	2
R0893A	9017 MUSTARD SEED LN	1	B	49	51				56	5			56	5							53	2
R0893B	9025 MUSTARD SEED LN	1	B	49	50				54	4			55	5							52	2
R0894A	9009 MUSTARD SEED LN	1	B	49	51				57	6			57	6							53	2
R0894B	9013 MUSTARD SEED LN	1	B	49	50				56	6			56	6							52	2
R0894C	9001 MUSTARD SEED LN	1	B	49	51				57	6			57	6							53	2
R0895	8805 TIFFANY CREEK DR	1	B	49	57				64	7			63	6							58	1
R0896	0 WHITE OAK RD	1	B	49	55				62	7			62	7							57	2
R0897A	8833 WHITE OAK RD	1	B	49	56				63	7											57	1
R0897B	8905 WHITE OAK RD	1	B	49	57				63	6											59	2
R0898	8817 WHITE OAK RD	1	B	49	52				57	5			58	6							54	2
R0899A	8812 WHITE OAK RD	1	B	49	58				65	7			64	6							60	2

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Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)												
						Orange Build ¹ Increase ²	Green Build ¹ Increase ²	Mint Build ¹ Increase ²	Red Build ¹ Increase ²	Purple/Blue Build ¹ Increase ²	Lilac Build ¹ Increase ²	Teal Build ¹ Increase ²	Brown Build ¹ Increase ²	Tan Build ¹ Increase ²	No Build			
																Build ³	Increase ²	Build ³
R1149A	102 MABRY PL	1	B	49	59												60	1
R1149B	204 COACHMAN DR	1	B	49	56				66	7							60	1
R1149C	104 MABRY PL	1	B	49	60				66	6							60	0
R1149D	106 MABRY PL	1	B	49	56				67	11							60	0
R1150A	103 MABRY PL	1	B	49	51				67	11							56	0
R1150B	105 MABRY PL	1	B	49	51				74	23							51	0
R1150C	101 MABRY PL	1	B	49	52				72	21							51	0
R1151	203 COACHMAN DR	1	B	49	60				71	19							52	0
R1154A	207 COACHMAN DR	1	B	49	52				65	5							60	0
R1154B	205 COACHMAN DR	1	B	49	55				65	13							53	1
R1154C	209 COACHMAN DR	1	B	49	51				64	9							56	1
R1155	301 COACHMAN DR	1	B	49	49				66	15							51	0
R1156A	1502 WOODS CREEK DR	1	B	49	56				69	20							49	0
R1156B	1504 WOODS CREEK DR	1	B	49	54				65	9							56	0
R1156C	1506 WOODS CREEK DR	1	B	49	49				66	12							54	0
R1156D	1508 WOODS CREEK DR	1	B	49	50				69	20							50	1
R1156E	1506 WOODS CREEK DR	1	B	49	50				67	17							51	1
R1163A	101 WHITHORNE DR	1	B	49	57				65	8							57	0
R1163B	103 WHITHORNE DR	1	B	49	56				65	9							56	0
R1163C	105 WHITHORNE DR	1	B	49	55				64	9							55	0
R1164A	1501 WOODS CREEK DR	1	B	49	53				69	16							53	0
R1164B	102 WHITHORNE DR	1	B	49	53				71	18							53	0
R1165A	1503 WOODS CREEK DR	1	B	49	51				72	21							51	0
R1165B	322 WHITHORNE DR	1	B	49	50				76	26							51	1
R1167A	106 WHITHORNE DR	1	B	49	52				73	21							53	1
R1167B	104 WHITHORNE DR	1	B	49	52				74	22							52	0
R1171A	107 WHITHORNE DR	1	B	49	55				64	9							55	0
R1171B	109 WHITHORNE DR	1	B	49	54				63	9							55	1
R1171C	111 WHITHORNE DR	1	B	49	54				63	9							55	1
R1172A	110 WHITHORNE DR	1	B	49	49				72	23							50	1
R1172B	108 WHITHORNE DR	1	B	49	52				72	20							52	0
R1172C	112 TYSER PL	1	B	49	49				71	22							50	1
R1177A	113 WHITHORNE DR	1	B	49	54				63	9							55	1
R1177B	201 WHITHORNE DR	1	B	49	54				63	9							55	1
R1178A	103 TYSER PL	1	B	49	52				72	20							53	1
R1178B	202 WHITHORNE DR	1	B	49	52				68	16							53	1
R1182A	204 WHITHORNE DR	1	B	49	52				72	20							53	1
R1182B	206 WHITHORNE DR	1	B	49	51				73	22							52	1
R1184A	207 WHITHORNE DR	1	B	49	53				63	10							53	0
R1184B	209 WHITHORNE DR	1	B	49	52				64	12							53	1
R1184C	205 WHITHORNE DR	1	B	49	54				63	9							54	0
R1185A	213 WHITHORNE DR	1	B	49	52				67	15							53	1
R1185B	215 WHITHORNE DR	1	B	49	51				71	20							53	2
R1185C	211 WHITHORNE DR	1	B	49	51				64	13							52	1
R1186A	104 STOWE PL	1	B	49	51				62	11							52	1
R1186B	106 STOWE PL	1	B	49	50				63	13							52	2
R1189A	105 STOWE PL	1	B	49	56				62	6							57	1
R1189B	107 STOWE PL	1	B	49	55				62	7							56	1
R1190A	905 TIMBER DR	1	B	49	61				64	3							62	1
R1190B	103 STOWE PL	1	B	49	60				63	3							60	0
R1191A	901 TIMBER DR	1	B	49	63				65	2							63	0
R1191B	903 TIMBER DR	1	B	49	61				64	3							62	1
R1193A	110 ZINNIA LN	1	B	49	52				62	10							54	2
R1193B	106 ZINNIA LN	1	B	49	54				63	9							56	2
R1193C	102 ZINNIA LN	1	B	49	59				65	6							62	3
R1198A	310 OLD SCARBOROUGH LN	1	B	49	50				58	8							52	2
R1198B	306 OLD SCARBOROUGH LN	1	B	49	52				60	8							54	2
R1200A	307 OLD SCARBOROUGH LN	1	B	49	52				60	11							50	1
R1200B	636 KIMLOCH DR	1	B	49	49				62	13							50	1
R1201A	224 EASY WIND LN	1	B	52					68	16							52	0
R1201B	230 EASY WIND LN	1	B	52					66	14							52	0
R1201C	218 EASY WIND LN	1	B	52					70	18							52	0
R1202A	206 EASY WIND LN	1	B	52					75	23							52	0
R1202B	212 EASY WIND LN	1	B	52					72	20							52	0

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 2 Noise level increases highlighted in red are above the substantial noise level increase criteria.
 3 Noise levels reported if the traffic noise was dominant noise

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Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																	
						2015						2035											
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build	Increase							
R1203	201 EASY WIND LN	1	C	52								70	18									52	0
R1204A	205 EASY WIND LN	1	B	52								66	14									52	0
R1204B	211 EASY WIND LN	1	B	52								64	12									52	0
R1205A	231 EASY WIND LN	1	B	52								63	11									52	0
R1205B	217 EASY WIND LN	1	B	52								64	12									52	0
R1206	257 SHADY HOLLOW LN	1	B	52								65	13									52	0
R1207A	514 EASY WIND LN	1	B	52								66	14									52	0
R1207B	520 EASY WIND LN	1	B	52								64	12									52	0
R1208A	496 EASY WIND LN	1	B	52								72	20									52	0
R1208B	490 EASY WIND LN	1	B	52								74	22									52	0
R1209A	484 EASY WIND LN	1	B	52								76	24									52	0
R1209B	478 EASY WIND LN	1	B	52								77	25									52	0
R1209C	472 EASY WIND LN	1	B	52								77	25									52	0
R1210A	505 EASY WIND LN	1	B	52								64	12									52	0
R1210B	485 EASY WIND LN	1	B	52								65	13									52	0
R1210C	465 EASY WIND LN	1	B	52								64	12									52	0
R1211A	427 EASY WIND LN	1	B	52								63	11									52	0
R1211B	445 EASY WIND LN	1	B	52								64	12									52	0
R1211C	436 EASY WIND LN	1	B	52								64	12									52	0
R1212B	430 EASY WIND LN	1	B	52								62	10									52	0
R1213A	442 EASY WIND LN	1	B	52								63	11									52	0
R1213B	448 EASY WIND LN	1	B	52								66	14									52	0
R1214A	460 EASY WIND LN	1	B	52								69	17									52	0
R1214B	454 EASY WIND LN	1	B	52								67	15									52	0
R1214C	466 EASY WIND LN	1	B	52								73	21									52	0
R1218A	105 MUNNSEE CT	1	B	52								75	23									52	0
R1218B	103 MUNNSEE CT	1	B	52								73	21									52	0
R1218C	106 MUNNSEE CT	1	B	52								68	16									52	0
R1219	200 SHOALS LN	1	B	52								71	19									52	0
R1220A	102 MUNNSEE CT	1	B	52								65	13									52	0
R1220B	100 MUNNSEE CT	1	B	52								67	15									52	0
R1220C	104 MUNNSEE CT	1	B	52								66	14									52	0
R1222A	201 SHOALS LN	1	B	52								66	14									52	0
R1222B	203 SHOALS LN	1	B	52								68	16									52	0
R1223A	109 SHOALS LN	1	B	52								65	13									52	0
R1223B	107 SHOALS LN	1	B	52								64	12									52	0
R1225	216 HASSELL ST	1	B	52								68	16									52	0
R1226A	212 HASSELL ST	1	B	52								66	14									52	0
R1226B	214 HASSELL ST	1	B	52								66	14									52	0
R1227A	210 HASSELL ST	1	B	52								64	12									52	0
R1227B	208 HASSELL ST	1	B	52								63	11									52	0
R1229A	105 BELCROSS CT	1	B	52								65	13									52	0
R1229B	107 BELCROSS CT	1	B	52								65	13									52	0
R1229C	103 BELCROSS CT	1	B	52								67	15									52	0
R1229D	101 BELCROSS CT	1	B	52								67	15									52	0
R1229E	203 HASSELL ST	1	B	52								64	12									52	0
R1230A	505 NOVEMBER ST	1	B	52								64	12									52	0
R1230B	503 NOVEMBER ST	1	B	52								64	12									52	0
R1230C	507 NOVEMBER ST	1	B	52								63	11									52	0
R1231A	102 CHOYCE CT	1	B	52								64	12									52	0
R1231B	104 CHOYCE CT	1	B	52								66	14									52	0
R1233A	406 NOVEMBER ST	1	B	52								61	9									52	0
R1233B	502 NOVEMBER ST	1	B	52								60	8									52	0
R1234A	101 CHOYCE CT	1	B	52								72	20									52	0
R1234B	103 CHOYCE CT	1	B	52								74	22									52	0
R1234C	401 NOVEMBER ST	1	B	52								74	22									52	0
R1235A	402 NOVEMBER ST	1	B	52								62	10									52	0
R1235B	404 NOVEMBER ST	1	B	52								61	9									52	0
R1236A	303 NOVEMBER ST	1	B	52								72	20									52	0
R1236B	301 NOVEMBER ST	1	B	52								71	19									52	0
R1237A	304 NOVEMBER ST	1	B	52								64	12									52	0
R1237B	302 NOVEMBER ST	1	B	52								64	12									52	0

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3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)												
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build			
						Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	
R1238A	203 NOVEMBER ST	1	B	52														
R1238B	205 NOVEMBER ST	1	B	52														
R1239A	204 NOVEMBER ST	1	B	52														
R1239B	202 NOVEMBER ST	1	B	52														
R1239C	206 NOVEMBER ST	1	B	52														
R1240A	113 NOVEMBER ST	1	B	52														
R1240B	201 NOVEMBER ST	1	B	52														
R1240C	111 NOVEMBER ST	1	B	52														
R1241A	107 NOVEMBER ST	1	B	52														
R1241B	109 NOVEMBER ST	1	B	52														
R1241C	105 NOVEMBER ST	1	B	52														
R1242A	108 NOVEMBER ST	1	B	52														
R1242B	106 NOVEMBER ST	1	B	52														
R1243A	104 NOVEMBER ST	1	B	52														
R1243B	102 NOVEMBER ST	1	B	52														
R1244A	103 NOVEMBER ST	1	B	52														
R1244B	115 ATCHISON ST	1	B	52														
R1244C	113 ATCHISON ST	1	B	52														
R1245A	109 ATCHISON ST	1	B	52														
R1245B	107 ATCHISON ST	1	B	52														
R1245C	111 ATCHISON ST	1	B	52														
R1246A	103 ATCHISON ST	1	B	52														
R1246B	105 ATCHISON ST	1	B	52														
R1247A	110 ATCHISON ST	1	B	52														
R1247B	112 ATCHISON ST	1	B	52														
R1247C	108 ATCHISON ST	1	B	52														
R1248A	104 ATCHISON ST	1	B	52														
R1248B	102 ATCHISON ST	1	B	52														
R1248C	106 ATCHISON ST	1	B	52														
R1249A	106 BURNHAM CT	1	B	52														
R1249B	108 BURNHAM CT	1	B	52														
R1249C	104 BURNHAM CT	1	B	52														
R1250A	112 BURNHAM CT	1	B	52														
R1250B	110 BURNHAM CT	1	B	52														
R1250C	114 BURNHAM CT	1	B	52														
R1251A	109 BURNHAM CT	1	B	52														
R1251B	111 BURNHAM CT	1	B	52														
R1251C	107 BURNHAM CT	1	B	52														
R1252A	115 BURNHAM CT	1	B	52														
R1252B	113 BURNHAM CT	1	B	52														
R1253A	204 BAYBERRY LN	1	B	52														
R1253B	202 BAYBERRY LN	1	B	52														
R1253C	206 BAYBERRY LN	1	B	52														
R1254A	210 BAYBERRY LN	1	B	52														
R1254B	208 BAYBERRY LN	1	B	52														
R1256A	205 BAYBERRY LN	1	B	52														
R1256B	203 BAYBERRY LN	1	B	52														
R1256C	207 BAYBERRY LN	1	B	52														
R1257A	104 NIVENS CT	1	B	52														
R1257B	102 NIVENS CT	1	B	52														
R1257C	106 NIVENS CT	1	B	52														
R1258	1600 BENSON RD	CHILD CARE	C	52														
R1259	1009 NEW RAND RD	1	B	52														
R1262	1623 BENSON RD	1	B	52														
R1263A	105 CREEKLINE CT	1	B	52														
R1263B	104 CREEKLINE CT	1	B	52														
R1263C	103 CREEKLINE CT	1	B	52														
R1264A	201 BROOK ROCK LN	1	B	52														
R1264B	203 BROOK ROCK LN	1	B	52														
R1264C	107 BROOK ROCK LN	1	B	52														
R1265	102 CREEKLINE CT	1	B	52														
R1266A	103 BROOK ROCK LN	1	B	52														
R1266B	105 BROOK ROCK LN	1	B	52														

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3Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)															
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build						
						Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²		
R1268A	102 BROOK ROCK LN	1	B	52					62	10								52	0		
R1269A	104 BROOK ROCK LN	1	B	52					61	9								52	0		
R1269C	106 BROOK ROCK LN	1	B	52					61	9								52	0		
R1270A	104 FARNHAM CT	1	B	52					64	12								52	0		
R1270B	102 FARNHAM CT	1	B	52					62	10								52	0		
R1271A	108 BROOK ROCK LN	1	B	52					60	8								52	0		
R1271B	102 ARTESIAN DR	1	B	52					60	8								52	0		
R1272A	100 FARNHAM CT	1	B	52					62	10								52	0		
R1272B	104 ARTESIAN DR	1	B	52					61	9								52	0		
R1273A	101 ARTESIAN DR	1	B	52					59	7								52	0		
R1273B	103 ARTESIAN DR	1	B	52					59	7								52	0		
R1273C	105 ARTESIAN DR	1	B	52					58	6								52	0		
R1274A	107 ARTESIAN DR	1	B	52					58	6								52	0		
R1274B	101 OAK HOLLOW CT	1	B	52					58	6								52	0		
R1275A	104 OAK HOLLOW CT	1	B	52					59	7								52	0		
R1275B	102 OAK HOLLOW CT	1	B	52					60	8								52	0		
R1275C	103 OAK HOLLOW CT	1	B	52					58	6								52	0		
R1277A	105 FARNHAM CT	1	B	52					69	17								52	0		
R1277B	103 FARNHAM CT	1	B	52					71	19								52	0		
R1278A	202 ARTESIAN DR	1	B	52					68	16								52	0		
R1278B	101 FARNHAM CT	1	B	52					64	12								52	0		
R1279A	203 ARTESIAN DR	1	B	52					62	10								52	0		
R1279B	100 OAK HOLLOW CT	1	B	52					61	9								52	0		
R1280A	205 ARTESIAN DR	1	B	52					63	11								52	0		
R1280B	207 ARTESIAN DR	1	B	52					65	13								52	0		
R1282	204 ARTESIAN DR	1	B	52					71	19								52	0		
R1283A	211 ARTESIAN DR	1	B	52					69	17								52	0		
R1283B	209 ARTESIAN DR	1	B	52					67	15								52	0		
R1307A	101 FOXBURY DR	1	B	52	62				66	4								63	1		
R1307B	105 FOXBURY DR	1	B	52	59				63	4								60	1		
R1308A	109 FOXBURY DR	1	B	52	55				62	7								56	1		
R1308B	113 FOXBURY DR	1	B	52	52				61	9								54	2		
R1309A	117 FOXBURY DR	1	B	52	52				60	8								52	0		
R1309B	201 FOXBURY DR	1	B	52	52				59	7								52	0		
R1310A	205 FOXBURY DR	1	B	52	52				59	7								52	0		
R1310B	209 FOXBURY DR	1	B	52	52				60	8								52	0		
R1311A	301 FOXBURY DR	1	B	52	52				60	8								52	0		
R1311B	305 FOXBURY DR	1	B	52	52				61	9								52	0		
R1311C	309 FOXBURY DR	1	B	52	52				61	9								52	0		
R1312A	317 FOXBURY DR	1	B	52	52				62	10								52	0		
R1312B	313 FOXBURY DR	1	B	52	52				62	10								52	0		
R1312C	321 FOXBURY DR	1	B	52	52				63	11								52	0		
R1313A	325 FOXBURY DR	1	B	52	52				63	11								52	0		
R1313B	329 FOXBURY DR	1	B	52	52				63	11								52	0		
R1315A	1867 BENSON RD	1	B	52	58				63	5								59	1		
R1315B	1875 BENSON RD	1	B	52	60				64	4								61	1		
R1316A	114 FOXBURY DR	1	B	52	52				59	7								53	1		
R1316B	104 ROCK FISH LN	1	B	52	52				59	7								53	1		
R1317A	105 ROCK FISH LN	1	B	52	52				57	5								52	0		
R1317B	101 ROCK FISH LN	1	B	52	52				58	6								52	0		
R1318A	100 SKIPPING ROCK LN	1	B	52	52				58	6								52	0		
R1318B	104 SKIPPING ROCK LN	1	B	52	52				57	5								52	0		
R1319A	300 FOXBURY DR	1	B	52	52				58	6								52	0		
R1319B	304 FOXBURY DR	1	B	52	52				58	6								52	0		
R1320A	312 FOXBURY DR	1	B	52	52				59	7								52	0		
R1320B	316 FOXBURY DR	1	B	52	52				59	7								52	0		
R1321A	320 FOXBURY DR	1	B	52	52				58	6								52	0		
R1321B	324 FOXBURY DR	1	B	52	52				59	7								52	0		
R1322A	108 ROCK FISH LN	1	B	52	52				58	6								53	1		
R1322B	112 ROCK FISH LN	1	B	52	52				57	5								53	1		
R1322C	116 ROCK FISH LN	1	B	52	52				56	4								52	0		
R1323	113 ROCK FISH LN	1	B	52	52				57	5								52	0		
R1324A	108 SKIPPING ROCK LN	1	B	52	52				56	4								52	0		

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3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																						
						Orange Build ¹ Increase ²	Green Build ¹ Increase ²	Mint Build ¹ Increase ²	Red Build ¹ Increase ²	Purple/Blue Build ¹ Increase ²	Lilac Build ¹ Increase ²	Teal Build ¹ Increase ²	Brown Build ¹ Increase ²	Tan Build ¹ Increase ²	No Build	Build Increase ³												
																	56	57	58	59	60	61	62	63	64	65	66	67
R1324B	129 ROCK FISH LN	1	B	52																						52	0	
R1325A	113 SKIPPING ROCK LN	1	B	52																							52	0
R1325B	109 SKIPPING ROCK LN	1	B	52																							52	0
R1326A	105 CROOKED BRANCH CT	1	B	52																							52	0
R1326B	109 CROOKED BRANCH CT	1	B	52																							52	0
R1327A	112 CROOKED BRANCH CT	1	B	52																							52	0
R1327B	108 CROOKED BRANCH CT	1	B	52																							52	0
R1327C	113 CROOKED BRANCH CT	1	B	52																							52	0
R1330A	124 ROCK FISH LN	1	B	52																							52	0
R1330B	128 ROCK FISH LN	1	B	52																							52	0
R1331A	132 ROCK FISH LN	1	B	52																							52	0
R1331B	120 SKIPPING ROCK LN	1	B	52																							52	0
R1332A	121 SKIPPING ROCK LN	1	B	52																							52	0
R1332B	129 SKIPPING ROCK LN	1	B	52																							52	0
R1332C	125 SKIPPING ROCK LN	1	B	52																							52	0
R1335A	124 SKIPPING ROCK LN	1	B	52																							52	0
R1335B	128 SKIPPING ROCK LN	1	B	52																							52	0
R1349	1901 BENSON RD	1	B	52	60																						61	1
R1373	7770 BRYAN RD	1	B	52																							61	1
R1375	7750 BRYAN RD	1	B	52																							62	0
R1376	104 FOX WALK PATH	1	B	52																							62	0
R1377	7612 WHITE OAK RD	1	B	57	57																						59	2
R1378	7696 WHITE OAK RD	1	B	57	58																						60	2
R1379	7760 WHITE OAK RD	1	B	57																							57	0
R1380A	100 RICHARDSON LN	1	B	57	58																						59	1
R1380B	100 RICHARDSON LN	1	B	57																							57	0
R1380C	100 RICHARDSON LN	1	B	57																							57	0
R1380D	100 RICHARDSON LN	1	B	57	58																						59	1
R1381A	7623 WHITE OAK RD	1	B	57																							57	0
R1381B	7611 WHITE OAK RD	1	B	57																							57	0
R1381C	200 EVA CIR	1	B	57																							57	0
R1381D	101 EVA CIR	1	B	57																							57	0
R1381E	101 EVA CIR	1	B	57																							57	0
R1381F	101 EVA CIR	1	B	57																							57	0
R1381G	101 EVA CIR	1	B	57																							57	0
R1381H	101 EVA CIR	1	B	57																							57	0
R1382A	100 RICHARDSON LN	1	B	57																							57	0
R1382B	100 RICHARDSON LN	1	B	57																							57	0
R1383A	100 RICHARDSON LN	1	B	57																							57	0
R1383B	100 RICHARDSON LN	1	B	57																							57	0
R1384A	100 RICHARDSON LN	1	B	57																							57	0
R1384B	100 RICHARDSON LN	1	B	57																							57	0
R1385	7777 WHITE OAK RD	1	B	57																							57	0
R1387A	1605 TIMBER DR E	1	B	57	59																						61	2
R1387B	1605 TIMBER DR E	1	B	57	60																						61	1
R1387C	1605 TIMBER DR E	1	B	57	62																						61	-1
R1387D	1605 TIMBER DR E	1	B	57	58																						61	3
R1387E	1605 TIMBER DR E	1	B	57	60																						61	1
R1387F	1605 TIMBER DR E	1	B	57	61																						61	0
R1387G	1605 TIMBER DR E	1	B	57	58																						60	2
R1387H	1605 TIMBER DR E	1	B	57	60																						60	0
R1387I	1605 TIMBER DR E	1	B	57	61																						60	-1
R1387J	1605 TIMBER DR E	1	B	57	58																						60	2
R1387K	1605 TIMBER DR E	1	B	57	59																						60	1
R1387L	1605 TIMBER DR E	1	B	57	61																						60	-1
R1387M	1605 TIMBER DR E	1	B	57																							57	0
R1387N	1605 TIMBER DR E	1	B	57																							57	0
R1387O	1605 TIMBER DR E	1	B	57																							57	0
R1387P	1605 TIMBER DR E	1	B	57																							57	0
R1387Q	1605 TIMBER DR E	1	B	57																							57	0
R1387R	1605 TIMBER DR E	1	B	57																							57	0
R1387S	1605 TIMBER DR E	1	B	57																							57	0
R1387T	1605 TIMBER DR E	1	B	57																							57	0

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.

2 Noise level increases highlighted in red are above the substantial noise level increase criteria.

3 Noise levels reported if the traffic noise was dominant noise

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																						
						2005						2015						No Build Increase										
						Orange Build ¹	Orange Increase ²	Green Build ¹	Green Increase ²	Mint Build ¹	Mint Increase ²	Red Build ¹	Red Increase ²	Purple/Blue Build ¹	Purple/Blue Increase ²	Lilac Build ¹	Lilac Increase ²		Teal Build ¹	Teal Increase ²	Brown Build ¹	Brown Increase ²	Tan Build ¹	Tan Increase ²				
R1390L	1605 TIMBER DR E	1	B	57	62												68	6								61	-1	
R1390M	1605 TIMBER DR E	1	B	57													61	4									57	0
R1390N	1605 TIMBER DR E	1	B	57													62	5									57	0
R1390O	1605 TIMBER DR E	1	B	57	57												64	7									58	1
R1390P	1605 TIMBER DR E	1	B	57	57												64	7									58	1
R1390Q	1605 TIMBER DR E	1	B	57	57												64	7									58	1
R1390R	1605 TIMBER DR E	1	B	57	59												65	6									58	-1
R1390S	1605 TIMBER DR E	1	B	57	58												65	7									61	3
R1390T	1605 TIMBER DR E	1	B	57	60												66	6									60	0
R1390U	1605 TIMBER DR E	1	B	57	61												67	6									60	-1
R1390V	1605 TIMBER DR E	1	B	57	60												66	6									62	2
R1390W	1605 TIMBER DR E	1	B	57	62												68	6									62	0
R1390X	1605 TIMBER DR E	1	B	57	63												69	6									62	-1
R1391A	1605 TIMBER DR E	1	B	57	60												66	6									62	2
R1391B	1605 TIMBER DR E	1	B	57	62												68	6									62	0
R1391C	1605 TIMBER DR E	1	B	57	63												69	6									62	-1
R1391D	1605 TIMBER DR E	1	B	57	60												66	6									62	2
R1391E	1605 TIMBER DR E	1	B	57	62												68	6									62	0
R1391F	1605 TIMBER DR E	1	B	57	63												69	6									62	-1
R1391G	1605 TIMBER DR E	1	B	57	60												66	6									62	2
R1391H	1605 TIMBER DR E	1	B	57	61												68	7									62	1
R1391I	1605 TIMBER DR E	1	B	57	63												69	6									62	-1
R1391J	1605 TIMBER DR E	1	B	57	59												66	7									62	3
R1391K	1605 TIMBER DR E	1	B	57	61												67	6									62	1
R1391L	1605 TIMBER DR E	1	B	57	63												69	6									61	-2
R1391M	1605 TIMBER DR E	1	B	57	63												69	6									57	0
R1391N	1605 TIMBER DR E	1	B	57	62												68	6									57	0
R1391O	1605 TIMBER DR E	1	B	57	62												66	6									57	0
R1391P	1605 TIMBER DR E	1	B	57	61												66	6									57	0
R1391Q	1605 TIMBER DR E	1	B	57	62												68	6									57	0
R1391R	1605 TIMBER DR E	1	B	57	63												69	6									57	0
R1391S	1605 TIMBER DR E	1	B	57	59												66	7									57	0
R1391T	1605 TIMBER DR E	1	B	57	61												67	6									57	0
R1391U	1605 TIMBER DR E	1	B	57	63												69	6									61	-2
R1391V	1605 TIMBER DR E	1	B	57	63												69	6									57	0
R1391W	1605 TIMBER DR E	1	B	57	57												55	-2									57	0
R1391X	1605 TIMBER DR E	1	B	57	59												55	-2									57	0
R1392A	300 ABBERLY CREST BLVD	1	B	57	59												55	-2									57	0
R1392B	300 ABBERLY CREST BLVD	1	B	57	57												54	-3									57	0
R1392C	300 ABBERLY CREST BLVD	1	B	57	58												54	-3									57	0
R1392D	300 ABBERLY CREST BLVD	1	B	57	58												55	-2									57	0
R1392E	300 ABBERLY CREST BLVD	1	B	57	58												55	-2									57	0
R1392F	300 ABBERLY CREST BLVD	1	B	57	59												56	-1									57	0
R1392G	300 ABBERLY CREST BLVD	1	B	57	57												56	-1									57	0
R1392H	300 ABBERLY CREST BLVD	1	B	57	59												58	1									57	0
R1392I	300 ABBERLY CREST BLVD	1	B	57	60												58	1									57	0
R1392J	300 ABBERLY CREST BLVD	1	B	57	57												64	7									58	1
R1392K	300 ABBERLY CREST BLVD	1	B	57	59												64	7									59	0
R1392L	300 ABBERLY CREST BLVD	1	B	57	60												66	6									60	0
R1392M	300 ABBERLY CREST BLVD	1	B	57	60												66	6									60	0
R1392N	300 ABBERLY CREST BLVD	1	B	57	62												62	5									57	0
R1392O	300 ABBERLY CREST BLVD	1	B	57	58												64	7									57	0
R1392P	300 ABBERLY CREST BLVD	1	B	57	58												65	7									57	-1
R1392Q	300 ABBERLY CREST BLVD	1	B	57	57												65	8									58	1
R1392R	300 ABBERLY CREST BLVD	1	B	57	59												66	7									58	-1
R1392S	300 ABBERLY CREST BLVD	1	B	57	58												64	7									59	2
R1392T	300 ABBERLY CREST BLVD	1	B	57	58												65	7									59	1
R1392U	300 ABBERLY CREST BLVD	1	B	57	60												66	6									59	-1
R1392V	300 ABBERLY CREST BLVD	1	B	57	57												65	8									60	3
R1392W	300 ABBERLY CREST BLVD	1	B	57	59												66	7									60	1
R1392X	300 ABBERLY CREST BLVD	1	B	57	61												71	6									60	-1
R1393A	300 ABBERLY CREST BLVD	1	B	57	65												74	6									67	2
R1393B	300 ABBERLY CREST BLVD	1	B	57	68												74	6									67	-1

1Noise levels highlighted in red are levels above the Noise Abatement Criteria.
2Noise level increases highlighted in red are above the substantial noise level increase criteria.
3Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)														
						Orange Build ¹ Increase ²	Green Build ¹ Increase ²	Mint Build ¹ Increase ²	Red Build ¹ Increase ²	Purple/Blue Build ¹ Increase ²	Lilac Build ¹ Increase ²	Teal Build ¹ Increase ²	Brown Build ¹ Increase ²	Tan Build ¹ Increase ²	No Build Build ¹ Increase ²					
																Build ¹	Increase ²	Build ¹	Increase ²	Build ¹
R1396F	300 ABBERLY CREST BLDV	1	B	57	70														69	-1
R1396G	300 ABBERLY CREST BLDV	1	B	57	67				76	6									69	2
R1396H	300 ABBERLY CREST BLDV	1	B	57	69				75	6									69	0
R1396I	300 ABBERLY CREST BLDV	1	B	57	70				76	6									69	-1
R1396J	300 ABBERLY CREST BLDV	1	B	57	66				73	7									69	3
R1396K	300 ABBERLY CREST BLDV	1	B	57	69				75	6									69	0
R1396L	300 ABBERLY CREST BLDV	1	B	57	70				76	6									69	-1
R1396M	300 ABBERLY CREST BLDV	1	B	57	61				68	7									64	3
R1396N	300 ABBERLY CREST BLDV	1	B	57	64				70	6									64	0
R1396O	300 ABBERLY CREST BLDV	1	B	57	65				71	6									64	-1
R1396P	300 ABBERLY CREST BLDV	1	B	57	60				66	6									62	2
R1396Q	300 ABBERLY CREST BLDV	1	B	57	61				67	6									62	1
R1396R	300 ABBERLY CREST BLDV	1	B	57	62				66	6									62	0
R1396S	300 ABBERLY CREST BLDV	1	B	57	60				66	6									63	3
R1396T	300 ABBERLY CREST BLDV	1	B	57	62				67	5									63	1
R1396U	300 ABBERLY CREST BLDV	1	B	57	63				68	5									63	0
R1396V	300 ABBERLY CREST BLDV	1	B	57	63				69	6									66	3
R1396W	300 ABBERLY CREST BLDV	1	B	57	65				71	6									65	0
R1396X	300 ABBERLY CREST BLDV	1	B	57	64				70	6									67	3
R1397A	300 ABBERLY CREST BLDV	1	B	57	66				72	6									67	1
R1397B	300 ABBERLY CREST BLDV	1	B	57	67				73	6									66	-1
R1397C	300 ABBERLY CREST BLDV	1	B	57	64				70	6									67	3
R1397D	300 ABBERLY CREST BLDV	1	B	57	67				73	6									67	0
R1397E	300 ABBERLY CREST BLDV	1	B	57	68				74	6									67	-1
R1397F	300 ABBERLY CREST BLDV	1	B	57	65				70	5									67	2
R1397G	300 ABBERLY CREST BLDV	1	B	57	67				73	6									67	0
R1397H	300 ABBERLY CREST BLDV	1	B	57	68				74	6									67	-1
R1397I	300 ABBERLY CREST BLDV	1	B	57	66				72	6									68	2
R1397J	300 ABBERLY CREST BLDV	1	B	57	68				74	6									68	0
R1397K	300 ABBERLY CREST BLDV	1	B	57	69				75	6									68	-1
R1397L	300 ABBERLY CREST BLDV	1	B	57	60				66	6									59	2
R1397M	300 ABBERLY CREST BLDV	1	B	57	63				69	6									60	0
R1397N	300 ABBERLY CREST BLDV	1	B	57	60				66	6									60	-3
R1397O	300 ABBERLY CREST BLDV	1	B	57	63				69	6									60	0
R1397P	300 ABBERLY CREST BLDV	1	B	57	57				56	-1									57	0
R1397Q	300 ABBERLY CREST BLDV	1	B	57	57				58	1									57	0
R1397R	300 ABBERLY CREST BLDV	1	B	57	57				62	5									57	0
R1397S	300 ABBERLY CREST BLDV	1	B	57	57				55	-2									57	0
R1397T	300 ABBERLY CREST BLDV	1	B	57	57				56	-1									57	0
R1397U	300 ABBERLY CREST BLDV	1	B	57	57				59	2									57	0
R1397V	300 ABBERLY CREST BLDV	1	B	57	57				58	1									58	1
R1397W	300 ABBERLY CREST BLDV	1	B	57	57				60	3									58	1
R1397X	300 ABBERLY CREST BLDV	1	B	57	58				61	3									58	0
R1398	5120 RAYNOR RD	CHURCH	C	57	57				63	6									57	0
R1398A	5001 RAYNOR RD		B	57	57				65	8									58	1
R1398B	5101 RAYNOR RD		B	57	57				66	9									58	1
R1402A	2028 US 70 HWY E		B	57	60	61	1											61	1	
R1402B	2032 US 70 HWY E		B	57	60	62	2											62	2	
R1403	2100 US 70 HWY E		B	57	58	62	4											62	4	
R1407A	139 WALNUT DR		B	57	63	65	2											65	2	
R1407B	0 US 70 HWY E		B	57	64	66	2											66	2	
R1407C	139 WALNUT DR		B	57	62	64	2											64	2	
R1408A	0 US 70 HWY E		B	57	60	62	2											62	2	
R1408B	0 US 70 HWY E		B	57	62	63	1											64	2	
R1408A	0 US 70 HWY E		B	57	62	63	1											60	3	
R1409A	0 US 70 HWY E		B	57	58	61	3											59	2	
R1409B	0 US 70 HWY E		B	57	57	61	3											60	2	
R1409C	0 US 70 HWY E		B	57	57	61	4											59	2	
R1410	0 US 70 HWY E		B	57	61	62	1											63	2	
R1411A	0 US 70 HWY E		B	57	58	61	3											61	3	
R1411B	0 US 70 HWY E		B	57	57	60	3											60	3	
R1411C	0 US 70 HWY E		B	57	57	60	3											60	3	
R1411D	0 US 70 HWY E		B	57	59	61	2											61	2	
R1412	0 US 70 HWY E		B	57	59	61	2											61	2	

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 2 Noise level increases highlighted in red are above the substantial noise level increase criteria.
 3 Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																		
						2035																		
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build									
Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²	Build ¹ Increase ²											
R1413A	0 US 70 HWY E	1	B	57	57		60	3							60	3							59	2
R1413B	0 US 70 HWY E	1	B	57	57		60	3							60	3							59	2
R1413C	0 US 70 HWY E	1	B	57	58		60	2							60	2							59	2
R1414A	0 US 70 HWY E	1	B	57	63		65	2							65	2							66	3
R1414B	0 US 70 HWY E	1	B	57	66		68	2							68	2							68	2
R1414C	0 US 70 HWY E	1	B	57	61		63	2							63	2							63	2
R1415A	0 US 70 HWY E	1	B	57	58		60	2							60	2							61	3
R1415B	0 US 70 HWY E	1	B	57	57		60	2							60	2							60	3
R1415C	0 US 70 HWY E	1	B	57	59		61	2							61	2							62	3
R1416	0 US 70 HWY E	1	B	57	57		59	2							59	2							59	2
R1417A	0 US 70 HWY E	1	B	57	61		63	6							63	6							61	0
R1417B	0 US 70 HWY E	1	B	57	60		63	6							63	6							57	0
R1417C	0 US 70 HWY E	1	B	57	63		63	6							63	6							57	0
R1417D	0 US 70 HWY E	1	B	57	64		64	7							64	7							57	0
R1418A	0 US 70 HWY E	1	B	57	62		63	6							63	6							57	0
R1418B	0 US 70 HWY E	1	B	57	62		62	5							62	5							57	0
R1418C	0 US 70 HWY E	1	B	57	63		63	6							63	6							57	0
R1418D	0 US 70 HWY E	1	B	57	63		63	6							63	6							57	0
R1418E	0 US 70 HWY E	1	B	57	63		63	6							63	6							57	0
R1422	2432 E GARNER RD	1	B	57	61		69	8							69	8							61	0
R1423	2435 E GARNER RD	SCHOOL	D	0	40		47	7							47	7							40	0
R1424	2208 E GARNER RD	1	B	57	63		65	8							65	8							57	0
R1427	2213 E GARNER RD	1	B	57	63		63	6							63	6							57	0
R1428	2220 PILE RD	1	B	57	64		64	7							64	7							57	0
R1429A	2317 E GARNER RD	1	B	57	67		67	10							67	10							57	0
R1429B	2305 E GARNER RD	1	B	57	67		67	10							67	10							57	0
R1430	2700 E GARNER RD	1	B	57	57		61	4							61	4							57	0
R1431A	2637 E GARNER RD	1	B	57	63		63	6							63	6							57	0
R1431B	2701 E GARNER RD	1	B	57	63		63	6							63	6							57	0
R1434	2809 E GARNER RD	1	B	57	58		64	6							64	6							59	1
R1435A	2832 E GARNER RD	1	B	57	65		65	8							65	8							57	0
R1435B	2828 E GARNER RD	1	B	57	60		60	3							60	3							57	0
R1437A	2905 E GARNER RD	1	B	57	60		60	3							60	3							57	0
R1437B	2901 E GARNER RD	1	B	57	61		61	4							61	4							57	0
R1437C	2909 E GARNER RD	1	B	57	60		60	3							60	3							57	0
R1438A	7600 ROCK QUARRY RD	1	B	57	58		58	1							58	1							57	0
R1438B	7604 ROCK QUARRY RD	1	B	57	58		58	1							58	1							57	0
R1438C	7612 ROCK QUARRY RD	1	B	57	57		57	0							57	0							57	0
R1439A	7609 ROCK QUARRY RD	1	B	57	56		56	-1							56	-1							57	0
R1439B	7605 ROCK QUARRY RD	1	B	57	51		51	-6							51	-6							57	0
R1440	7509 ROCK QUARRY RD	1	B	57	56		56	-1							56	-1							57	0
R1441A	4620 DUSTY RD	1	B	57	65		65	8							65	8							57	0
R1441B	4609 DUSTY RD	1	B	57	67		67	10							67	10							57	0
R1442A	4634 DUSTY RD	1	B	57	69		69	12							69	12							57	0
R1442B	4633 DUSTY RD	1	B	57	65		65	8							65	8							57	0
R1442C	4630 DUSTY RD	1	B	57	70		70	13							70	13							57	0
R1443	4644 DUSTY RD	1	B	57	64		64	7							64	7							57	0
R1444	2509 E GARNER RD	1	B	57	45		45	5							45	5							40	0
R1445	4309 AUBURN KNIGHTDALE RD	CHURCH	D	0	40		55	-2							55	-2							57	0
R1448A	6905 ROCK QUARRY RD	1	B	57	54		54	-3							54	-3							57	0
R1448B	6833 ROCK QUARRY RD	1	B	57	57		57	0							57	0							57	0
R1449	7117 ROCK QUARRY RD	1	B	57	59		59	2							59	2							57	0
R1451A	7429 OLD BAUCOM RD	1	B	51	56		56	5							56	5							53	2
R1451B	2736 BRANCH RD	1	B	51	56		56	5							56	5							54	3
R1451C	2728 BRANCH RD	1	B	51	53		53	2							53	2							51	0
R1452	7509 OLD BAUCOM RD	1	B	51	56		56	5							56	5							54	3
R1453	2945 YOUNG FARM DR	1	B	51	71		71	20							71	20							51	0
R1454A	7628 OLD BAUCOM RD	1	B	51	63		63	12							63	12							51	0
R1454B	7620 OLD BAUCOM RD	1	B	51	58		58	7							58	7							52	1
R1455A	7629 OLD BAUCOM RD	1	B	51	64		64	13							64	13							54	3
R1455B	7621 OLD BAUCOM RD	1	B	51	63		63	12							63	12							51	0
R1459	7820 OLD BAUCOM RD	1	B	51	66		66	16							66	16							51	0
R1460	3021 HICKORY TREE PL	1	B	51	61		61	10							61	10							51	0

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 2 Noise level increases highlighted in red are above the substantial noise level increase criteria.
 3 Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)															
						Orange Build ¹ Increase ²	Green Build ¹ Increase ²	Mint Build ¹ Increase ²	Red Build ¹ Increase ²	Purple/Blue Build ¹ Increase ²	Lilac Build ¹ Increase ²	Teal Build ¹ Increase ²	Brown Build ¹ Increase ²	Tan Build ¹ Increase ²	No Build Increase ²						
R1461	7920 OLD BAUCOM RD	1	B	51																	
R1462	8004 OLD BAUCOM RD	1	B	51												60	9	58	7	51	0
R1463	8100 OLD BAUCOM RD	1	B	51												60	9	57	6	52	1
R1464A	7018 FARMDALE RD	1	B	51												53	2	54	3	70	19
R1464B	7016 FARMDALE RD	1	B	51																70	19
R1468A	7021 FARMDALE RD	1	B	51																67	16
R1468B	7023 FARMDALE RD	1	B	51																72	21
R1469	2440 BRANCH RD	1	B	51																	
R1470	2441 BRANCH RD	1	B	51																	
R1473	3601 GRIFFICE MILL RD	1	B	51																	
R1474	4704 PRESERVE RD	1	B	51																67	16
R1476A	3509 GRIFFICE MILL RD	1	B	51																71	20
R1476B	4701 PRESERVE RD	1	B	51																66	15
R1476C	3505 GRIFFICE MILL RD	1	B	51																88	15
R1477	3433 GRIFFICE MILL RD	1	B	51																65	14
R1476A	3432 GRIFFICE MILL RD	1	B	51																67	16
R1478B	3428 GRIFFICE MILL RD	1	B	51																64	13
R1478C	3436 GRIFFICE MILL RD	1	B	51																85	14
R1479A	3421 GRIFFICE MILL RD	1	B	51																63	12
R1479B	3417 GRIFFICE MILL RD	1	B	51																73	22
R1479C	3425 GRIFFICE MILL RD	1	B	51																73	22
R1480A	3420 GRIFFICE MILL RD	1	B	51																71	20
R1480B	3424 GRIFFICE MILL RD	1	B	51																71	20
R1481	3409 GRIFFICE MILL RD	1	B	51																65	14
R1482A	2813 AUBURN KNIGHTDALE RD	1	B	56																75	24
R1482B	2821 AUBURN KNIGHTDALE RD	1	B	56																85	9
R1482C	2805 AUBURN KNIGHTDALE RD	1	B	56																61	5
R1484	2828 AUBURN KNIGHTDALE RD	1	B	56																70	14
R1485	2732 AUBURN KNIGHTDALE RD	1	B	56																70	14
R1486	2724 AUBURN KNIGHTDALE RD	1	B	56																59	3
R1487	2716 AUBURN KNIGHTDALE RD	1	B	56																61	5
R1489	2512 AUBURN KNIGHTDALE RD	1	B	56																63	7
R1490A	7341 SCENIC WOODS DR	1	B	56																64	8
R1490B	7353 SCENIC WOODS DR	1	B	56																65	9
R1491	7357 SCENIC WOODS DR	1	B	56																65	9
R1492A	2805 HODGE RD	1	B	56																68	12
R1492B	2805 HODGE RD	1	B	56																76	20
R1493A	2805 HODGE RD	1	B	56																67	11
R1493B	2805 HODGE RD	1	B	56																66	10
R1493C	2805 HODGE RD	1	B	56																70	14
R1493D	2805 HODGE RD	1	B	56																69	13
R1495A	2805 HODGE RD	1	B	56																72	16
R1495B	2805 HODGE RD	1	B	56																73	17
R1496A	2805 HODGE RD	1	B	56																68	12
R1496B	2805 HODGE RD	1	B	56																66	12
R1496C	2805 HODGE RD	1	B	56																69	13
R1497A	2805 HODGE RD	1	B	56																71	15
R1497B	2805 HODGE RD	1	B	56																73	17
R1499A	2805 HODGE RD	1	B	56																67	11
R1499B	2805 HODGE RD	1	B	56																67	11
R1499C	2805 HODGE RD	1	B	56																68	12
R1499D	2805 HODGE RD	1	B	56																68	12
R1500A	7600 POOLE RD	1	B	56																65	9
R1500B	7600 POOLE RD	1	B	56																65	9
R1500C	7600 POOLE RD	1	B	56																65	9
R1501A	7600 POOLE RD	1	B	56																65	9
R1501B	7600 POOLE RD	1	B	56																66	9
R1502A	7600 POOLE RD	1	B	56																63	7
R1502B	7600 POOLE RD	1	B	56																63	7
R1502C	7600 POOLE RD	1	B	56																64	8
R1503A	7600 POOLE RD	1	B	56																63	7
R1503B	7600 POOLE RD	1	B	56																63	7
R1503C	7600 POOLE RD	1	B	56																64	8
R1504A	7600 POOLE RD	1	B	56																63	7
R1504B	7600 POOLE RD	1	B	56																63	7
R1505A	7600 POOLE RD	1	B	56																62	6

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3 Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)												
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build			
						Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	
R1541A	0 HODGE RD	1	B	56													56	0
R1541B	0 HODGE RD	1	B	56													56	0
R1541C	0 HODGE RD	1	B	56													56	0
R1541D	0 HODGE RD	1	B	56													56	0
R1542A	3612 KEMP DR	1	B	56													56	0
R1542B	3616 KEMP DR	1	B	56													56	0
R1543A	3624 KEMP DR	1	B	56													56	0
R1543B	3620 KEMP DR	1	B	56													56	0
R1546	3613 KEMP DR	1	B	56													56	0
R1547A	3621 KEMP DR	1	B	56													56	0
R1547B	3625 KEMP DR	1	B	56													56	0
R1548A	3707 KEMP DR	1	B	56													56	0
R1548B	3701 KEMP DR	1	B	56													56	0
R1548C	3709 KEMP DR	1	B	56													56	0
R1549A	3717 KEMP DR	1	B	56													56	0
R1549B	3721 KEMP DR	1	B	56													56	0
R1549C	3713 KEMP DR	1	B	56													56	0
R1550A	3729 KEMP DR	1	B	56													56	0
R1550B	3725 KEMP DR	1	B	56													56	0
R1550C	3733 KEMP DR	1	B	56													56	0
R1551	4300 CLIFTON RD	1	B	56													56	0
R1552A	4700 CLIFTON RD	1	B	57													63	2
R1552B	4100 CLIFTON RD	1	B	57													63	1
R1553A	4100 CLIFTON RD	1	B	57													63	1
R1553B	4100 CLIFTON RD	1	B	57													63	1
R1554	4100 CLIFTON RD	1	B	57													63	1
R1556A	4716 OLD FAISON RD	1	B	57													61	1
R1556B	0 OLD FAISON RD	1	B	57													61	1
R1556C	4708 OLD FAISON RD	1	B	57													62	2
R1557A	4005 DREAM VALLEY DR	1	B	57													62	2
R1557B	4809 OLD FAISON RD	1	B	57													63	2
R1557C	4801 OLD FAISON RD	1	B	57													63	2
R1558A	105 GOWER DR	1	B	57													65	2
R1558B	103 GOWER DR	1	B	57													65	2
R1558C	101 GOWER DR	1	B	57													65	2
R1559A	102 GOWER DR	1	B	57													61	2
R1559B	104 GOWER DR	1	B	57													61	2
R1559C	100 GOWER DR	1	B	57													61	2
R1560A	205 GOWER CIR	1	B	57													60	1
R1560B	201 GOWER CIR	1	B	57													60	1
R1561A	202 GOWER CIR	1	B	57													60	1
R1561B	200 GOWER CIR	1	B	57													66	0
R1562A	206 GOWER CIR	1	B	57													65	1
R1562B	204 GOWER CIR	1	B	57													65	1
R1562C	208 GOWER CIR	1	B	57													66	1
R1566A	148 EASY WIND LN	1	B	52													63	1
R1566B	142 EASY WIND LN	1	B	52													66	0
R1567A	136 EASY WIND LN	1	B	52													66	0
R1567B	130 EASY WIND LN	1	B	52													67	1
R1568A	124 EASY WIND LN	1	B	52													67	15
R1568B	118 EASY WIND LN	1	B	52													66	14
R1568C	112 EASY WIND LN	1	B	52													66	14
R1569A	100 EASY WIND LN	1	B	52													65	13
R1569B	106 EASY WIND LN	1	B	52													65	13
R1570A	131 SHADY HOLLOW LN	1	B	52													65	12
R1570B	135 SHADY HOLLOW LN	1	B	52													64	12
R1571A	201 SHADY HOLLOW LN	1	B	52													65	13
R1571B	203 SHADY HOLLOW LN	1	B	52													65	13
R1572A	202 SHADY HOLLOW LN	1	B	52													68	15
R1572B	200 SHADY HOLLOW LN	1	B	52													68	16
R1572C	208 SHADY HOLLOW LN	1	B	52													71	19
R1573A	129 EASY WIND LN	1	B	52													69	17
R1573B	135 EASY WIND LN	1	B	52													72	20
R1573C	135 EASY WIND LN	1	B	52													72	20
R1573D	135 EASY WIND LN	1	B	52													74	22

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2 Noise level increases highlighted in red are above the substantial noise level increase criteria.

3 Noise levels reported if the traffic noise was dominant noise

**Complete 540
Traffic Noise Analysis**

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																		
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build									
																Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹
R1573C	141 EASY WIND LN	1	B	52							75	23											52	0
R1574A	210 SHADY HOLLOW LN	1	B	52							74	22											52	0
R1574B	214 SHADY HOLLOW LN	1	B	52							75	23											52	0
R1575A	205 SHADY HOLLOW LN	1	B	52							70	18											52	0
R1575B	207 SHADY HOLLOW LN	1	B	52							72	20											52	0
R1576A	209 SHADY HOLLOW LN	1	B	52							76	24											52	0
R1576B	209 SHADY HOLLOW LN	1	B	52							74	22											52	0
R1588	225 SHADY HOLLOW LN	1	B	52							76	24											52	0
R1589	232 SHADY HOLLOW LN	1	B	52							75	23											52	0
R1590A	240 SHADY HOLLOW LN	1	B	52							68	16											52	0
R1590B	236 SHADY HOLLOW LN	1	B	52							72	20											52	0
R1591A	233 SHADY HOLLOW LN	1	B	52							71	19											52	0
R1591B	231 SHADY HOLLOW LN	1	B	52							73	21											52	0
R1592A	243 SHADY HOLLOW LN	1	B	52							67	15											52	0
R1592B	237 SHADY HOLLOW LN	1	B	52							69	17											52	0
R1593A	250 SHADY HOLLOW LN	1	B	52							64	12											52	0
R1593B	244 SHADY HOLLOW LN	1	B	52							65	13											52	0
R1594	252 SHADY HOLLOW LN	1	B	52							62	10											52	0
R1595	251 SHADY HOLLOW LN	1	B	52							66	14											52	0
R1596A	502 EASY WIND LN	1	B	52							70	18											52	0
R1596B	508 EASY WIND LN	1	B	52							68	16											52	0
R1598B	9516 HOLLY SPRINGS RD	1	B	52																			52	0
R1599	5828 OLD SMITHFIELD RD	1	B	48							59	7											55	3
R1599A	5711 OLD SMITHFIELD RD	1	B	48							56	6											57	1
R1599B	5705 OLD SMITHFIELD RD	1	B	48							53	6											60	7
R1600A	5709 OLD SMITHFIELD RD	1	B	48							54	6											62	8
R1600B	5717 OLD SMITHFIELD RD	1	B	48							59	6											64	5
R1600C	5721 OLD SMITHFIELD RD	1	B	48							60	5											64	4
R1601A	5725 OLD SMITHFIELD RD	1	B	48							58	5											61	3
R1601B	5729 OLD SMITHFIELD RD	1	B	48							63	5											61	3
R1601C	5801 OLD SMITHFIELD RD	1	B	48							58	5											61	3
R1601D	5809 OLD SMITHFIELD RD	1	B	48							63	5											61	3
R1602	3500 BAKERS ALY	1	B	48							53	9											58	5
R1603A	3509 FORAKER ST	1	B	48							57	5											62	5
R1603B	3501 FORAKER ST	1	B	48							67	3											66	2
R1603C	3517 FORAKER ST	1	B	48							64	3											61	7
R1605	1214 E WILLIAMS ST	1	B	48							67	11											67	11
R1606A	5533 EDDIE CREEK DR	1	B	48							56	8											56	8
R1606B	5537 EDDIE CREEK DR	1	B	48							64	16											56	8
R1607A	5152 SUNSET LAKE RD	1	B	48							64	16											56	8
R1607B	9204 EISENHOWER DR	1	B	53							59	0											62	3
R1609A	8813 JUAQUIN LN	1	B	54							53	5											56	3
R1609B	8817 JUAQUIN LN	1	B	54							61	7											54	0
R1610A	4900 CHANDLER RIDGE CIR	1	B	54							61	7											54	0
R1610B	4900 CHANDLER RIDGE CIR	1	B	54							55	1											54	0
R1610C	4900 CHANDLER RIDGE CIR	1	B	54							57	3											54	0
R1610D	4900 CHANDLER RIDGE CIR	1	B	54							58	4											54	0
R1610E	4900 CHANDLER RIDGE CIR	1	B	54							56	2											54	0
R1610F	4900 CHANDLER RIDGE CIR	1	B	54							57	3											54	0
R1610G	4900 CHANDLER RIDGE CIR	1	B	54							58	4											54	0
R1610H	4900 CHANDLER RIDGE CIR	1	B	54							55	1											54	0
R1610I	4900 CHANDLER RIDGE CIR	1	B	54							57	3											54	0
R1610J	4900 CHANDLER RIDGE CIR	1	B	54							58	4											54	0
R1610K	4900 CHANDLER RIDGE CIR	1	B	54							56	2											54	0
R1610L	4900 CHANDLER RIDGE CIR	1	B	54							57	3											54	0
R1611	1429 GUFFY DR	1	B	46							58	4											54	0
R1612A	3725 WAKEFIELD LN	1	B	50																			63	17
R1612B	3733 WAKEFIELD LN	1	B	50							58	8											59	9
R1612C	3717 WAKEFIELD LN	1	B	50							58	8											58	8
R1613	6808 CALICT	1	B	50							59	9											60	10
R1614	913 OPEN FIELD DR	1	B	50							68	18											50	0
R1616	803 THOMPSON RD	1	B	49							62	12											50	0
R1618	7702 ROCK QUARRY RD	1	B	57							69	20											50	0
											54	-3											49	0
											58	1											57	0

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 3Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																			
						Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build	
						Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase
R1704D	202 DOVES HAVEN DR	1	B	48	50	62	12																56	6	
R1704E	204 DOVES HAVEN DR	1	B	48	50	61	11																55	5	
R1704F	206 DOVES HAVEN DR	1	B	48	49	61	12																55	6	
R1704G	208 DOVES HAVEN DR	1	B	48	48	61	13																54	6	
R1704H	210 DOVES HAVEN DR	1	B	48	48	61	13																53	5	
R1704I	212 DOVES HAVEN DR	1	B	48	48	61	13																53	5	
R1704J	111 SUNSHINE CREST CT	1	B	48	48	62	14																52	4	
R1705	200 REUNION PARK DR	RECREATIONAL	C	48	48	59	11																48	0	
R1705A	200 REUNION PARK DR	1	B	48	48	58	10																48	0	
R1705B	200 REUNION PARK DR	1	B	48	48	59	11																48	0	
R1705C	200 REUNION PARK DR	1	B	48	48	61	13																48	0	
R1705D	200 REUNION PARK DR	1	B	48	48	59	11																49	1	
R1705E	200 REUNION PARK DR	1	B	48	48	61	13																50	2	
R1705F	200 REUNION PARK DR	1	B	48	48	63	15																48	0	
R1705G	200 REUNION PARK DR	1	B	48	48	56	8																49	1	
R1705H	200 REUNION PARK DR	1	B	48	48	58	10																50	2	
R1705I	200 REUNION PARK DR	1	B	48	48	60	12																48	0	
R1705J	200 REUNION PARK DR	1	B	48	48	58	10																49	1	
R1705K	200 REUNION PARK DR	1	B	48	48	60	12																50	2	
R1705L	200 REUNION PARK DR	1	B	48	48	62	14																48	0	
R1705M	200 REUNION PARK DR	1	B	48	48	54	6																49	1	
R1705N	200 REUNION PARK DR	1	B	48	48	56	8																50	2	
R1705O	200 REUNION PARK DR	1	B	48	48	58	10																48	0	
R1705P	200 REUNION PARK DR	1	B	48	48	58	10																48	0	
R1705Q	200 REUNION PARK DR	1	B	48	48	60	12																50	2	
R1705R	200 REUNION PARK DR	1	B	48	48	61	13																48	0	
R1705S	200 REUNION PARK DR	1	B	48	48	52	4																49	1	
R1705T	200 REUNION PARK DR	1	B	48	48	54	6																50	2	
R1705U	200 REUNION PARK DR	1	B	48	48	56	8																48	0	
R1705V	200 REUNION PARK DR	1	B	48	48	57	9																49	1	
R1705W	200 REUNION PARK DR	1	B	48	48	59	11																50	2	
R1705X	200 REUNION PARK DR	1	B	48	48	60	12																48	0	
R1706A	200 REUNION PARK DR	1	B	48	48	54	6																48	0	
R1706B	200 REUNION PARK DR	1	B	48	48	56	8																48	0	
R1706C	200 REUNION PARK DR	1	B	48	48	58	10																49	1	
R1706D	200 REUNION PARK DR	1	B	48	48	56	8																48	0	
R1706E	200 REUNION PARK DR	1	B	48	48	57	9																48	0	
R1706F	200 REUNION PARK DR	1	B	48	48	59	11																49	1	
R1706G	200 REUNION PARK DR	1	B	48	48	54	6																48	0	
R1706H	200 REUNION PARK DR	1	B	48	48	55	7																48	0	
R1706I	200 REUNION PARK DR	1	B	48	48	57	9																49	1	
R1706J	200 REUNION PARK DR	1	B	48	48	55	7																48	0	
R1706K	200 REUNION PARK DR	1	B	48	48	56	8																48	0	
R1706L	200 REUNION PARK DR	1	B	48	48	57	9																49	1	
R1706M	200 REUNION PARK DR	1	B	48	48	46	-2																48	0	
R1706N	200 REUNION PARK DR	1	B	48	48	46	-2																48	0	
R1706O	200 REUNION PARK DR	1	B	48	48	48	0																49	1	
R1706P	200 REUNION PARK DR	1	B	48	48	45	-3																48	0	
R1706Q	200 REUNION PARK DR	1	B	48	48	46	-2																48	0	
R1706R	200 REUNION PARK DR	1	B	48	48	48	0																49	1	
R1706S	200 REUNION PARK DR	1	B	48	48	47	-1																48	0	
R1706T	200 REUNION PARK DR	1	B	48	48	48	0																48	0	
R1706U	200 REUNION PARK DR	1	B	48	48	49	1																49	1	
R1706V	200 REUNION PARK DR	1	B	48	48	53	5																48	0	
R1706W	200 REUNION PARK DR	1	B	48	48	55	7																48	0	
R1706X	200 REUNION PARK DR	1	B	48	48	57	9																49	1	
R1707A	200 REUNION PARK DR	1	B	48	48	60	12																48	0	
R1707B	200 REUNION PARK DR	1	B	48	48	62	14																48	0	
R1707C	200 REUNION PARK DR	1	B	48	48	63	15																49	1	
R1707D	200 REUNION PARK DR	1	B	48	48	59	11																48	0	
R1707E	200 REUNION PARK DR	1	B	48	48	61	13																48	0	
R1707F	200 REUNION PARK DR	1	B	48	48	63	15																49	1	
R1707G	200 REUNION PARK DR	1	B	48	48	59	11																48	0	

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.

2 Noise level increases highlighted in red are above the substantial noise level increase criteria.

3 Noise levels reported if the traffic noise was dominant noise

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																	
						2035							2035										
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build	Build ¹	Increase ²	Build ¹	Increase ²				
R1707H	200 REUNION PARK DR	1	B	48	60	12															48	0	
R1707I	200 REUNION PARK DR	1	B	48	59	11																48	0
R1707J	200 REUNION PARK DR	1	B	48	60	12																48	0
R1707K	200 REUNION PARK DR	1	B	48	63	15																48	0
R1707L	200 REUNION PARK DR	1	B	48	50	2																48	0
R1707M	200 REUNION PARK DR	1	B	48	51	3																48	0
R1707N	200 REUNION PARK DR	1	B	48	52	4																48	0
R1707O	200 REUNION PARK DR	1	B	48	49	1																48	0
R1707P	200 REUNION PARK DR	1	B	48	51	3																48	0
R1707Q	200 REUNION PARK DR	1	B	48	53	5																48	0
R1707R	200 REUNION PARK DR	1	B	48	51	3																48	0
R1707S	200 REUNION PARK DR	1	B	48	52	4																48	0
R1707T	200 REUNION PARK DR	1	B	48	54	6																48	0
R1707U	200 REUNION PARK DR	1	B	48	55	7																48	0
R1707V	200 REUNION PARK DR	1	B	48	57	9																48	0
R1707W	200 REUNION PARK DR	1	B	48	59	11																48	0
R1707X	200 REUNION PARK DR	1	B	48	59	11																48	0
R1707Y	200 REUNION PARK DR	1	B	48	59	11																48	0
R1707Z	200 REUNION PARK DR	1	B	48	61	13																48	0
R1708A	200 REUNION PARK DR	1	B	48	63	15																48	0
R1708B	200 REUNION PARK DR	1	B	48	58	10																48	0
R1708C	200 REUNION PARK DR	1	B	48	60	12																48	0
R1708D	200 REUNION PARK DR	1	B	48	61	13																48	0
R1708E	200 REUNION PARK DR	1	B	48	59	11																48	0
R1708F	200 REUNION PARK DR	1	B	48	62	14																48	0
R1708G	200 REUNION PARK DR	1	B	48	64	16																48	0
R1708H	200 REUNION PARK DR	1	B	48	57	9																48	0
R1708I	200 REUNION PARK DR	1	B	48	60	12																48	0
R1708J	200 REUNION PARK DR	1	B	48	62	14																48	0
R1708K	200 REUNION PARK DR	1	B	48	57	9																48	0
R1708L	200 REUNION PARK DR	1	B	48	62	14																48	0
R1708M	200 REUNION PARK DR	1	B	48	57	9																48	0
R1708N	200 REUNION PARK DR	1	B	48	59	11																48	0
R1708O	200 REUNION PARK DR	1	B	48	60	12																48	0
R1708P	200 REUNION PARK DR	1	B	48	56	8																48	0
R1708Q	200 REUNION PARK DR	1	B	48	59	11																48	0
R1708R	200 REUNION PARK DR	1	B	48	60	12																48	0
R1708S	200 REUNION PARK DR	1	B	48	56	8																48	0
R1708T	200 REUNION PARK DR	1	B	48	58	10																48	0
R1708U	200 REUNION PARK DR	1	B	48	59	11																48	0
R1708V	200 REUNION PARK DR	1	B	48	56	8																48	0
R1708W	200 REUNION PARK DR	1	B	48	58	10																48	0
R1708X	200 REUNION PARK DR	1	B	48	59	11																48	0
R1708Y	215 GALLENT HEDGE TRL	1	B	48	59	11																48	0
R1708Z	213 GALLENT HEDGE TRL	1	B	48	59	11																48	0
R1709A	211 GALLENT HEDGE TRL	1	B	48	59	11																48	0
R1709B	209 GALLENT HEDGE TRL	1	B	48	58	10																48	0
R1709C	207 GALLENT HEDGE TRL	1	B	48	58	10																48	0
R1709D	205 GALLENT HEDGE TRL	1	B	48	58	10																48	0
R1709E	203 GALLENT HEDGE TRL	1	B	48	57	9																48	0
R1709F	201 GALLENT HEDGE TRL	1	B	48	57	9																48	0
R1709G	915 STRAYWHITE AVE	1	B	48	62	14																48	0
R1709H	913 STRAYWHITE AVE	1	B	48	62	14																48	0
R1709I	911 STRAYWHITE AVE	1	B	48	63	15																48	0
R1709J	909 STRAYWHITE AVE	1	B	48	62	14																48	0
R1709K	907 STRAYWHITE AVE	1	B	48	62	14																48	0
R1709L	905 STRAYWHITE AVE	1	B	48	61	13																48	0
R1709M	901 STRAYWHITE AVE	1	B	48	61	13																48	0
R1709N	903 STRAYWHITE AVE	1	B	48	61	13																48	0
R1709O	209 HOLLYHOCK LN	1	B	48	63	15																48	0
R1709P	211 HOLLYHOCK LN	1	B	48	65	17																48	0
R1709Q	212 HOLLYHOCK LN	1	B	48	61	13																49	1
R1709R	216 HOLLYHOCK LN	1	B	48	61	13																50	2
R1709S	214 HOLLYHOCK LN	1	B	48	62	14																48	0
R1709T	214 HOLLYHOCK LN	1	B	48	61	13																49	1

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2 Noise level increases highlighted in red are above the substantial noise level increase criteria.

3 Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)											
						2035											
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build		
Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²		
R1714A	203 LINDELL DR	1	B	48		62	14									49	1
R1714B	205 LINDELL DR	1	B	48		63	15									49	1
R1715A	207 LINDELL DR	1	B	48		64	16									49	1
R1715B	208 LINDELL DR	1	B	48		63	15									50	2
R1716A	4112 SANCROFT DR	1	B	52		60	8				59	7				52	0
R1716B	4108 SANCROFT DR	1	B	52		62	10				60	8				52	0
R1717A	4104 SANCROFT DR	1	B	52		62	10				61	9				52	0
R1717B	4100 SANCROFT DR	1	B	52		62	10				62	9				53	0
R1718A	100 SPRING ST	1	B	53		62	9									53	0
R1718B	203 OAKLAND DR	1	B	53		62	9				62	9				53	0
R1719A	207 OAKLAND DR	1	B	53		61	8				62	9				53	0
R1719B	205 OAKLAND DR	1	B	53		61	8									46	0
R1720	3721 GRANDBRIDGE DR	1	B	46		53	7									46	0
R1721A	3713 GRANDBRIDGE DR	1	B	46		56	10									46	0
R1721B	3717 GRANDBRIDGE DR	1	B	46		54	8									46	0
R1722A	3709 GRANDBRIDGE DR	1	B	46		56	10									46	0
R1722B	3705 GRANDBRIDGE DR	1	B	46		59	13									46	0
R1723A	3612 HERITAGE CREEK DR	1	B	46		63	17									46	0
R1723B	3616 HERITAGE CREEK DR	1	B	46		63	17									46	0
R1724A	3613 HERITAGE CREEK DR	1	B	46		63	17									46	0
R1724B	3617 HERITAGE CREEK DR	1	B	46		62	16									46	0
R1725A	4012 WEST LAKE RD	1	B	46	54	63	9									46	0
R1725B	4016 WEST LAKE RD	1	B	46	58	63	5									57	3
R1726	4012 HARRIAT DR	1	B	46		63	17									61	3
R1727	4017 HARRIAT DR	1	B	46		65	19									46	0
R1728	4021 HARRIAT DR	1	B	46		63	17									46	0
R1729	6016 OXFORD GREEN DR	1	B	46		62	16									46	0
R1730	6008 OXFORD GREEN DR	1	B	46		61	15									46	0
R1731	6000 OXFORD GREEN DR	1	B	46		60	14									46	0
R1732	8105 BUCKSKIN LN	1	B	46		59	13									46	0
R1733	5608 DEERBORN DR	1	B	46		61	15									46	0
R1734	5604 DEERBORN DR	1	B	46		61	15									46	0
R1735	8104 BUCKSKIN LN	1	B	46		58	12									46	0
R1736A	8113 RHODES RD	1	B	46	49	62	13									51	2
R1736B	8117 RHODES RD	1	B	46	48	61	13									51	3
R1737A	8100 RHODES RD	1	B	46	47	63	16									49	2
R1737B	8104 RHODES RD	1	B	46	48	62	14									51	3
R1738A	8036 RHODES RD	1	B	46	51	58	7									54	3
R1738B	8036 RHODES RD	1	B	46	49	59	10									51	2
R1739A	8036 RHODES RD	1	B	46	51	61	10									54	3
R1739B	8036 RHODES RD	1	B	46	49	59	10									51	2
R1740	0 RHODES RD	1	B	46		60	14									46	0
R1741A	0 RHODES RD	1	B	46		59	13									46	0
R1741B	0 RHODES RD	1	B	46	46	58	12									48	2
R1741C	0 RHODES RD	1	B	46	53	58	5									56	3
R1742A	0 RHODES RD	1	B	46		61	15									46	0
R1742B	0 RHODES RD	1	B	46		59	13									46	0
R1743A	5417 LOWER CREEK CT	1	B	46	50	60	10									52	2
R1743B	5413 LOWER CREEK CT	1	B	46		59	13									46	0
R1744A	5405 LOWER CREEK CT	1	B	46		61	15									46	0
R1744B	5409 LOWER CREEK CT	1	B	46		59	13									46	0
R1745A	3801 DOESKIN DR	1	B	46		62	16				62	16				46	0
R1745B	3809 DOESKIN DR	1	B	46		61	15				60	14				46	0
R1745C	3820 DOESKIN DR	1	B	46		61	15				60	14				46	0
R1745D	3821 DOESKIN DR	1	B	46		59	13				58	12				46	0
R1745E	#N/A	1	B	46		57	11				56	10				46	0
R1745F	#N/A	1	B	46		55	9				54	8				46	0
R1745G	#N/A	1	B	46		57	11				56	10				46	0
R1745H	#N/A	1	B	46		59	13				58	12				46	0
R1745I	#N/A	1	B	46		62	16									46	0
R1746A	3732 SUNLAKE FARMS RD	1	B	46		61	15									46	0
R1746B	3726 SUNLAKE FARMS RD	1	B	46		63	17									46	0
R1747	3724 SUNLAKE FARMS RD	1	B	46		63	17									46	0

1Noise levels highlighted in red are levels above the Noise Abatement Criteria.

2Noise level increases highlighted in red are above the substantial noise level increase criteria.

3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																			
						Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build	
						Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase
R1748	3717 SUNLAKE FARMS RD	1	B	46		63	17																46	0	
R1749	8536 LAKE WHEELER RD	1	B	46	57	63	6																59	2	
R1750A	3912 BLUFFWIND DR	1	B	46		63	17																46	0	
R1750B	3908 BLUFFWIND DR	1	B	46		64	18																46	0	
R1751	3917 BLUFFWIND DR	1	B	46		64	18																46	0	
R1752A	3709 WESTBURY LAKE DR	1	B	54		63	9																54	0	
R1752B	3705 WESTBURY LAKE DR	1	B	54		64	10																54	0	
R1753A	8720 LAKE WHEELER RD	1	B	46	54	66	12																57	3	
R1753B	8732 LAKE WHEELER RD	1	B	46	55	65	10																57	2	
R1754	8729 LAKE WHEELER RD	1	B	46	56	66	10																58	2	
R1755A	4920 TROTTER DR	1	B	54		64	10																54	0	
R1755B	4928 TROTTER DR	1	B	54		63	9																54	0	
R1756A	4936 TROTTER DR	1	B	54		66	12																54	0	
R1756B	4940 TROTTER DR	1	B	54		66	12																54	0	
R1757A	4944 TROTTER DR	1	B	54		65	11																54	0	
R1757B	4952 TROTTER DR	1	B	54		64	10																54	0	
R1758A	4953 TROTTER DR	1	B	54		66	12																54	0	
R1758B	4949 TROTTER DR	1	B	54		68	14																54	0	
R1758C	4957 TROTTER DR	1	B	54		64	10																54	0	
R1759	4800 WHITE POST DR	1	B	54		58	4																54	0	
R1760A	4808 WHITE POST DR	1	B	54		60	6																54	0	
R1760B	4804 WHITE POST DR	1	B	54		59	5																54	0	
R1761	4809 WHITE POST DR	1	B	54		60	6																54	0	
R1762A	4805 WHITE POST DR	1	B	54		58	4																54	0	
R1762B	4801 WHITE POST DR	1	B	54		58	4																54	0	
R1763	1128 ROLLING FARM DR	1	B	54		59	5																54	0	
R1764A	4801 CONTENDER DR	1	B	45		63	18																45	0	
R1764B	4805 CONTENDER DR	1	B	45		61	16																45	0	
R1765	4809 CONTENDER DR	1	B	45		60	15																45	0	
R1766	8925 OREGON INLET CT	1	B	45		59	14																45	0	
R1767A	8712 NEW RIVER CIR	1	B	45		60	15																45	0	
R1767B	8708 NEW RIVER CIR	1	B	45		58	13																45	0	
R1768	8709 NEW RIVER CIR	1	B	45		59	14																45	0	
R1769	8928 CAROLINA MARLIN CT	1	B	45		58	13																45	0	
R1770A	1013 DEER OAKS CT	1	B	46																			46	0	
R1770B	1017 DEER OAKS CT	1	B	46																			46	0	
R1771A	1012 DEER OAKS CT	1	B	46																			46	0	
R1771B	1008 DEER OAKS CT	1	B	46																			46	0	
R1771C	5209 AUTUMN FIELD DR	1	B	46																			46	0	
R1772A	1005 DEER OAKS CT	1	B	46																			46	0	
R1772B	1009 DEER OAKS CT	1	B	46																			46	0	
R1773A	1004 QUAIL OAKS CIR	1	B	46																			46	0	
R1773B	1012 QUAIL OAKS CIR	1	B	46																			46	0	
R1774A	5105 AUTUMN FIELD DR	1	B	46																			48	2	
R1774B	1005 QUAIL OAKS CIR	1	B	46																			46	0	
R1774C	1009 QUAIL OAKS CIR	1	B	46																			46	0	
R1775A	208 BOWLING FARM CT	1	B	46																			46	0	
R1775B	212 BOWLING FARM CT	1	B	46																			46	0	
R1776	216 BOWLING FARM CT	1	B	46																			46	0	
R1777A	9940 JOE LEACH RD	1	B	46																			46	0	
R1777B	9940 JOE LEACH RD	1	B	46																			46	0	
R1777C	10001 JOE LEACH RD	1	B	46																			46	0	
R1778A	9941 JOE LEACH RD	1	B	46																			46	0	
R1779	237 HUNTERS FARM DR	1	B	46																			46	0	
R1780A	921 SHANNONDALE DR	1	B	46		62	16																46	0	
R1780B	925 SHANNONDALE DR	1	B	46		61	15																46	0	
R1780C	929 SHANNONDALE DR	1	B	46		60	14																46	0	
R1781A	1005 SHANNONDALE DR	1	B	46		57	11																46	0	
R1781B	1013 SHANNONDALE DR	1	B	46		56	10																46	0	
R1781C	10121 JOE LEACH RD	1	B	46		58	12																46	0	
R1782A	10133 JOE LEACH RD	1	B	46		60	14																46	0	
R1782B	1000 SHANNONDALE DR	1	B	46		59	13																46	0	
R1783A	1010 SHANNONDALE DR	1	B	46		59	13																46	0	

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3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)															
						2035															
						Orange Build ¹ Increase ²	Green Build ¹ Increase ²	Mint Build ¹ Increase ²	Red Build ¹ Increase ²	Purple/Blue Build ¹ Increase ²	Lilac Build ¹ Increase ²	Teal Build ¹ Increase ²	Brown Build ¹ Increase ²	Tan Build ¹ Increase ²	No Build ¹ Increase ²						
R1783B	1012 SHANNONDALE DR	1	B	46		58	12					59	13							46	0
R1783C	1004 SHANNONDALE DR	1	B	46		58	12					59	13							46	0
R1784A	1020 SHANNONDALE DR	1	B	46								61	15							46	0
R1784B	1016 SHANNONDALE DR	1	B	46								60	14							46	0
R1785A	1032 SHANNONDALE DR	1	B	46								62	16							46	0
R1785B	1028 SHANNONDALE DR	1	B	46								62	16							46	0
R1785C	1040 SHANNONDALE DR	1	B	46								62	16							46	0
R1786A	1104 SHANNONDALE DR	1	B	46								61	15							46	0
R1786B	1100 SHANNONDALE DR	1	B	46								61	15							46	0
R1787A	1108 SHANNONDALE DR	1	B	46								61	15							46	0
R1787B	10113 AQUA LN	1	B	46								61	15							46	0
R1788A	10113 AQUA LN	1	B	46								61	15							46	0
R1788B	10113 AQUA LN	1	B	46								62	16							46	0
R1788A	10113 AQUA LN	1	B	46								63	17							46	0
R1789A	10113 AQUA LN	1	B	46								62	16							46	0
R1790A	1021 BLUE RIVER FARM DR	1	B	46								64	18							46	0
R1790B	1025 BLUE RIVER FARM DR	1	B	46								63	17							46	0
R1790C	1029 BLUE RIVER FARM DR	1	B	46								63	17							46	0
R1791A	1033 BLUE RIVER FARM DR	1	B	46								62	16							46	0
R1791B	1041 BLUE RIVER FARM DR	1	B	46								61	15							46	0
R1792A	9009 HUNTERFOX CT	1	B	46								62	16							46	0
R1792B	1048 BLUE RIVER FARM DR	1	B	46								61	15							46	0
R1793A	9013 HUNTERFOX CT	1	B	46								63	17							46	0
R1793B	9017 HUNTERFOX CT	1	B	46								64	18							46	0
R1794A	1401 ROY AVERETTE DR	1	B	46								63	17							46	0
R1794B	1400 ROY AVERETTE DR	1	B	46								61	15							46	0
R1795A	1404 ROY AVERETTE DR	1	B	46								61	15							46	0
R1795B	1408 ROY AVERETTE DR	1	B	46								61	15							46	0
R1796A	1412 ROY AVERETTE DR	1	B	46								62	16							46	0
R1796B	1416 ROY AVERETTE DR	1	B	46								62	16							46	0
R1797	1420 ROY AVERETTE DR	1	B	46								62	16							46	0
R1798	900 OPEN FIELD DR	1	B	50		58	8													46	0
R1799	6801 PAYTON VIEW DR	1	B	50		59	9													50	0
R1800	6821 PAYTON VIEW DR	1	B	50		58	8													50	0
R1801	5312 SERATHER CT	1	B	50		62	12													50	0
R1802A	5313 SERATHER CT	1	B	50		65	15													50	0
R1802B	5317 SERATHER CT	1	B	50		63	13													50	0
R1803	5508 SIMMONS DR	1	B	50								61	11							50	0
R1804	1116 OLD MEMORIAL CIR	1	B	50								62	12							50	0
R1805	5500 QUAILS CALL CT	1	B	50								64	14							50	0
R1806A	5512 ROLLING FIELD DR	1	B	50								63	13							50	0
R1806B	5516 ROLLING FIELD DR	1	B	50								62	12							50	0
R1807	5508 ROLLING FIELD DR	1	B	50								62	12							50	0
R1808A	132 GRANTWOOD DR	1	B	55								63	8							55	0
R1808B	136 GRANTWOOD DR	1	B	55								63	8							55	0
R1809A	128 GRANTWOOD DR	1	B	55								62	7							55	0
R1809B	124 GRANTWOOD DR	1	B	55								62	7							55	0
R1809C	120 GRANTWOOD DR	1	B	55								62	7							55	0
R1810A	117 GRANTWOOD DR	1	B	55								64	9							55	0
R1810B	121 GRANTWOOD DR	1	B	55								65	10							55	0
R1810C	113 GRANTWOOD DR	1	B	55								64	9							55	0
R1811A	5108 HUNTLEY GROVE CT	1	B	54								60	6							54	0
R1811B	3404 PETTICOAT LN	1	B	54								60	6							54	0
R1812A	5105 HUNTLEY GROVE CT	1	B	54								65	11							54	0
R1812B	5109 HUNTLEY GROVE CT	1	B	54								66	12							54	0
R1813A	3309 PETTICOAT LN	1	B	54								64	10							54	0
R1813B	3401 PETTICOAT LN	1	B	54								62	8							54	0
R1813C	3301 PETTICOAT LN	1	B	54								66	12							54	0
R1814	4700 BENTCREEK DR	1	B	54								64	10							54	0
R1815A	4701 BENTCREEK DR	1	B	54								62	8							54	0
R1815B	4705 BENTCREEK DR	1	B	54								62	8							54	0
R1816A	4709 BENTCREEK DR	1	B	54								62	8							54	0
R1816B	4713 BENTCREEK DR	1	B	54								62	8							54	0

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.

2 Noise level increases highlighted in red are above the substantial noise level increase criteria.

3 Noise levels reported if the traffic noise was dominant noise

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing ¹	Noise Levels dBA													
						Orange Build ² Increase ³	Green Build ² Increase ³	Mint Build ² Increase ³	Red Build ² Increase ³	Purple/Blue Build ² Increase ³	Lilac Build ² Increase ³	Teal Build ² Increase ³	Brown Build ² Increase ³	Tan Build ² Increase ³	No Build ² Increase ³				
R1817A	4721 BENTCREEK DR	1	B	54						61	7							54	0
R1817B	4717 BENTCREEK DR	1	B	54						61	7							54	0
R1818A	4801 BENTCREEK DR	1	B	54						62	8							54	0
R1818B	4805 BENTCREEK DR	1	B	54						62	8							54	0
R1819	4809 BENTCREEK DR	1	B	54						60	6							54	0
R1820	5700 MULLIGAN WAY	1	B	54						62	8							54	0
R1821A	5701 MULLIGAN WAY	1	B	54						64	10							54	0
R1821B	5705 MULLIGAN WAY	1	B	54						62	8							54	0
R1822A	5704 WYSTERIA DR	1	B	54						62	8							54	0
R1822B	5700 WYSTERIA DR	1	B	54						60	8							54	0
R1823	1112 TYLER FARMS DR	1	B	52						60	8							52	0
R1824A	2409 PARKWAY DR	1	B	44						59	15							44	0
R1824B	2413 PARKWAY DR	1	B	44						59	15							44	0
R1825	2424 PARKWAY DR	1	B	44						58	14							44	0
R1826A	2201 WOODNELL DR	1	B	44						62	18							44	0
R1826B	7004 CEDRIC DR	1	B	44						61	17							44	0
R1827A	2204 WOODNELL DR	1	B	44						63	19							44	0
R1828	1605 BUCKINGHAM RD	1	B	49	64					67	3							64	0
R1829A	1312 TIMBER DR	1	B	49	61					67	6							62	1
R1829B	1402 TIMBER DR	1	B	49	57					67	10							57	0
R1830A	1308 TIMBER DR	1	B	49	54					67	13							55	1
R1830B	1310 TIMBER DR	1	B	49	60					67	7							61	1
R1831A	1304 TIMBER DR	1	B	49	60					67	7							61	1
R1831B	1306 TIMBER DR	1	B	49	60					67	7							60	0
R1832A	1302 TIMBER DR	1	B	49	63					66	3							63	0
R1832B	1300 TIMBER DR	1	B	49	64					67	3							65	1
R1833A	1605 TIMBER DR E	1	B	57						62	5							57	0
R1833B	1605 TIMBER DR E	1	B	57						63	6							57	0
R1833C	1605 TIMBER DR E	1	B	57	57					64	7							57	0
R1833D	1605 TIMBER DR E	1	B	57						63	6							57	0
R1833E	1605 TIMBER DR E	1	B	57	57					65	8							57	0
R1833F	1605 TIMBER DR E	1	B	57	58					65	7							57	-1
R1833G	1605 TIMBER DR E	1	B	57						63	6							57	0
R1833H	1605 TIMBER DR E	1	B	57						64	7							57	0
R1833I	1605 TIMBER DR E	1	B	57	57					65	8							57	0
R1833J	1605 TIMBER DR E	1	B	57						62	5							57	0
R1833K	1605 TIMBER DR E	1	B	57						63	6							57	0
R1833L	1605 TIMBER DR E	1	B	57						64	7							57	0
R1833M	1605 TIMBER DR E	1	B	57						63	6							57	0
R1833N	1605 TIMBER DR E	1	B	57	57					64	7							57	0
R1833O	1605 TIMBER DR E	1	B	57						65	8							57	0
R1833P	1605 TIMBER DR E	1	B	57						63	6							57	0
R1833Q	1605 TIMBER DR E	1	B	57						65	8							57	0
R1833R	1605 TIMBER DR E	1	B	57	57					65	8							57	0
R1833S	1605 TIMBER DR E	1	B	57						63	6							57	0
R1833T	1605 TIMBER DR E	1	B	57						65	8							57	0
R1833U	1605 TIMBER DR E	1	B	57	57					65	8							57	0
R1833V	1605 TIMBER DR E	1	B	57						63	6							57	0
R1833W	1605 TIMBER DR E	1	B	57						64	7							57	0
R1833X	1605 TIMBER DR E	1	B	57	57					65	8							57	0
R1834A	1605 TIMBER DR E	1	B	57						57	0							57	0
R1834B	1605 TIMBER DR E	1	B	57						59	2							57	0
R1834C	1605 TIMBER DR E	1	B	57						60	3							57	0
R1834D	1605 TIMBER DR E	1	B	57						57	0							57	0
R1834E	1605 TIMBER DR E	1	B	57						59	2							57	0
R1834F	1605 TIMBER DR E	1	B	57						60	3							57	0
R1834G	1605 TIMBER DR E	1	B	57						59	2							57	0
R1834H	1605 TIMBER DR E	1	B	57						60	3							57	0
R1834I	1605 TIMBER DR E	1	B	57						61	4							57	0
R1834J	1605 TIMBER DR E	1	B	57						61	4							58	1
R1834K	1605 TIMBER DR E	1	B	57	57					63	6							58	1
R1834L	1605 TIMBER DR E	1	B	57	58					64	6							57	-1
R1834M	1605 TIMBER DR E	1	B	57	57					64	7							60	3

¹Noise levels highlighted in red are levels above the Noise Abatement Criteria.

²Noise level increases highlighted in red are above the substantial noise level increase criteria.

³Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis
Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)											No Build						
						2035												No Build Increase ²					
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan									
Build ³	Increase ³	Build ³	Increase ³	Build ³	Increase ³	Build ³	Increase ³	Build ³	Increase ³	Build ³	Increase ³	Build ³	Increase ³	Build ³	Increase ³								
R1834N	1605 TIMBER DR E	1	B	57	59																60	1	
R1834O	1605 TIMBER DR E	1	B	57	60																	60	0
R1834P	1605 TIMBER DR E	1	B	57	57																	59	2
R1834Q	1605 TIMBER DR E	1	B	57	58																	59	1
R1834R	1605 TIMBER DR E	1	B	57	59																	59	0
R1834S	1605 TIMBER DR E	1	B	57	57																	58	1
R1834T	1605 TIMBER DR E	1	B	57	58																	58	0
R1834U	1605 TIMBER DR E	1	B	57	59																	58	-1
R1834V	1605 TIMBER DR E	1	B	57	57																	58	1
R1834W	1605 TIMBER DR E	1	B	57	57																	58	1
R1834X	1605 TIMBER DR E	1	B	57	58																	58	0
R1835A	1605 TIMBER DR E	1	B	57	58																	57	0
R1835B	1605 TIMBER DR E	1	B	57	57																	57	0
R1835C	1605 TIMBER DR E	1	B	57	57																	57	0
R1835D	1605 TIMBER DR E	1	B	57	57																	57	0
R1835E	1605 TIMBER DR E	1	B	57	57																	57	0
R1835F	1605 TIMBER DR E	1	B	57	57																	57	0
R1835G	1605 TIMBER DR E	1	B	57	57																	57	0
R1835H	1605 TIMBER DR E	1	B	57	57																	57	0
R1835I	1605 TIMBER DR E	1	B	57	57																	57	0
R1835J	1605 TIMBER DR E	1	B	57	57																	57	0
R1835K	1605 TIMBER DR E	1	B	57	57																	57	0
R1835L	1605 TIMBER DR E	1	B	57	57																	57	0
R1835M	1605 TIMBER DR E	1	B	57	57																	57	0
R1835N	1605 TIMBER DR E	1	B	57	57																	57	0
R1835O	1605 TIMBER DR E	1	B	57	57																	57	0
R1835P	1605 TIMBER DR E	1	B	57	57																	57	0
R1835Q	1605 TIMBER DR E	1	B	57	57																	57	0
R1835R	1605 TIMBER DR E	1	B	57	57																	57	0
R1835S	1605 TIMBER DR E	1	B	57	57																	57	0
R1835T	1605 TIMBER DR E	1	B	57	57																	57	0
R1835U	1605 TIMBER DR E	1	B	57	57																	57	0
R1835V	1605 TIMBER DR E	1	B	57	57																	57	0
R1835W	1605 TIMBER DR E	1	B	57	57																	57	0
R1835X	1605 TIMBER DR E	1	B	57	57																	57	0
R1836A	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836B	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836C	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836D	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836E	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836F	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836G	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836H	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836I	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836J	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836K	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836L	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836M	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836N	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836O	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836P	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836Q	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836R	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836S	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836T	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836U	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836V	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836W	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1836X	300 ABBERLY CREST BLVD	1	B	57	57																	57	0
R1837A	300 ABBERLY CREST BLVD	1	B	57	57																	58	1
R1837B	300 ABBERLY CREST BLVD	1	B	57	57																	58	1
R1837C	300 ABBERLY CREST BLVD	1	B	57	59																	58	-1
R1837D	300 ABBERLY CREST BLVD	1	B	57	57																	59	2

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 2 Noise level increases highlighted in red are above the substantial noise level increase criteria.
 3 Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Noise Levels dB(A)																									
Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build	
						Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase
R1841S	300 ABBERLY CREST BLVD	1	B	57								60	3											57	0
R1841T	300 ABBERLY CREST BLVD	1	B	57								62	5											57	0
R1841U	300 ABBERLY CREST BLVD	1	B	57	58							64	6											57	-1
R1841V	300 ABBERLY CREST BLVD	1	B	57								58	1											57	0
R1841W	300 ABBERLY CREST BLVD	1	B	57								60	3											57	0
R1841X	300 ABBERLY CREST BLVD	1	B	57								62	5											57	0
R1842	4425 HICKS RD	1	B	49	59		64	5				64	5			65	6							61	2
R1843A	4302 HICKS RD	1	B	49	62		67	5				68	6			68	6							64	2
R1843B	4302 HICKS RD	1	B	49	61		66	5				67	6			67	6							63	2
R1844A	4302 HICKS RD	1	B	49	60		65	5				66	6			66	6							62	2
R1844B	4302 HICKS RD	1	B	49	59		63	4				64	5			65	6							61	2
R1845A	4524 BUSHY BRANCH DR	1	B	49												62	13							51	2
R1845B	4528 BUSHY BRANCH DR	1	B	49	49											62	13							51	2
R1846A	4520 BUSHY BRANCH DR	1	B	49												61	12							51	2
R1846B	4516 BUSHY BRANCH DR	1	B	49												62	13							51	2
R1847A	4517 BUSHY BRANCH DR	1	B	49												62	13							50	1
R1847B	4513 BUSHY BRANCH DR	1	B	49												62	13							50	1
R1847C	4521 BUSHY BRANCH DR	1	B	49												63	14							50	1
R1848	2512 E GARNER RD	1	B	57								63	6											57	0
R1849A	3513 DEER TRACE LN	1	B	51																				57	0
R1849B	3517 DEER TRACE LN	1	B	51																				57	0
R1850A	3501 DEER TRACE LN	1	B	51																				51	0
R1850B	3509 DEER TRACE LN	1	B	51																				51	0
R1851A	3437 DEER TRACE LN	1	B	51																				51	0
R1851B	3441 DEER TRACE LN	1	B	51																				51	0
R1851C	3337 STONEY CREEK DR	1	B	51																				51	0
R1851D	3333 STONEY CREEK DR	1	B	51																				51	0
R1851E	3432 DEER TRACE LN	1	B	51																				51	0
R1851F	3435 DEER TRACE LN	1	B	51																				51	0
R1851G	3429 DEER TRACE LN	1	B	51																				51	0
R1851H	3425 DEER TRACE LN	1	B	51																				51	0
R1852A	2805 HODGE RD	1	B	56																				56	0
R1852B	2805 HODGE RD	1	B	56																				56	0
R1853A	2805 HODGE RD	1	B	56																				56	0
R1853B	2805 HODGE RD	1	B	56																				56	0
R1854A	2805 HODGE RD	1	B	56																				56	0
R1854B	2805 HODGE RD	1	B	56																				56	0
R1855A	7600 POOLE RD	1	B	56																				56	0
R1855B	7600 POOLE RD	1	B	56																				56	0
R1855C	7600 POOLE RD	1	B	56																				56	0
R1856A	7600 POOLE RD	1	B	56																				56	0
R1856B	7600 POOLE RD	1	B	56																				56	0
R1856C	7600 POOLE RD	1	B	56																				56	0
R1857A	0 HODGE RD	1	B	56																				56	0
R1857B	0 HODGE RD	1	B	56																				56	0
R1857C	0 HODGE RD	1	B	56																				56	0
R1858A	0 HODGE RD	1	B	56																				56	0
R1858B	0 HODGE RD	1	B	56																				56	0
R1858C	0 HODGE RD	1	B	56																				56	0
R1859A	0 HODGE RD	1	B	56																				56	0
R1859B	0 HODGE RD	1	B	56																				56	0
R1859C	0 HODGE RD	1	B	56																				56	0
R1859D	0 HODGE RD	1	B	56																				56	0
R1860A	3604 KEMP DR	1	B	56																				56	0
R1860B	3600 KEMP DR	1	B	56																				56	0
R1860C	3608 KEMP DR	1	B	56																				56	0
R1861	3609 KEMP DR	1	B	56																				56	0
R1862	210 GOWER CIR	1	B	57	60																			61	1
R1863A	103 SHOALS LN	1	B	52																				52	0
R1863B	105 SHOALS LN	1	B	52																				52	0
R1864A	901 ATCHISON ST	1	B	52																				52	0
R1864B	102 SHOALS LN	1	B	52																				52	0

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3Noise levels reported if the traffic noise was dominant noise

Impact Analysis

			Noise Levels dB(A)																							
Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build		
						Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹
R1865A	1003 ATCHISON ST	1	B	52							64	12												52	0	
R1865B	1001 ATCHISON ST	1	B	52							64	12												52	0	
R1865C	903 ATCHISON ST	1	B	52							64	12												52	0	
R1866	236 EASY WIND LN	1	B	52							64	12												52	0	
R1867	3609 GRIFFICE MILL RD	1	B	51																			63	12	51	0
R1868A	3608 GRIFFICE MILL RD	1	B	51																			61	10	51	0
R1868B	3604 GRIFFICE MILL RD	1	B	51																			61	10	51	0
R1869A	3512 GRIFFICE MILL RD	1	B	51						59	8												61	10	51	0
R1869B	3508 GRIFFICE MILL RD	1	B	51						59	8												61	10	51	0
R1870A	3504 GRIFFICE MILL RD	1	B	51						59	8												61	10	51	0
R1870B	3500 GRIFFICE MILL RD	1	B	51						60	9												61	10	51	0
R1871A	2805 HODGE RD	1	B	56					63	7														56	0	
R1871B	2805 HODGE RD	1	B	56					61	5														56	0	
R1872A	2805 HODGE RD	1	B	56					63	7														56	0	
R1872B	2805 HODGE RD	1	B	56					62	6														56	0	
R1873A	2805 HODGE RD	1	B	56					64	8														56	0	
R1873B	2805 HODGE RD	1	B	56					62	6														56	0	
R1874A	2805 HODGE RD	1	B	56					63	7														56	0	
R1874B	2805 HODGE RD	1	B	56					62	6														56	0	
R1875A	0 HODGE RD	1	B	56					61	5														56	0	
R1875B	0 HODGE RD	1	B	56					62	6														56	0	
R1876A	0 HODGE RD	1	B	56					62	6														56	0	
R1876B	0 HODGE RD	1	B	56					63	7														56	0	
R1877A	0 HODGE RD	1	B	56					64	8														56	0	
R1877B	0 HODGE RD	1	B	56					65	9														56	0	
R1877C	0 HODGE RD	1	B	56					65	9														56	0	
R1878A	0 HODGE RD	1	B	56					65	9														56	0	
R1878B	0 HODGE RD	1	B	56					66	10														56	0	
R1878C	0 HODGE RD	1	B	56					66	10														56	0	
R1878D	0 HODGE RD	1	B	56					67	11														56	0	
R1879A	0 HODGE RD	1	B	56					66	10														56	0	
R1879B	0 HODGE RD	1	B	56					65	9														56	0	
R1879C	0 HODGE RD	1	B	56					66	10														56	0	
R1879D	0 HODGE RD	1	B	56					66	10														56	0	
R1880A	0 HODGE RD	1	B	56					65	9														56	0	
R1880B	0 HODGE RD	1	B	56					65	9														56	0	
R1881A	207 GOWER CIR	1	B	56	58				63	5														56	0	
R1881B	209 GOWER CIR	1	B	56	57				62	5														58	1	
R1882A	212 GOWER CIR	1	B	56	58				63	5														59	1	
R1882B	211 GOWER CIR	1	B	56	57				62	5														58	1	
R1883A	7331 POOLE RD	1	B	56					62	6														56	0	
R1883B	7331 POOLE RD	1	B	56					62	6														56	0	
R1883C	7331 POOLE RD	1	B	56					64	8														56	0	
R1884A	1020 QUAIL OAKS CIR	1	B	46										57	11									46	0	
R1884B	1100 QUAIL OAKS CIR	1	B	46										57	11									46	0	
R1885A	1108 QUAIL OAKS CIR	1	B	46										57	11									46	0	
R1885B	1104 QUAIL OAKS CIR	1	B	46										57	11									46	0	
R1886A	9916 HUNTWAY DR	1	B	46							56	10		69	23									46	0	
R1886B	9920 HUNTWAY DR	1	B	46							57	11		72	26									46	0	
R1887A	9908 HUNTWAY DR	1	B	46										61	15									46	0	
R1887B	9904 HUNTWAY DR	1	B	46										60	14									46	0	
R1888	104 JONESBORO CT	1	B	46										59	12									46	0	
R1889	9909 HUNTWAY DR	1	B	46										62	16									46	0	
R1890	9905 HUNTWAY DR	1	B	46										61	15									46	0	
R1891A	9904 JOE LEACH RD	1	B	46										60	14									46	0	
R1891B	9900 JOE LEACH RD	1	B	46										59	13									46	0	
R1891C	9916 JOE LEACH RD	1	B	46										60	14									46	0	
R1892A	200 BOWLING FARM CT	1	B	46										65	19									46	0	
R1892B	204 BOWLING FARM CT	1	B	46										65	19									46	0	
R1892C	201 BOWLING FARM CT	1	B	46										63	17									46	0	
R1893A	209 BOWLING FARM CT	1	B	46										61	15									46	0	
R1893B	205 BOWLING FARM CT	1	B	46										62	16									46	0	
R1894	9932 JOE LEACH RD	1	B	46										60	14									46	0	
R1895	9936 JOE LEACH RD	1	B	46										61	15									46	0	

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 2Noise level increases highlighted in red are above the substantial noise level increase criteria.
 3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)													
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build				
						Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²		
R1896A	9933 JOE LEACH RD	1	B	46								59	13					46	0
R1896B	9925 JOE LEACH RD	1	B	46								58	12					46	0
R1897	228 BOWLING FARM CT	1	B	46								60	14					46	0
R1898	232 BOWLING FARM CT	1	B	46								59	13					46	0
R1899A	9013 BRITT RIDGE CT	1	B	46								60	14					46	0
R1899B	9009 BRITT RIDGE CT	1	B	46								61	15					46	0
R1899C	9017 BRITT RIDGE CT	1	B	46								59	13					46	0
R1900A	9008 BRITT RIDGE CT	1	B	46								60	14					46	0
R1900B	9012 BRITT RIDGE CT	1	B	46								59	13					46	0
R1901A	1049 BLUE RIVER FARM DR	1	B	46								60	14					46	0
R1901B	1053 BLUE RIVER FARM DR	1	B	46								59	13					46	0
R1901C	1052 BLUE RIVER FARM DR	1	B	46								59	13					46	0
R1902A	1605 TIMBER DR E	1	B	57					62	5								57	0
R1902B	1605 TIMBER DR E	1	B	57					63	6								57	0
R1902C	1605 TIMBER DR E	1	B	57	57				64	7								57	0
R1902D	1605 TIMBER DR E	1	B	57					62	5								57	0
R1902E	1605 TIMBER DR E	1	B	57					63	6								57	0
R1902F	1605 TIMBER DR E	1	B	57	57				64	7								57	0
R1902G	1605 TIMBER DR E	1	B	57					62	5								57	0
R1902H	1605 TIMBER DR E	1	B	57					63	6								57	0
R1902I	1605 TIMBER DR E	1	B	57					64	7								57	0
R1902J	1605 TIMBER DR E	1	B	57					62	5								57	0
R1902K	1605 TIMBER DR E	1	B	57					63	6								57	0
R1902L	1605 TIMBER DR E	1	B	57					64	7								57	0
R1902M	1605 TIMBER DR E	1	B	57					62	5								57	0
R1902N	1605 TIMBER DR E	1	B	57					63	6								57	0
R1902O	1605 TIMBER DR E	1	B	57					64	7								57	0
R1902P	1605 TIMBER DR E	1	B	57					62	5								57	0
R1902Q	1605 TIMBER DR E	1	B	57					63	6								57	0
R1902R	1605 TIMBER DR E	1	B	57					64	7								57	0
R1902S	1605 TIMBER DR E	1	B	57					62	5								57	0
R1902T	1605 TIMBER DR E	1	B	57					63	6								57	0
R1902U	1605 TIMBER DR E	1	B	57					64	7								57	0
R1902V	1605 TIMBER DR E	1	B	57					61	4								57	0
R1902W	1605 TIMBER DR E	1	B	57					63	6								57	0
R1902X	1605 TIMBER DR E	1	B	57					64	7								57	0
R1903A	1605 TIMBER DR E	1	B	57					60	3								57	0
R1903B	1605 TIMBER DR E	1	B	57					62	5								57	0
R1903C	1605 TIMBER DR E	1	B	57					62	5								57	0
R1903D	1605 TIMBER DR E	1	B	57					60	3								57	0
R1903E	1605 TIMBER DR E	1	B	57					61	4								57	0
R1903F	1605 TIMBER DR E	1	B	57					62	5								57	0
R1903G	1605 TIMBER DR E	1	B	57					60	3								57	0
R1903H	1605 TIMBER DR E	1	B	57					61	4								57	0
R1903I	1605 TIMBER DR E	1	B	57					62	5								57	0
R1903J	1605 TIMBER DR E	1	B	57					60	3								57	0
R1903K	1605 TIMBER DR E	1	B	57					61	4								57	0
R1903L	1605 TIMBER DR E	1	B	57					62	5								57	0
R1903M	1605 TIMBER DR E	1	B	57					62	5								57	0
R1903N	1605 TIMBER DR E	1	B	57					63	6								57	0
R1903O	1605 TIMBER DR E	1	B	57					64	7								57	0
R1903P	1605 TIMBER DR E	1	B	57	57				61	4								57	0
R1903Q	1605 TIMBER DR E	1	B	57					62	5								57	0
R1903R	1605 TIMBER DR E	1	B	57					63	6								57	0
R1903S	1605 TIMBER DR E	1	B	57					60	3								57	0
R1903T	1605 TIMBER DR E	1	B	57					61	4								57	0
R1903U	1605 TIMBER DR E	1	B	57					63	6								57	0
R1903V	1605 TIMBER DR E	1	B	57					60	3								57	0
R1903W	1605 TIMBER DR E	1	B	57					61	4								57	0
R1903X	1605 TIMBER DR E	1	B	57					62	5								57	0
R1904	RECREATIONAL		C	57					60	3								57	0
R1905A	1605 TIMBER DR E	1	B	57					62	5								57	0
R1905B	1605 TIMBER DR E	1	B	57					63	6								57	0

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3Noise levels reported if the traffic noise was dominant noise

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																				
						Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan				
						Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	No Build
R1905C	1605 TIMBER DR E	1	B	57	58																			57	-1	
R1905D	1605 TIMBER DR E	1	B	57																					57	0
R1905E	1605 TIMBER DR E	1	B	57																					57	0
R1905F	1605 TIMBER DR E	1	B	57	57																				57	0
R1905G	1605 TIMBER DR E	1	B	57																					57	0
R1905H	1605 TIMBER DR E	1	B	57																					57	0
R1905I	1605 TIMBER DR E	1	B	57																					57	0
R1905J	1605 TIMBER DR E	1	B	57																					57	0
R1905K	1605 TIMBER DR E	1	B	57																					57	0
R1905L	1605 TIMBER DR E	1	B	57																					57	0
R1905M	1605 TIMBER DR E	1	B	57																					57	0
R1905N	1605 TIMBER DR E	1	B	57																					57	0
R1905O	1605 TIMBER DR E	1	B	57																					57	0
R1905P	1605 TIMBER DR E	1	B	57																					57	0
R1905Q	1605 TIMBER DR E	1	B	57																					57	0
R1905R	1605 TIMBER DR E	1	B	57																					57	0
R1905S	1605 TIMBER DR E	1	B	57																					57	0
R1905T	1605 TIMBER DR E	1	B	57																					57	0
R1905U	1605 TIMBER DR E	1	B	57																					57	0
R1905V	1605 TIMBER DR E	1	B	57																					57	0
R1905W	1605 TIMBER DR E	1	B	57																					57	0
R1905X	1605 TIMBER DR E	1	B	57																					57	0
R1905Y	1605 TIMBER DR E	1	B	57	57																				57	0
R1906A	1605 TIMBER DR E	1	B	57																					57	0
R1906B	1605 TIMBER DR E	1	B	57																					57	0
R1906C	1605 TIMBER DR E	1	B	57																					57	0
R1906D	1605 TIMBER DR E	1	B	57																					57	0
R1906E	1605 TIMBER DR E	1	B	57																					57	0
R1906F	1605 TIMBER DR E	1	B	57																					57	0
R1906G	1605 TIMBER DR E	1	B	57																					57	0
R1906H	1605 TIMBER DR E	1	B	57																					57	0
R1906I	1605 TIMBER DR E	1	B	57																					57	0
R1906J	1605 TIMBER DR E	1	B	57																					57	0
R1906K	1605 TIMBER DR E	1	B	57																					57	0
R1906L	1605 TIMBER DR E	1	B	57																					57	0
R1906M	1605 TIMBER DR E	1	B	57																					57	0
R1906N	1605 TIMBER DR E	1	B	57																					57	0
R1906O	1605 TIMBER DR E	1	B	57																					57	0
R1906P	1605 TIMBER DR E	1	B	57																					57	0
R1906Q	1605 TIMBER DR E	1	B	57																					57	0
R1906R	1605 TIMBER DR E	1	B	57																					57	0
R1906S	1605 TIMBER DR E	1	B	57																					57	0
R1906T	1605 TIMBER DR E	1	B	57																					57	0
R1906U	1605 TIMBER DR E	1	B	57																					57	0
R1906V	1605 TIMBER DR E	1	B	57																					57	0
R1906W	1605 TIMBER DR E	1	B	57																					57	0
R1906X	1605 TIMBER DR E	1	B	57																					57	0
R1907A	1605 TIMBER DR E	1	B	57																					57	0
R1907B	1605 TIMBER DR E	1	B	57																					57	0
R1907C	1605 TIMBER DR E	1	B	57																					57	0
R1907D	1605 TIMBER DR E	1	B	57																					57	0
R1907E	1605 TIMBER DR E	1	B	57																					57	0
R1907F	1605 TIMBER DR E	1	B	57																					57	0
R1907G	1605 TIMBER DR E	1	B	57																					57	0
R1907H	1605 TIMBER DR E	1	B	57																					57	0
R1907I	1605 TIMBER DR E	1	B	57																					57	0
R1907J	1605 TIMBER DR E	1	B	57																					57	0
R1907K	1605 TIMBER DR E	1	B	57																					57	0
R1907L	1605 TIMBER DR E	1	B	57																					57	0
R1907M	1605 TIMBER DR E	1	B	57																					57	0
R1907N	1605 TIMBER DR E	1	B	57																					57	0
R1907O	1605 TIMBER DR E	1	B	57																					57	0
R1907P	1605 TIMBER DR E	1	B	57																					57	0
R1907Q	1605 TIMBER DR E	1	B	57																					57	0

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2Noise level increases highlighted in red are above the substantial noise level increase criteria.

3Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																	
						2035																	
						Orange Build ¹ Increase ²	Green Build ¹ Increase ²	Mint Build ¹ Increase ²	Red Build ¹ Increase ²	Purple/Blue Build ¹ Increase ²	Lilac Build ¹ Increase ²	Teal Build ¹ Increase ²	Brown Build ¹ Increase ²	Tan Build ¹ Increase ²	No Build Increase ³								
R1907R	1605 TIMBER DR E	1	B	57																	57	0	
R1907S	1605 TIMBER DR E	1	B	57																		57	0
R1907T	1605 TIMBER DR E	1	B	57																		57	0
R1907U	1605 TIMBER DR E	1	B	57																		57	0
R1907V	1605 TIMBER DR E	1	B	57																		57	0
R1907W	1605 TIMBER DR E	1	B	57																		57	0
R1907X	1605 TIMBER DR E	1	B	57																		57	0
R1907Y	1605 TIMBER DR E	1	B	57																		57	0
R1908A	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908B	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908C	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908D	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908E	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908F	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908G	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908H	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908I	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908J	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908K	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908L	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908M	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908N	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908O	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908P	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908Q	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908R	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908S	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908T	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908U	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908V	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908W	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908X	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1908Y	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909A	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909B	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909C	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909D	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909E	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909F	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909G	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909H	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909I	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909J	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909K	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909L	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909M	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909N	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909O	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909P	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909Q	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909R	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909S	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909T	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909U	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909V	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909W	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1909X	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1910A	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1910B	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1910C	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1910D	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1910E	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1910F	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1910G	300 ABBERLY CREST BLDV	1	B	57																		57	0
R1910H	300 ABBERLY CREST BLDV	1	B	57																		57	0

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 3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																	
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build	2035							
																Build	Increase	Build	Increase	Build	Increase		
R1910I	300 ABBERLY CREST BLDV	1	B	57	58							63	5									58	0
R1910J	300 ABBERLY CREST BLDV	1	B	57	57							60	3									59	2
R1910K	300 ABBERLY CREST BLDV	1	B	57	57							61	4									59	2
R1910L	300 ABBERLY CREST BLDV	1	B	57	59							63	4									59	0
R1910M	300 ABBERLY CREST BLDV	1	B	57	57							60	3									59	2
R1910N	300 ABBERLY CREST BLDV	1	B	57	58							62	4									59	1
R1910O	300 ABBERLY CREST BLDV	1	B	57	59							64	5									59	0
R1910P	300 ABBERLY CREST BLDV	1	B	57	57							60	3									59	2
R1910Q	300 ABBERLY CREST BLDV	1	B	57	58							62	4									59	1
R1910R	300 ABBERLY CREST BLDV	1	B	57	59							63	4									59	0
R1910S	300 ABBERLY CREST BLDV	1	B	57	58							60	3									59	2
R1910T	300 ABBERLY CREST BLDV	1	B	57	58							61	3									59	1
R1910U	300 ABBERLY CREST BLDV	1	B	57	59							63	4									58	-1
R1910V	300 ABBERLY CREST BLDV	1	B	57	57							59	2									58	1
R1910W	300 ABBERLY CREST BLDV	1	B	57	57							61	4									58	1
R1910X	300 ABBERLY CREST BLDV	1	B	57	58							62	4									58	0
R1910Y	300 ABBERLY CREST BLDV	1	B	57	57							62	4									48	4
R1911A	104 OLMSTEAD CT	1	B	44	44							62	18									48	4
R1911B	102 OLMSTEAD CT	1	B	44	44							61	17									48	4
R1911C	104 LYME CT	1	B	44	46							61	15									50	4
R1911D	107 LYME CT	1	B	44	46							60	14									50	4
R1912A	212 TIFFANY CIR	1	B	44	44							61	17									48	4
R1912B	210 TIFFANY CIR	1	B	44	44							61	17									48	4
R1912C	206 TIFFANY CIR	1	B	44	45							59	14									49	4
R1912D	204 TIFFANY CIR	1	B	44	46							58	12									51	5
R1913A	211 TIFFANY CIR	1	B	44	44							60	16									48	4
R1913B	213 TIFFANY CIR	1	B	44	44							61	17									47	3
R1913C	209 TIFFANY CIR	1	B	44	45							61	16									49	4
R1913D	207 TIFFANY CIR	1	B	44	46							60	14									50	4
R1914A	0 HODGE RD	1	B	56								64	8									56	0
R1914B	0 HODGE RD	1	B	56								64	8									56	0
R1914C	0 HODGE RD	1	B	56								65	9									56	0
R1915A	0 HODGE RD	1	B	56								63	7									56	0
R1915B	0 HODGE RD	1	B	56								64	8									56	0
R1916	6600 TEN TEN RD	1	B	46								60	14									47	1
R1917	6608 TEN TEN RD	1	B	46	47							59	12									49	2
R1918A	205 HOLLYHOCK LN	1	B	48								62	14									49	1
R1918B	207 HOLLYHOCK LN	1	B	48								59	11									49	1
R1918C	203 HOLLYHOCK LN	1	B	48								59	11									49	1
R1919A	206 HOLLYHOCK LN	1	B	48								59	11									50	2
R1919B	208 HOLLYHOCK LN	1	B	48								60	12									50	2
R1919C	204 HOLLYHOCK LN	1	B	48								59	11									51	3
R1920A	109 LINDELL DR	1	B	48								61	13									50	2
R1920B	201 LINDELL DR	1	B	48								61	13									50	2
R1920C	107 LINDELL DR	1	B	48								61	13									50	2
R1921A	200 LINDELL DR	1	B	48	49							60	11									52	3
R1921B	202 LINDELL DR	1	B	48	49							60	11									52	3
R1922A	206 LINDELL DR	1	B	48	48							61	13									51	3
R1922B	204 LINDELL DR	1	B	48	49							60	11									51	2
R1923	3620 HERITAGE CREEK DR	1	B	46								61	15									46	0
R1924A	3812 WESLEY RIDGE DR	1	B	46								60	14									46	0
R1924B	3814 WESLEY RIDGE DR	1	B	46								59	13									46	0
R1925A	3625 HERITAGE CREEK DR	1	B	46								60	14									46	0
R1925B	3804 WESLEY RIDGE DR	1	B	46								61	15									46	0
R1925C	3800 WESLEY RIDGE DR	1	B	46								61	15									46	0
R1925D	3801 WESLEY RIDGE DR	1	B	46								59	13									46	0
R1926	4029 HARRIAT DR	1	B	46								61	15									46	0
R1926A	4033 HARRIAT DR	1	B	46								60	14									46	0
R1927	4025 HARRIAT DR	1	B	46								59	12									46	0
R1928	8704 NEW RIVER CIR	1	B	45								57	12									55	10
R1929	8705 NEW RIVER CIR	1	B	45								57	12									56	11
R1930	3908 YATESWOOD CT	1	B	46								60	14									46	0
R1931A	3901 YATESWOOD CT	1	B	46								61	15									46	0
R1931B	3905 YATESWOOD CT	1	B	46								60	14									46	0

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3Noise levels reported if the traffic noise was dominant noise

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	Noise Levels dB(A)										2012 TNM Predicted Existing	2035		No Build Increase									
					Orange		Green		Mint		Red		Purple/Blue			Teal			Brown		Tan						
					Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase		Build	Increase		Build	Increase	Build	Increase	Build	Increase			
R1931C	3928 BLUFFWIND DR	1	B	46									59	13												47	1
R1932A	3925 BLUFFWIND DR	1	B	46									61	15												47	1
R1932B	3929 BLUFFWIND DR	1	B	46									59	13												48	2
R2000A	504 ARBORHILL LN	1	B	55																						55	0
R2000B	500 ARBORHILL LN	1	B	55																						55	0
R2001A	505 ARBORHILL LN	1	B	55																						60	4
R2001B	501 ARBORHILL LN	1	B	55																						61	4
R2001C	509 ARBORHILL LN	1	B	55																						60	4
R2002A	413 ARBORHILL LN	1	B	55																						61	4
R2002B	409 ARBORHILL LN	1	B	55																						61	5
R2002C	417 ARBORHILL LN	1	B	55																						60	4
R2003A	408 ARBORHILL LN	1	B	55																						55	0
R2003B	412 ARBORHILL LN	1	B	55																						55	0
R2004A	404 ARBORHILL LN	1	B	55																						55	0
R2004B	400 ARBORHILL LN	1	B	55																						55	0
R2005A	405 ARBORHILL LN	1	B	55																						61	4
R2005B	100 CALDERON PL	1	B	55																						58	3
R2006A	304 ARBORHILL LN	1	B	55																						55	0
R2006B	308 ARBORHILL LN	1	B	55																						55	0
R2007A	104 CALDERON PL	1	B	55																						61	4
R2007B	108 CALDERON PL	1	B	55																						61	4
R2007C	105 CALDERON PL	1	B	55																						58	3
R2008A	305 ARBORHILL LN	1	B	55																						55	0
R2008B	101 CALDERON PL	1	B	55																						55	0
R2008C	301 ARBORHILL LN	1	B	55																						55	0
R2009A	104 OLIVE FIELD DR	1	B	55																						55	0
R2009B	108 OLIVE FIELD DR	1	B	55																						55	0
R2010A	204 OLIVE FIELD DR	1	B	55																						57	2
R2010B	200 OLIVE FIELD DR	1	B	55																						55	0
R2010C	206 OLIVE FIELD DR	1	B	55																						62	4
R2011A	104 MEADOWCREST PL	1	B	55																						55	0
R2011B	100 MEADOWCREST PL	1	B	55																						55	0
R2012A	209 OLIVE FIELD DR	1	B	55																						55	0
R2012B	213 OLIVE FIELD DR	1	B	55																						60	3
R2012C	205 OLIVE FIELD DR	1	B	55																						55	0
R2013A	105 MEADOWCREST PL	1	B	55																						55	0
R2013B	101 MEADOWCREST PL	1	B	55																						55	0
R2014A	208 CROSS OAKS PL	1	B	55																						55	0
R2014B	212 CROSS OAKS PL	1	B	55																						55	0
R2015A	216 CROSS OAKS PL	1	B	55																						65	4
R2015B	214 CROSS OAKS PL	1	B	55																						61	4
R2016A	113 MEADOWCREST PL	1	B	55																						55	0
R2016B	109 MEADOWCREST PL	1	B	55																						55	0
R2017A	200 CROSS OAKS PL	1	B	55																						55	0
R2017B	204 CROSS OAKS PL	1	B	55																						55	0
R2018A	209 CROSS OAKS PL	1	B	55																						61	4
R2018B	205 CROSS OAKS PL	1	B	55																						56	1
R2019A	116 CROSS OAKS PL	1	B	55																						55	0
R2019B	120 CROSS OAKS PL	1	B	55																						55	0
R2020A	105 BRYCE MEADOW DR	1	B	55																						55	0
R2020B	101 BRYCE MEADOW DR	1	B	55																						55	0
R2020C	109 BRYCE MEADOW DR	1	B	55																						57	2
R2021A	104 BRYCE MEADOW DR	1	B	55																						55	0
R2021B	100 BRYCE MEADOW DR	1	B	55																						55	0
R2021C	108 BRYCE MEADOW DR	1	B	55																						56	1
R2022A	117 BRYCE MEADOW DR	1	B	55																						64	3
R2022B	113 BRYCE MEADOW DR	1	B	55																						63	4
R2023A	109 CROSS OAKS PL	1	B	55																						58	2
R2023B	113 CROSS OAKS PL	1	B	55																						55	0
R2024A	112 BRYCE MEADOW DR	1	B	55																						59	2
R2024B	116 BRYCE MEADOW DR	1	B	55																						63	2
R2025A	121 BRYCE MEADOW DR	1	B	55																						64	3
R2025B	120 BRYCE MEADOW DR	1	B	55																						64	3

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3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																							
						Orange		Green		Mint		Red		Purple/Blue		Teal		Brown		Tan		No Build							
						Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase				
R2026	100 MARSH LANDING DR	RECREATIONAL	C	55	59																			62	3				
R2027A	404 SKY GROVE DR	1	B	55																						58	3		
R2027B	400 SKY GROVE DR	1	B	55																							59	4	
R2027C	408 SKY GROVE DR	1	B	55																								58	3
R2028A	109 MARSH LANDING DR	1	B	55																								58	3
R2028B	105 MARSH LANDING DR	1	B	55																								59	4
R2029A	132 EDGE PINE DR	1	B	55																								56	1
R2029B	136 EDGE PINE DR	1	B	55																								55	0
R2029C	128 EDGE PINE DR	1	B	55																								59	4
R2030A	120 EDGE PINE DR	1	B	55																								60	5
R2030B	124 EDGE PINE DR	1	B	55																								59	4
R2030C	116 EDGE PINE DR	1	B	55	58																							63	5
R2031A	108 EDGE PINE DR	1	B	55	60																							64	4
R2031B	104 EDGE PINE DR	1	B	55	60																							65	5
R2031C	112 EDGE PINE DR	1	B	55	60																							63	3
R2032A	125 EDGE PINE DR	1	B	55																								62	2
R2032B	129 EDGE PINE DR	1	B	55																								58	3
R2033A	121 EDGE PINE DR	1	B	55																								60	5
R2033B	117 EDGE PINE DR	1	B	55																								57	2
R2034A	109 EDGE PINE DR	1	B	55																								56	1
R2034B	113 EDGE PINE DR	1	B	55																								56	1
R2034C	105 EDGE PINE DR	1	B	55																								58	3
R2035A	100 SUNSET OAKS DR	1	B	55																								59	4
R2035B	104 SUNSET OAKS DR	1	B	55																								53	-2
R2036A	108 SUNSET OAKS DR	1	B	55																								57	2
R2036B	112 SUNSET OAKS DR	1	B	55																								54	-1
R2037A	101 SUNSET OAKS DR	1	B	55	58																							67	9
R2037B	105 SUNSET OAKS DR	1	B	55	56																							66	10
R2038A	117 SUNSET OAKS DR	1	B	55																								63	8
R2038B	121 SUNSET OAKS DR	1	B	55																								63	8
R2038C	113 SUNSET OAKS DR	1	B	55																								64	9
R2039A	249 GRANTWOOD DR	1	B	55	58																							68	10
R2039B	245 GRANTWOOD DR	1	B	55	59																							68	10
R2040	241 GRANTWOOD DR	1	B	55	58																							69	11
R2041A	228 GRANTWOOD DR	1	B	55																								63	8
R2041B	224 GRANTWOOD DR	1	B	55																								60	5
R2042A	220 GRANTWOOD DR	1	B	55																								63	8
R2042B	216 GRANTWOOD DR	1	B	55																								60	5
R2043A	221 GRANTWOOD DR	1	B	55																								70	15
R2043B	225 GRANTWOOD DR	1	B	55																								70	15
R2044A	212 GRANTWOOD DR	1	B	55																								60	5
R2044B	208 GRANTWOOD DR	1	B	55																								59	4
R2045A	217 GRANTWOOD DR	1	B	55																								69	14
R2045B	213 GRANTWOOD DR	1	B	55																								69	14
R2046A	200 GRANTWOOD DR	1	B	55																								62	7
R2046B	204 GRANTWOOD DR	1	B	55																								61	6
R2047A	205 GRANTWOOD DR	1	B	55																								69	14
R2047B	209 GRANTWOOD DR	1	B	55																								69	14
R2048A	141 GRANTWOOD DR	1	B	55																								68	13
R2048B	201 GRANTWOOD DR	1	B	55																								69	14
R2049A	133 GRANTWOOD DR	1	B	55																								68	13
R2049B	137 GRANTWOOD DR	1	B	55																								66	11
R2050A	125 GRANTWOOD DR	1	B	55																								66	11
R2050B	129 GRANTWOOD DR	1	B	55																								72	25
R2051	112 TALICUD TRL	1	B	47																								70	23
R2052	116 TALICUD TRL	1	B	47																								70	23
R2053	121 TALICUD TRL	1	B	47																								68	21
R2054	117 TALICUD TRL	1	B	47																								69	22
R2055	109 TALICUD TRL	1	B	47																								67	20
R2056	105 TALICUD TRL	1	B	47	50																							63	13
R2057	4204 LAMM DR	1	B	47	58																							69	11
R2058A	0 SERENE FOREST DR	1	B	55																								56	1
R2058B	5413 SERENE FOREST DR	1	B	55																								56	1

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 3 Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dBA										No Build Increase ³					
						2005					2005										
						Orange Build ¹ Increase ²	Green Build ¹ Increase ²	Mint Build ¹ Increase ²	Red Build ¹ Increase ²	Purple/Blue Build ¹ Increase ²	Lilac Build ¹ Increase ²	Teal Build ¹ Increase ²	Brown Build ¹ Increase ²	Tan Build ¹ Increase ²	Build ¹ Increase ²						
R2101	4908 ALLANBROOKE LN	1	B	54						56	2									54	0
R2102	4900 ALLANBROOKE LN	1	B	54						58	4									54	0
R2103A	4901 ALLANBROOKE LN	1	B	54						58	4									54	0
R2103B	4905 ALLANBROOKE LN	1	B	54						53	-1									54	0
R2104	5117 HILLTOP NEEDMORE RD	1	B	54	55					60	5									57	2
R2105	5109 HILLTOP NEEDMORE RD	1	B	54						53	-1									54	0
R2106A	4909 ALLANBROOKE LN	1	B	54						54	-1									54	0
R2106B	4913 ALLANBROOKE LN	1	B	54						53	-1									54	0
R2107A	4920 ALLANBROOKE LN	1	B	54						56	2									54	0
R2107B	4916 ALLANBROOKE LN	1	B	54						56	2									54	0
R2108A	4917 ALLANBROOKE LN	1	B	54						52	-2									54	0
R2108B	4921 ALLANBROOKE LN	1	B	54						52	-2									54	0
R2109A	4928 ALLANBROOKE LN	1	B	54						56	2									54	0
R2109B	4924 ALLANBROOKE LN	1	B	54						56	2									54	0
R2109C	4932 ALLANBROOKE LN	1	B	54						57	3									54	0
R2110A	4925 ALLANBROOKE LN	1	B	54						53	-1									54	0
R2110B	4929 ALLANBROOKE LN	1	B	54						53	-1									54	0
R2111	4933 ALLANBROOKE LN	1	B	54						54	0									54	0
R2112	5220 RIVINGTON RD	1	B	54						68	14									54	0
R2113	5216 RIVINGTON RD	1	B	54						64	10									54	0
R2114A	5212 RIVINGTON RD	1	B	54						60	6									54	0
R2114B	5208 RIVINGTON RD	1	B	54						60	6									54	0
R2115A	5204 RIVINGTON RD	1	B	54						59	5									54	0
R2115B	4944 ALLANBROOKE LN	1	B	54						59	5									54	0
R2116	5321 HILLTOP NEEDMORE RD	1	B	54						57	3									55	1
R2117A	5309 HILLTOP NEEDMORE RD	1	B	54						58	4									54	0
R2117B	5305 HILLTOP NEEDMORE RD	1	B	54						59	5									54	0
R2118	6508 OLD MILLS RD	1	B	54						59	5									54	0
R2119A	6520 OLD MILLS RD	1	B	54						59	5									54	0
R2119B	6512 OLD MILLS RD	1	B	54						58	4									54	0
R2120A	6524 OLD MILLS RD	1	B	54						57	3									54	0
R2120B	6528 OLD MILLS RD	1	B	54						58	4									54	0
R2121	5308 RIVINGTON RD	1	B	54						67	13									54	0
R2122	5309 RIVINGTON RD	1	B	54						67	13									54	0
R2123	5305 RIVINGTON RD	1	B	54						73	19									54	0
R2124	6641 OLD MILLS RD	1	B	54						72	18									54	0
R2125	5017 NORTHRIDING CT	1	B	54						66	12									54	0
R2126	5017 NORTHRIDING CT	1	B	54						65	11									54	0
R2127A	5024 NORTHRIDING CT	1	B	54						60	6									54	0
R2127B	5025 NORTHRIDING CT	1	B	54						57	3									54	0
R2127C	5020 NORTHRIDING CT	1	B	54						66	12									54	0
R2128	6717 OLD MILLS RD	1	B	54						71	17									54	0
R2129A	5036 ALLANBROOKE LN	1	B	54						69	15									54	0
R2129B	5032 ALLANBROOKE LN	1	B	54						68	14									54	0
R2129C	5040 ALLANBROOKE LN	1	B	54						71	17									54	0
R2130	6737 OLD MILLS RD	1	B	54						67	13									54	0
R2131A	5048 ALLANBROOKE LN	1	B	54						71	17									54	0
R2131B	5052 ALLANBROOKE LN	1	B	54						70	16									54	0
R2132	5056 ALLANBROOKE LN	1	B	54						66	12									54	0
R2133	5053 ALLANBROOKE LN	1	B	54						65	11									54	0
R2134	5049 ALLANBROOKE LN	1	B	54						63	9									54	0
R2135	5045 ALLANBROOKE LN	1	B	54						60	6									54	0
R2136	5932 JOHNSON POND RD	1	B	54						59	5									54	0
R2137	5701 ACCIPITER CT	1	B	54						62	8									54	0
R2138	5704 ACCIPITER CT	1	B	54						72	18									54	0
R2139	5712 BUTE CT	1	B	54						66	12									54	0
R2140A	5717 BUTE CT	1	B	54						66	12									54	0
R2140B	5713 BUTE CT	1	B	54						72	18									54	0
R2141	6021 JOHNSON POND RD	1	B	54						66	12									54	0
R2142	2105 N MAIN ST	1	B	55	55					56	1									58	3
R2143A	2028 N MAIN ST	1	B	55						55	0									56	1
R2143B	2032 N MAIN ST	1	B	55						53	-2									55	0
R2144	2136 N MAIN ST	MEDICAL	C	55	59					60	1									62	3

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3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)																			
						Orange		Green		Mint		Red		Purple/Blue		Lilac		Teal		Brown		Tan		No Build	
						Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase	Build	Increase
R2145	2217 N MAIN ST	COMMERCIAL	F	55	62									63	1								65	3	
R2146	2214 N MAIN ST	COMMERCIAL	F	55	61									63	2								64	3	
R2147	2204 N MAIN ST	CHILD CARE	C	55	56									58	2								59	3	
R2148	201 MEADOW DR	CHURCH	C	55	57									61	4								60	3	
R2149	6126 DWIGHT ROWLAND RD		B	55										62	7								55	0	
R2150	6116 DWIGHT ROWLAND RD		B	55										72	17								55	0	
R2151	6120 DWIGHT ROWLAND RD		B	55										70	15								57	2	
R2152	6124 DWIGHT ROWLAND RD	CHURCH	D	0	40									46	6								40	0	
R2153	6125 DWIGHT ROWLAND RD		B	55										67	12								55	0	
R2154	6201 DWIGHT ROWLAND RD		B	55										64	9								55	0	
R2155A	6117 HOPE LN		B	55										66	11								55	0	
R2155B	6113 HOPE LN		B	55										62	7								55	0	
R2156A	6104 HOPE LN		B	55										65	10								55	0	
R2156B	6108 HOPE LN		B	55										67	12								55	0	
R2157A	6109 HOPE LN		B	55										59	4								55	0	
R2157B	6105 HOPE LN		B	55										58	3								55	0	
R2158	6100 HOPE LN		B	55										63	8								55	0	
R2159	1600 KEN DR		B	55										67	12								57	2	
R2160	6045 DWIGHT ROWLAND RD		B	55										63	8								56	1	
R2161	6020 HOPE LN		B	55										62	7								55	0	
R2162	6032 DWIGHT ROWLAND RD		B	55	57									64	7								61	4	
R2163	6025 DWIGHT ROWLAND RD		B	55	59									66	7								65	6	
R2164	6009 DWIGHT ROWLAND RD		B	55	58									64	6								63	5	
R2165	2900 N MAIN ST	COMMERCIAL	F	55	59									62	3								62	3	
R2166	1812 KEN DR		B	55										67	12								55	0	
R2167	5906 HILL TOP RD	AGRICULTURAL	F	55										60	5								55	0	
R2168	6010 HILL TOP RD		B	55	57									63	6								58	1	
R2169	6615 KENNEBEC RD		B	55										57	2								55	0	
R2170	6612 KENNEBEC RD		B	55										62	7								55	0	
R2171	6339 DANPATC H LN		B	52										60	8								52	0	
R2172	6343 DANPATC H LN		B	52										64	12								52	0	
R2173	6300 DANPATC H LN		B	52										60	8								52	0	
R2174	6412 BRIDGEMONT LN		B	52										51	-1								52	0	
R2175	6416 BRIDGEMONT LN		B	52										52	0								52	0	
R2176A	1720 TALL CANE CIR		B	52										49	-3								52	0	
R2176B	6413 BRIDGEMONT LN		B	52										48	-4								52	0	
R2177	1704 TALL CANE CIR		B	52										49	-3								52	0	
R2178A	1725 TALL CANE CIR		B	52										54	2								52	0	
R2178B	1721 TALL CANE CIR		B	52										52	0								52	0	
R2179A	1717 TALL CANE CIR		B	52										51	-1								52	0	
R2179B	1713 TALL CANE CIR		B	52										51	-1								52	0	
R2180A	1709 TALL CANE CIR		B	52										51	-1								52	0	
R2180B	1705 TALL CANE CIR		B	52										50	-2								52	0	
R2181	6513 BRIDGEMONT LN		B	52										61	9								54	2	
R2182A	3225 NORMAN BLALOCK RD		B	52										54	2								52	0	
R2182B	3221 NORMAN BLALOCK RD		B	52										55	3								52	0	
R2183A	3229 NORMAN BLALOCK RD		B	52										52	0								52	0	
R2183B	3233 NORMAN BLALOCK RD		B	52										51	-1								52	0	
R2184A	3237 NORMAN BLALOCK RD		B	52										51	-1								52	0	
R2184B	3241 NORMAN BLALOCK RD		B	52										52	0								52	0	
R2185	3319 NORMAN BLALOCK RD	AGRICULTURAL	F	52										56	4								52	0	
R2186	3232 NORMAN BLALOCK RD		B	52										71	19								52	0	
R2187	3240 NORMAN BLALOCK RD		B	52										69	17								52	0	
R2188	11480 OLD STAGE RD		B	52										69	17								52	0	
R2189	5900 QUAIL MARSH DR		B	52										51	-1								52	0	
R2190A	3204 NORMAN BLALOCK RD		B	52										63	11								52	0	
R2190B	3200 NORMAN BLALOCK RD		B	52										57	5								52	0	
R2191A	6128 HEATH HAWKINS CT		B	52										59	7								52	0	
R2191B	6132 HEATH HAWKINS CT		B	52										59	7								52	0	
R2192A	6124 HEATH HAWKINS CT		B	52										59	7								52	0	
R2192B	6116 HEATH HAWKINS CT		B	52										64	12								52	0	
R2193	6113 HEATH HAWKINS CT		B	52										67	15								52	0	
R2194A	6117 HEATH HAWKINS CT		B	52										62	10								52	0	

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2Noise level increases highlighted in red are above the substantial noise level increase criteria.

3Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)													
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build				
						Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²
R2194B	6121 HEATH HAWKINS CT	1	B	52						57	5							52	0
R2195	6125 HEATH HAWKINS CT	1	B	52						54	2							52	0
R2196A	6129 HEATH HAWKINS CT	1	B	52						54	2							52	0
R2196B	6133 HEATH HAWKINS CT	1	B	52						53	1							52	0
R2197A	6137 HEATH HAWKINS CT	1	B	52						51	-1							52	0
R2197B	6141 HEATH HAWKINS CT	1	B	52						48	-4							52	0
R2198A	11332 OLD STAGE RD	1	B	52	54					58	4							57	3
R2198B	11336 OLD STAGE RD	1	B	52	53					59	6							56	3
R2199A	11324 OLD STAGE RD	1	B	52	53					56	3							57	4
R2199B	11328 OLD STAGE RD	1	B	52	53					56	3							56	3
R2200A	11320 OLD STAGE RD	1	B	52	53					56	3							56	3
R2200B	11316 OLD STAGE RD	1	B	52	53					55	2							56	3
R2201	11300 OLD STAGE RD	1	B	52	55					49	-3							54	2
R2202A	11281 OLD STAGE RD	1	B	52	55					58	3							58	3
R2202B	611 KAREN DR	1	B	52						54	2							53	1
R2203A	601 KAREN DR	1	B	52						53	1							52	0
R2203B	600 KAREN DR	1	B	52						54	2							52	0
R2203C	602 KAREN DR	1	B	52						53	1							52	0
R2204A	11600 OLD STAGE RD	1	B	52						57	5							52	0
R2204B	11600 OLD STAGE RD	1	B	52						58	6							52	0
R2205A	11600 OLD STAGE RD	1	B	52						61	9							52	0
R2205B	11600 OLD STAGE RD	1	B	52						60	8							52	0
R2205C	11600 OLD STAGE RD	1	B	52						61	9							52	0
R2205D	11600 OLD STAGE RD	1	B	52						61	9							52	0
R2206	11600 OLD STAGE RD	1	B	52	57					61	4							60	3
R2207	3220 TARHEEL BLUE LN	1	B	52	57					54	2							52	0
R2208A	1132 FARMERS BRANCH RD	1	B	52						52	0							52	0
R2208B	1136 FARMERS BRANCH RD	1	B	52						51	-1							52	0
R2209A	1120 FARMERS BRANCH RD	1	B	52						58	6							52	0
R2209B	1124 FARMERS BRANCH RD	1	B	52						56	4							52	0
R2210	1121 FARMERS BRANCH RD	1	B	52						54	2							52	0
R2211	1101 FARMERS BRANCH RD	1	B	52						55	3							52	0
R2212A	1100 FARMERS BRANCH RD	1	B	52						60	8							52	0
R2212B	1100 FARMERS BRANCH RD	1	B	52		57				63	11							52	0
R2213	6604 BLALOCK FOREST DR	1	B	52						61	9							52	0
R2214A	6709 PINE BROOK LN	1	B	52						56	4							52	0
R2214B	6705 PINE BROOK LN	1	B	52						58	6							53	1
R2215	6713 PINE BROOK LN	1	B	52						56	4							52	0
R2216A	1124 TYLER FARMS DR	1	B	52						65	13							52	0
R2216B	1128 TYLER FARMS DR	1	B	52						67	15							52	0
R2216C	1120 TYLER FARMS DR	1	B	52						63	11							52	0
R2217	1121 TYLER FARMS DR	1	B	52						60	8							52	0
R2218A	6520 CABLEWOOD DR	1	B	52						59	7							52	0
R2218B	6524 CABLEWOOD DR	1	B	52						60	8							52	0
R2219	6512 CABLEWOOD DR	1	B	52						57	5							52	0
R2220A	6525 CABLEWOOD DR	1	B	52						71	19							52	0
R2220B	6521 CABLEWOOD DR	1	B	52						72	20							52	0
R2220C	6529 CABLEWOOD DR	1	B	52						70	18							52	0
R2221A	6513 CABLEWOOD DR	1	B	52						73	21							52	0
R2221B	6509 CABLEWOOD DR	1	B	52						72	20							52	0
R2222A	6505 CABLEWOOD DR	1	B	52						72	20							52	0
R2222B	6501 CABLEWOOD DR	1	B	52						66	14							52	0
R2223A	6425 CABLEWOOD DR	1	B	52						64	12							52	0
R2223B	6421 CABLEWOOD DR	1	B	52						60	8							52	0
R2224	6532 ROCK SERVICE STATION RD	1	B	52	52					62	10							55	3
R2225A	6517 ROCK SERVICE STATION RD	1	B	52	52					56	4							54	2
R2225B	6509 ROCK SERVICE STATION RD	1	B	52	52					54	2							54	2
R2226A	12720 LITTLE CREEK DR	1	B	52						51	-1							52	0
R2226B	12716 LITTLE CREEK DR	1	B	52						51	-1							52	0
R2226C	12712 LITTLE CREEK DR	1	B	52						52	0							52	0
R2226D	12708 LITTLE CREEK DR	1	B	52						53	1							52	0
R2227A	1005 HADLEY MEADOWS DR	1	B	52						53	1							52	0
R2227B	1001 HADLEY MEADOWS DR	1	B	52	54					57	3							57	3

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.

2 Noise level increases highlighted in red are above the substantial noise level increase criteria.

3 Noise levels reported if the traffic noise was dominant noise

Receptor		Street Address		Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)													
								Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build				
Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²		
R2276B		1212 JOGGING CT		1	B	51														51	0
R2268		1209 JOGGING CT		1	B	51														51	0
R2269A		1213 JOGGING CT		1	B	51														51	0
R2269B		1219 JOGGING CT		1	B	51														51	0
R2270		1221 JOGGING CT		1	B	51														51	0
R2271		1218 JOGGING CT		1	B	51														51	0
R2272A		10604 HUNT FARMS LN		1	B	51														51	0
R2272B		10608 HUNT FARMS LN		1	B	51														51	0
R2273A		10601 HUNT FARMS LN		1	B	51														51	0
R2273B		10600 HUNT FARMS LN		1	B	51														51	0
R2274		10549 JORDAN RD		1	B	51														51	0
R2275A		1412 UPCHURCH WOODS DR		1	B	46														46	0
R2275B		1416 UPCHURCH WOODS DR		1	B	46														46	0
R2276A		1404 UPCHURCH WOODS DR		1	B	46														46	0
R2276B		1408 UPCHURCH WOODS DR		1	B	46														46	0
R2277A		1401 UPCHURCH WOODS DR		1	B	46	53													57	4
R2277B		1409 UPCHURCH WOODS DR		1	B	46	53													56	3
R2277C		1400 UPCHURCH WOODS DR		1	B	46														48	2
R2278A		1417 UPCHURCH WOODS DR		1	B	46	51													54	3
R2278B		1413 UPCHURCH WOODS DR		1	B	46	50													54	4
R2278C		1421 UPCHURCH WOODS DR		1	B	46	51													54	3
R2279		6024 STANCIL FARM RD		1	B	46		56	10											46	0
R2280		6005 STANCIL FARM RD		1	B	46		58	12											46	0
R2281		6005 STANCIL FARM RD		1	B	46		62	16											46	0
R2282A		5216 WOODTRENT DR		1	B	46		69	23											46	0
R2282B		5220 WOODTRENT DR		1	B	46		66	20											46	0
R2283		5213 WOODTRENT DR		1	B	46		62	16											46	0
R2284A		5204 WOODTRENT DR		1	B	46		70	24											46	0
R2284B		5208 WOODTRENT DR		1	B	46		70	24											46	0
R2285A		1016 GRISSOM FARM RD		1	B	46														46	0
R2285B		1020 GRISSOM FARM RD		1	B	46														46	0
R2286A		1021 GRISSOM FARM RD		1	B	46		66	20											46	0
R2286B		5201 WOODTRENT DR		1	B	46														46	0
R2287A		132 BUXTONWOOD PL		1	B	53		71	18											53	0
R2287B		132 BUXTONWOOD PL		1	B	53		68	15											53	0
R2288A		4719 LOCKLEY RD		1	B	53	58	60	2											61	3
R2288B		6017 OXFORD GREEN DR		1	B	46	54	58	4											57	3
R2289A		6017 OXFORD GREEN DR		1	B	46		58	12											46	0
R2289B		6021 OXFORD GREEN DR		1	B	46		58	12											46	0
R2290A		6009 OXFORD GREEN DR		1	B	46		57	11											46	0
R2290B		6013 OXFORD GREEN DR		1	B	46		57	11											46	0
R2291A		4309 SMITH LANDING DR		1	B	49	61	63	2											64	3
R2291B		4305 SMITH LANDING DR		1	B	49		62	13											49	0
R2292		4816 SWORDFISH DR		1	B	45		57	12											63	14
R2293		4824 SWORDFISH DR		1	B	45		58	13											58	13
R2294A		8916 OREGON INLET CT		1	B	45		58	13											45	0
R2294B		8908 OREGON INLET CT		1	B	45		57	12											45	0
R2295A		225 LANE OF SIR KAY		1	B	57		56	11											55	10
R2295B		227 LANE OF SIR KAY		1	B	57														55	10
R2296		217 LANE OF SIR KAY		1	B	57		58	1											57	0
R2297		215 LANE OF SIR KAY		1	B	57		57	0											57	0
R2298		213 LANE OF SIR KAY		1	B	57		57	0											57	0
R2299		211 LANE OF SIR KAY		1	B	57		57	0											57	0
R2300A		4833 OLD FAISON RD		1	B	57	57	62	5											58	1
R2300B		4813 OLD FAISON RD		1	B	57	58	62	4											59	1
R2301A		4808 OLD FAISON RD		1	B	57		62	5											58	1
R2301B		4806 OLD FAISON RD		1	B	57	57	63	6											59	2
R2302		4630 OLD FAISON RD		1	B	57		62	5											57	0
R2303A		4713 SMARTY JONES DR		1	B	57	62	67	5											63	1
R2303B		4711 SMARTY JONES DR		1	B	57	61	66	5											62	1
R2304A		4715 SMARTY JONES DR		1	B	57	63	69	6											65	2
R2304B		4719 SMARTY JONES DR		1	B	57	65	70	5											67	2
R2304B		4717 SMARTY JONES DR		1	B	57	64	70	6											66	2

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3Noise levels reported if the traffic noise was dominant noise

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)													
						2035						2035							
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build	Increase ¹	Build ²	Increase ³	
R2304C	4721 SMARTY JONES DR	1	B	57	66		71	5									67	1	
R2305A	4725 SMARTY JONES DR	1	B	57	67		72	5									68	1	
R2305B	4727 SMARTY JONES DR	1	B	57	67		72	5									68	1	
R2305C	4723 SMARTY JONES DR	1	B	57	66		71	5									68	2	
R2306A	4731 SMARTY JONES DR	1	B	57	66		72	6									68	2	
R2306B	4733 SMARTY JONES DR	1	B	57	66		71	5									68	2	
R2306C	4729 SMARTY JONES DR	1	B	57	66		72	6									68	2	
R2307A	4737 SMARTY JONES DR	1	B	57	66		71	5									67	1	
R2307B	4735 SMARTY JONES DR	1	B	57	66		71	5									68	2	
R2307C	4739 SMARTY JONES DR	1	B	57	65		71	6									67	2	
R2308A	4741 SMARTY JONES DR	1	B	57	66		71	5									67	1	
R2308B	4801 SMARTY JONES DR	1	B	57	65		71	6									67	2	
R2309A	4803 SMARTY JONES DR	1	B	57	66		72	6									68	2	
R2309B	4805 SMARTY JONES DR	1	B	57	66		72	6									68	2	
R2310A	4809 SMARTY JONES DR	1	B	57	66		72	6									68	2	
R2310B	4807 SMARTY JONES DR	1	B	57	66		72	6									68	2	
R2310C	4811 SMARTY JONES DR	1	B	57	66		72	6									68	2	
R2311A	9320 CARLEY CIR	1	B	49												61	12	49	0
R2311B	9324 CARLEY CIR	1	B	49												60	11	49	0
R2311C	9316 CARLEY CIR	1	B	49												62	13	49	0
R2312A	9309 CARLEY CIR	1	B	49												62	13	49	0
R2312B	9313 CARLEY CIR	1	B	49	60											60	0	63	3
R2313	6940 FAYETTEVILLE RD	1	B	44	63													66	3
R2314	7575 BRYAN RD	1	AGRICULTURAL	52														52	0
R2315	8025 COUNTRY CLUB DR	1	RECREATIONAL	49	55	65	10		66	11								57	2
R2316	8100 WHITE OAK RD	1	GOVERNMENTAL	47					57	8								49	0
R2317	4009 OPTIMIST FARM RD	1	GOVERNMENTAL	47	56													58	2
R2318	6783 KENNEBEC RD	1	B	55														55	0
R2319	6741 ROCK SERVICE STATION RD	1	B	52	54													56	2
R2320	3316 BENSON RD	1	COMMERCIAL	50	65													66	1
R2321	4800 AUBURN KNIGHTDALE RD	1	B	57														57	0
R2322	7709 OLD BAUCOM RD	1	B	51														51	0
R2323A	8036 RHODES RD	1	B	46		73	27											46	0
R2323B	8036 RHODES RD	1	B	46		73	27											47	1
R2323C	8036 RHODES RD	1	B	46	47													50	3
R2323D	8036 RHODES RD	1	B	46	52													54	2
R2324A	4709 SMARTY JONES DR	1	B	57														61	1
R2324B	4707 SMARTY JONES DR	1	B	57	59													61	2
R2325A	4703 SMARTY JONES DR	1	B	57	58													59	1
R2325B	4705 SMARTY JONES DR	1	B	57	59													60	1
R2325C	4701 SMARTY JONES DR	1	B	57	57													59	2
R2326A	1608 KINGMAN DR	1	B	57	58													60	2
R2326B	1610 KINGMAN DR	1	B	57	58													60	2
R2326C	1606 KINGMAN DR	1	B	57	58													60	2
R2327A	4712 SMARTY JONES DR	1	B	57	60													61	1
R2327B	4716 SMARTY JONES DR	1	B	57	60													62	2
R2327C	4708 SMARTY JONES DR	1	B	57	59													60	1
R2328A	4724 SMARTY JONES DR	1	B	57	60													62	2
R2328B	4720 SMARTY JONES DR	1	B	57	60													62	2
R2328C	4726 SMARTY JONES DR	1	B	57	61													62	1
R2329A	4730 SMARTY JONES DR	1	B	57	60													62	2
R2329B	4728 SMARTY JONES DR	1	B	57	60													62	2
R2329C	4732 SMARTY JONES DR	1	B	57	60													62	2
R2330A	4738 SMARTY JONES DR	1	B	57	60													61	1
R2330B	4736 SMARTY JONES DR	1	B	57	60													62	2
R2330C	4740 SMARTY JONES DR	1	B	57	59													61	2
R2331A	4804 SMARTY JONES DR	1	B	57	59													61	2
R2331B	4802 SMARTY JONES DR	1	B	57	59													61	2
R2331C	4806 SMARTY JONES DR	1	B	57	59													61	2
R2332A	1208 KINGMAN DR	1	B	57	58													61	2
R2332B	1208 KINGMAN DR	1	B	57	58													60	2
R2333A	1204 KINGMAN DR	1	B	57	60													62	2
R2333B	1202 KINGMAN DR	1	B	57	61													63	2

1 Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 2 Noise level increases highlighted in red are above the substantial noise level increase criteria.
 3 Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dBA																						
						2035																						
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build													
Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²													
R2334A	1134 KINGMAN DR	1	B	57	65		72	7																		67	2	
R2334B	1132 KINGMAN DR	1	B	57	65		71	7																			68	3
R2334C	1136 KINGMAN DR	1	B	57	64		71	7																			66	3
R2335A	1135 KINGMAN DR	1	B	57	60		65	5																			62	2
R2335B	1137 KINGMAN DR	1	B	57	59		65	6																			61	2
R2336A	1203 KINGMAN DR	1	B	57	59		65	6																			61	2
R2336B	1207 KINGMAN DR	1	B	57	58		64	6																			60	2
R2337A	4507 ARCARO DR	1	B	57	59		64	5																			60	1
R2337B	4505 ARCARO DR	1	B	57	59		64	5																			60	1
R2338A	4506 ARCARO DR	1	B	57	58		63	5																			59	1
R2338B	4508 ARCARO DR	1	B	57	58		64	6																			60	2
R2339A	4605 FONSO DR	1	B	57	58		64	6																			60	2
R2339B	4603 FONSO DR	1	B	57	57		63	6																			59	2
R2339C	4601 FONSO DR	1	B	57	57		62	5																			59	2
R2340A	4602 FONSO DR	1	B	57	57		63	6																			59	2
R2340B	4604 FONSO DR	1	B	57	58		63	5																			59	1
R2341A	4510 JOE COTTON DR	1	B	57	58		64	6																			60	2
R2341B	4508 JOE COTTON DR	1	B	57	58		64	6																			60	2
R2342A	120 BUXTONWOOD PL	1	B	53	58		64	11																			53	0
R2342B	124 BUXTONWOOD PL	1	B	53	66		13																				53	0
R2343A	108 BUXTONWOOD PL	1	B	53	62		9																				53	0
R2343B	112 BUXTONWOOD PL	1	B	53	62		9																				53	0
R2343C	100 BUXTONWOOD PL	1	B	53	61		8																				53	0
R2344	105 FULLCREST WAY	1	B	53	59		6																				53	0
R2345	121 FULLCREST WAY	1	B	53	59		6																				53	0
R2346A	105 MAYFIELD DR	1	B	53	63		10																				53	0
R2346B	103 MAYFIELD DR	1	B	53	63		10																				53	0
R2346C	101 MAYFIELD DR	1	B	53	62		9																				53	0
R2346D	111 MAYFIELD DR	1	B	53	66		13																				53	0
R2346E	109 MAYFIELD DR	1	B	53	65		12																				53	0
R2346F	107 MAYFIELD DR	1	B	53	64		11																				53	0
R2347A	117 MAYFIELD DR	1	B	53	69		16																				53	0
R2347B	115 MAYFIELD DR	1	B	53	69		16																				53	0
R2347C	115 MAYFIELD DR	1	B	53	69		16																				53	0
R2347D	119 MAYFIELD DR	1	B	53	70		17																				53	0
R2348A	121 MAYFIELD DR	1	B	53	70		17																				53	0
R2348B	125 MAYFIELD DR	1	B	53	70		17																				53	0
R2348C	125 MAYFIELD DR	1	B	53	70		17																				53	0
R2348D	127 MAYFIELD DR	1	B	53	69		16																				53	0
R2349F	131 MAYFIELD DR	1	B	53	70		17																				53	0
R2349A	209 MAYFIELD DR	1	B	53	70		17																				53	0
R2349B	207 MAYFIELD DR	1	B	53	70		17																				53	0
R2349C	205 MAYFIELD DR	1	B	53	70		17																				53	0
R2349D	203 MAYFIELD DR	1	B	53	70		17																				53	0
R2349E	201 MAYFIELD DR	1	B	53	70		17																				53	0
R2350A	221 MAYFIELD DR	1	B	53	69		16																				53	0
R2350B	219 MAYFIELD DR	1	B	53	69		16																				53	0
R2350C	217 MAYFIELD DR	1	B	53	69		16																				53	0
R2350D	215 MAYFIELD DR	1	B	53	70		17																				53	0
R2350E	213 MAYFIELD DR	1	B	53	70		17																				53	0
R2350F	211 MAYFIELD DR	1	B	53	70		17																				53	0
R2351A	223 MAYFIELD DR	1	B	53	69		16																				53	0
R2351B	225 MAYFIELD DR	1	B	53	69		16																				53	0
R2351C	227 MAYFIELD DR	1	B	53	69		16																				53	0
R2351D	229 MAYFIELD DR	1	B	53	69		16																				53	0
R2352A	224 MAYFIELD DR	1	B	53	62		9																				53	0
R2352B	222 MAYFIELD DR	1	B	53	61		8																				53	0
R2352C	220 MAYFIELD DR	1	B	53	61		8																				53	0
R2352D	218 MAYFIELD DR	1	B	53	61		8																				53	0
R2353A	216 MAYFIELD DR	1	B	53	62		9																				53	0
R2353B	214 MAYFIELD DR	1	B	53	62		9																				53	0
R2353C	212 MAYFIELD DR	1	B	53	62		9																				53	0

1Noise levels highlighted in red are levels above the Noise Abatement Criteria.

2Noise level increases highlighted in red are above the substantial noise level increase criteria.

3Noise levels reported if the traffic noise was dominant noise

Complete 540
Traffic Noise Analysis

Impact Analysis

Receptor	Street Address	Properties Represented	NAC Land Use Category	2014 Measured Ambient	2012 TNM Predicted Existing	Noise Levels dB(A)													
						Orange	Green	Mint	Red	Purple/Blue	Lilac	Teal	Brown	Tan	No Build				
						Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²	Build ¹	Increase ²
R2353D	210 MAYFIELD DR	1	B	53		62	9											53	0
R2353E	208 MAYFIELD DR	1	B	53		62	9											53	0
R2354A	200 MAYFIELD DR	1	B	53		61	8											53	0
R2354B	202 MAYFIELD DR	1	B	53		61	8											53	0
R2354C	204 MAYFIELD DR	1	B	53		61	8											53	0
R2354D	206 MAYFIELD DR	1	B	53		62	9											53	0
R2355A	0 LOCKLEY RD	1	B	53		63	10											53	0
R2355B	0 LOCKLEY RD	1	B	53		62	9											53	0
R2355C	0 LOCKLEY RD	1	B	53		62	9											53	0
R2355D	0 LOCKLEY RD	1	B	53		61	8											53	0
R2355A	0 LOCKLEY RD	1	B	53		62	9											53	0
R2356B	106 MAYFIELD DR	1	B	53		61	8											53	0
R2356C	104 MAYFIELD DR	1	B	53		60	7											53	0
R2356D	102 MAYFIELD DR	1	B	53		60	7											53	0
R2356E	100 MAYFIELD DR	1	B	53		59	6											53	0

¹Noise levels highlighted in red are levels above the Noise Abatement Criteria.
²Noise level increases highlighted in red are above the substantial noise level increase criteria.
³Noise levels reported if the traffic noise was dominant noise

APPENDIX 4

NOISE BARRIER RESULTS

Orange Corridor

Noise Wall 1

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
				R0013	Yes	CHURCH	D	40	45	5		38	7	1	38	7
R1605	Yes	1	B	56	67	11	1	64	3		64	3		64	3	
R1606A	Yes	1	B	48	64	16	1	57	7	1	57	7	1	57	7	1
R1606B	Yes	1	B	48	64	16	1	58	6	1	57	7	1	57	7	1
R0054A	Yes	1	B	48	62	14		56	6	1	55	7	1	55	7	1
R0054B	Yes	1	B	48	64	16	1	57	7	1	57	7	1	56	8	1
R0054C	Yes	1	B	48	62	14		56	6	1	56	6	1	55	7	1
R0054D	Yes	1	B	48	64	16	1	58	6	1	57	7	1	56	8	1
R0054E	Yes	1	B	48	62	14		56	6	1	56	6	1	55	7	1
R0054F	Yes	1	B	48	64	16	1	58	6	1	57	7	1	57	7	1
R0054G	Yes	1	B	48	62	14		56	6	1	56	6	1	56	6	1
R0054H	Yes	1	B	48	64	16	1	58	6	1	57	7	1	57	7	1
R0054I	Yes	1	B	48	55	7		51	4		51	4		50	5	1
R0054J	Yes	1	B	48	57	9		52	5	1	52	5	1	51	6	1
R0054K	Yes	1	B	48	56	8		50	6	1	50	6	1	50	6	1
R0054L	Yes	1	B	48	57	9		52	5	1	51	6	1	51	6	1
R0054M	Yes	1	B	48	57	9		51	6	1	51	6	1	51	6	1
R0054N	Yes	1	B	48	59	11		53	6	1	52	7	1	52	7	1
R0054O	Yes	1	B	48	60	12		54	6	1	53	7	1	53	7	1
R0054P	Yes	1	B	48	62	14		55	7	1	55	7	1	54	8	1
R0055A	Yes	1	B	48	62	14		56	6	1	56	6	1	55	7	1
R0055B	Yes	1	B	48	64	16	1	58	6	1	57	7	1	56	8	1
R0055C	Yes	1	B	48	65	17	1	58	7	1	58	7	1	57	8	1
R0055D	Yes	1	B	48	61	13		55	6	1	54	7	1	54	7	1
R0055E	Yes	1	B	48	63	15	1	57	6	1	56	7	1	55	8	1
R0055F	Yes	1	B	48	64	16	1	58	6	1	57	7	1	56	8	1
R0055G	Yes	1	B	48	60	12		55	5	1	54	6	1	54	6	1
R0055H	Yes	1	B	48	62	14		56	6	1	56	6	1	55	7	1
R0055I	Yes	1	B	48	64	16	1	57	7	1	56	8	1	56	8	1
R0055J	Yes	1	B	48	60	12		54	6	1	54	6	1	54	6	1
R0055K	Yes	1	B	48	62	14		56	6	1	55	7	1	55	7	1
R0055L	Yes	1	B	48	64	16	1	57	7	1	57	7	1	56	8	1
R0055M	Yes	1	B	48	57	9		51	6	1	50	7	1	49	8	1
R0055N	Yes	1	B	48	58	10		52	6	1	51	7	1	50	8	1
R0055O	Yes	1	B	48	59	11		53	6	1	52	7	1	51	8	1
R0055P	Yes	1	B	48	57	9		51	6	1	50	7	1	50	7	1
R0055Q	Yes	1	B	48	59	11		53	6	1	52	7	1	51	8	1
R0055R	Yes	1	B	48	60	12		54	6	1	52	8	1	52	8	1
R0055S	Yes	1	B	48	59	11		52	7	1	52	7	1	51	8	1
R0055T	Yes	1	B	48	61	13		54	7	1	53	8	1	52	9	1
R0055U	Yes	1	B	48	62	14		55	7	1	54	8	1	53	9	1
R0055V	Yes	1	B	48	61	13		55	6	1	54	7	1	54	7	1
R0055W	Yes	1	B	48	63	15	1	56	7	1	56	7	1	55	8	1
R0055X	Yes	1	B	48	64	16	1	57	7	1	56	8	1	56	8	1
R1705		RECREATIONAL	C	48	59	11										
R1705-1		NODAL ARRAY	C	48	59	11		53	6	1	53	6	1	52	7	1
R1705-2		NODAL ARRAY	C	48	58	10		53	5	1	52	6	1	52	6	1
R1705-3		NODAL ARRAY	C	48	59	11		53	6	1	53	6	1	52	7	1
R1705-4		NODAL ARRAY	C	48	59	11		53	6	1	53	6	1	52	7	1
R1705-5		NODAL ARRAY	C	48	59	11		53	6	1	52	7	1	52	7	1
R1705A		1	B	48	58	10		52	6	1	51	7	1	50	8	1
R1705B		1	B	48	59	11		54	5	1	53	6	1	52	7	1
R1705C		1	B	48	61	13		55	6	1	54	7	1	53	8	1
R1705D		1	B	48	59	11		53	6	1	53	6	1	53	6	1
R1705E		1	B	48	61	13		55	6	1	55	6	1	54	7	1
R1705F		1	B	48	63	15	1	57	6	1	56	7	1	55	8	1
R1705G		1	B	48	56	8		49	7	1	49	7	1	48	8	1
R1705H		1	B	48	58	10		51	7	1	50	8	1	50	8	1
R1705I		1	B	48	60	12		52	8	1	51	9	1	50	10	1
R1705J		1	B	48	58	10		53	5	1	52	6	1	52	6	1
R1705K		1	B	48	60	12		55	5	1	54	6	1	54	6	1
R1705L		1	B	48	62	14		56	6	1	55	7	1	55	7	1
R1705M		1	B	48	54	6		48	6	1	47	7	1	46	8	1
R1705N		1	B	48	56	8		49	7	1	49	7	1	48	8	1
R1705O		1	B	48	58	10		51	7	1	50	8	1	49	9	1
R1705P		1	B	48	58	10		52	6	1	52	6	1	51	7	1
R1705Q		1	B	48	60	12		54	6	1	54	6	1	53	7	1
R1705R		1	B	48	61	13		55	6	1	55	6	1	54	7	1
R1705S		1	B	48	52	4		47	5	1	46	6	1	46	6	1
R1705T		1	B	48	54	6		49	5	1	48	6	1	47	7	1
R1705U		1	B	48	56	8		50	6	1	49	7	1	48	8	1

Orange Corridor

Noise Wall 1

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
				R1705V		1	B	48	57	9		52	5	1	51	6
R1705W		1	B	48	59	11		54	5	1	53	6	1	53	6	1
R1705X		1	B	48	60	12		55	5	1	54	6	1	54	6	1
R1706A		1	B	48	54	6		51	3		50	4		50	4	
R1706B		1	B	48	56	8		52	4		51	5	1	51	5	1
R1706C		1	B	48	58	10		53	5	1	52	6	1	52	6	1
R1706D		1	B	48	56	8		52	4		51	5	1	50	6	1
R1706E		1	B	48	57	9		53	4		52	5	1	52	5	1
R1706F		1	B	48	59	11		54	5	1	53	6	1	53	6	1
R1706G		1	B	48	54	6		51	3		51	3		50	4	
R1706H		1	B	48	55	7		52	3		52	3		51	4	
R1706I		1	B	48	57	9		53	4		53	4		52	5	1
R1706J		1	B	48	55	7		51	4		50	5	1	50	5	1
R1706K		1	B	48	56	8		52	4		51	5	1	51	5	1
R1706L		1	B	48	57	9		53	4		53	4		52	5	1
R1706M		1	B	48	46	-2		44	2		44	2		43	3	
R1706N		1	B	48	46	-2		44	2		44	2		43	3	
R1706O		1	B	48	48	0		46	2		45	3		44	4	
R1706P		1	B	48	46	-2		43	3		42	4		42	4	
R1706Q		1	B	48	46	-2		44	2		43	3		42	4	
R1706R		1	B	48	48	0		46	2		45	3		44	4	
R1706S		1	B	48	47	-1		44	3		43	4		42	5	1
R1706T		1	B	48	48	0		45	3		44	4		43	5	1
R1706U		1	B	48	49	1		47	2		46	3		45	4	
R1706V		1	B	48	53	5		48	5	1	48	5	1	47	6	1
R1706W		1	B	48	55	7		50	5	1	50	5	1	49	6	1
R1706X		1	B	48	57	9		52	5	1	51	6	1	50	7	1
R1707A		1	B	48	60	12		54	6	1	54	6	1	53	7	1
R1707B		1	B	48	62	14		56	6	1	55	7	1	55	7	1
R1707C		1	B	48	63	15		57	6	1	56	7	1	56	7	1
R1707D		1	B	48	59	11		54	5	1	53	6	1	53	6	1
R1707E		1	B	48	61	13		55	6	1	55	6	1	54	7	1
R1707F		1	B	48	63	15	1	57	6	1	56	7	1	55	8	1
R1707G		1	B	48	59	11		53	6	1	53	6	1	52	7	1
R1707H		1	B	48	60	12		55	5	1	54	6	1	54	6	1
R1707I		1	B	48	62	14		56	6	1	56	6	1	55	7	1
R1707J		1	B	48	59	11		53	6	1	52	7	1	52	7	1
R1707K		1	B	48	60	12		55	5	1	54	6	1	54	6	1
R1707L		1	B	48	63	15	1	57	6	1	56	7	1	55	8	1
R1707M		1	B	48	50	2		48	2		47	3		47	3	
R1707N		1	B	48	51	3		49	2		48	3		48	3	
R1707O		1	B	48	52	4		50	2		49	3		49	3	
R1707P		1	B	48	49	1		47	2		46	3		46	3	
R1707Q		1	B	48	51	3		48	3		47	4		47	4	
R1707R		1	B	48	53	5		50	3		49	4		49	4	
R1707S		1	B	48	51	3		48	3		48	3		47	4	
R1707T		1	B	48	52	4		49	3		49	3		48	4	
R1707U		1	B	48	54	6		51	3		51	3		50	4	
R1707V		1	B	48	55	7		51	4		51	4		50	5	1
R1707W		1	B	48	57	9		53	4		52	5	1	52	5	1
R1707X		1	B	48	59	11		54	5	1	54	5	1	53	6	1
R1708A		1	B	48	59	11		54	5	1	53	6	1	53	6	1
R1708B		1	B	48	61	13		56	5	1	55	6	1	55	6	1
R1708C		1	B	48	63	15	1	57	6	1	57	6	1	56	7	1
R1708D		1	B	48	58	10		53	5	1	52	6	1	52	6	1
R1708E		1	B	48	60	12		55	5	1	54	6	1	54	6	1
R1708F		1	B	48	61	13		57	4		56	5	1	56	5	1
R1708G		1	B	48	59	11		54	5	1	54	5	1	53	6	1
R1708H		1	B	48	62	14		56	6	1	56	6	1	55	7	1
R1708I		1	B	48	64	16	1	58	6	1	57	7	1	57	7	1
R1708J		1	B	48	57	9		52	5	1	51	6	1	50	7	1
R1708K		1	B	48	60	12		54	6	1	53	7	1	52	8	1
R1708L		1	B	48	62	14		55	7	1	54	8	1	53	9	1
R1708M		1	B	48	57	9		52	5	1	51	6	1	50	7	1
R1708N		1	B	48	59	11		53	6	1	52	7	1	51	8	1
R1708O		1	B	48	60	12		53	7	1	52	8	1	52	8	1
R1708P		1	B	48	56	8		52	4		52	4		51	5	1
R1708Q		1	B	48	59	11		54	5	1	54	5	1	53	6	1
R1708R		1	B	48	60	12		56	4		56	4		55	5	1
R1708S		1	B	48	56	8		52	4		51	5	1	51	5	1
R1708T		1	B	48	58	10		54	4		53	5	1	53	5	1

Orange Corridor

Noise Wall 1

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Impacted Receptors	Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1708U		1	B	48	59	11		56	3		55	4		55	4	
R1708V		1	B	48	56	8		51	5	1	50	6	1	50	6	1
R1708W		1	B	48	58	10		52	6	1	51	7	1	51	7	1
R1708X		1	B	48	59	11		53	6	1	52	7	1	51	8	1
R1709A		1	B	48	59	11		54	5	1	53	6	1	53	6	1
R1709B		1	B	48	59	11		53	6	1	53	6	1	52	7	1
R1709C		1	B	48	59	11		53	6	1	52	7	1	52	7	1
R1709D		1	B	48	58	10		52	6	1	52	6	1	51	7	1
R1709E		1	B	48	58	10		52	6	1	51	7	1	51	7	1
R1709F		1	B	48	58	10		52	6	1	51	7	1	51	7	1
R1709G		1	B	48	57	9		52	5	1	51	6	1	51	6	1
R1709H		1	B	48	57	9		52	5	1	51	6	1	51	6	1
R1710A		1	B	48	62	14		57	5	1	56	6	1	56	6	1
R1710B		1	B	48	62	14		57	5	1	57	5	1	56	6	1
R1710C		1	B	48	63	15	1	57	6	1	57	6	1	57	6	1
R1710D		1	B	48	62	14		58	4		57	5	1	57	5	1
R1710E		1	B	48	62	14		57	5	1	57	5	1	57	5	1
R1710F		1	B	48	61	13		58	3		57	4		57	4	
R1710G		1	B	48	61	13		58	3		57	4		57	4	
R1710H		1	B	48	61	13		57	4		57	4		57	4	

Length (ft)=	3600	3600	3600
Average Height =	12	14	16
Area of Noise Wall (sft)=	43199	50400	57601
Impacted Receptors=	22	22	22
Number of Benefited Receptors=	119	129	137
Area of Noise Wall per Benefit Receptor (sft)=	363	391	420
Average Increase in dB(A) of all Impacted Receptors=	15	15	15
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3041	3041	3041
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 16ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 16 ft Wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 1</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>22</u>	# BENEFITS - <u>137</u>
NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input checked="" type="radio"/> D <small>(CIRCLE ALL THAT APPLY)</small> E F G	

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		_____	NO
2 Does topography negatively affect the proposed abatement measure?	_____	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	_____	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	_____	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		_____	NO
2 Is the design criteria per benefited receptor of _____ 420 ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of _____ 3041 ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u>	YES		_____	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		_____	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		_____	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		_____	NO
4 Have the owners' and residents' viewpoints been solicited?	_____	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	_____	YES		_____	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	_____	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd		
Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd		
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd _____ YES _____ NO					

Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Orange Corridor

Noise Wall 2

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0001A	Yes	1	B	58	63	5		62	1		62	1		62	1	
R0001B	Yes	CHURCH	D	40	44	4		44	0		44	0		43	1	
R0006A		1	B	51	63	12		60	3		59	4		59	4	
R0006B		1	B	51	65	14	1	61	4		61	4		60	5	1
R0006C		1	B	51	62	11		59	3		59	3		58	4	
R0006D		1	B	52	64	12		60	4		60	4		59	5	1
R0006E		1	B	52	63	11		60	3		59	4		59	4	
R0007A	Yes	1	B	50	64	14		59	5	1	58	6	1	57	7	1
R0007B	Yes	1	B	50	65	15	1	59	6	1	59	6	1	58	7	1
R0014A		1	B	51	64	13		60	4		60	4		59	5	1
R0014B		1	B	52	65	13	1	61	4		60	5	1	59	6	1
R0015A		1	B	51	65	14	1	61	4		60	5	1	60	5	1
R0015B		1	B	52	65	13	1	61	4		60	5	1	60	5	1
R0016A	Yes	1	B	51	68	17	1	62	6	1	61	7	1	61	7	1
R0016B	Yes	1	B	50	68	18	1	61	7	1	61	7	1	60	8	1
R0017A	Yes	1	B	49	68	19	1	61	7	1	61	7	1	60	8	1
R0017B	Yes	1	B	48	67	19	1	60	7	1	59	8	1	58	9	1
R0018A		1	B	49	65	16	1	60	5	1	59	6	1	58	7	1
R0018B		1	B	48	67	19	1	60	7	1	59	8	1	58	9	1
R0019A		1	B	49	65	16	1	60	5	1	59	6	1	58	7	1
R0019B		1	B	49	65	16	1	60	5	1	59	6	1	58	7	1
R0020A		1	B	49	65	16	1	60	5	1	59	6	1	58	7	1
R0020B		1	B	49	64	15	1	60	4		59	5	1	58	6	1
R0020C		1	B	48	65	17	1	60	5	1	59	6	1	58	7	1
R0021A		1	B	49	65	16	1	60	5	1	59	6	1	58	7	1
R0021B		1	B	49	65	16	1	59	6	1	59	6	1	58	7	1
R0022A	Yes	1	B	48	68	20	1	60	8	1	60	8	1	58	10	1
R0022B	Yes	1	B	48	65	17	1	59	6	1	58	7	1	58	7	1
R0023A	Yes	1	B	48	69	21	1	60	9	1	59	10	1	58	11	1
R0023B	Yes	1	B	48	68	20	1	60	8	1	60	8	1	58	10	1
R0024A	Yes	1	B	48	68	20	1	60	8	1	59	9	1	58	10	1
R0024B	Yes	1	B	48	67	19	1	59	8	1	58	9	1	57	10	1
R0025A		1	B	48	65	17	1	59	6	1	58	7	1	57	8	1
R0025B		1	B	48	65	17	1	59	6	1	58	7	1	57	8	1
R0026		1	B	48	64	16	1	59	5	1	58	6	1	57	7	1
R0027A		1	B	48	64	16	1	59	5	1	58	6	1	57	7	1
R0027B		1	B	48	65	17	1	59	6	1	58	7	1	58	7	1
R0028A		1	B	48	64	16	1	59	5	1	58	6	1	57	7	1
R0028B		1	B	48	64	16	1	59	5	1	58	6	1	57	7	1
R0029A		1	B	48	64	16	1	59	5	1	58	6	1	57	7	1
R0029B		1	B	48	63	15	1	59	4		58	5	1	57	6	1
R0030A		1	B	48	65	17	1	59	6	1	58	7	1	57	8	1
R0030B		1	B	48	68	20	1	61	7	1	59	9	1	58	10	1
R0031A	Yes	1	B	48	70	22	1	63	7	1	62	8	1	60	10	1
R0031B	Yes	1	B	48	69	21	1	63	6	1	61	8	1	60	9	1
R0032A	Yes	1	B	48	71	23	1	63	8	1	62	9	1	60	11	1
R0032B	Yes	1	B	48	69	21	1	64	5	1	61	8	1	59	10	1
R0033A		1	B	48	67	19	1	63	4		59	8	1	57	10	1
R0033B		1	B	48	65	17	1	62	3		59	6	1	57	8	1
R0034A		1	B	48	62	14		60	2		57	5	1	55	7	1
R0034B		1	B	48	60	12		57	3		55	5	1	54	6	1
R0035A		1	B	48	58	10		56	2		55	3		54	4	
R0035B		1	B	48	59	11		57	2		55	4		54	5	1
R0036A		1	B	48	58	10		56	2		55	3		54	4	
R0036B		1	B	48	58	10		55	3		55	3		54	4	
R0037A		1	B	48	58	10		56	2		55	3		54	4	
R0037B		1	B	48	57	9		55	2		54	3		53	4	
R0038A		1	B	48	59	11		57	2		55	4		54	5	1
R0038B		1	B	48	61	13		58	3		56	5	1	54	7	1
R0039A	Yes	1	B	48	66	18	1	61	5	1	59	7	1	56	10	1
R0039B	Yes	1	B	48	71	23	1	64	7	1	62	9	1	60	11	1
R0040A	Yes	1	B	48	72	24	1	64	8	1	63	9	1	61	11	1
R0040B	Yes	1	B	48	71	23	1	64	7	1	62	9	1	60	11	1
R0041A		1	B	48	67	19	1	62	5	1	59	8	1	57	10	1
R0041B		1	B	48	69	21	1	63	6	1	61	8	1	58	11	1
R0041C		1	B	48	64	16	1	60	4		58	6	1	56	8	1
R0042A	Yes	1	B	48	68	20	1	62	6	1	60	8	1	58	10	1

Orange Corridor

Noise Wall 2

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
				R0042B	Yes	1	B	48	67	19	1	61	6	1	60	7
R0043A	Yes	1	B	48	68	20	1	63	5	1	61	7	1	59	9	1
R0043B	Yes	1	B	48	69	21	1	63	6	1	62	7	1	60	9	1
R0044A	Yes	1	B	48	68	20	1	63	5	1	61	7	1	59	9	1
R0044B	Yes	1	B	48	67	19	1	62	5	1	60	7	1	58	9	1
R0045A	Yes	1	B	48	65	17	1	59	6	1	58	7	1	57	8	1
R0045B	Yes	1	B	48	65	17	1	60	5	1	60	5	1	58	7	1
R0046A	Yes	1	B	48	66	18	1	61	5	1	60	6	1	59	7	1
R0046B	Yes	1	B	48	68	20	1	61	7	1	60	8	1	59	9	1
R0047A	Yes	1	B	48	69	21	1	61	8	1	60	9	1	59	10	1
R0047B	Yes	1	B	48	69	21	1	61	8	1	61	8	1	59	10	1
R0048A		1	B	48	67	19	1	60	7	1	59	8	1	58	9	1
R0048B		1	B	48	64	16	1	58	6	1	57	7	1	55	9	1
R0049A		1	B	48	62	14		57	5	1	55	7	1	53	9	1
R0049B		1	B	48	62	14		57	5	1	56	6	1	54	8	1
R0050A		1	B	48	62	14		58	4		56	6	1	54	8	1
R0050B		1	B	48	57	9		55	2		53	4		52	5	1
R0051A		1	B	48	58	10		55	3		54	4		52	6	1
R0051B		1	B	48	56	8		53	3		53	3		51	5	1
R0052A		1	B	48	59	11		56	3		54	5	1	52	7	1
R0052B		1	B	48	58	10		55	3		54	4		52	6	1
R0053A		1	B	48	60	12		57	3		55	5	1	53	7	1
R0053B		1	B	48	59	11		56	3		54	5	1	53	6	1
R0056A		1	B	48	67	19	1	62	5	1	59	8	1	57	10	1
R0056B		1	B	48	66	18	1	62	4		58	8	1	56	10	1
R0056C		1	B	48	68	20	1	62	6	1	60	8	1	58	10	1
R0057A	Yes	1	B	48	68	20	1	62	6	1	61	7	1	60	8	1
R0057B	Yes	1	B	48	68	20	1	63	5	1	62	6	1	61	7	1
R0058A	Yes	1	B	48	67	19	1	63	4		62	5	1	61	6	1
R0058B	Yes	1	B	48	68	20	1	63	5	1	62	6	1	61	7	1
R0058C	Yes	1	B	48	65	17	1	62	3		60	5	1	59	6	1
R1598	Yes	1	B	56	62	6		61	1		61	1		60	2	
R1626	Yes	1	B	52	68	16	1	63	5	1	63	5	1	62	6	1
R1627A	Yes	1	B	51	67	16	1	63	4		62	5	1	62	5	1
R1627B	Yes	1	B	52	67	15	1	62	5	1	61	6	1	61	6	1
R1701A		1	B	51	64	13		60	4		60	4		60	4	
R1701B		1	B	52	64	12		60	4		60	4		59	5	1
R1702A		1	B	52	63	11		61	2		60	3		60	3	
R1702B		1	B	52	63	11		61	2		60	3		59	4	
R1703A		1	B	50	63	13		60	3		59	4		58	5	1
R1703B		1	B	50	63	13		60	3		59	4		58	5	1
R1704A		1	B	50	63	13		60	3		58	5	1	57	6	1
R1704B		1	B	50	63	13		60	3		59	4		58	5	1
R1704C		1	B	50	62	12		60	2		58	4		57	5	1
R1704D		1	B	50	62	12		59	3		58	4		57	5	1
R1704E		1	B	50	61	11		59	2		57	4		56	5	1
R1704F		1	B	49	61	12		58	3		57	4		56	5	1
R1704G		1	B	48	61	13		58	3		57	4		56	5	1
R1704H		1	B	48	61	13		57	4		56	5	1	55	6	1
R1704I		1	B	48	61	13		58	3		56	5	1	55	6	1
R1704J		1	B	48	62	14		59	3		57	5	1	56	6	1
R1711A		1	B	48	63	15	1	60	3		56	7	1	54	9	1
R1711B		1	B	48	65	17	1	61	4		58	7	1	56	9	1
R1712A		1	B	48	61	13		59	2		58	3		56	5	1
R1712B		1	B	48	61	13		59	2		57	4		56	5	1
R1713A		1	B	48	62	14		60	2		59	3		58	4	
R1713B		1	B	48	61	13		59	2		58	3		57	4	
R1714A		1	B	48	62	14		60	2		58	4		57	5	1
R1714B		1	B	48	63	15	1	60	3		58	5	1	57	6	1
R1715A		1	B	48	64	16	1	61	3		59	5	1	58	6	1
R1715B		1	B	48	63	15	1	60	3		59	4		58	5	1
R1918A		1	B	48	60	12		57	3		55	5	1	54	6	1
R1918B		1	B	48	62	14		58	4		56	6	1	54	8	1
R1918C		1	B	48	59	11		57	2		55	4		54	5	1
R1919A		1	B	48	59	11		57	2		56	3		55	4	
R1919B		1	B	48	60	12		58	2		57	3		55	5	1

Orange Corridor

Noise Wall 2

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing	Build	Impacted	W/Wall ²	Reduction ³	Benefited	W/Wall ²	Reduction ³	Benefited	Tall Wall			
				dB(A)	dB(A)								Increase	Receptors	Receptors	Receptors
R1919C		1	B	48	59	11		57	2		56	3		55	4	
R1920A		1	B	48	61	13		59	2		59	2		56	5	1
R1920B		1	B	48	61	13		59	2		58	3		56	5	1
R1920C		1	B	48	61	13		59	2		59	2		56	5	1
R1921A		1	B	49	60	11		59	1		59	1		57	3	
R1921B		1	B	49	60	11		59	1		58	2		57	3	
R1922A		1	B	48	61	13		59	2		58	3		58	3	
R1922B		1	B	49	60	11		59	1		58	2		57	3	

Length (ft)=	5200	5200	5200
Average Height =	10	12	16
Area of Noise Wall (sft)=	52000	62400	83201
Impacted Receptors=	78	78	78
Number of Benefited Receptors=	63	92	119
Area of Noise Wall per Benefit Receptor (sft)=	825	678	699
Average Increase in dB(A) of all Impacted Receptors=	18	18	18
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3129	3129	3129
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

Recommended 16 ft Barrier

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
- (4) A 16ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 2</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>78</u>	# BENEFITS - <u>119</u>
NAC: A <input checked="" type="radio"/> B C <input checked="" type="radio"/> D E F G	
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>699</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3129</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd <input type="checkbox"/> YES <input type="checkbox"/> NO	
Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Orange Corridor

Noise Wall 3

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Recommended ⁴ Tall Wall		
			Existing dB(A)	Build Increase dB(A)		WWall ² dB(A)	Reduction ³	Benefited Receptors	WWall ² dB(A)	Reduction ³	Benefited Receptors	WWall ² dB(A)
R0061A	Yes	B	48	66	18	63	3	62	4	60	6	1
R0061B	Yes	B	48	67	19	64	3	63	4	62	5	1
R0061C	Yes	B	48	62	14	61	1	60	2	59	3	
R0062A	Yes	B	48	68	20	64	4	63	5	63	5	1
R0062B	Yes	B	48	67	19	63	4	63	4	62	5	1
R0063A		B	48	61	13	61	0	61	0	61	0	
R0063B		B	48	61	13	61	0	61	0	61	0	
R0064A		B	48	60	12	60	0	60	0	60	0	
R0064B		B	48	59	11	58	1	58	1	58	1	
R0065A	Yes	B	48	65	17	62	3	62	3	61	4	
R0065B	Yes	B	48	63	15	61	2	61	2	60	3	
R0066A	Yes	B	48	64	16	60	4	59	5	59	5	1
R0066B	Yes	B	48	63	15	60	3	60	3	59	4	
R0067A		B	48	57	9	57	0	57	0	57	0	
R0067B		B	48	57	9	56	1	56	1	56	1	
R0068A		B	48	55	7	54	1	54	1	54	1	
R0068B		B	48	56	8	55	1	55	1	55	1	
R0068C		B	48	56	8	55	1	55	1	54	2	
R0069A	Yes	B	51	64	13	58	6	58	6	58	6	1
R0069B	Yes	B	49	65	16	59	6	58	7	58	7	1
R0070A	Yes	B	52	63	11	58	5	57	6	57	6	1
R0070B	Yes	B	54	63	9	58	5	57	6	57	6	1
R0071A	Yes	B	55	62	7	57	5	56	6	56	6	1
R0071B	Yes	B	56	62	6	57	5	56	6	55	7	1
R0072A	Yes	B	59	64	5	58	6	57	7	56	8	1
R0072B	Yes	B	57	63	6	58	5	57	6	56	7	1
R0073A		B	49	57	8	55	2	55	2	55	2	
R0073B		B	50	57	7	55	2	55	2	55	2	
R0073C		B	49	56	7	55	1	55	1	54	2	
R0074A		B	61	64	3	62	2	61	3	61	3	
R0074B		B	60	63	3	62	1	62	1	62	1	

Length (ft)=	2600	2600	2600
Average Height =	10	12	12
Area of Noise Wall (sf)=	26000	31200	31200
Impacted Receptors=	9	9	9
Number of Benefited Receptors=	8	10	13
Area of Noise Wall per Benefited Receptor (sf)=	3250	3120	2800
Average Increase in dB(A) of all Impacted Receptors=	17	17	17
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	3103	3103	3103
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	No	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
 (4) A 14ft barrier is recommended because all criteria for feasible and reasonable have been met, the barrier breaks the line of sight, and the most properties are benefitted.

Recommended 14 ft Barrier

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>		TIP # - <u>R-2721, R-2828, R-2829</u>	
LOCATION - <u>Barrier 3</u>		COUNTY(IES) - <u>Wake and Johnston</u>	
# IMPACTS - <u>9</u>	# BENEFITS - <u>13</u>	NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input checked="checked" type="radio"/> B C D E F G
A. FEASIBILITY:			
1	Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="checked" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
3	Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
4	Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
B. REASONABLENESS:			
1	Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="checked" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the design criteria per benefited receptor of <u>2800</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3103</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<input checked="checked" type="checkbox"/> YES	<input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:			
1	Is the noise mitigation feasible?	<input checked="checked" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the noise mitigation reasonable?	<input checked="checked" type="checkbox"/> YES	<input type="checkbox"/> NO
3	Is the noise mitigation likely?	<input checked="checked" type="checkbox"/> YES	<input type="checkbox"/> NO
4	Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
5	Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:			
1	Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
2	If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	
	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	
3	If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd _____ YES _____ NO		
Form Completed By: <u>E SALUTZ</u>		Date: _____	
In Consultation With: _____		Date: _____	

Complete 540
Traffic Noise Analysis

3/25/2015

Orange Corridor

Noise Wall 4

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tall Wall						
			Existing dB(A)	Build dB(A) Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors		
R0111	Yes	B	62	66	4	1	57	9	10	1	56	10	1	56	10	1
R0112A	1	B	53	59	6		55	4	4		55	4		55	4	
R0112B	1	B	53	56	3		54	2	2		54	2		53	3	
R0114A	Yes	B	56	60	4		55	5	5	1	55	5	1	55	5	1
R0114B	Yes	B	53	58	5		55	3	4		54	4		54	4	
R0115A	Yes	B	55	60	5		56	4	4		56	4		56	4	
R0115B	Yes	B	53	59	6		56	3	3		56	3		55	4	
R0115C	Yes	B	53	58	5		55	3	3		55	3		55	3	
R0116	1	B	53	58	5		55	3	3		55	3		55	3	
R0117	Yes	B	53	62	9		59	3	4		58	4		58	4	
R0118	Yes	B	53	64	11		59	5	6	1	58	6	1	58	6	1
R0119A	Yes	B	53	65	12	1	59	6	6	1	59	6	1	58	7	1
R0119B	Yes	B	53	64	11		58	6	7	1	57	7	1	57	7	1
R1628A	Yes	B	53	59	6		56	3	3		56	3		56	3	
R1628B	Yes	B	53	61	8		57	4	4		57	4		57	4	
R1628C	Yes	B	53	64	11		60	4	4		60	4		59	5	1
R1718A	1	B	53	62	9		57	5	6	1	56	6	1	56	6	1
R1718B	1	B	53	62	9		57	5	6	1	56	6	1	56	6	1
R1719A	1	B	53	62	9		58	4	4		58	4		58	4	
R1719B	1	B	53	61	8		57	4	4		57	4		56	5	1

Length (ft)=	2589	2589
Average Height =	14	14
Area of Noise Wall (sft)=	36252	36252
Impacted Receptors=	2	2
Number of Benefited Receptors=	7	7
Area of Noise Wall per Benefited Receptor (sft)=	5179	5179
Average Increase in dB(A) of all Impacted Receptors=	8	8
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2780	2780
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	Yes
	2589	2589
	16	16
	41432	41432
	2	2
	7	7
	5919	5919
	8	8
	2780	2780
	Yes	Yes
	No	No
	Yes	Yes
	Yes	Yes

Note: Boxed results indicate barrier discussed in report text.

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 4</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>2</u> # BENEFITS - <u>7</u>	NAC: A <input checked="checked" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

(CIRCLE ALL THAT APPLY)

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="checked" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="checked" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>5919</u> (sq.ft.) cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2780</u> (sq.ft.) cu.yd?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<input checked="checked" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="checked" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
Bar No. _____ (CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ (CIRCLE ONE) sq.ft./cu.yd	
Bar No. _____ (CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ (CIRCLE ONE) sq.ft./cu.yd	
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ (CIRCLE ONE) sq.ft./cu.yd <input type="checkbox"/> YES <input checked="checked" type="checkbox"/> NO		

Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

**Complete 540
Traffic Noise Analysis
Orange Corridor**

Noise Wall 5

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall			
			Existing dB(A)	Build dB(A) Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R0138A	Yes	B	52	68	16	1	61	7	1	60	8	1
R0138B	Yes	B	52	65	13	1	59	6	1	58	7	1
R0138C		B	52	70	18	1	62	8	1	61	9	1
R0139A		B	52	65	13	1	60	5	1	59	6	1
R0139B		B	52	61	9	1	56	5	1	56	5	1
R1716A		B	52	60	8		57	3		56	4	
R1716B		B	52	62	10		58	4		57	5	1
R1717A		B	52	62	10		59	3		58	4	
R1717B		B	52	62	10		60	2		59	3	

Length (ft)=	1400
Average Height =	14
Area of Noise Wall (sft)=	19602
Impacted Receptors=	4
Number of Benefited Receptors=	5
Area of Noise Wall per Benefited Receptor (sft)=	3920
Average Increase in dB(A) of all Impacted Receptors=	15
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3025
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	No
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 5</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>4</u>	# BENEFITS - <u>6</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>3734</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3025</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u>	YES		<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES		<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES		<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u>	<u> </u>	sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Orange Corridor

Noise Wall 6

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Recommended ⁴		
			Existing dB(A)	Build dB(A) Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R0161A	Yes	B	46	66	20	58	8	58	8	57	9	1
R0161B	Yes	B	46	61	15	52	9	52	9	52	9	1
R0163A	1	B	46	55	9	52	3	52	3	52	3	1
R0163B	1	B	46	57	11	52	5	51	6	51	6	1
R0164A	Yes	B	46	67	21	59	8	58	9	57	10	1
R0164B	Yes	B	46	58	12	54	4	54	4	53	5	1
R0165A	1	B	46	53	7	51	2	51	2	51	2	1
R0165B	1	B	46	54	8	52	2	52	2	52	2	1
R0166A	1	B	46	58	12	57	1	56	2	55	3	1
R0166B	1	B	46	59	13	57	2	57	2	56	3	1
R0167A	Yes	B	46	67	21	60	7	60	7	58	9	1
R0167B	Yes	B	46	70	24	64	6	63	7	61	9	1
R0168A	1	B	46	61	15	58	3	58	4	56	5	1
R0168B	1	B	46	61	15	58	3	57	4	57	4	1
R0168C	1	B	46	60	14	57	3	56	4	55	5	1
R0169A	Yes	B	46	70	24	64	6	63	7	61	9	1
R0169B	Yes	B	46	70	24	61	9	61	9	59	11	1
R0170A	1	B	46	62	16	57	5	57	5	56	6	1
R0170B	1	B	46	63	17	58	5	58	5	57	6	1
R0171A	1	B	46	64	18	59	5	58	6	57	7	1
R0171B	1	B	46	62	16	58	4	58	4	57	5	1
R0172A	1	B	46	63	17	59	4	58	5	58	5	1
R0172B	1	B	46	64	18	60	4	60	4	60	4	1
R0173	Yes	B	46	68	22	60	8	59	9	59	9	1

Length (ft)=	2000
Average Height =	14
Area of Noise Wall (sft)=	27998
Impacted Receptors=	16
Number of Benefited Receptors=	12
Area of Noise Wall per Benefited Receptor (sft)=	2333
Area Increase in dB(A) of all Impacted Receptors=	19
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3163
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	Yes
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
 (4) An 20ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 20 ft Barrier

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 6</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>16</u>	# BENEFITS - <u>17</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>2353</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3163</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<u> </u>	sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	sq.ft./cu.yd
Bar No. <u> </u>	<u> </u>	sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Orange Corridor

Noise Wall 7

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0174A	Yes	1	B	46	61	15	1	60	1		60	1		60	1	
R0174B	Yes	1	B	46	60	14		59	1		59	1		58	2	
R0176A	Yes	1	B	46	57	11		56	1		56	1		55	2	
R0176B	Yes	1	B	46	58	12		57	1		57	1		57	1	
R0178A	Yes	1	B	46	56	10		55	1		55	1		54	2	
R0178B	Yes	1	B	46	57	11		55	2		55	2		54	3	
R0179A	Yes	1	B	46	57	11		56	1		55	2		54	3	
R0179B	Yes	1	B	46	59	13		57	2		56	3		55	4	
R0180A	Yes	1	B	46	66	20	1	63	3		60	6	1	58	8	1
R0180B	Yes	1	B	46	66	20	1	63	3		60	6	1	58	8	1
R0182A	Yes	1	B	46	66	20	1	61	5	1	60	6	1	58	8	1
R0182B	Yes	1	B	46	68	22	1	65	3		62	6	1	60	8	1
R0182C	Yes	1	B	46	67	21	1	62	5	1	61	6	1	59	8	1
R0184		1	B	46	63	17	1	57	6	1	56	7	1	55	8	1
R0186A	Yes	1	B	46	65	19	1	58	7	1	57	8	1	55	10	1
R0186B	Yes	1	B	46	66	20	1	59	7	1	58	8	1	56	10	1
R0187A	Yes	1	B	46	71	25	1	63	8	1	62	9	1	60	11	1
R0187B	Yes	1	B	46	70	24	1	63	7	1	62	8	1	60	10	1
R0188A		1	B	46	65	19	1	60	5	1	59	6	1	57	8	1
R0188B		1	B	46	65	19	1	60	5	1	59	6	1	58	7	1
R1720		1	B	46	53	7		51	2		51	2		50	3	
R1721A		1	B	46	56	10		53	3		53	3		52	4	
R1721B		1	B	46	54	8		53	1		52	2		51	3	
R1722A		1	B	46	56	10		54	2		52	4		52	4	
R1722B		1	B	46	59	13		54	5	1	53	6	1	52	7	1
R1723A		1	B	46	63	17	1	57	6	1	56	7	1	55	8	1
R1723B		1	B	46	63	17	1	58	5	1	57	6	1	55	8	1
R1724A		1	B	46	63	17	1	59	4		58	5	1	57	6	1
R1724B		1	B	46	62	16	1	58	4		57	5	1	56	6	1
R1923		1	B	46	61	15	1	57	4		55	6	1	54	7	1
R1924A		1	B	46	60	14		57	3		55	5	1	54	6	1
R1924B		1	B	46	59	13		56	3		54	5	1	53	6	1
R1925A		1	B	46	60	14		57	3		56	4		55	5	1
R1925B		1	B	46	61	15	1	58	3		57	4		56	5	1
R1925C		1	B	46	61	15	1	59	2		57	4		56	5	1
R1925D		1	B	46	60	14		57	3		55	5	1	54	6	1

Length (ft)=	2600	2600	2600
Average Height =	10	12	16
Area of Noise Wall (sft)=	25997	31197	41598
Impacted Receptors=	20	20	20
Number of Benefited Receptors=	12	21	24
Area of Noise Wall per Benefit Receptor (sft)=	2166	1486	1733
Average Increase in dB(A) of all Impacted Receptors=	19	19	19
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3153	3153	3153
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 16ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 16 ft Barrier

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 7</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>20</u> # BENEFITS - <u>24</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>1733</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3153</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u> YES <u> </u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u>X</u> YES <u> </u> NO
3 Is the noise mitigation likely?	<u>X</u> YES <u> </u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	<u> </u> YES <u> </u> NO
Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Orange Corridor

Noise Wall 8

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tall Wall					
			Existing dB(A)	Build dB(A) Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R0193A	Yes	B	49	60	11	56	4	55	5	55	5	1	55	5	1
R0193B	Yes	B	47	58	11	55	3	55	3	55	3		54	4	
R0194	Yes	B	51	61	10	58	3	58	3	58	3		57	4	
R0195	Yes	B	48	63	15	61	2	59	4	59	4		58	5	1
R0196	Yes	B	46	72	26	67	5	64	8	64	8	1	62	10	1
R0197A	Yes	B	46	73	27	64	9	62	11	62	11	1	61	12	1
R0197B	Yes	B	46	69	23	61	8	60	9	60	9	1	59	10	1
R1726		B	46	63	17	61	2	58	5	58	5	1	57	6	1
R1727		B	46	65	19	60	5	59	6	59	6	1	58	7	1
R1728		B	46	63	17	58	5	57	6	57	6	1	57	6	1
R1729		B	46	62	16	57	5	56	6	56	6	1	56	6	1
R1730		B	46	61	15	57	4	57	4	57	4		57	4	
R1731		B	46	60	14	58	2	57	3	57	3		57	3	
R1926		B	46	61	15	58	3	56	5	56	5	1	56	5	1
R1926A		B	46	59	13	57	2	55	4	55	4		54	5	1
R1927		B	46	60	14	56	4	55	5	55	5	1	55	5	1
R2289A		B	46	58	12	55	3	55	3	55	3		55	3	
R2289B		B	46	58	12	55	3	54	4	54	4		54	4	
R2290A		B	46	57	11	54	3	54	3	54	3		53	4	
R2290B		B	46	57	11	54	3	54	3	54	3		54	3	

Length (ft)=	2536	2536	2536
Average Height =	12	12	14
Area of Noise Wall (sft)=	30433	30433	40575
Impacted Receptors=	10	10	10
Number of Benefited Receptors=	6	6	12
Area of Noise Wall per Benefited Receptor (sft)=	5072	5072	3381
Average Increase in dB(A) of all Impacted Receptors=	19	19	19
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3165	3165	3165
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 8</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>10</u> # BENEFITS - <u>12</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>3381</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3165</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u> YES <u>X</u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u> </u> YES <u>X</u> NO
3 Is the noise mitigation likely?	<u> </u> YES <u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	<u> </u> YES <u> </u> NO
Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

**Complete 540
Traffic Noise Analysis**

Orange Corridor

Noise Wall 9

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall				
			Existing dB(A)	Build Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors		
R0198A	Yes	B	46	65	19	1	63	2	63	2	63	2	
R0198B	Yes	B	46	62	16	1	62	0	61	1	61	1	
R0198C	Yes	B	46	64	18	1	63	1	63	1	62	2	
R0199A		B	46	60	14		60	0	59	1	59	1	
R0199B		B	46	58	12		58	0	58	0	58	0	
R0199C		B	46	59	13		59	0	59	0	58	1	
R0203	Yes	B	46	64	18	1	58	6	57	7	57	7	1
R0204	Yes	B	46	60	14		57	3	57	3	57	3	
R0205	Yes	B	50	64	14		60	4	60	4	60	4	
R0206	Yes	B	54	64	10		63	1	63	1	63	1	

Length (ft)= 1400
 Average Height = 18
 Area of Noise Wall (sft)= 25202
 Impacted Receptors= 4
 Number of Benefited Receptors= 1
 Area of Noise Wall per Benefit Receptor (sft)= 25202
 Average Increase in dB(A) of all Impacted Receptors= 18
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)= 3121
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = No
 Breaks Line of Sight to Impacted Properties? = No

1400	1400
20	20
28002	28002
4	4
1	1
28002	28002
18	18
3121	3121
Yes	Yes
No	No
Yes	Yes
No	No

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 9</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>4</u> # BENEFITS - <u>1</u> NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:		
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES	<u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES	<u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES	<u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES	<u>X</u> NO

B. REASONABLENESS:		
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES	<u> </u> NO
2 Is the design criteria per benefited receptor of <u>28002</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3121</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u> </u> YES	<u>X</u> NO

C. NOISE ABATEMENT DECISION:		
1 Is the noise mitigation feasible?	<u>X</u> YES	<u> </u> NO
2 Is the noise mitigation reasonable?	<u> </u> YES	<u>X</u> NO
3 Is the noise mitigation likely?	<u> </u> YES	<u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES	<u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES	<u> </u> NO

D. OPTIONAL REASONABLENESS CONSIDERATION:		
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES	<u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	
Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd		
	<u> </u> YES	<u> </u> NO

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Orange Corridor

Noise Wall 10

Receptor	First Residences Represented	NAC Land Use Category	Existing dB(A)	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tail Wall	
				Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0214A	Yes	B	46	64	18	1	62	2	62	2	61	3
R0214B	Yes	B	49	65	16	1	62	3	62	3	61	4
R0214C	Yes	B	55	68	13	1	62	6	61	7	60	8
R0215A		B	46	60	14		59	1	59	1	58	2
R0215B		B	46	60	14		58	2	58	2	57	3
R0216A	Yes	B	56	66	10	1	60	6	59	7	59	7
R0216B	Yes	B	55	65	10	1	58	7	58	7	57	8
R0217A		B	46	59	13		57	2	57	2	57	2
R0217B		B	46	58	12		56	2	56	2	56	2
R0218A	Yes	B	56	64	8		58	6	57	7	56	8
R0218B	Yes	B	56	64	8		57	7	57	7	56	8
R0219	Yes	B	57	65	8		58	7	58	7	57	8
R0220A		B	46	57	11		55	2	55	2	55	2
R0220B		B	46	56	10		54	2	54	2	54	2
R0221A	Yes	B	53	61	8		60	1	60	1	59	2
R0221B	Yes	B	57	64	7		63	1	63	1	63	1
R0222A		B	46	55	9		54	1	54	1	54	1
R0222B		B	46	55	9		54	1	54	1	54	1
R0222C		B	46	54	8		53	1	53	1	53	1
R0223A	Yes	B	54	61	7		61	0	61	0	61	0
R0223B	Yes	B	54	62	8		62	0	62	0	62	0
R0224A		B	47	55	8		55	0	55	0	55	0
R0224B		B	49	57	8		57	0	57	0	57	0
R0225A	Yes	B	55	62	7		62	0	62	0	62	0
R0225B	Yes	B	58	64	6		64	0	64	0	64	0
R0225C	Yes	B	56	63	7		63	0	63	0	63	0

Length (ft)= 1707
 Average Height = 12
 Area of Noise Wall (sf)= 20489
 Impacted Receptors= 5
 Number of Benefited Receptors= 6
 Area of Noise Wall per Benefited Receptor (sf)= 3415
 Average Increase in dB(A) of all Impacted Receptors= 13
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)= 2969
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = Yes
 Breaks Line of Sight to Impacted Properties? = NO

1707
 14
 23905
 5
 6
 3984
 13
 2969
 Yes
 No
 Yes
 No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>		TIP # - <u>R-2721, R-2828, R-2829</u>	
LOCATION - <u>Barrier 10</u>		COUNTY(IES) - <u>Wake and Johnston</u>	
# IMPACTS - <u>5</u>	# BENEFITS - <u>6</u>	NAC: A <input checked="" type="radio"/> B C D E F G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:			
1	Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3	Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4	Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
B. REASONABLENESS:			
1	Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the design criteria per benefited receptor of <u>3415</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2969</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:			
1	Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the noise mitigation reasonable?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3	Is the noise mitigation likely?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4	Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
5	Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:			
1	Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
2	If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd
	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd
3	If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>		Date: _____	
In Consultation With: _____		Date: _____	

Orange Corridor

Noise Wall 11

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
				R0233	Yes	1	B	46	69	23	1	61	8	1	60	9
R0234A	Yes	1	B	46	73	27	1	61	12	1	60	13	1	57	16	1
R0234B	Yes	1	B	46	72	26	1	61	11	1	60	12	1	57	15	1
R0234C	Yes	1	B	52	72	20	1	61	11	1	61	11	1	58	14	1
R0235A		1	B	46	63	17	1	61	2		61	2		59	4	
R0235B		1	B	49	64	15	1	61	3		61	3		59	5	1
R0235C		1	B	53	64	11		61	3		61	3		59	5	1
R0236A		1	B	46	62	16	1	60	2		60	2		59	3	
R0236B		1	B	48	62	14		60	2		60	2		59	3	
R0236C		1	B	52	63	11		61	2		60	3		59	4	
R0236D		1	B	55	62	7		60	2		60	2		58	4	
R0236E		1	B	51	61	10		59	2		59	2		57	4	
R0236F		1	B	47	60	13		58	2		58	2		57	3	
R0236G		1	B	46	60	14		58	2		58	2		57	3	
R0237A	Yes	1	B	52	68	16	1	61	7	1	61	7	1	58	10	1
R0237B	Yes	1	B	54	65	11	1	61	4		61	4		59	6	1
R0237C	Yes	1	B	51	72	21	1	63	9	1	62	10	1	59	13	1
R0238A	Yes	1	B	46	68	22	1	62	6	1	61	7	1	59	9	1
R0238B	Yes	1	B	46	67	21	1	61	6	1	61	6	1	59	8	1
R0238C	Yes	1	B	46	66	20	1	62	4		61	5	1	58	8	1
R0239A		1	B	46	65	19	1	61	4		60	5	1	58	7	1
R0239B		1	B	46	63	17	1	60	3		60	3		58	5	1
R0239C		1	B	46	62	16	1	59	3		59	3		58	4	
R0240A		1	B	46	62	16	1	59	3		59	3		57	5	1
R0240B		1	B	46	64	18	1	61	3		60	4		58	6	1
R0241A	Yes	1	B	46	67	21	1	60	7	1	60	7	1	58	9	1
R0241B	Yes	1	B	46	66	20	1	62	4		61	5	1	58	8	1
R0242A	Yes	1	B	46	64	18	1	60	4		59	5	1	57	7	1
R0242B	Yes	1	B	46	62	16	1	59	3		58	4		56	6	1
R0254	Yes	1	B	46	57	11		53	4		53	4		52	5	1
R0255	Yes	1	B	47	61	14		56	5	1	55	6	1	54	7	1
R0256A	Yes	1	B	47	70	23	1	62	8	1	61	9	1	58	12	1
R0256B	Yes	1	B	49	74	25	1	64	10	1	62	12	1	59	15	1
R1738A		1	B	51	62	11		56	6	1	56	6	1	55	7	1
R1738B		1	B	49	59	10		57	2		56	3		55	4	
R1739A		1	B	51	63	12		58	5	1	58	5	1	57	6	1
R1739B		1	B	49	64	15	1	57	7	1	57	7	1	56	8	1
R1740		1	B	46	60	14		57	3		57	3		56	4	
R1741A		1	B	46	61	15	1	56	5	1	56	5	1	54	7	1
R1741B		1	B	46	61	15	1	55	6	1	55	6	1	54	7	1
R1741C		1	B	53	58	5		56	2		56	2		54	4	
R1742A		1	B	46	65	19	1	58	7	1	57	8	1	56	9	1
R1742B		1	B	46	59	13		56	3		55	4		54	5	1

Length (ft)=	2901	2901	2901
Average Height =	14	16	24
Area of Noise Wall (sft)=	40617	46422	69629
Impacted Receptors=	28	28	28
Number of Benefited Receptors=	18	22	31
Area of Noise Wall per Benefit Receptor (sft)=	2257	2110	2246
Average Increase in dB(A) of all Impacted Receptors=	19	19	19
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3160	3160	3160
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 24ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 24 ft Barrier

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 11</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>28</u>	# BENEFITS - <u>31</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>2246</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3160</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd		
	<input type="checkbox"/> YES	<input type="checkbox"/> NO

Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Complete 540
Traffic Noise Analysis

4/3/2015

Orange Corridor

Noise Wall 12

Receptor	First Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tall Wall					
			Existing dB(A)	Build dB(A) Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R0243	Yes	B	46	70, 24	1	63	7	63	7	62	8	1	62	8	1
R0244A		B	46	65	1	62	3	62	3	61	4		61	4	
R0244B		B	46	63	1	61	2	60	3	60	3		60	3	
R0245A	Yes	B	46	69, 23	1	67	2	66	3	65	4		65	4	
R0245B	Yes	B	46	67, 21	1	65	2	64	3	63	4		63	4	
R0246A	Yes	B	46	71, 25	1	68	3	67	4	66	5	1	66	5	1
R0246B	Yes	B	46	72, 26	1	68	4	66	6	65	7	1	65	7	1
R0247A	Yes	B	49	63	1	61	2	61	2	61	2		61	2	
R0247B	Yes	B	49	64	1	61	3	61	3	60	4		60	4	
R0247C	Yes	B	50	61	1	60	1	60	1	59	2		59	2	
R0248	Yes	B	47	72, 25	1	65	7	64	8	63	9	1	63	9	1
R1732		B	46	59	1	58	1	58	1	57	2		57	2	
R1733		B	46	61	1	61	0	61	0	60	1		60	1	
R1734		B	46	61	1	60	1	60	1	59	2		59	2	
R1735		B	46	58	1	58	0	57	1	57	1		57	1	
R1736A		B	49	62	1	59	3	59	3	59	3		59	3	
R1736B		B	48	61	1	58	3	58	3	58	3		58	3	
R1737A		B	47	63	1	59	4	59	4	59	4		59	4	
R1737B		B	48	62	1	59	3	59	3	59	3		59	3	
R2323A	Yes	B	46	73, 27	1	64	9	64	9	64	9	1	64	9	1
R2323B	Yes	B	46	73, 27	1	63	10	63	10	63	10	1	63	10	1
R2323C	Yes	B	47	73, 26	1	62	11	62	11	62	11	1	62	11	1
R2323D	Yes	B	52	73, 21	1	62	11	61	12	61	12	1	61	12	1

Length (ft)=	2145	2145
Average Height =	16	18
Area of Noise Wall (sf)=	34320	38609
Impacted Receptors=	16	16
Number of Benefited Receptors=	6	7
Area of Noise Wall per Benefit Receptor (sf)=	5720	5516
Average Increase in dB(A) of all Impacted Receptors=	21	21
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	3248	3248
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>		TIP # - <u>R-2721, R-2828, R-2829</u>	
LOCATION - <u>Barrier 12</u>		COUNTY(IES) - <u>Wake and Johnston</u>	
(CIRCLE ALL THAT APPLY)			
# IMPACTS - <u>16</u>	# BENEFITS - <u>8</u>	NAC: A	<input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
A. FEASIBILITY:			
1	Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3	Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4	Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
B. REASONABLENESS:			
1	Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the design criteria per benefited receptor of <u>5362</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> less than the maximum allowable design criteria per benefited receptor of <u>3248</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> ?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:			
1	Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the noise mitigation reasonable?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3	Is the noise mitigation likely?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4	Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
5	Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:			
1	Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
	Bar No. <u>11</u> <u>2,246</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u>	Bar No. _____	_____ ^(CIRCLE ONE) <u>sq.ft./cu.yd</u>
	Bar No. <u>12</u> <u>5,362</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u>	Bar No. _____	_____ ^(CIRCLE ONE) <u>sq.ft./cu.yd</u>
3	If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u>2,500</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> ?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>		Date: _____	
In Consultation With: _____		Date: _____	

Orange Corridor

Noise Wall 13

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0257A	Yes	1	B	47	58	11		58	0		58	0		58	0	
R0257B	Yes	1	B	48	59	11		59	0		59	0		59	0	
R0258		1	B	46	58	12		58	0		58	0		58	0	
R0259		1	B	46	56	10		57	-1		56	0		56	0	
R0260A	Yes	1	B	47	61	14		61	0		61	0		61	0	
R0260B	Yes	1	B	46	60	14		60	0		60	0		59	1	
R0261A	Yes	1	B	46	61	15	1	61	0		61	0		59	2	
R0261B	Yes	1	B	47	63	16	1	63	0		62	1		61	2	
R0261C	Yes	1	B	46	60	14		61	-1		60	0		59	1	
R0262A		1	B	46	55	9		55	0		55	0		55	0	
R0262B		1	B	46	55	9		55	0		55	0		54	1	
R0263A		1	B	46	55	9		54	1		54	1		53	2	
R0263B		1	B	46	54	8		54	0		53	1		53	1	
R1624	Yes	1	B	48	60	12		60	0		60	0		60	0	
R0264A		1	B	46	57	11		57	0		57	0		56	1	
R0264B		1	B	46	56	10		56	0		56	0		55	1	
R0265A		1	B	46	58	12		58	0		57	1		56	2	
R0265B		1	B	46	58	12		57	1		56	2		55	3	
R0266A		1	B	46	58	12		58	0		58	0		57	1	
R0266B		1	B	46	58	12		58	0		58	0		56	2	
R0267A		1	B	46	60	14		60	0		60	0		58	2	
R0267B		1	B	46	62	16	1	62	0		61	1		59	3	
R0268A		1	B	46	60	14		59	1		58	2		56	4	
R0268B		1	B	46	62	16	1	59	3		58	4		57	5	1
R0268C		1	B	46	60	14		59	1		58	2		57	3	
R0269	Yes	1	B	46	69	23	1	64	5	1	63	6	1	61	8	1
R0270	Yes	1	B	46	76	30	1	68	8	1	67	9	1	64	12	1
R0271A	Yes	1	B	46	69	23	1	66	3		63	6	1	61	8	1
R0271B	Yes	1	B	46	66	20	1	64	2		62	4		60	6	1
R0272	Yes	1	B	46	71	25	1	66	5	1	64	7	1	62	9	1
R0273A	Yes	1	B	46	67	21	1	62	5	1	61	6	1	59	8	1
R0273B	Yes	1	B	46	68	22	1	63	5	1	62	6	1	60	8	1
R0279	Yes	1	B	52	70	18	1	67	3		66	4		62	8	1
R0280	Yes	1	B	48	65	17	1	62	3		62	3		60	5	1
R1746A		1	B	46	62	16	1	60	2		58	4		57	5	1
R1746B		1	B	46	61	15	1	60	1		58	3		57	4	
R1747		1	B	46	63	17	1	61	2		59	4		58	5	1
R1748		1	B	46	63	17	1	59	4		58	5	1	57	6	1
R1916		1	B	46	60	14		58	2		56	4		55	5	1
R1917		1	B	47	59	12		56	3		55	4		54	5	1

Length (ft)=	3317	3317	3317
Average Height =	14	16	20
Area of Noise Wall (sft)=	46431	53066	66333
Impacted Receptors=	17	17	17
Number of Benefited Receptors=	5	7	15
Area of Noise Wall per Benefit Receptor (sft)=	9286	7581	4422
Average Increase in dB(A) of all Impacted Receptors=	19	19	19
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3173	3173	3173
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 13</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>17</u> # BENEFITS - <u>15</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	<small>(CIRCLE ALL THAT APPLY)</small>
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>4422</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> less than the maximum allowable design criteria per benefited receptor of <u>3173</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> ?	<u> </u> YES <u>X</u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u> </u> YES <u>X</u> NO
3 Is the noise mitigation likely?	<u> </u> YES <u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> <u> </u> YES <u> </u> NO	
Form Completed By: <u>E SALUTZ</u> Date: <u> </u>	
In Consultation With: <u> </u> Date: <u> </u>	

Complete 540
Traffic Noise Analysis

3/31/2015

Orange Corridor

Noise Wall 14

Receptor	First Residences Row Represented	NAC Land Use Category	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tail Wall				
			Existing Build dB(A)	Increase dB(A)		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0249	Yes	B	46	74	28	1	71	3	68	6	1	64	10	1
R0250A	Yes	B	46	63	17	1	60	3	60	3		59	4	
R0250B	Yes	B	46	63	17	1	60	3	59	4		59	4	
R0250C	Yes	B	50	63	13		62	1	61	2		61	2	
R0253A	Yes	B	46	66	20	1	60	6	59	7	1	58	8	1
R0253B	Yes	B	46	63	17	1	58	5	57	6	1	56	7	1
R0274A	Yes	B	46	67	21	1	61	6	60	7	1	59	8	1
R0274B	Yes	B	46	67	21	1	60	7	59	8	1	58	9	1
R0274C	Yes	B	46	65	19	1	58	7	57	8	1	56	9	1
R0275	Yes	B	46	60	14		59	1	59	1		59	1	
R0276	Yes	B	51	62	11		61	1	61	1		61	1	
R0277	Yes	B	50	71	21	1	68	3	66	5	1	63	8	1
R1743A		B	50	60	10		59	1	59	1		58	2	
R1743B		B	46	59	13		57	2	57	2		56	3	
R1744A		B	46	61	15	1	56	5	55	6	1	55	6	1
R1744B		B	46	59	13		56	3	55	4		55	4	
R1745A		B	46	62	16	1	58	4	57	5	1	56	6	1
R1745B		B	46	61	15	1	56	5	55	6	1	54	7	1
R1745C		B	46	63	17	1	55	8	54	9	1	53	10	1
R1745D		B	46	62	16	1	55	7	54	8	1	54	8	1
R1745E		B	46	57	11		54	3	54	3		53	4	
R1745F		B	46	57	11		54	3	54	3		53	4	
R1745G		B	46	55	9		52	3	52	3		52	3	
R1745H		B	46	57	11		53	4	52	5	1	52	5	1
R1745I		B	46	59	13		54	5	53	6	1	53	6	1

Length (ft)=	2800	2800
Average Height =	14	16
Area of Noise Wall (sft)=	39200	44801
Impacted Receptors=	14	14
Number of Benefited Receptors=	10	14
Area of Noise Wall per Benefited Receptor (sft)=	3920	3200
Average Increase in dB(A) of all Impacted Receptors=	19	19
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3150	3150
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 14</u>	COUNTY(IES) - <u>Wake and Johnston</u>
IMPACTS - <u>14</u> # BENEFITS - <u>14</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>4000</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3146</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u>	YES		<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES		<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES		<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	<u> </u>	YES		<u> </u>	NO

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Orange Corridor

Noise Wall 15

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Tail Wall			
			Existing dB(A)	Build Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R0289	Yes	B	52	68	16	1	62	6	1	61	7	1	61	7	1
R0290	Yes	B	46	63	17	1	59	4	1	58	5	1	58	5	1
R1749	1	B	57	63	6		59	4		59	4		59	4	

2201	2201
14	14
30807	30807
2	2
2	2
15404	15404
17	17
3078	3078
Yes	Yes
No	No
Yes	Yes
Yes	Yes

Length (ft)= 2201
 Average Height = 12
 Area of Noise Wall (sft)= 26407
 Impacted Receptors= 2
 Number of Benefited Receptors= 1
 Area of Noise Wall per Benefited Receptor (sft)= 26407
 Average Increase in dB(A) of all Impacted Receptors= 17
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)= 3078
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = No
 Breaks Line of Sight to Impacted Properties? = Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 15</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>2</u>	# BENEFITS - <u>2</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>15404</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3078</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u>	YES		<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES		<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES		<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO <u> </u>					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Orange Corridor

Noise Wall 16

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Recommended ⁴			
			Existing dB(A)	Build dB(A) Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³
R0283A	Yes	B	53	67	14	1	64	3	62	5	61	6	1
R0283B	Yes	B	54	68	14	1	64	4	62	6	62	6	1
R0284A	1	B	47	68	21	1	65	3	63	5	62	6	1
R0284B	1	B	47	69	22	1	65	4	64	5	63	6	1
R0285A	1	B	49	70	21	1	65	5	64	6	64	6	1
R0285B	1	B	50	68	18	1	65	3	64	4	63	5	1
R0286A	Yes	B	53	70	17	1	66	4	65	5	64	6	1
R0286B	Yes	B	49	67	18	1	61	6	61	6	60	7	1
R0287A	Yes	B	61	69	8	1	64	5	63	6	63	6	1
R0287B	Yes	B	61	72	11	1	68	4	67	5	67	5	1
R0288	Yes	B	58	69	11	1	63	6	62	7	61	8	1
R1753A	1	B	54	66	12	1	63	3	62	4	60	6	1
R1753B	1	B	55	65	10	1	62	3	62	3	60	5	1
R1754	1	B	56	66	10	1	64	2	61	5	60	6	1

Length (ft)= 1800
 Average Height = 8
 Area of Noise Wall (sf)= 14401
 Impacted Receptors= 14
 Number of Benefited Receptors= 4
 Area of Noise Wall per Benefited Receptor (sf)= 3600
 Average Increase in dB(A) of all Impacted Receptors= 15
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)= 3018
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = No
 Breaks Line of Sight to Impacted Properties? = No

1800	1800
12	10
21600	18001
14	14
14	11
1543	1636
15	15
3018	3018
Yes	Yes
Yes	Yes
Yes	Yes
Yes	Yes

Recommended 12 ft barrier

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 12ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 16</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>14</u>	# BENEFITS - <u>14</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>1543</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3018</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Orange Corridor

Noise Wall 17

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall			
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0341A	Yes	1	B	54	59	5		55	4		55	4		55	4	
R0341B	Yes	1	B	57	61	4		58	3		57	4		57	4	
R0341C	Yes	1	B	60	64	4		59	5	1	59	5	1	59	5	1
R0341D	Yes	1	B	56	61	5		55	6	1	55	6	1	55	6	1
R0341E	Yes	1	B	59	64	5		57	7	1	57	7	1	57	7	1
R0341F	Yes	1	B	63	68	3	1	58	8	1	58	8	1	57	9	1
R0341G	Yes	1	B	57	62	5		57	5	1	56	6	1	56	6	1
R0341H	Yes	1	B	59	63	4		58	5	1	58	5	1	57	6	1
R0341I	Yes	1	B	61	65	4		59	6	1	59	6	1	58	7	1
R0341J	Yes	1	B	59	63	4		57	6	1	56	7	1	56	7	1
R0341K	Yes	1	B	61	65	4		58	7	1	58	7	1	58	7	1
R0341L	Yes	1	B	64	67	3	1	59	8	1	58	9	1	58	9	1
R0342		RECREATIONAL	C	54	57	3										
R0342-1		NODAL ARRAY	C	54	57	3		55	2		55	2		55	2	
R0342-2		NODAL ARRAY	C	54	57	3		55	2		55	2		54	3	
R0342-3		NODAL ARRAY	C	54	56	2		55	1		55	1		54	2	
R0342-4		NODAL ARRAY	C	54	57	3		55	2		54	3		54	3	
R0342-5		NODAL ARRAY	C	54	57	3		54	3		54	3		54	3	
R0342-6		NODAL ARRAY	C	54	56	2		54	2		54	2		54	2	
R0343A		1	B	54	56	2		54	2		54	2		53	3	
R0343B		1	B	54	57	3		55	2		55	2		55	2	
R0343C		1	B	54	59	5		56	3		56	3		56	3	
R0343D		1	B	54	56	2		54	2		54	2		54	2	
R0343E		1	B	54	57	3		55	2		55	2		55	2	
R0343F		1	B	54	59	5		56	3		56	3		56	3	
R0343G		1	B	54	56	2		55	1		55	1		55	1	
R0343H		1	B	54	58	4		56	2		56	2		56	2	
R0343I		1	B	54	59	5		57	2		57	2		57	2	
R0343J		1	B	54	56	2		55	1		54	2		54	2	
R0343K		1	B	54	57	3		56	1		55	2		55	2	
R0343L		1	B	54	59	5		56	3		56	3		56	3	
R0344A		1	B	54	55	1		54	1		53	2		53	2	
R0344B		1	B	54	57	3		55	2		55	2		55	2	
R0344C		1	B	54	58	4		56	2		56	2		56	2	
R0344D		1	B	54	56	2		54	2		54	2		53	3	
R0344E		1	B	54	58	4		55	3		55	3		55	3	
R0344F		1	B	54	59	5		56	3		56	3		56	3	
R0344G		1	B	54	56	2		53	3		53	3		53	3	
R0344H		1	B	54	57	3		55	2		54	3		54	3	
R0344I		1	B	54	59	5		56	3		55	4		55	4	
R0344J		1	B	54	55	1		54	1		53	2		53	2	
R0344K		1	B	54	57	3		55	2		55	2		55	2	
R0344L		1	B	54	59	5		56	3		56	3		55	4	
R0345A	Yes	1	B	54	58	4		55	3		55	3		55	3	
R0345B	Yes	1	B	55	60	5		57	3		56	4		56	4	
R0345C	Yes	1	B	58	63	5		59	4		58	5	1	58	5	1
R0345D	Yes	1	B	54	57	3		55	2		55	2		54	3	
R0345E	Yes	1	B	54	59	5		56	3		56	3		56	3	
R0345F	Yes	1	B	56	61	5		58	3		58	3		57	4	
R0345G	Yes	1	B	54	57	3		54	3		54	3		54	3	
R0345H	Yes	1	B	55	60	5		56	4		55	5	1	55	5	1
R0345I	Yes	1	B	56	62	6		57	5	1	57	5	1	57	5	1
R0345J	Yes	1	B	54	56	2		53	3		53	3		53	3	
R0345K	Yes	1	B	54	58	4		54	4		54	4		54	4	
R0345L	Yes	1	B	55	60	5		56	4		56	4		55	5	1
R0346A	Yes	1	B	59	63	4		59	4		59	4		59	4	
R0346B	Yes	1	B	63	67	4	1	62	5	1	62	5	1	62	5	1
R0346C	Yes	1	B	65	69	4	1	63	6	1	63	6	1	63	6	1
R0346D	Yes	1	B	54	56	2		53	3		53	3		53	3	
R0346E	Yes	1	B	54	58	4		55	3		54	4		54	4	
R0346F	Yes	1	B	55	59	4		56	3		55	4		55	4	
R0346G	Yes	1	B	54	56	2		53	3		53	3		53	3	
R0346H	Yes	1	B	54	58	4		54	4		54	4		54	4	
R0346I	Yes	1	B	54	60	6		56	4		55	5	1	55	5	1
R0346J	Yes	1	B	59	63	4		59	4		59	4		59	4	
R0346K	Yes	1	B	63	67	4	1	63	4		63	4		63	4	
R0346L	Yes	1	B	64	69	5	1	64	5	1	63	6	1	63	6	1
R0347A	Yes	1	B	58	62	4		57	5	1	57	5	1	57	5	1
R0347B	Yes	1	B	61	65	4		59	6	1	59	6	1	59	6	1
R0347C	Yes	1	B	64	68	4	1	60	8	1	60	8	1	60	8	1
R0347D	Yes	1	B	54	56	2		54	2		54	2		54	2	
R0347E	Yes	1	B	54	57	3		55	2		55	2		55	2	
R0347F	Yes	1	B	54	58	4		56	2		56	2		56	2	
R0347G	Yes	1	B	54	55	1		53	2		53	2		53	2	
R0347H	Yes	1	B	54	57	3		55	2		55	2		55	2	
R0347I	Yes	1	B	54	59	5		57	2		57	2		57	2	
R0347J	Yes	1	B	58	62	4		57	5	1	57	5	1	57	5	1
R0347K	Yes	1	B	62	65	3		59	6	1	59	6	1	59	6	1

Orange Corridor

Noise Wall 17

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0347L	Yes	1	B	63	68	5	1	61	7	1	61	7	1	60	8	1
R0348A		1	B	54	56	2		53	3		53	3		53	3	
R0348B		1	B	54	57	3		55	2		54	3		54	3	
R0348C		1	B	54	59	5		56	3		55	4		55	4	
R0348D		1	B	54	56	2		53	3		53	3		53	3	
R0348E		1	B	54	57	3		54	3		54	3		54	3	
R0348F		1	B	54	59	5		55	4		55	4		55	4	
R0348G		1	B	54	56	2		53	3		53	3		53	3	
R0348H		1	B	54	58	4		55	3		54	4		54	4	
R0348I		1	B	55	60	5		56	4		55	5	1	55	5	1
R0348J		1	B	54	56	2		54	2		53	3		53	3	
R0348K		1	B	54	58	4		55	3		55	3		54	4	
R0348L		1	B	55	60	5		56	4		56	4		55	5	1
R0349A		1	B	56	60	4		55	5	1	55	5	1	55	5	1
R0349B		1	B	58	62	4		57	5	1	56	6	1	56	6	1
R0349C		1	B	59	64	5		58	6	1	58	6	1	58	6	1
R0349D		1	B	57	61	4		56	5	1	56	5	1	55	6	1
R0349E		1	B	59	64	5		57	7	1	57	7	1	57	7	1
R0349F		1	B	61	66	5	1	59	7	1	59	7	1	58	8	1
R0349G		1	B	56	60	4		56	4		56	4		55	5	1
R0349H		1	B	58	63	5		57	6	1	57	6	1	57	6	1
R0349I		1	B	60	65	5		59	6	1	59	6	1	59	6	1
R0349J		1	B	55	59	4		55	4		55	4		55	4	
R0349K		1	B	57	61	4		57	4		56	5	1	56	5	1
R0349L		1	B	59	64	5		58	6	1	58	6	1	58	6	1
R0350A	Yes	1	B	63	68	5	1	58	10	1	58	10	1	57	11	1
R0350B	Yes	1	B	67	70	3	1	59	11	1	59	11	1	58	12	1
R0350C	Yes	1	B	67	71	4	1	61	10	1	60	11	1	59	12	1
R0350D	Yes	1	B	60	65	5		55	10	1	54	11	1	54	11	1
R0350E	Yes	1	B	63	68	5	1	56	12	1	56	12	1	55	13	1
R0350F	Yes	1	B	65	69	4	1	58	11	1	57	12	1	56	13	1
R0350G	Yes	1	B	60	64	4		58	6	1	57	7	1	57	7	1
R0350H	Yes	1	B	62	67	5	1	59	8	1	59	8	1	59	8	1
R0350I	Yes	1	B	64	68	4	1	61	7	1	61	7	1	61	7	1
R0350J	Yes	1	B	56	60	4		56	4		56	4		56	4	
R0350K	Yes	1	B	59	63	4		58	5	1	58	5	1	58	5	1
R0350L	Yes	1	B	60	64	4		60	4		60	4		60	4	

Length (ft)=	1324	1324	1324
Average Height =	16	18	20
Area of Noise Wall (sft)=	21191	23840	26489
Impacted Receptors=	16	16	16
Number of Benefited Receptors=	39	44	47
Area of Noise Wall per Benefit Receptor (sft)=	543	542	564
Average Increase in dB(A) of all Impacted Receptors=	4	4	4
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2647	2647	2647
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
- (4) A 20ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 20 ft barrier

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 17</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>16</u> # BENEFITS - <u>47</u> NAC: A <input checked="" type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>564</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2647</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Orange Corridor

Noise Wall 19

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Impacted Receptors	Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0361A	Yes	1	B	55	61	6		59	2		59	2		59	2	
R0361B	Yes	1	B	54	59	5		55	4		55	4		54	5	1
R0362A	Yes	1	B	54	64	10		58	6	1	58	6	1	57	7	1
R0362B	Yes	1	B	54	66	12	1	59	7	1	59	7	1	58	8	1
R0362C	Yes	1	B	54	67	13	1	62	5	1	61	6	1	61	6	1
R0363A	Yes	1	B	59	70	11	1	64	6	1	64	6	1	63	7	1
R0363B	Yes	1	B	55	72	17	1	68	4		68	4		67	5	1
R0363C	Yes	1	B	54	75	21	1	73	2		72	3		70	5	1
R0364	Yes	1	B	54	72	18	1	61	11	1	60	12	1	60	12	1
R0365A	Yes	1	B	54	69	15	1	60	9	1	59	10	1	59	10	1
R0365B	Yes	1	B	54	71	17	1	60	11	1	60	11	1	60	11	1
R0365C	Yes	1	B	54	66	12	1	58	8	1	57	9	1	57	9	1
R0366A	Yes	1	B	54	73	19	1	62	11	1	62	11	1	61	12	1
R0366B	Yes	1	B	54	73	19	1	61	12	1	61	12	1	61	12	1
R0366C	Yes	1	B	54	72	18	1	61	11	1	60	12	1	60	12	1
R0367A	Yes	1	B	54	66	12	1	59	7	1	59	7	1	59	7	1
R0367B	Yes	1	B	54	70	16	1	62	8	1	61	9	1	61	9	1
R0367C	Yes	1	B	54	64	10		58	6	1	58	6	1	57	7	1
R0368A		1	B	54	60	6		53	7	1	53	7	1	53	7	1
R0368B		1	B	54	60	6		54	6	1	54	6	1	53	7	1
R0370A		1	B	54	57	3		51	6	1	51	6	1	50	7	1
R0370B		1	B	54	58	4		51	7	1	51	7	1	51	7	1
R0370C		1	B	54	60	6		52	8	1	52	8	1	52	8	1
R0371		1	B	54	60	6		55	5	1	55	5	1	54	6	1
R0375A	Yes	1	B	54	61	7		59	2		56	5	1	55	6	1
R0375B	Yes	1	B	54	63	9		60	3		57	6	1	56	7	1
R0376A		1	B	54	66	12	1	62	4		59	7	1	58	8	1
R0376B		1	B	54	66	12	1	62	4		60	6	1	58	8	1
R0376C		1	B	54	64	10		61	3		58	6	1	57	7	1
R0377A	Yes	1	B	54	68	14	1	62	6	1	61	7	1	59	9	1
R0377B	Yes	1	B	54	68	14	1	62	6	1	61	7	1	59	9	1
R0377C	Yes	1	B	54	69	15	1	61	8	1	61	8	1	60	9	1
R0378A	Yes	1	B	54	70	16	1	62	8	1	62	8	1	61	9	1
R0378B	Yes	1	B	54	71	17	1	62	9	1	61	10	1	61	10	1
R0378C	Yes	1	B	54	69	15	1	62	7	1	61	8	1	61	8	1
R0379A	Yes	1	B	54	58	4		54	4		52	6	1	51	7	1
R0379B	Yes	1	B	54	61	7		56	5	1	54	7	1	53	8	1
R0379C	Yes	1	B	54	62	8		57	5	1	55	7	1	54	8	1
R0380A	Yes	1	B	54	62	8		60	2		59	3		56	6	1
R0380B	Yes	1	B	54	63	9		58	5	1	57	6	1	55	8	1
R0381A		1	B	54	65	11	1	59	6	1	58	7	1	56	9	1
R0381B		1	B	54	63	9		60	3		59	4		57	6	1
R0383A		1	B	54	60	6		56	4		55	5	1	53	7	1
R0383B		1	B	54	60	6		55	5	1	55	5	1	53	7	1
R1755A		1	B	54	64	10		60	4		60	4		59	5	1
R1755B		1	B	54	63	9		59	4		59	4		58	5	1
R1756A		1	B	54	66	12	1	61	5	1	61	5	1	60	6	1
R1756B		1	B	54	66	12	1	61	5	1	60	6	1	60	6	1
R1757A		1	B	54	65	11	1	60	5	1	60	5	1	59	6	1
R1757B		1	B	54	64	10		59	5	1	59	5	1	59	5	1
R1758A		1	B	54	66	12	1	59	7	1	59	7	1	59	7	1
R1758B		1	B	54	68	14	1	61	7	1	60	8	1	60	8	1
R1758C		1	B	54	64	10		59	5	1	58	6	1	58	6	1

Length (ft)=	5638	5638	5638
Average Height =	10	12	14
Area of Noise Wall (sft)=	56383	67662	78942
Impacted Receptors=	28	28	28
Number of Benefited Receptors=	38	45	52
Area of Noise Wall per Benefit Receptor (sft)=	1484	1504	1518
Average Increase in dB(A) of all Impacted Receptors=	15	15	15
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3009	3009	3009
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	No

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 10ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 14 ft barrier

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 19</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>28</u> # BENEFITS - <u>52</u>	NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>1518</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3009</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

Orange Corridor

Noise Wall 20

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Recommended ⁴			Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	Intermediate Wall W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0387A	Yes	1	B	54	74	20	1	62	12	1	62	12	1	61	13	1
R0387B	Yes	1	B	54	75	21	1	66	9	1	65	10	1	65	10	1
R0388A		1	B	54	69	15	1	59	10	1	59	10	1	59	10	1
R0388B		1	B	54	66	12	1	62	4		61	5	1	60	6	1
R0389A		1	B	54	64	10		57	7	1	56	8	1	56	8	1
R0389B		1	B	54	65	11	1	55	10	1	55	10	1	55	10	1
R0389C		1	B	54	60	6		54	6	1	54	6	1	54	6	1
R0390A	Yes	1	B	54	72	18	1	60	12	1	59	13	1	59	13	1
R0390B	Yes	1	B	54	73	19	1	60	13	1	60	13	1	59	14	1
R0391A	Yes	1	B	54	73	19	1	60	13	1	60	13	1	59	14	1
R0391B	Yes	1	B	54	70	16	1	58	12	1	58	12	1	58	12	1
R0392A	Yes	1	B	54	71	17	1	58	13	1	57	14	1	57	14	1
R0392B	Yes	1	B	54	72	18	1	58	14	1	57	15	1	57	15	1
R0393A	Yes	1	B	54	68	14	1	57	11	1	57	11	1	56	12	1
R0393B	Yes	1	B	54	70	16	1	57	13	1	57	13	1	57	13	1
R0393C	Yes	1	B	54	71	17	1	56	15	1	56	15	1	56	15	1
R0404	Yes	1	B	54	67	13	1	56	11	1	56	11	1	56	11	1
R0405		1	B	54	59	5		51	8	1	51	8	1	51	8	1
R0406A	Yes	1	B	54	67	13	1	55	12	1	54	13	1	54	13	1
R0406B	Yes	1	B	54	62	8		54	8	1	54	8	1	54	8	1
R0406C	Yes	1	B	54	66	12	1	54	12	1	54	12	1	54	12	1
R0407A	Yes	1	B	54	67	13	1	56	11	1	56	11	1	56	11	1
R0407B	Yes	1	B	54	63	9		55	8	1	55	8	1	55	8	1
R0407C	Yes	1	B	54	64	10		57	7	1	57	7	1	57	7	1
R0408	Yes	1	B	54	64	10		59	5	1	59	5	1	59	5	1
R0409A	Yes	1	B	57	63	6		63	0		63	0		63	0	
R0409B	Yes	1	B	54	59	5		57	2		57	2		57	2	
R0414	Yes	1	B	56	64	8		62	2		62	2		62	2	
R1759		1	B	54	58	4		53	5	1	53	5	1	52	6	1
R1760A		1	B	54	60	6		54	6	1	54	6	1	54	6	1
R1760B		1	B	54	59	5		53	6	1	53	6	1	53	6	1
R1761		1	B	54	60	6		53	7	1	53	7	1	53	7	1
R1762A		1	B	54	58	4		52	6	1	52	6	1	52	6	1
R1762B		1	B	54	58	4		51	7	1	51	7	1	51	7	1
R1763		1	B	54	59	5		52	7	1	52	7	1	52	7	1

Length (ft)=	3600	3600	3600
Average Height =	10	12	14
Area of Noise Wall (sft)=	36002	43201	50401
Impacted Receptors=	18	18	18
Number of Benefited Receptors=	31	32	32
Area of Noise Wall per Benefit Receptor (sft)=	1161	1350	1575
Average Increase in dB(A) of all Impacted Receptors=	16	16	16
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3052	3052	3052
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.

Recommended 12 ft barrier

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 12ft barrier is recommended because all criteria for feasible and reasonable have been met, the barrier breaks the line of sight and the most properties are benefited.

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 20</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>18</u> # BENEFITS - <u>32</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>1350</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3052</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Orange Corridor

Noise Wall 21

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0497A	Yes	1	B	45	70	25	1	59	11	1	59	11	1	58	12	1
R0497B	Yes	1	B	45	69	24	1	59	10	1	59	10	1	58	11	1
R0497C	Yes	1	B	45	70	25	1	60	10	1	59	11	1	58	12	1
R0498A	Yes	1	B	45	70	25	1	60	10	1	59	11	1	59	11	1
R0498B	Yes	1	B	45	70	25	1	60	10	1	60	10	1	59	11	1
R0498C	Yes	1	B	45	70	25	1	60	10	1	59	11	1	58	12	1
R0499A	Yes	1	B	45	71	26	1	61	10	1	60	11	1	59	12	1
R0499B	Yes	1	B	45	70	25	1	61	9	1	60	10	1	59	11	1
R0499C	Yes	1	B	45	71	26	1	61	10	1	60	11	1	59	12	1
R0500A		1	B	45	62	17	1	56	6	1	55	7	1	55	7	1
R0500B		1	B	45	62	17	1	56	6	1	56	6	1	55	7	1
R0501A	Yes	1	B	45	72	27	1	61	11	1	61	11	1	60	12	1
R0501B	Yes	1	B	45	72	27	1	62	10	1	61	11	1	60	12	1
R0502A		1	B	45	63	18	1	57	6	1	57	6	1	56	7	1
R0502B		1	B	45	62	17	1	57	5	1	57	5	1	56	6	1
R0503A	Yes	1	B	45	72	27	1	62	10	1	61	11	1	60	12	1
R0503B	Yes	1	B	45	73	28	1	62	11	1	61	12	1	60	13	1
R0504A		1	B	45	61	16	1	56	5	1	55	6	1	55	6	1
R0504B		1	B	45	60	15	1	55	5	1	55	5	1	54	6	1
R0505A	Yes	1	B	45	69	24	1	61	8	1	60	9	1	59	10	1
R0505B	Yes	1	B	45	67	22	1	60	7	1	60	7	1	59	8	1
R0506A	Yes	1	B	45	65	20	1	59	6	1	59	6	1	58	7	1
R0506B	Yes	1	B	45	62	17	1	58	4		57	5	1	57	5	1
R0507A		1	B	45	58	13		55	3		54	4		54	4	
R0507B		1	B	45	57	12		54	3		54	3		54	3	
R0508A		1	B	48	59	11		57	2		57	2		57	2	
R0508B		1	B	55	62	7		61	1		61	1		61	1	
R0509A		1	B	45	61	16	1	57	4		57	4		57	4	
R0509B		1	B	52	62	10		60	2		60	2		60	2	
R0513A	Yes	1	B	51	68	17	1	62	6	1	62	6	1	62	6	1
R0513B	Yes	1	B	50	63	13		59	4		59	4		59	4	
R1764A		1	B	45	63	18	1	57	6	1	57	6	1	57	6	1
R1764B		1	B	45	61	16	1	56	5	1	56	5	1	56	5	1
R1765		1	B	45	60	15	1	55	5	1	55	5	1	55	5	1
R1766		1	B	45	59	14		54	5	1	53	6	1	53	6	1
R1767A		1	B	45	60	15	1	55	5	1	55	5	1	54	6	1
R1767B		1	B	45	58	13		54	4		54	4		53	5	1
R1768		1	B	45	59	14		55	4		55	4		54	5	1
R1769		1	B	45	58	13		54	4		54	4		53	5	1
R1928		1	B	45	57	12		53	4		53	4		53	4	
R1929		1	B	45	57	12		54	3		53	4		53	4	
R2294A		1	B	45	57	12		53	4		52	5	1	52	5	1
R2294B		1	B	45	56	11		52	4		52	4		52	4	

Length (ft)=	3041	3041	3041
Average Height =	20	22	24
Area of Noise Wall (sft)=	60821	66903	72988
Impacted Receptors=	29	29	29
Number of Benefited Receptors=	28	30	33
Area of Noise Wall per Benefit Receptor (sft)=	2172	2230	2212
Average Increase in dB(A) of all Impacted Receptors=	21	21	21
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3242	3242	3242
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 24ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 24 ft barrier

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>		TIP # - <u>R-2721, R-2828, R-2829</u>	
LOCATION - <u>Barrier 21</u>		COUNTY(IES) - <u>Wake and Johnston</u>	
# IMPACTS - <u>29</u>	# BENEFITS - <u>33</u>	NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
A. FEASIBILITY:			
1	Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3	Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4	Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
B. REASONABLENESS:			
1	Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the design criteria per benefited receptor of <u>2212</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3242</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:			
1	Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
3	Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
4	Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
5	Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:			
1	Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
2	If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____	_____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd
	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____	_____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd
3	If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>		Date: _____	
In Consultation With: _____		Date: _____	

Orange Corridor

Noise Wall 22

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²					Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Benefit Increases	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0517	Yes	1	B	46	67	21	21	1	61	6	1	60	7	1	59	8	1
R0518A	Yes	1	B	45	71	26	26	1	63	8	1	62	9	1	61	10	1
R0518B	Yes	1	B	45	67	22	22	1	61	6	1	60	7	1	59	8	1
R0518C	Yes	1	B	45	70	25	25	1	62	8	1	62	8	1	60	10	1
R0519A	Yes	1	B	45	71	26	26	1	63	8	1	62	9	1	61	10	1
R0519B	Yes	1	B	45	70	25	25	1	62	8	1	62	8	1	60	10	1
R0520A	Yes	1	B	45	71	26	26	1	65	6	1	64	7	1	62	9	1
R0520B	Yes	1	B	45	69	24	24	1	63	6	1	62	7	1	60	9	1
R0521A	Yes	1	B	45	61	16	16	1	58	3		56	5	1	55	6	1
R0521B	Yes	1	B	45	63	18	18	1	61	2		58	5	1	57	6	1
R0522A	Yes	1	B	45	59	14			57	2		55	4		55	4	
R0522B	Yes	1	B	45	58	13			56	2		55	3		54	4	
R0523A	Yes	1	B	45	58	13			56	2		55	3		54	4	
R0523B	Yes	1	B	45	58	13			55	3		54	4		54	4	
R0523C	Yes	1	B	45	57	12			54	3		53	4		53	4	
R0524A	Yes	1	B	45	56	11			53	3		52	4		52	4	
R0524B	Yes	1	B	45	57	12			54	3		53	4		52	5	1
R0525A	Yes	1	B	45	58	13			54	4		53	5	1	53	5	1
R0525B	Yes	1	B	45	57	12			54	3		53	4		53	4	
R0526A	Yes	1	B	45	58	13			56	2		55	3		54	4	
R0526B	Yes	1	B	45	60	15	15	1	57	3		56	4		55	5	1
R0526C	Yes	1	B	45	58	13			55	3		54	4		54	4	
R0526D	Yes	1	B	45	61	16	16	1	58	3		57	4		56	5	1
R0527A	Yes	1	B	45	60	15	15	1	56	4		56	4		55	5	1
R0527B	Yes	1	B	45	59	14			56	3		55	4		55	4	
R0528A	Yes	1	B	45	57	12			55	2		54	3		53	4	
R0528B	Yes	1	B	45	58	13			55	3		54	4		54	4	
R0529A	Yes	1	B	45	57	12			54	3		53	4		53	4	
R0529B	Yes	1	B	45	57	12			53	4		53	4		52	5	1
R0532A	Yes	1	B	45	57	12			54	3		53	4		53	4	
R0532B	Yes	1	B	45	56	11			53	3		52	4		52	4	
R0533A	Yes	1	B	45	57	12			54	3		54	3		53	4	
R0533B	Yes	1	B	45	58	13			54	4		54	4		54	4	
R0534A	Yes	1	B	45	59	14			55	4		55	4		54	5	1
R0534B	Yes	1	B	45	60	15	15	1	55	5	1	55	5	1	55	5	1
R0534C	Yes	1	B	45	61	16	16	1	56	5	1	56	5	1	55	6	1
R1630	Yes	1	B	45	65	20	20	1	63	2		60	5	1	59	6	1
R1653A	Yes	1	B	45	69	24	24	1	65	4		62	7	1	60	9	1
R1653B	Yes	1	B	45	69	24	24	1	65	4		63	6	1	61	8	1
R1653C	Yes	1	B	45	67	22	22	1	64	3		61	6	1	60	7	1

Length (ft)=	2440	2440	2440
Average Height =	10	12	16
Area of Noise Wall (sf)=	24400	29279	39039
Impacted Receptors=	19	19	19
Number of Benefited Receptors=	10	17	23
Area of Noise Wall per Benefited Receptor (sf)=	2440	1722	1697
Average Increase in dB(A) of all Impacted Receptors=	21	21	21
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	3229	3229	3229
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 14ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 14 ft barrier

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 22</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>19</u>	# BENEFITS - <u>23</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) 1697 <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) 3229 <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO <u> </u>					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

**Complete 540
Traffic Noise Analysis
Orange Corridor**

Noise Wall 23

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall			
			Existing dB(A)	Build dB(A) Increase	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³
R0543	Yes	SCHOOL	40	43	3	43	0	42	1	42	1	
R0544A	Yes	B	46	65	19	63	2	60	5	60	5	1
R0544B	Yes	B	46	69	23	62	7	61	8	61	8	1
R0545	Yes	B	46	60	14	59	1	58	2	57	3	
R0546	Yes	B	46	73	27	68	5	66	7	65	8	1

Length (ft)=	1400
Average Height =	12
Area of Noise Wall (sft)=	16798
Impacted Receptors=	3
Number of Benefited Receptors=	3
Area of Noise Wall per Benefited Receptor (sft)=	5599
Average Increase in dB(A) of all Impacted Receptors=	23
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3305
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	No
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	No

1400
14
19599
3
3
6533
23
3305
Yes
No
Yes
Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 23</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>3</u> # BENEFITS - <u>3</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input checked="" type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>6533</u> ^(CIRCLE ONE) <u>sq.ft.</u> <u>cu.yd</u> less than the maximum allowable design criteria per benefited receptor of <u>3305</u> ^(CIRCLE ONE) <u>sq.ft.</u> <u>cu.yd</u> ?	<u>X</u> YES <u> </u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u> </u> YES <u>X</u> NO
3 Is the noise mitigation likely?	<u> </u> YES <u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u>X</u> YES <u> </u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u>23</u> <u>6,533</u> ^(CIRCLE ONE) <u>sq.ft.</u> <u>cu.yd</u>	Bar No. <u> </u> <u> </u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u>
Bar No. <u>24</u> <u>2,053</u> ^(CIRCLE ONE) <u>sq.ft.</u> <u>cu.yd</u>	Bar No. <u> </u> <u> </u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u>
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u>2,500</u> ^(CIRCLE ONE) <u>sq.ft.</u> <u>cu.yd</u> ?	<u> </u> YES <u>X</u> NO
Form Completed By: <u>E SALUTZ</u> Date: <u> </u>	
In Consultation With: <u> </u> Date: <u> </u>	

Orange Corridor

Noise Wall 24

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Impacted Receptors	Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	Tall Wall		
														W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0547	Yes	1	B	46	61	15	1	57	4		57	4		56	5	1
R0548A	Yes	1	B	46	59	13		55	4		54	5	1	54	5	1
R0548B	Yes	1	B	46	58	12		55	3		54	4		53	5	1
R0549A	Yes	1	B	46	58	12		53	5	1	53	5	1	52	6	1
R0549B	Yes	1	B	46	57	11		53	4		52	5	1	51	6	1
R0550	Yes	1	B	46	58	12		54	4		53	5	1	53	5	1
R0551A	Yes	1	B	46	62	16	1	58	4		57	5	1	56	6	1
R0551B	Yes	1	B	46	61	15	1	57	4		56	5	1	55	6	1
R0552	Yes	1	B	46	63	17	1	58	5	1	57	6	1	55	8	1
R0553	Yes	1	B	46	65	19	1	60	5	1	58	7	1	56	9	1
R0554A	Yes	1	B	46	68	22	1	61	7	1	60	8	1	58	10	1
R0554B	Yes	1	B	46	69	23	1	62	7	1	60	9	1	58	11	1
R0555A	Yes	1	B	46	66	20	1	61	5	1	59	7	1	57	9	1
R0555B	Yes	1	B	46	61	15	1	56	5	1	54	7	1	53	8	1
R0555C	Yes	1	B	46	61	15	1	56	5	1	55	6	1	54	7	1
R0556A	Yes	1	B	46	70	24	1	62	8	1	60	10	1	58	12	1
R0556B	Yes	1	B	46	67	21	1	61	6	1	59	8	1	57	10	1
R0556C	Yes	1	B	46	64	18	1	60	4		58	6	1	56	8	1
R0557A	Yes	1	B	46	65	19	1	62	3		59	6	1	56	9	1
R0557B	Yes	1	B	46	65	19	1	59	6	1	57	8	1	55	10	1
R0558A		1	B	46	64	18	1	61	3		59	5	1	57	7	1
R0558B		1	B	46	63	17	1	60	3		58	5	1	57	6	1
R0559A	Yes	1	B	46	65	19	1	61	4		59	6	1	57	8	1
R0559B	Yes	1	B	46	64	18	1	60	4		59	5	1	57	7	1
R0559C	Yes	1	B	46	69	23	1	62	7	1	60	9	1	58	11	1
R0560A	Yes	1	B	46	64	18	1	56	8	1	55	9	1	54	10	1
R0560B	Yes	1	B	46	61	15	1	58	3		57	4		56	5	1
R0562	Yes	1	B	46	71	25	1	58	13	1	57	14	1	56	15	1
R0563A	Yes	1	B	46	61	15	1	57	4		56	5	1	54	7	1
R0563B	Yes	1	B	46	61	15	1	59	2		55	6	1	54	7	1
R0564A	Yes	1	B	46	60	14		58	2		55	5	1	54	6	1
R0564B	Yes	1	B	46	59	13		57	2		54	5	1	53	6	1
R0564C	Yes	1	B	46	59	13		56	3		54	5	1	53	6	1
R0565A	Yes	1	B	46	58	12		54	4		53	5	1	52	6	1
R0565B	Yes	1	B	46	57	11		55	2		53	4		53	4	
R1780A		1	B	46	62	16	1	60	2		57	5	1	55	7	1
R1780B		1	B	46	61	15	1	59	2		56	5	1	55	6	1
R1780C		1	B	46	60	14		58	2		56	4		54	6	1
R1781A		1	B	46	57	11		54	3		53	4		52	5	1
R1781B		1	B	46	56	10		53	3		52	4		52	4	
R1781C		1	B	46	58	12		55	3		54	4		53	5	1
R1782A		1	B	46	60	14		57	3		56	4		55	5	1
R1782B		1	B	46	59	13		56	3		55	4		54	5	1
R1783A		1	B	46	59	13		54	5	1	54	5	1	53	6	1
R1783B		1	B	46	58	12		54	4		53	5	1	53	5	1
R1783C		1	B	46	58	12		55	3		54	4		53	5	1
R1886A		1	B	46	56	10		53	3		52	4		52	4	
R1886B		1	B	46	57	11		54	3		53	4		52	5	1

Length (ft)=	4200	4200	4200
Average Height =	12	16	22
Area of Noise Wall (sft)=	50400	67205	92405
Impacted Receptors=	27	27	27
Number of Benefited Receptors=	15	35	45
Area of Noise Wall per Benefit Receptor (sft)=	3360	1920	2053
Average Increase in dB(A) of all Impacted Receptors=	18	18	18
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3138	3138	3138
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 22ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 22ft wall

**Complete 540
Traffic Noise Analysis**

3/17/2015

Orange Corridor

Noise Wall 25

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Recommended ⁴ Intermediate Wall		Tail Wall					
			Existing dB(A)	Build dB(A) Increase	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R0637	Yes	B	46	65	19	59	6	1	59	6	1	59	6	1
R0638	Yes	B	50	71	21	63	8	1	62	9	1	62	9	1

Length (ft)=	600
Average Height =	8
Area of Noise Wall (sft)=	4801
Impacted Receptors=	2
Number of Benefited Receptors=	2
Area of Noise Wall per Benefited Receptor (sft)=	2401
Average Increase in dB(A) of all Impacted Receptors=	20
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3200
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	Yes
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	No

(1) Category B denotes a residential property. Recommended 10 ft barrier

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 10ft barrier is recommended because all criteria for feasible and reasonable have been met, the barrier breaks the line of sight, and the most properties are benefited.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 25</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>2</u>	# BENEFITS - <u>2</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>3001</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3200</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd					
	<u> </u>	YES		<u> </u>	NO

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

**Complete 540
Traffic Noise Analysis
Orange Corridor**

Noise Wall 26

Receptor	First Row Represented	Residences	Land Use Category ¹	Noise Levels ²			Recommended ⁴					
				Existing dB(A)	Build dB(A)	Increase	Short Wall	Intermediate Wall	Tall Wall			
				dB(A)	dB(A)		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1632	Yes	1	B	49	74	25	64	10	1	63	11	1
R0644	Yes	1	B	47	66	19	58	8	1	58	8	1
R0645A	Yes	1	B	48	62	14	60	2		60	2	
R0645B	Yes	1	B	50	63	13	61	2		61	2	

677
8
5416
2
2
2708
22
3270
Yes
Yes
Yes
No

Length (ft)= 677
 Average Height = 8
 Area of Noise Wall (sft)= 5416
 Impacted Receptors= 2
 Number of Benefited Receptors= 2
 Area of Noise Wall per Benefit Receptor (sft)= 2708
 Average Increase in dB(A) of all Impacted Receptors= 22
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)= 3270
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = Reasonable (7 dB(A) Reduction) = Yes
 Breaks Line of Sight to Impacted Properties? = No

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
- (4) A 8ft barrier is recommended because all criteria for feasible and reasonable have been met, the barrier breaks the line of sight, and the most properties are benefited.

Recommended 8 ft barrier

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 26</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>2</u>	# BENEFITS - <u>2</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>2708</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3270</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd	Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd
Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd	Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

**Complete 540
Traffic Noise Analysis
Orange Corridor**

Noise Wall 27

Receptor	First Row Represented	Residences	NAC Land Use Category ¹	Existing Build		Noise Levels ²		Short Wall		Intermediate Wall		Recommended ⁴ Tail Wall				
				dB(A)	dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0641A	Yes	1	B	46	64	18	1	57	7	1	57	7	1	56	8	1
R0641B	Yes	1	B	46	63	17	1	56	7	1	56	7	1	56	7	1
R0642A	Yes	1	B	46	64	18	1	54	10	1	54	10	1	54	10	1
R0642B	Yes	1	B	46	62	16	1	55	7	1	55	7	1	55	7	1
R0642C	Yes	1	B	46	60	14	1	56	4	1	56	4	1	55	5	1
R0643	Yes	1	B	46	67	21	1	59	8	1	58	9	1	58	9	1
R0651	Yes	1	B	46	73	27	1	64	9	1	63	10	1	62	11	1

Length (ft)=	1756	1756
Average Height =	8	10
Area of Noise Wall (sft)=	14045	17557
Impacted Receptors=	6	6
Number of Benefited Receptors=	6	6
Area of Noise Wall per Benefit Receptor (sft)=	2341	2926
Average Increase in dB(A) of all Impacted Receptors=	20	20
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3183	3183
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No

(1) Category B denotes a residential property. Recommended 12 ft barrier

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 12ft barrier is recommended because all criteria for feasible and reasonable have been met, the barrier breaks the line of sight, and the most properties are benefited.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 27</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>6</u> # BENEFITS - <u>7</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>3010</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3183</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u> YES <u> </u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u>X</u> YES <u> </u> NO
3 Is the noise mitigation likely?	<u>X</u> YES <u> </u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	<u> </u> YES <u> </u> NO
Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Triangle Expressway Southeast Extension
 Noise Analysis
 I-540
 Orange Corridor

3/17/2015

Noise Wall 27b

Receptor	First Properties Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Properties	Short Wall		Intermediate Wall		Tall Wall		
			Existing dB(A)	Build dB(A) Increase		W/Wall ² dB(A)	Reduction ³	Benefited Properties	W/Wall ² dB(A)	Reduction ³	Benefited Properties	W/Wall ² dB(A)
R0735	Yes	B	50	59	9	0	59	0	59	0	59	0
R0736A	Yes	B	50	60	10	0	60	0	60	0	60	0
R0736B	Yes	B	50	60	10	0	60	0	60	0	60	0
R0741A	Yes	B	50	61	11	0	61	0	61	0	61	0
R0741B	Yes	B	50	60	10	0	60	0	60	0	60	0
R0741C	Yes	B	50	62	12	0	62	0	62	0	62	0
R0745A	Yes	B	50	64	14	2	62	3	61	3	59	5
R0745B	Yes	B	50	65	15	4	61	5	60	5	59	6
R0745C	Yes	B	50	63	13	0	63	1	62	1	62	1
R0746A	Yes	B	50	64	14	7	57	7	57	7	56	8
R0746B	Yes	B	50	65	15	7	58	7	58	7	57	8
R0746C	Yes	B	50	66	16	6	60	6	59	6	58	8
R0747A	Yes	B	50	67	17	6	61	6	60	6	60	7
R0747B	Yes	B	50	68	18	7	61	7	61	7	60	8
R0747C	Yes	B	50	65	15	4	61	4	60	4	59	6
R0747D	Yes	B	50	61	11	2	59	2	57	2	56	5
R0747E	Yes	B	50	60	10	1	59	1	58	2	57	3

1800	1800	1800	1800
16	12	12	14
28803	21602	21602	25202
6	6	6	6
9	5	5	7
3200	4320	4320	3600
16	16	16	16
3060	3060	3060	3060
Yes	Yes	Yes	Yes
No	No	No	No
Yes	Yes	Yes	Yes
Yes	No	No	Yes

Length (ft)=
 Average Height =
 Area of Noise Wall (sft)=
 Impacted Receptors=
 Number of Benefited Receptors=
 Area of Noise Wall per Benefited Receptor (sft)=
 Average Increase in dB(A) of all Impacted Receptors=
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=
 Feasible (5 dB(A) Reduction)=
 Reasonable (Wall Area per Benefit) =
 Reasonable (7 dB(A) Reduction) =
 Breaks Line of Sight to Impacted Properties? =

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 27b</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>6</u>	# BENEFITS - <u>9</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>3200</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3060</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

**Complete 540
Traffic Noise Analysis
Orange Corridor**

Noise Wall 28

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall						
			Existing dB(A)	Build dB(A) Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors				
R0646	Yes	B	47	69	22	1	60	9	1	59	10	1	58	11	1
R0647	Yes	B	51	63	12		60	3		60	3		60	3	
R0652A	Yes	B	46	66	20	1	64	2	1	61	5	1	60	6	1
R0652B	Yes	B	46	66	20	1	65	1		62	4		61	5	1
R2281	Yes	B	46	62	16	1	61	1		60	2		59	3	

Length (ft)=	2044	2044	2044
Average Height =	8	14	16
Area of Noise Wall (sft)=	16353	28616	32703
Impacted Receptors=	4	4	4
Number of Benefited Receptors=	1	2	3
Area of Noise Wall per Benefited Receptor (sft)=	16353	14308	10901
Average Increase in dB(A) of all Impacted Receptors=	20	20	20
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3183	3183	3183
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 28</u>	COUNTY (IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>4</u>	# BENEFITS - <u>3</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:		
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

B. REASONABLENESS:		
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>10901</u> <small>(CIRCLE ONE)</small> <u>sq.ft./cu.yd</u> less than the maximum allowable design criteria per benefited receptor of <u>3183</u> <small>(CIRCLE ONE)</small> <u>sq.ft./cu.yd</u> ?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

C. NOISE ABATEMENT DECISION:		
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

D. OPTIONAL REASONABLENESS CONSIDERATION:		
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd <input type="checkbox"/> YES <input type="checkbox"/> NO		

Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

**Complete 540
Traffic Noise Analysis
Orange Corridor**

Noise Wall 30

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall			
			Existing dB(A)	Build dB(A) Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R0722A	Yes	B	50	62	12	58	4	58	4	57	5	1
R0722B	Yes	B	50	64	14	60	4	59	5	58	6	1
R0723A	Yes	B	50	70	20	65	5	64	6	62	8	1
R0723B	Yes	B	50	67	17	62	5	61	6	60	7	1
R0724A	Yes	B	50	68	18	60	8	60	8	59	9	1
R0724B	Yes	B	50	67	17	60	7	59	8	59	8	1
R1801		B	50	62	12	60	2	59	3	59	3	
R1802A		B	50	65	15	60	5	60	5	59	6	1
R1802B		B	50	63	13	59	4	58	5	58	5	1

Length (ft)=	1627	1627	1627	1627
Average Height =	14	14	14	14
Area of Noise Wall (sft)=	22777	22777	22777	22777
Impacted Receptors=	5	5	5	5
Number of Benefited Receptors=	5	5	5	5
Area of Noise Wall per Benefited Receptor (sft)=	4555	4555	4555	4555
Average Increase in dB(A) of all Impacted Receptors=	17	17	17	17
Area of Noise Wall per Benefited Receptor (sft)=	3109	3109	3109	3109
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	Yes	Yes	Yes	Yes
Feasible (5 dB(A) Reduction)=	No	No	No	No
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	No	No	No	No
Breaks Line of Sight to Impacted Properties? =	No	No	No	No

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 30</u>	COUNTY (IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>5</u> # BENEFITS - <u>8</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>3661</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> less than the maximum allowable design criteria per benefited receptor of <u>3109</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> ?	<u> </u> YES <u>X</u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u> </u> YES <u>X</u> NO
3 Is the noise mitigation likely?	<u> </u> YES <u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> <u> </u> YES <u> </u> NO	
Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Noise Wall 31

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall					
			Existing dB(A)	Build dB(A) Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors			
R0806	Yes	B	64	67	3	62	5	61	6	61	6	61	6	1
R0807	Yes	B	67	72	5	63	9	62	10	62	10	62	10	1
R0808A	Yes	B	60	66	6	60	6	60	6	60	7	59	7	1
R0808B	Yes	B	56	61	5	58	3	58	3	58	3	58	3	
R0809A	Yes	B	61	67	6	62	5	62	5	62	5	61	6	1
R0809B	Yes	B	59	67	8	59	8	60	7	60	7	60	7	1
R0811A	Yes	B	59	62	3	59	3	58	4	58	4	58	4	
R0811B	Yes	B	57	62	5	58	4	58	4	58	4	58	4	

1424
14
19934
5
5
3987
6
2696
Yes
No
Yes
Yes

1424
12
17088
5
5
3418
6
2696
Yes
No
Yes
No

Length (ft)= 1424
 Average Height = 12
 Area of Noise Wall (sft)= 17088
 Impacted Receptors= 5
 Number of Benefited Receptors= 5
 Area of Noise Wall per Benefited Receptor (sft)= 3418
 Average Increase in dB(A) of all Impacted Receptors= 6
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)= 2696
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = Yes
 Breaks Line of Sight to Impacted Properties? = No

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>		TIP # - <u>R-2721, R-2828, R-2829</u>	
LOCATION - <u>Barrier 31</u>		COUNTY(IES) - <u>Wake and Johnston</u>	
# IMPACTS - <u>5</u>	# BENEFITS - <u>5</u>	NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	<small>(CIRCLE ALL THAT APPLY)</small>

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>3987</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2696</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	<input type="checkbox"/> YES	<input type="checkbox"/> NO

Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

**Complete 540
Traffic Noise Analysis
Orange Corridor**

Noise Wall 32

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tail Wall					
			Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors		
R0856	Yes	B	64	73	9	1	64	9	63	10	1	62	11	1
R0857	Yes	B	66	71	5	1	65	6	64	7	1	63	8	1
R0858A	Yes	B	62	70	8	1	65	5	63	7	1	62	8	1
R0858B	Yes	B	61	69	8	1	63	6	61	8	1	61	8	1
R0859	Yes	B	65	70	5	1	65	5	64	6	1	63	7	1
R0860A	Yes	B	68	74	6	1	66	8	65	9	1	64	10	1
R0860B	Yes	B	68	74	6	1	66	8	65	9	1	64	10	1
R1842		B	59	64	5		60	4	59	5		59	5	1
R1843A		B	62	67	5	1	64	3	62	5	1	61	6	1
R1843B		B	61	66	5	1	63	3	61	5	1	60	6	1
R1844A		B	60	65	5		62	3	60	5	1	60	5	1
R1844B		B	59	63	4		61	2	59	4		59	4	
R2291A		B	61	63	2		61	2	60	3		60	3	
R2291B		B	61	62	1		61	1	61	1		61	1	

Length (ft)=	2200	2200	2200
Average Height =	16	18	20
Area of Noise Wall (sft)=	35198	39598	44000
Impacted Receptors=	9	9	9
Number of Benefited Receptors=	7	11	11
Area of Noise Wall per Benefited Receptor (sft)=	5028	3600	4000
Average Increase in dB(A) of all Impacted Receptors=	6	6	6
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2722	2722	2722
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 32</u>	COUNTY (IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>9</u>	# BENEFITS - <u>11</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>4000</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2722</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u>	YES		<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES		<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES		<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Orange Corridor

Noise Wall 33

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Recommended ⁴			
				Existing dB(A)	Build Increase dB(A)	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)
R0916A	Yes	1	B	69	74	5	1	66	8	1	64	10	1
R0916B	Yes	1	B	70	75	5	1	66	9	1	64	11	1
R0916C	Yes	1	B	70	75	5	1	66	9	1	65	10	1
R0917		1	B	63	67	4	1	61	6	1	60	7	1
R0918A	Yes	1	B	70	73	3	1	66	7	1	64	9	1
R0918B	Yes	1	B	70	73	3	1	66	7	1	64	9	1
R0918C	Yes	1	B	69	72	3	1	65	7	1	64	8	1
R0919A		1	B	62	66	4	1	61	5	1	60	6	1
R0919B		1	B	60	63	3	1	59	4	1	58	5	1
R0920		1	B	57	60	3	1	57	3	1	56	4	1
R0921A		1	B	59	63	4	1	59	4	1	58	5	1
R0921B		1	B	61	65	4	1	61	4	1	60	5	1
R0921C		1	B	60	64	4	1	60	4	1	59	5	1
R0922A	Yes	1	B	68	71	3	1	66	5	1	64	7	1
R0922B	Yes	1	B	68	71	3	1	65	6	1	63	8	1
R0923A		1	B	66	69	3	1	64	5	1	62	7	1
R0923B		1	B	63	66	3	1	62	4	1	60	6	1
R0924A		1	B	58	60	2	1	57	3	1	56	4	1
R0924B		1	B	58	61	3	1	57	4	1	57	4	1
R0928		1	B	61	63	2	1	58	5	1	57	6	1
R0931A	Yes	1	B	67	70	3	1	64	6	1	63	7	1
R0931B	Yes	1	B	72	74	2	1	66	8	1	64	10	1
R2315	Yes	RECREATIONAL	C	55	65	10	1						
R2315-1	Yes	NODAL ARRAY	C	55	62	7	1	60	2	1	59	3	1
R2315-2	Yes	NODAL ARRAY	C	55	61	6	1	60	1	1	59	2	1
R2315-3	Yes	NODAL ARRAY	C	55	61	6	1	60	1	1	60	1	1
R2315-4	Yes	NODAL ARRAY	C	55	61	6	1	60	1	1	60	1	1
R2315-5	Yes	NODAL ARRAY	C	55	65	10	1	64	1	1	63	2	1
R2315-6	Yes	NODAL ARRAY	C	55	66	11	1	65	1	1	64	2	1

Length (ft)= 2400
 Average Height = 10
 Area of Noise Wall (sf)= 24002
 Impacted Receptors= 16
 Number of Benefited Receptors= 8
 Area of Noise Wall per Benefited Receptor (sf)= 3000
 Average Increase in dB(A) of all Impacted Receptors= 4
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)= 2653
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = Yes
 Breaks Line of Sight to Impacted Properties? = No

2400
16
38400
16
19
2021
4
2653
Yes
Yes
Yes
Yes

Recommended 16ft Wall

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
 (4) A 16ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 33</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>16</u>	# BENEFITS - <u>19</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>2021</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2653</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Red Corridor

Noise Wall 34

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0257A	Yes	1	B	47	58	11		58	0		57	1		57	1	
R0257B	Yes	1	B	48	59	11		58	1		58	1		58	1	
R0258		1	B	46	58	12		57	1		57	1		57	1	
R1624	Yes	1	B	48	60	12		59	1		59	1		59	1	
R0259		1	B	46	56	10		55	1		55	1		55	1	
R0260A	Yes	1	B	47	61	14		60	1		60	1		60	1	
R0260B	Yes	1	B	46	60	14		58	2		57	3		57	3	
R0261A	Yes	1	B	46	61	15	1	59	2		59	2		58	3	
R0261B	Yes	1	B	47	63	16	1	61	2		61	2		61	2	
R0261C	Yes	1	B	46	60	14		58	2		58	2		56	4	
R0262A		1	B	46	55	9		54	1		54	1		54	1	
R0262B		1	B	46	55	9		54	1		54	1		53	2	
R0263A		1	B	46	55	9		53	2		53	2		52	3	
R0263B		1	B	46	54	8		52	2		52	2		52	2	
R0264A		1	B	46	57	11		56	1		55	2		55	2	
R0264B		1	B	46	56	10		55	1		54	2		54	2	
R0265A		1	B	46	58	12		56	2		55	3		54	4	
R0265B		1	B	46	58	12		55	3		55	3		54	4	
R0266A		1	B	46	58	12		57	1		56	2		55	3	
R0266B		1	B	46	58	12		56	2		56	2		55	3	
R0267A		1	B	46	60	14		58	2		57	3		56	4	
R0267B		1	B	46	62	16	1	59	3		58	4		56	6	1
R0268A		1	B	46	60	14		57	3		56	4		55	5	1
R0268B		1	B	46	62	16	1	58	4		57	5	1	56	6	1
R0268C		1	B	46	60	14		57	3		57	3		55	5	1
R0269	Yes	1	B	46	69	23	1	62	7	1	61	8	1	58	11	1
R0270	Yes	1	B	46	76	30	1	61	15	1	60	16	1	56	20	1
R0271A	Yes	1	B	46	69	23	1	63	6	1	62	7	1	59	10	1
R0271B	Yes	1	B	46	66	20	1	61	5	1	61	5	1	58	8	1
R0272	Yes	1	B	46	70	24	1	65	5	1	63	7	1	60	10	1
R0273A	Yes	1	B	46	66	20	1	62	4		62	4		59	7	1
R0273B	Yes	1	B	46	67	21	1	64	3		62	5	1	59	8	1
R1746A		1	B	46	62	16	1	58	4		58	4		56	6	1
R1746B		1	B	46	61	15	1	59	2		58	3		56	5	1
R1747		1	B	46	62	16	1	61	1		60	2		57	5	1
R1748		1	B	46	63	17	1	60	3		59	4		58	5	1
R1916		1	B	46	59	13		58	1		57	2		56	3	
R1917		1	B	47	59	12		56	3		56	3		55	4	

Length (ft)=	1947	1947	1947
Average Height =	12	14	24
Area of Noise Wall (sft)=	23367	27261	46733
Impacted Receptors=	15	15	15
Number of Benefited Receptors=	5	7	15
Area of Noise Wall per Benefit Receptor (sft)=	4673	3894	3116
Average Increase in dB(A) of all Impacted Receptors=	19	19	19
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3172	3172	3172
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	Yes	Yes

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
- (4) A 24ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 24ft wall

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 34</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>15</u>	# BENEFITS - <u>15</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>3116</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3172</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	<u> </u> sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	<u> </u> sq.ft./cu.yd
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	<u> </u> sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	<u> </u> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Red Corridor

Noise Wall 35

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Tall Wall		
			Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	WWall ² dB(A)	Reduction ³	Benefited Receptors	WWall ² dB(A)	Reduction ³	Benefited Receptors	WWall ² dB(A)	Reduction ³
R0249	Yes	B	46	74	28	1	63	11	62	12	1	61	13	1
R0250A	Yes	B	46	63	17	1	60	3	59	4	1	59	4	1
R0250B	Yes	B	46	63	17	1	59	4	59	4	1	58	5	1
R0250C	Yes	B	50	63	13	1	61	2	61	2	1	61	2	1
R0253A	Yes	B	46	66	20	1	59	7	59	7	1	58	8	1
R0253B	Yes	B	46	63	17	1	57	6	57	6	1	56	7	1
R0274A	Yes	B	46	66	20	1	60	6	59	7	1	59	7	1
R0274B	Yes	B	46	67	21	1	59	8	58	9	1	58	9	1
R0274C	Yes	B	46	65	19	1	57	8	57	8	1	56	9	1
R0275	Yes	B	46	55	9	1	54	1	54	1	1	54	1	1
R0276	Yes	B	51	56	5	1	56	0	56	0	1	56	0	1
R0277	Yes	B	50	65	15	1	58	7	57	8	1	57	8	1
R1743A	1	B	50	60	10	1	60	0	60	0	1	59	1	1
R1743B	1	B	46	59	13	1	58	1	58	1	1	58	1	1
R1744A	1	B	46	61	15	1	55	6	55	6	1	55	6	1
R1744B	1	B	46	59	13	1	55	4	55	4	1	55	4	1
R1745A	1	B	46	62	16	1	57	5	56	6	1	55	7	1
R1745B	1	B	46	60	14	1	56	4	55	5	1	55	5	1
R1745C	1	B	46	60	14	1	54	6	54	6	1	53	7	1
R1745D	1	B	46	58	12	1	55	3	54	4	1	54	4	1

Length (ft)= 3067
 Average Height = 16
 Area of Noise Wall (sft)= 49084
 Impacted Receptors= 11
 Number of Benefited Receptors= 10
 Area of Noise Wall per Benefited Receptor (sft)= 4295
 Average Increase in dB(A) of all Impacted Receptors= 19
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)= 3152
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = Yes
 Breaks Line of Sight to Impacted Properties? = No

3067	3067
18	16
55220	49084
11	11
12	10
4602	4462
19	19
3152	3152
Yes	Yes
No	No
Yes	Yes
Yes	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 35</u>	COUNTY(IES) - <u>Wake and Johnston 35</u>
# IMPACTS - <u>11</u>	# BENEFITS - <u>12</u>
NAC: A <input checked="" type="radio"/> B C D E F G <small>(CIRCLE ALL THAT APPLY)</small>	
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>4602</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> less than the maximum allowable design criteria per benefited receptor of <u>3152</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> ?	<u> </u> YES <u>X</u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u> </u> YES <u>X</u> NO
3 Is the noise mitigation likely?	<u> </u> YES <u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u>X</u> YES <u> </u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u>34</u> <u>3,116</u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u>35</u> <u>4,602</u> sq.ft./cu.yd	Bar No. <u> </u> <u> </u> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u>2,500</u> ^(CIRCLE ONE) sq.ft./cu.yd	<u>X</u> YES <u> </u> NO
Form Completed By: <u>E SALUTZ</u> Date: <u> </u>	
In Consultation With: <u> </u> Date: <u> </u>	

Complete 540
Traffic Noise Analysis

3/25/2015

Red Corridor

Noise Wall 36

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tall Wall		
			Existing dB(A)	Build dB(A) Increase		W/Wall ² dB(A)	Reduction ³	W/Wall ² dB(A)	Reduction ³	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0291A	Yes	B	46	64	18	62	2	60	4	59	5	1
R0291B	Yes	B	46	66	20	64	2	61	5	60	6	1
R0292	Yes	B	46	68	22	62	6	61	7	60	8	1
R1750A	1	B	46	63	17	61	2	58	5	58	5	1
R1750B	1	B	46	64	18	61	3	59	5	58	6	1
R1751	1	B	46	64	18	60	4	59	5	58	6	1
R1930	1	B	46	60	14	59	1	57	3	56	4	
R1931A	1	B	46	61	15	59	2	57	4	56	5	1
R1931B	1	B	46	60	14	58	2	56	4	55	4	
R1931C	1	B	46	59	13	58	1	56	3	55	4	
R1932A	1	B	46	61	15	59	2	57	4	56	5	1
R1932B	1	B	46	59	13	58	1	56	3	55	4	
R1652	Yes	B	61	69	8	66	3	65	4	65	4	
R0293	Yes	B	61	67	6	64	3	64	3	64	3	
R1752A	1	B	54	63	9	60	3	58	5	58	5	1
R1752B	1	B	54	64	10	61	3	60	4	60	4	
R1651	Yes	B	57	68	11	61	7	61	7	60	8	1
R0296A	Yes	B	56	65	9	61	4	61	4	61	4	
R0296B	Yes	B	56	64	8	61	3	61	3	61	3	
R0297	Yes	B	59	65	6	62	3	62	3	62	3	

Length (ft)= 4600
 Average Height = 10
 Area of Noise Wall (sft)= 45995
 Area of Noise Wall per Impacted Receptor= 11
 Number of Benefited Receptors= 2
 Area of Noise Wall per Benefited Receptor (sft)= 22998
 Average Increase in dB(A) of all Impacted Receptors= 15
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)= 3035
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = Yes
 Breaks Line of Sight to Impacted Properties? = No

4600
 14
 64396
 11
 10
 6440
 15
 3035
 Yes
 No
 Yes
 Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
 Note: Boxed results indicate barrier discussed in report text.

**Complete 540
Traffic Noise Analysis**

Red Corridor

Noise Wall 37

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall						
			Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors			
R0395	Yes	B	44	65	21	1	63	2	61	4	61	4	59	6	1
R0396	Yes	B	44	69	25	1	65	4	64	5	64	5	62	7	1
R0397	Yes	B	44	69	25	1	64	5	61	8	61	8	60	9	1
R0398	Yes	B	44	68	24	1	61	7	60	8	60	8	59	9	1
R0399	Yes	B	44	60	16	1	56	4	56	4	56	4	55	5	1
R1825		B	44	58	14		56	2	56	2	56	2	56	2	

Length (ft)=	1678	1678
Average Height =	12	14
Area of Noise Wall (sft)=	20130	23485
Impacted Receptors=	5	5
Number of Benefited Receptors=	2	3
Area of Noise Wall per Benefited Receptor (sft)=	10065	7828
Average Increase in dB(A) of all Impacted Receptors=	22	22
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3277	3277
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 37</u>	COUNTY (IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>5</u>	# BENEFITS - <u>5</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>5368</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3277</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u> </u>	YES		<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES		<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES		<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<u> </u>	<small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	<small>(CIRCLE ONE)</small> sq.ft./cu.yd
Bar No. <u> </u>	<u> </u>	sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd					
	<u> </u>	YES		<u> </u>	NO

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Noise Wall 38

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall								
			Existing dB(A)	Build Increase dB(A)	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors				
R0977	1	B	49	68	19	67	1	67	1	67	1	67	1	67	1	67	1
R0978A	Yes	B	53	65	12	60	5	59	6	59	6	59	6	59	6	59	6
R1639	1	B	50	65	15	61	4	60	5	60	5	60	5	60	5	60	5

Length (ft)=	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106	1106
Average Height =	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Area of Noise Wall (sft)=	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122
Impacted Receptors=	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Number of Benefited Receptors=	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Area of Noise Wall per Benefited Receptor (sft)=	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122	22122
Average Increase in dB(A) of all Impacted Receptors=	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3037	3037	3037	3037	3037	3037	3037	3037	3037	3037	3037	3037	3037	3037	3037	3037	3037
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Reasonable (7 dB(A) Reduction) =	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Breaks Line of Sight to Impacted Properties? =	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

Red Corridor

Noise Wall 39

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1640		1	B	52	61	9		58	3		58	3		56	5	1
R1641		1	B	55	67	12	1	60	7	1	60	7	1	58	9	1
R1642	Yes	1	B	56	61	5		59	2		59	2		58	3	
R0983A	Yes	1	B	52	63	11		60	3		59	4		57	6	1
R0983B	Yes	1	B	50	62	12		59	3		58	4		56	6	1
R0983C	Yes	1	B	53	65	12	1	62	3		61	4		58	7	1
R0987A	Yes	1	B	52	63	11		59	4		58	5	1	56	7	1
R0987B	Yes	1	B	53	67	14	1	59	8	1	58	9	1	56	11	1
R0987C	Yes	1	B	51	61	10		58	3		57	4		56	5	1
R0988A	Yes	1	B	49	60	11		57	3		57	3		55	5	1
R0988B	Yes	1	B	49	59	10		57	2		57	2		55	4	
R0988C	Yes	1	B	49	60	11		58	2		57	3		56	4	
R0989A	Yes	1	B	49	58	9		56	2		56	2		55	3	
R0989B	Yes	1	B	49	59	10		57	2		56	3		55	4	
R0989C	Yes	1	B	49	56	7		54	2		54	2		53	3	
R0992A	Yes	1	B	53	66	13	1	59	7	1	59	7	1	57	9	1
R0992B	Yes	1	B	51	59	8		57	2		57	2		56	3	
R0993A		1	B	49	58	9		56	2		56	2		55	3	
R0993B		1	B	49	57	8		56	1		55	2		55	2	
R0994A		1	B	49	54	5		54	0		54	0		53	1	
R0994B		1	B	49	55	6		55	0		54	1		54	1	
R0995A	Yes	1	B	49	56	7		55	1		55	1		54	2	
R0995B	Yes	1	B	52	65	13	1	59	6	1	58	7	1	57	8	1
R0999A		1	B	49	55	6		55	0		55	0		54	1	
R0999B		1	B	50	57	7		56	1		56	1		55	2	
R0999C		1	B	49	55	6		54	1		54	1		54	1	
R1000A		1	B	50	58	8		56	2		56	2		55	3	
R1000B		1	B	50	58	8		56	2		56	2		55	3	
R1001A		1	B	49	56	7		55	1		55	1		54	2	
R1001B		1	B	49	55	6		55	0		55	0		54	1	
R1002A		1	B	49	57	8		56	1		56	1		56	1	
R1002B		1	B	49	58	9		57	1		57	1		56	2	
R1003A	Yes	1	B	49	54	5		52	2		52	2		51	3	
R1003B	Yes	1	B	49	54	5		52	2		52	2		51	3	
R1003C	Yes	1	B	49	54	5		52	2		52	2		51	3	
R1004A	Yes	1	B	49	56	7		55	1		55	1		55	1	
R1004B	Yes	1	B	49	57	8		55	2		55	2		55	2	
R1004C	Yes	1	B	49	55	6		54	1		54	1		53	2	
R1005A	Yes	1	B	49	57	8		57	0		57	0		56	1	
R1005B	Yes	1	B	49	58	9		57	1		57	1		57	1	
R1005C	Yes	1	B	49	57	8		56	1		56	1		56	1	
R1006A	Yes	1	B	49	58	9		57	1		57	1		57	1	
R1006A	Yes	1	B	49	58	9		57	1		57	1		57	1	
R1006B	Yes	1	B	49	58	9		57	1		57	1		56	2	
R1007A	Yes	1	B	49	58	9		57	1		57	1		56	2	
R1007B	Yes	1	B	49	57	8		57	0		57	0		56	1	
R1008A	Yes	1	B	49	54	5		55	-1		55	-1		55	-1	
R1008B	Yes	1	B	49	56	7		57	-1		57	-1		57	-1	
R1008C	Yes	1	B	49	53	4		53	0		53	0		53	0	
R1009A		1	B	49	57	8		57	0		57	0		57	0	
R1009B		1	B	49	56	7		57	-1		57	-1		56	0	
R1010A		1	B	49	57	8		57	0		57	0		57	0	
R1010B		1	B	49	57	8		56	1		56	1		56	1	
R1011A		1	B	49	56	7		55	1		55	1		55	1	
R1011B		1	B	49	55	6		55	0		55	0		54	1	
R1011C		1	B	49	55	6		55	0		55	0		55	0	
R1012A		1	B	49	53	4		52	1		51	2		51	2	
R1012B		1	B	49	53	4		52	1		52	1		51	2	
R1012C		1	B	49	53	4		52	1		51	2		51	2	
R1013A		1	B	49	53	4		52	1		52	1		51	2	
R1013B		1	B	49	54	5		53	1		52	2		52	2	
R1013C		1	B	49	54	5		53	1		53	1		52	2	
R1014A		1	B	49	54	5		54	0		54	0		54	0	
R1014B		1	B	49	53	4		53	0		53	0		52	1	
R1015A		1	B	49	52	3		52	0		52	0		52	0	
R1015B		1	B	49	51	2		51	0		51	0		51	0	
R1016A		1	B	49	54	5		55	-1		55	-1		55	-1	
R1016B		1	B	49	53	4		53	0		53	0		53	0	
R1017A		1	B	49	52	3		52	0		52	0		52	0	
R1017B		1	B	49	51	2		51	0		51	0		51	0	
R1018A		1	B	49	52	3		52	0		52	0		52	0	
R1018B		1	B	49	52	3		52	0		52	0		52	0	
R1019A		1	B	49	52	3		52	0		52	0		51	1	
R1019B		1	B	49	52	3		51	1		51	1		51	1	

Red Corridor

Noise Wall 39

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Impacted Receptors	Short Wall			Intermediate Wall			Tall Wall		
				Existing dB(A)	Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1020A		1	B	49	53	4		52	1		52	1		51	2	
R1020B		1	B	49	52	3		51	1		50	2		50	2	
R1020C		1	B	49	52	3		51	1		50	2		50	2	
R1021A		1	B	49	53	4		52	1		52	1		51	2	
R1021B		1	B	49	53	4		53	0		52	1		52	1	
R1022		1	B	49	52	3		51	1		51	1		50	2	
R1023A		1	B	49	51	2		51	0		51	0		51	0	
R1023B		1	B	49	52	3		51	1		51	1		51	1	
R1023C		1	B	49	52	3		51	1		51	1		51	1	
R1024A		1	B	49	52	3		51	1		51	1		51	1	
R1024B		1	B	49	53	4		52	1		52	1		51	2	
R1025		1	B	49	50	1		50	0		50	0		50	0	
R1026A		1	B	49	51	2		52	-1		51	0		51	0	
R1026B		1	B	49	52	3		51	1		51	1		51	1	
R1027		1	B	49	51	2		51	0		51	0		50	1	
R1028A		1	B	49	51	2		51	0		51	0		51	0	
R1028B		1	B	49	51	2		51	0		51	0		50	1	
R1029A		1	B	49	51	2		51	0		51	0		51	0	
R1029B		1	B	49	51	2		51	0		51	0		51	0	
R1030A		1	B	49	51	2		50	1		50	1		50	1	
R1030B		1	B	49	51	2		51	0		51	0		51	0	
R1031A		1	B	49	51	2		52	-1		52	-1		52	-1	
R1031B		1	B	49	50	1		51	-1		51	-1		50	0	
R1032	Yes	1	B	57	65	8		64	1		63	2		59	6	1
R1033	Yes	1	B	52	58	6		58	0		58	0		57	1	

Length (ft)=	2815	2815	2815
Average Height =	12	14	20
Area of Noise Wall (sft)=	33791	39422	56319
Impacted Receptors=	5	5	5
Number of Benefited Receptors=	4	5	12
Area of Noise Wall per Benefit Receptor (sft)=	8448	7884	4693
Average Increase in dB(A) of all Impacted Receptors=	13	13	13
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2948	2948	2948
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 39</u>	COUNTY (IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>5</u> # BENEFITS - <u>12</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>4693</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2948</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

Red Corridor

Noise Wall 40

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1616	Yes	1	B	49	59	20	1	65	4		63	6	1	62	7	1
R1654		1	B	47	61	14		60	1		60	1		60	1	
R1655		1	B	50	63	13		63	0		62	1		62	1	
R1656		1	B	56	61	5		59	2		58	3		58	3	
R1657A		1	B	55	61	6		59	2		59	2		58	3	
R1657B		1	B	55	61	6		59	2		58	3		58	3	
R1658		1	B	55	60	5		59	1		59	1		59	1	
R1659		1	B	58	60	2		59	1		59	1		59	1	
R1660		1	B	59	62	3		61	1		61	1		61	1	
R1672		1	B	57	64	7		62	2		62	2		62	2	
R1673A		1	B	59	65	6		64	1		64	1		64	1	
R1673B		1	B	60	65	5		65	0		65	0		65	0	
R1674A		1	B	61	65	4		64	1		64	1		64	1	
R1674B		1	B	62	62	0		61	1		61	1		61	1	
R1675A		1	B	59	60	1		58	2		57	3		57	3	
R1675B		1	B	60	60	0		59	1		59	1		58	2	
R1675C		1	B	58	60	2		57	3		57	3		57	3	
R1676A		1	B	58	60	2		57	3		57	3		56	4	
R1676B		1	B	59	61	2		57	4		57	4		56	5	1
R1677A		1	B	58	62	4		58	4		58	4		57	5	1
R1677B		1	B	59	61	2		58	3		57	4		57	4	
R1678A	Yes	1	B	55	67	12	1	59	8	1	58	9	1	57	10	1
R1678B	Yes	1	B	60	66	6	1	58	8	1	57	9	1	56	10	1
R1679A	Yes	1	B	51	69	18	1	60	9	1	59	10	1	58	11	1
R1679B	Yes	1	B	49	70	21	1	61	9	1	60	10	1	59	11	1
R1680A		1	B	49	65	16	1	61	4		60	5	1	59	6	1
R1680B		1	B	48	65	17	1	61	4		60	5	1	59	6	1
R1681A		1	B	49	63	14		59	4		59	4		58	5	1
R1681B		1	B	49	62	13		59	3		58	4		58	4	
R1682A		1	B	49	61	12		58	3		57	4		57	4	
R1682B		1	B	49	60	11		58	2		57	3		56	4	
R1682C		1	B	49	60	11		57	3		56	4		55	5	1
R1683A		1	B	50	59	9		56	3		56	3		55	4	
R1683B		1	B	50	58	8		56	2		56	2		55	3	
R1684A		1	B	50	58	8		56	2		56	2		56	2	
R1684B		1	B	50	58	8		56	2		56	2		55	3	
R1685		1	B	49	59	10		55	4		55	4		55	4	
R1686		1	B	48	58	10		54	4		54	4		54	4	
R1687		1	B	48	59	11		56	3		55	4		54	5	1
R1688		1	B	48	60	12		57	3		57	3		55	5	1
R1689A		1	B	47	62	15	1	60	2		59	3		57	5	1
R1689B		1	B	47	63	16	1	60	3		60	3		58	5	1
R1690A		1	B	46	66	20	1	62	4		61	5	1	60	6	1
R1690B		1	B	45	68	21	1	63	3		62	4		60	6	1
R1691A		1	B	44	67	23	1	64	3		61	6	1	60	7	1
R1691B		1	B	44	65	21	1	63	2		61	4		60	5	1
R1692A		1	B	44	68	22	1	62	4		60	6	1	60	6	1
R1692B		1	B	44	68	22	1	62	4		61	5	1	60	6	1
R1693A		1	B	44	68	22	1	61	5	1	60	6	1	59	7	1
R1693B		1	B	44	65	21	1	61	4		60	5	1	59	6	1
R1694A		1	B	44	65	21	1	58	7	1	57	8	1	57	8	1
R1694B		1	B	44	67	23	1	60	7	1	59	8	1	59	8	1
R1695A	Yes	1	B	45	74	29	1	64	10	1	63	11	1	62	12	1
R1695B	Yes	1	B	44	76	32	1	64	12	1	63	13	1	62	14	1
R1696A	Yes	1	B	44	76	32	1	65	11	1	64	12	1	63	13	1
R1696B	Yes	1	B	44	72	28	1	63	9	1	63	9	1	62	10	1
R1697	Yes	1	B	44	69	25	1	61	8	1	61	8	1	60	9	1
R1698A		1	B	44	63	19	1	61	2		60	3		58	5	1
R1698B		1	B	46	62	16	1	60	2		59	3		57	5	1
R1699A		1	B	44	64	20	1	62	2		59	5	1	58	6	1
R1699B		1	B	44	63	19	1	59	4		58	5	1	57	6	1
R1700A		1	B	44	63	19	1	57	6	1	56	7	1	56	7	1
R1700B		1	B	44	63	19	1	56	7	1	55	8	1	55	8	1
R1911A		1	B	44	62	18	1	60	2		58	4		57	5	1
R1911B		1	B	44	61	17	1	58	3		56	5	1	55	6	1
R1911C		1	B	46	61	15	1	58	3		57	4		56	5	1
R1911D		1	B	46	60	14		57	3		55	5	1	55	5	1
R1912A		1	B	44	61	17	1	57	4		56	5	1	55	6	1
R1912B		1	B	44	61	17	1	56	5	1	55	6	1	55	6	1
R1912C		1	B	45	59	14		56	3		54	5	1	54	5	1
R1912D		1	B	46	58	12		54	4		54	4		53	5	1
R1913A		1	B	44	60	16	1	54	6	1	53	7	1	53	7	1
R1913B		1	B	44	61	17	1	54	7	1	54	7	1	54	7	1
R1913C		1	B	45	61	16	1	54	7	1	53	8	1	53	8	1
R1913D		1	B	46	60	14		53	7	1	53	7	1	53	7	1

Length (ft)=	3387	3387	3387
Average Height =	12	14	16
Area of Noise Wall (sf)=	40644	47419	54192
Impacted Receptors=	38	38	38
Number of Benefited Receptors=	19	33	48
Area of Noise Wall per Benefited Receptor (sf)=	2139	1437	1129
Average Increase in dB(A) of all Impacted Receptors=	20	20	20
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	3189	3189	3189
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 16ft barrier is recommended because all criteria for feasible and reasonable have been met, the barrier breaks the line of sight, and the most properties are benefited.

Recommended 16ft wall

**Complete 540
Traffic Noise Analysis**

Red Corridor

Noise Wall 41

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall			
			Existing dB(A)	Build dB(A) Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R1065A	Yes	B	52	65	13	1	63	2	3	62	3	3
R1065B	Yes	B	49	64	15	1	61	3	4	60	4	4
R1065C	Yes	B	49	65	16	1	61	4	5	60	6	6
R1066A		B	49	62	13		58	4	5	57	5	5
R1066B		B	49	61	12		57	4	4	57	4	5
R1066C		B	49	65	16	1	59	6	7	58	7	7
R1067A	Yes	B	49	72	23	1	64	8	10	62	11	11
R1067B	Yes	B	49	75	26	1	60	15	16	59	16	16
R1067C	Yes	B	49	63	14		60	3	3	60	3	4
R1067D	Yes	B	49	67	18	1	61	6	7	60	7	7
R1069A	Yes	B	49	69	20	1	65	4	7	62	7	8
R1069B	Yes	B	49	65	16	1	63	2	3	62	3	3

Length (ft)=	1600	1600	1600
Average Height =	20	16	20
Area of Noise Wall (sft)=	32003	25603	32003
Impacted Receptors=	9	9	9
Number of Benefited Receptors=	7	4	7
Area of Noise Wall per Benefited Receptor (sft)=	4572	6401	4572
Average Increase in dB(A) of all Impacted Receptors=	18	18	18
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3134	3134	3134
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	No

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 41</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>9</u> # BENEFITS - <u>8</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>4400</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3134</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Red Corridor

Noise Wall 42

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1142A	Yes	1	B	63	67	4	1	65	2		65	2		65	2	
R1142B	Yes	1	B	59	65	6		62	3		62	3		62	3	
R1142C	Yes	1	B	57	66	9	1	63	3		63	3		62	4	
R1143A	Yes	1	B	64	67	3	1	67	0		66	1		66	1	
R1143B	Yes	1	B	61	66	5	1	65	1		64	2		63	3	
R1143C	Yes	1	B	63	67	4	1	66	1		65	2		65	2	
R1144A		1	B	56	67	11	1	64	3		62	5	1	60	7	1
R1144B		1	B	54	68	14	1	64	4		63	5	1	60	8	1
R1144C		1	B	59	66	7	1	64	2		63	3		62	4	
R1145A	Yes	1	B	52	76	24	1	65	11	1	64	12	1	62	14	1
R1145B	Yes	1	B	50	73	23	1	64	9	1	63	10	1	60	13	1
R1146A		1	B	51	70	19	1	63	7	1	62	8	1	58	12	1
R1146B	Yes	1	B	50	74	24	1	63	11	1	62	12	1	59	15	1
R1148A	Yes	1	B	62	66	4	1	65	1		64	2		63	3	
R1148B	Yes	1	B	62	66	4	1	65	1		65	1		64	2	
R1148C	Yes	1	B	62	66	4	1	64	2		64	2		64	2	
R1148D	Yes	1	B	60	65	5		63	2		62	3		61	4	
R1148E	Yes	1	B	61	66	5	1	64	2		64	2		64	2	
R1149A		1	B	59	66	7	1	64	2		62	4		61	5	1
R1149B		1	B	56	67	11	1	63	4		62	5	1	60	7	1
R1149C		1	B	60	66	6	1	64	2		63	3		62	4	
R1149D		1	B	56	67	11	1	64	3		62	5	1	60	7	1
R1150A	Yes	1	B	51	74	23	1	64	10	1	63	11	1	60	14	1
R1150B	Yes	1	B	51	72	21	1	64	8	1	63	9	1	60	12	1
R1150C	Yes	1	B	52	71	19	1	64	7	1	62	9	1	59	12	1
R1153	Yes	1	B	60	65	5		63	2		63	2		62	3	
R1154A		1	B	52	65	13	1	59	6	1	58	7	1	57	8	1
R1154B		1	B	55	64	9		59	5	1	59	5	1	58	6	1
R1154C		1	B	51	66	15	1	60	6	1	59	7	1	57	9	1
R1155	Yes	1	B	49	69	20	1	62	7	1	61	8	1	58	11	1
R1645	Yes	1	B	58	64	6		60	4		60	4		60	4	
R1158A		1	B	56	65	9		59	6	1	59	6	1	58	7	1
R1158B		1	B	54	66	12	1	60	6	1	59	7	1	58	8	1
R1159A		1	B	49	69	20	1	61	8	1	60	9	1	58	11	1
R1159B	Yes	1	B	50	67	17	1	60	7	1	59	8	1	57	10	1
R1163A	Yes	1	B	57	65	8		60	5	1	60	5	1	60	5	1
R1163B	Yes	1	B	56	65	9		59	6	1	59	6	1	59	6	1
R1163C	Yes	1	B	55	64	9		59	5	1	59	5	1	58	6	1
R1164A	Yes	1	B	53	69	16	1	62	7	1	61	8	1	59	10	1
R1164B	Yes	1	B	53	71	18	1	62	9	1	61	10	1	59	12	1
R1165A	Yes	1	B	51	72	21	1	64	8	1	62	10	1	59	13	1
R1165B	Yes	1	B	50	76	26	1	64	12	1	63	13	1	59	17	1
R1167A	Yes	1	B	52	73	21	1	62	11	1	62	11	1	59	14	1
R1167B	Yes	1	B	52	74	22	1	63	11	1	62	12	1	60	14	1
R1171A	Yes	1	B	55	64	9		59	5	1	59	5	1	58	6	1
R1171B	Yes	1	B	54	63	9		59	4		59	4		58	5	1
R1171C	Yes	1	B	54	63	9		59	4		58	5	1	58	5	1
R1172A	Yes	1	B	49	72	23	1	61	11	1	60	12	1	58	14	1
R1172B	Yes	1	B	52	72	20	1	62	10	1	61	11	1	59	13	1
R1172C	Yes	1	B	49	71	22	1	60	11	1	60	11	1	58	13	1
R1177A	Yes	1	B	54	63	9		59	4		59	4		58	5	1
R1177B	Yes	1	B	54	63	9		58	5	1	58	5	1	58	5	1
R1178A	Yes	1	B	52	72	20	1	60	12	1	60	12	1	58	14	1
R1178B	Yes	1	B	52	68	16	1	57	11	1	56	12	1	55	13	1
R1646		1	B	54	63	9		58	5	1	58	5	1	57	6	1
R1182A	Yes	1	B	52	72	20	1	60	12	1	60	12	1	58	14	1
R1182B	Yes	1	B	51	73	22	1	61	12	1	60	13	1	58	15	1
R1184A	Yes	1	B	53	63	10		57	6	1	57	6	1	56	7	1
R1184B	Yes	1	B	52	64	12		56	8	1	56	8	1	56	8	1
R1184C	Yes	1	B	54	63	9		58	5	1	57	6	1	57	6	1
R1185A	Yes	1	B	52	67	15	1	57	10	1	57	10	1	56	11	1
R1185B	Yes	1	B	51	71	20	1	57	14	1	57	14	1	55	16	1
R1185C	Yes	1	B	51	64	13		56	8	1	56	8	1	56	8	1
R1188A	Yes	1	B	51	62	11		57	5	1	57	5	1	56	6	1
R1188B	Yes	1	B	50	63	13		57	6	1	56	7	1	56	7	1
R1189A	Yes	1	B	56	62	6		58	4		58	4		57	5	1
R1189B	Yes	1	B	55	62	7		57	5	1	57	5	1	57	5	1
R1190A	Yes	1	B	61	64	3		63	1		63	1		63	1	
R1190B	Yes	1	B	60	63	3		61	2		61	2		61	2	
R1191A	Yes	1	B	63	65	2		64	1		64	1		64	1	
R1191B	Yes	1	B	61	64	3		63	1		62	2		62	2	
R1117A		1	B	59	64	5		64	0		64	0		63	1	
R1117B		1	B	62	67	5	1	66	1		66	1		66	1	
R1127A		1	B	56	64	8		63	1		63	1		63	1	

Red Corridor

Noise Wall 42

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Impacted Receptors	Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1127B		1	B	57	64	7		63	1		63	1		63	1	
R1127C		1	B	56	64	8		63	1		63	1		63	1	
R1130A		1	B	56	64	8		63	1		63	1		62	2	
R1130B		1	B	56	64	8		62	2		62	2		62	2	
R1131A		1	B	56	62	6		61	1		61	1		61	1	
R1131B		1	B	57	63	6		62	1		61	2		61	2	
R1133A		1	B	60	64	4		63	1		63	1		63	1	
R1133B		1	B	57	63	6		62	1		61	2		61	2	
R1828		1	B	64	67	3	1	67	0		67	0		67	0	
R1829A		1	B	61	67	6	1	67	0		67	0		66	1	
R1829B		1	B	57	67	10	1	66	1		66	1		66	1	
R1830A		1	B	54	67	13	1	66	1		66	1		66	1	
R1830B		1	B	60	67	7	1	67	0		67	0		66	1	
R1831A		1	B	60	67	7	1	66	1		66	1		66	1	
R1831B		1	B	60	67	7	1	66	1		66	1		66	1	
R1832A		1	B	63	66	3	1	65	1		65	1		65	1	
R1832B		1	B	64	67	3	1	66	1		66	1		66	1	

Length (ft)=	4019	4019	4019
Average Height =	12	14	24
Area of Noise Wall (sft)=	48228	56264	96458
Impacted Receptors=	54	54	54
Number of Benefited Receptors=	43	48	52
Area of Noise Wall per Benefit Receptor (sft)=	1122	1172	1855
Average Increase in dB(A) of all Impacted Receptors=	13	13	13
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2970	2970	2970
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
- (4) A 24ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 24ft Wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 42</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>54</u> # BENEFITS - <u>52</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>1855</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2970</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Red Corridor

Noise Wall 43

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	Tall Wall		
														W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1218A		1	B	52	75	23	1	65	10	1	62	13	1	62	13	1
R1218B	Yes	1	B	52	73	21	1	63	10	1	62	11	1	61	12	1
R1218C	Yes	1	B	52	68	16	1	65	3		61	7	1	60	8	1
R1219	Yes	1	B	52	71	19	1	63	8	1	60	11	1	60	11	1
R1220A		1	B	52	65	13	1	60	5	1	58	7	1	58	7	1
R1220B		1	B	52	67	15	1	59	8	1	58	9	1	57	10	1
R1220C		1	B	52	66	14	1	60	6	1	58	8	1	58	8	1
R1222A	Yes	1	B	52	66	14	1	59	7	1	57	9	1	57	9	1
R1222B	Yes	1	B	52	68	16	1	60	8	1	58	10	1	58	10	1
R1223A		1	B	52	65	13	1	58	7	1	57	8	1	57	8	1
R1223B		1	B	52	64	12		57	7	1	56	8	1	56	8	1
R1225	Yes	1	B	52	68	16	1	61	7	1	60	8	1	59	9	1
R1226A		1	B	52	66	14	1	59	7	1	57	9	1	57	9	1
R1226B		1	B	52	66	14	1	59	7	1	58	8	1	57	9	1
R1227A		1	B	52	64	12		57	7	1	56	8	1	55	9	1
R1227B		1	B	52	63	11		56	7	1	55	8	1	55	8	1
R1229A	Yes	1	B	52	65	13	1	60	5	1	58	7	1	58	7	1
R1229B	Yes	1	B	52	65	13	1	59	6	1	57	8	1	57	8	1
R1229C	Yes	1	B	52	67	15	1	61	6	1	59	8	1	58	9	1
R1229D	Yes	1	B	52	67	15	1	60	7	1	59	8	1	58	9	1
R1229E	Yes	1	B	52	64	12		59	5	1	57	7	1	57	7	1
R1230A		1	B	52	64	12		61	3		58	6	1	58	6	1
R1230B		1	B	52	64	12		60	4		58	6	1	57	7	1
R1230C		1	B	52	63	11		58	5	1	57	6	1	56	7	1
R1231A	Yes	1	B	52	64	12		60	4		59	5	1	58	6	1
R1231B	Yes	1	B	52	66	14	1	61	5	1	59	7	1	59	7	1
R1233A		1	B	52	61	9		58	3		57	4		57	4	
R1233B		1	B	52	60	8		58	2		56	4		55	5	1
R1234A		1	B	52	72	20	1	64	8	1	62	10	1	61	11	1
R1234B	Yes	1	B	52	74	22	1	63	11	1	61	13	1	60	14	1
R1234C	Yes	1	B	52	74	22	1	64	10	1	61	13	1	61	13	1
R1235A		1	B	52	62	10		60	2		59	3		58	4	
R1235B		1	B	52	61	9		60	1		59	2		58	3	
R1236A	Yes	1	B	52	72	20	1	61	11	1	59	13	1	59	13	1
R1236B	Yes	1	B	52	71	19	1	63	8	1	60	11	1	59	12	1
R1236C	Yes	1	B	52	73	21	1	62	11	1	60	13	1	59	14	1
R1237A		1	B	52	64	12		62	2		61	3		59	5	1
R1237B		1	B	52	64	12		63	1		61	3		59	5	1
R1238A	Yes	1	B	52	68	16	1	60	8	1	58	10	1	58	10	1
R1238B	Yes	1	B	52	69	17	1	63	6	1	60	9	1	60	9	1
R1239A		1	B	52	63	11		62	1		59	4		58	5	1
R1239B		1	B	52	62	10		59	3		57	5	1	57	5	1
R1239C		1	B	52	63	11		62	1		60	3		59	4	
R1240A	Yes	1	B	52	67	15	1	58	9	1	57	10	1	56	11	1
R1240B	Yes	1	B	52	67	15	1	59	8	1	58	9	1	57	10	1
R1240C	Yes	1	B	52	66	14	1	59	7	1	57	9	1	57	9	1
R1241A	Yes	1	B	52	65	13	1	59	6	1	57	8	1	57	8	1
R1241B	Yes	1	B	52	66	14	1	59	7	1	57	9	1	57	9	1
R1241C	Yes	1	B	52	65	13	1	59	6	1	57	8	1	57	8	1
R1242A		1	B	52	61	9		57	4		56	5	1	56	5	1
R1242B		1	B	52	60	8		56	4		55	5	1	55	5	1
R1243A		1	B	52	60	8		56	4		55	5	1	55	5	1
R1243B		1	B	52	60	8		56	4		55	5	1	55	5	1
R1244A	Yes	1	B	52	63	11		58	5	1	57	6	1	56	7	1
R1244B	Yes	1	B	52	62	10		57	5	1	56	6	1	56	6	1
R1244C	Yes	1	B	52	63	11		58	5	1	56	7	1	56	7	1
R1245A	Yes	1	B	52	63	11		57	6	1	56	7	1	56	7	1
R1245B	Yes	1	B	53	63	10		57	6	1	56	7	1	56	7	1
R1245C	Yes	1	B	52	63	11		57	6	1	56	7	1	56	7	1
R1246A	Yes	1	B	59	66	7	1	59	7	1	57	9	1	56	10	1
R1246B	Yes	1	B	56	64	8		58	6	1	57	7	1	56	8	1
R1247A		1	B	52	61	9		57	4		56	5	1	56	5	1
R1247B		1	B	52	60	8		57	3		56	4		56	4	
R1247C		1	B	53	61	8		57	4		56	5	1	56	5	1
R1248A		1	B	60	66	6	1	58	8	1	57	9	1	56	10	1
R1248B		1	B	64	70	6	1	59	11	1	58	12	1	57	13	1
R1248C	Yes	1	B	56	63	7		58	5	1	57	6	1	56	7	1
R1249A		1	B	53	61	8		56	5	1	55	6	1	55	6	1
R1249B		1	B	55	62	7		57	5	1	56	6	1	55	7	1
R1249C		1	B	52	60	8		56	4		55	5	1	55	5	1
R1250A	Yes	1	B	65	70	5	1	59	11	1	57	13	1	57	13	1
R1250B	Yes	1	B	60	65	5		58	7	1	57	8	1	56	9	1
R1250C	Yes	1	B	65	70	5	1	59	11	1	57	13	1	56	14	1
R1251A		1	B	52	59	7		55	4		54	5	1	54	5	1

Red Corridor

Noise Wall 43

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Impacted Receptors	Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1251B		1	B	54	60	6		56	4		55	5	1	55	5	1
R1251C		1	B	52	58	6		54	4		54	4		54	4	
R1252A		1	B	64	69	5	1	59	10	1	58	11	1	57	12	1
R1252B	Yes	1	B	57	62	5		57	5	1	56	6	1	56	6	1
R1253A		1	B	53	60	7		56	4		56	4		56	4	
R1253B		1	B	52	58	6		55	3		54	4		54	4	
R1253C		1	B	55	61	6		57	4		57	4		57	4	
R1254A	Yes	1	B	64	69	5	1	63	6	1	62	7	1	62	7	1
R1254B	Yes	1	B	58	63	5		58	5	1	58	5	1	58	5	1
R1566A	Yes	1	B	52	74	22	1	63	11	1	62	12	1	61	13	1
R1566B	Yes	1	B	52	73	21	1	62	11	1	61	12	1	60	13	1
R1567A		1	B	52	71	19	1	62	9	1	60	11	1	60	11	1
R1567B		1	B	52	69	17	1	62	7	1	60	9	1	60	9	1
R1568A		1	B	52	67	15	1	61	6	1	60	7	1	59	8	1
R1568B		1	B	52	66	14	1	61	5	1	59	7	1	59	7	1
R1568C		1	B	52	66	14	1	60	6	1	59	7	1	58	8	1
R1569A		1	B	52	65	13	1	60	5	1	58	7	1	57	8	1
R1569B		1	B	52	65	13	1	60	5	1	59	6	1	57	8	1
R1570A		1	B	52	64	12		61	3		58	6	1	57	7	1
R1570B		1	B	52	65	13	1	62	3		59	6	1	58	7	1
R1571A		1	B	52	67	15	1	63	4		60	7	1	59	8	1
R1571B		1	B	52	68	16	1	65	3		61	7	1	60	8	1
R1572A		1	B	52	71	19	1	66	5	1	63	8	1	62	9	1
R1572B		1	B	52	69	17	1	64	5	1	62	7	1	61	8	1
R1572C		1	B	52	72	20	1	66	6	1	64	8	1	63	9	1
R1573A	Yes	1	B	52	72	20	1	65	7	1	63	9	1	62	10	1
R1573B	Yes	1	B	52	74	22	1	65	9	1	63	11	1	62	12	1
R1573C	Yes	1	B	52	75	23	1	63	12	1	61	14	1	60	15	1
R1574A	Yes	1	B	52	74	22	1	66	8	1	63	11	1	63	11	1
R1574B	Yes	1	B	52	75	23	1	64	11	1	62	13	1	61	14	1
R1575A		1	B	52	70	18	1	66	4		62	8	1	61	9	1
R1575B		1	B	52	72	20	1	67	5	1	64	8	1	62	10	1
R1576A	Yes	1	B	52	76	24	1	70	6	1	66	10	1	64	12	1
R1576B	Yes	1	B	52	74	22	1	69	5	1	65	9	1	64	10	1
R1863A		1	B	52	63	11		56	7	1	55	8	1	54	9	1
R1863B		1	B	52	64	12		56	8	1	55	9	1	55	9	1
R1863C		1	B	52	63	11		55	8	1	54	9	1	54	9	1
R1864A		1	B	52	64	12		59	5	1	57	7	1	57	7	1
R1864B		1	B	52	64	12		59	5	1	57	7	1	57	7	1
R1865A		1	B	52	64	12		59	5	1	58	6	1	57	7	1
R1865B		1	B	52	64	12		59	5	1	57	7	1	57	7	1
R1865C		1	B	52	64	12		59	5	1	58	6	1	57	7	1

Length (ft)=	4957	4957	4957
Average Height =	12	16	18
Area of Noise Wall (sft)=	59495	79323	89239
Impacted Receptors=	63	63	63
Number of Benefited Receptors=	84	103	107
Area of Noise Wall per Benefit Receptor (sft)=	708	770	834
Average Increase in dB(A) of all Impacted Receptors=	16	16	16
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3056	3056	3056
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 18ft barrier is recommended because all criteria for feasible and reasonable have been met, all receptors are no longer impacted and the most properties are benefited.

Recommended 18ft Wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 43</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>63</u>	# BENEFITS - <u>107</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		_____	NO
2 Does topography negatively affect the proposed abatement measure?	_____	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	_____	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	_____	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		_____	NO
2 Is the design criteria per benefited receptor of _____ 834 ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of _____ 3056 ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u>	YES		_____	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		_____	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		_____	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		_____	NO
4 Have the owners' and residents' viewpoints been solicited?	_____	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	_____	YES		_____	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	_____	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. _____	^(CIRCLE ONE)	_____ sq.ft./cu.yd	Bar No. _____	^(CIRCLE ONE)	_____ sq.ft./cu.yd
Bar No. _____	^(CIRCLE ONE)	_____ sq.ft./cu.yd	Bar No. _____	^(CIRCLE ONE)	_____ sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd _____ YES _____ NO					

Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Red Corridor

Noise Wall 44

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1198A	Yes	1	B	50	58	8		56	2		56	2		56	2	
R1198B	Yes	1	B	52	60	8		57	3		57	3		57	3	
R1200A	Yes	1	B	49	60	11		55	5	1	54	6	1	54	6	1
R1200B	Yes	1	B	49	62	13		55	7	1	55	7	1	55	7	1
R1866		1	B	52	64	12		55	9	1	55	9	1	55	9	1
R1201A		1	B	52	68	16	1	58	10	1	57	11	1	57	11	1
R1201B		1	B	52	66	14	1	56	10	1	56	10	1	55	11	1
R1201C		1	B	52	70	18	1	58	12	1	57	13	1	57	13	1
R1202A		1	B	52	75	23	1	61	14	1	59	16	1	58	17	1
R1202B	Yes	1	B	52	72	20	1	59	13	1	58	14	1	57	15	1
R1203	Yes	COMMERCIAL	C	52	70	18	1	64	6	1	63	7	1	62	8	1
R1204A		1	B	52	66	14	1	61	5	1	61	5	1	59	7	1
R1204B		1	B	52	64	12		58	6	1	58	6	1	57	7	1
R1205A		1	B	52	63	11		56	7	1	56	7	1	56	7	1
R1205B		1	B	52	64	12		57	7	1	57	7	1	57	7	1
R1588	Yes	1	B	52	76	24	1	68	8	1	63	13	1	62	14	1
R1589	Yes	1	B	52	75	23	1	65	10	1	63	12	1	62	13	1
R1590A		1	B	52	68	16	1	64	4		62	6	1	61	7	1
R1590B		1	B	52	72	20	1	65	7	1	64	8	1	63	9	1
R1591A		1	B	52	71	19	1	68	3		65	6	1	62	9	1
R1591B		1	B	52	73	21	1	70	3		65	8	1	63	10	1
R1592A		1	B	52	67	15	1	65	2		63	4		61	6	1
R1592B		1	B	52	69	17	1	67	2		64	5	1	62	7	1
R1593A		1	B	52	64	12		59	5	1	59	5	1	59	5	1
R1593B		1	B	52	65	13	1	62	3		61	4		60	5	1
R1594		1	B	52	62	10		57	5	1	57	5	1	56	6	1
R1595		1	B	52	66	14	1	63	3		61	5	1	59	7	1
R1206		1	B	52	65	13	1	62	3		60	5	1	58	7	1
R1207A		1	B	52	66	14	1	63	3		61	5	1	59	7	1
R1207B		1	B	52	64	12		61	3		59	5	1	58	6	1
R1596A		1	B	52	70	18	1	68	2		65	5	1	62	8	1
R1596B		1	B	52	68	16	1	66	2		63	5	1	61	7	1
R1208A	Yes	1	B	52	72	20	1	68	4		63	9	1	61	11	1
R1208B	Yes	1	B	52	74	22	1	68	6	1	64	10	1	62	12	1
R1209A	Yes	1	B	52	76	24	1	70	6	1	64	12	1	63	13	1
R1209B	Yes	1	B	52	77	25	1	72	5	1	65	12	1	63	14	1
R1209C	Yes	1	B	52	77	25	1	71	6	1	65	12	1	63	14	1
R1210A		1	B	52	64	12		63	1		60	4		58	6	1
R1210B		1	B	52	65	13	1	64	1		60	5	1	59	6	1
R1210C		1	B	52	64	12		63	1		60	4		58	6	1
R1211A		1	B	52	63	11		61	2		58	5	1	57	6	1
R1211B		1	B	52	64	12		62	2		59	5	1	57	7	1
R1212A		1	B	52	64	12		60	4		56	8	1	56	8	1
R1212B		1	B	52	62	10		58	4		55	7	1	55	7	1
R1213A		1	B	52	63	11		61	2		57	6	1	56	7	1
R1213B		1	B	52	66	14	1	63	3		59	7	1	58	8	1
R1214A	Yes	1	B	52	69	17	1	66	3		61	8	1	59	10	1
R1214B	Yes	1	B	52	67	15	1	64	3		59	8	1	58	9	1
R1214C	Yes	1	B	52	73	21	1	68	5	1	63	10	1	62	11	1

Length (ft)=	2908	2908	2908
Average Height =	10	16	20
Area of Noise Wall (sft)=	29073	46519	58149
Impacted Receptors=	31	31	31
Number of Benefited Receptors=	23	43	47
Area of Noise Wall per Benefit Receptor (sft)=	1264	1082	1237
Average Increase in dB(A) of all Impacted Receptors=	18	18	18
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3135	3135	3135
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
 (4) A 20ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 20ft Wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 44</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>31</u> # BENEFITS - <u>47</u> NAC: A <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>1237</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3135</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Red Corridor

Noise Wall 45

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Impacted Receptors	Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1262	Yes	1	B	58	64	6		63	1		63	1		63	1	
R1263A	Yes	1	B	57	61	4		59	2		59	2		58	3	
R1263B	Yes	1	B	54	64	10		61	3		60	4		60	4	
R1263C	Yes	1	B	59	60	1		57	3		57	3		56	4	
R1264A		1	B	52	63	11		61	2		60	3		59	4	
R1264B		1	B	52	62	10		60	2		60	2		59	3	
R1264C		1	B	52	64	12		61	3		60	4		59	5	1
R1265		1	B	52	64	12		61	3		60	4		59	5	1
R1266A		1	B	52	64	12		60	4		60	4		58	6	1
R1266B		1	B	52	64	12		60	4		59	5	1	58	6	1
R1269A	Yes	1	B	52	62	10		57	5	1	57	5	1	56	6	1
R1269B	Yes	1	B	52	61	9		57	4		57	4		56	5	1
R1269C	Yes	1	B	52	61	9		57	4		57	4		56	5	1
R1270A		1	B	52	64	12		59	5	1	59	5	1	57	7	1
R1270B		1	B	52	62	10		59	3		58	4		57	5	1
R1271A		1	B	52	60	8		57	3		56	4		55	5	1
R1271B		1	B	52	60	8		57	3		57	3		56	4	
R1272A		1	B	52	62	10		59	3		58	4		57	5	1
R1272B		1	B	52	61	9		58	3		57	4		56	5	1
R1273A		1	B	52	59	7		58	1		57	2		56	3	
R1273B		1	B	52	59	7		58	1		57	2		56	3	
R1273C		1	B	52	58	6		55	3		55	3		54	4	
R1274A		1	B	52	58	6		55	3		54	4		54	4	
R1274B		1	B	52	58	6		55	3		55	3		54	4	
R1275A		1	B	52	59	7		55	4		55	4		55	4	
R1275B		1	B	52	60	8		55	5	1	55	5	1	54	6	1
R1275C		1	B	52	58	6		55	3		55	3		54	4	
R1277A	Yes	1	B	52	69	17	1	63	6	1	62	7	1	60	9	1
R1277B	Yes	1	B	52	71	19	1	66	5	1	64	7	1	61	10	1
R1278A	Yes	1	B	52	68	16	1	64	4		62	6	1	60	8	1
R1278B	Yes	1	B	52	64	12		60	4		59	5	1	58	6	1
R1279A		1	B	52	62	10		57	5	1	57	5	1	56	6	1
R1279B		1	B	52	61	9		56	5	1	56	5	1	55	6	1
R1280A	Yes	1	B	52	63	11		58	5	1	58	5	1	57	6	1
R1280B	Yes	1	B	52	65	13	1	59	6	1	59	6	1	58	7	1
R1282	Yes	1	B	52	71	19	1	65	6	1	63	8	1	61	10	1
R1283A	Yes	1	B	52	69	17	1	62	7	1	61	8	1	60	9	1
R1283B	Yes	1	B	52	67	15	1	61	6	1	61	6	1	59	8	1

Length (ft)=	2003	2003	2003
Average Height =	14	16	22
Area of Noise Wall (sf)=	28036	32042	44057
Impacted Receptors=	7	7	7
Number of Benefited Receptors=	12	15	24
Area of Noise Wall per Benefit Receptor (sf)=	2336	2136	1836
Average Increase in dB(A) of all Impacted Receptors=	17	17	17
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	3080	3080	3080
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.
(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
(4) A 22ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 22ft

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 45</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>7</u> # BENEFITS - <u>24</u>	NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
<small>(CIRCLE ALL THAT APPLY)</small>	
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>1836</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3080</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd <input type="checkbox"/> YES <input type="checkbox"/> NO	
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

**Complete 540
Traffic Noise Analysis**

4/2/2015

Red Corridor

Noise Wall 46

Receptor	First Residences Represented	NAC Land Use Category	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tail Wall				
			Existing dB(A)	Build Increase dB(A)		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1380A	Yes	1	B	58	61	3	60	1	60	1	60	1	60	1
R1380B	Yes	1	B	57	60	3	59	1	59	1	59	1	59	1
R1380C	Yes	1	B	57	62	5	60	2	59	3	59	3	59	3
R1380D	Yes	1	B	58	62	4	61	1	61	1	61	1	61	1
R1381A	Yes	1	B	57	66	9	61	5	60	6	59	7	59	7
R1381B	Yes	1	B	57	64	7	61	3	61	3	61	3	60	4
R1381C	Yes	1	B	57	63	6	60	3	59	4	59	4	59	4
R1381D	Yes	1	B	57	66	9	61	5	61	5	61	5	61	5
R1381E	Yes	1	B	57	66	9	62	4	61	5	61	5	61	5
R1381F	Yes	1	B	57	66	9	62	4	62	4	62	4	62	4
R1381G	Yes	1	B	57	63	6	60	3	60	3	60	3	60	3
R1381H	Yes	1	B	57	63	6	60	3	60	3	60	3	60	3
R1382A		1	B	57	60	3	59	1	58	2	58	2	58	2
R1382B		1	B	57	62	5	60	2	59	3	59	3	59	3
R1383A		1	B	57	60	3	58	2	58	2	58	2	58	2
R1383B		1	B	57	62	5	59	3	59	3	59	3	59	3
R1384A		1	B	57	60	3	58	2	58	2	58	2	58	2
R1384B		1	B	57	62	5	59	3	59	3	59	3	59	3

1000
22
22002
4
3
7334
2815
Yes
No
Yes
Yes
1000
18
18002
4
3
6001
9
2815
Yes
No
No
Yes
1000
16
16002
4
2
8001
9
2815
Yes
No
No
Yes

Length (ft)=
Average Height =
Area of Noise Wall (sft)=
Impacted Receptors=
Number of Benefited Receptors=
Area of Noise Wall per Benefited Receptor (sft)=
Area Increase in dB(A) of all Impacted Receptors=
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=
Feasible (5 dB(A) Reduction)=
Reasonable (Wall Area per Benefit) =
Reasonable (7 dB(A) Reduction) =
Breaks Line of Sight to Impacted Properties? =

Note: Boxed results indicate barrier discussed in report text.

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 46</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>4</u> # BENEFITS - <u>3</u>	NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>7334</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2815</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd <input type="checkbox"/> YES <input type="checkbox"/> NO	
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

Red Corridor

Noise Wall 47

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Impacted Receptors	Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1387A		1	B	59	66	7	1	62	4		61	5	1	60	6	1
R1387B		1	B	60	67	7	1	64	3		63	4		60	7	1
R1387C		1	B	62	68	6	1	65	3		64	4		61	7	1
R1387D		1	B	58	66	8	1	63	3		61	5	1	60	6	1
R1387E		1	B	60	67	7	1	65	2		63	4		61	6	1
R1387F		1	B	61	68	7	1	66	2		64	4		61	7	1
R1387G		1	B	58	65	7		63	2		62	3		60	5	1
R1387H		1	B	60	67	7	1	65	2		64	3		61	6	1
R1387I		1	B	61	68	7	1	66	2		65	3		62	6	1
R1387J		1	B	58	65	7		63	2		63	2		61	4	
R1387K		1	B	59	67	8	1	65	2		64	3		62	5	1
R1387L		1	B	61	67	6	1	66	1		65	2		63	4	
R1387M		1	B	57	58	1		56	2		55	3		55	3	
R1387N		1	B	57	59	2		57	2		57	2		56	3	
R1387O		1	B	57	60	3		58	2		57	3		57	3	
R1387P		1	B	57	55	-2		55	0		55	0		55	0	
R1387Q		1	B	57	57	0		57	0		57	0		56	1	
R1387R		1	B	57	58	1		58	0		58	0		58	0	
R1387S		1	B	57	58	1		57	1		57	1		57	1	
R1387T		1	B	57	59	2		59	0		59	0		59	0	
R1387U		1	B	57	60	3		60	0		60	0		60	0	
R1387V		1	B	57	62	5		61	1		61	1		61	1	
R1387W		1	B	57	63	6		63	0		63	0		62	1	
R1387X		1	B	57	65	8		64	1		64	1		63	2	
R1388A		1	B	62	69	7	1	65	4		63	6	1	60	9	1
R1388B		1	B	64	71	7	1	68	3		65	6	1	60	11	1
R1388C		1	B	65	71	6	1	69	2		67	4		61	10	1
R1388D		1	B	62	69	7	1	66	3		64	5	1	60	9	1
R1388E		1	B	63	70	7	1	68	2		66	4		61	9	1
R1388F		1	B	64	71	7	1	69	2		67	4		62	9	1
R1388G		1	B	61	69	8	1	66	3		64	5	1	60	9	1
R1388H		1	B	63	70	7	1	68	2		66	4		61	9	1
R1388I		1	B	64	70	6	1	69	1		68	2		62	8	1
R1388J		1	B	61	68	7	1	66	2		63	5	1	61	7	1
R1388K		1	B	63	69	6	1	68	1		66	3		62	7	1
R1388L		1	B	64	70	6	1	69	1		68	2		63	7	1
R1388M		1	B	57	65	8		63	2		62	3		61	4	
R1388N		1	B	58	66	8	1	65	1		64	2		62	4	
R1388O		1	B	60	67	7	1	67	0		66	1		63	4	
R1388P		1	B	57	59	2		59	0		59	0		59	0	
R1388Q		1	B	57	60	3		60	0		60	0		60	0	
R1388R		1	B	57	62	5		62	0		62	0		61	1	
R1388S		1	B	57	56	-1		56	0		56	0		55	1	
R1388T		1	B	57	57	0		57	0		57	0		57	0	
R1388U		1	B	57	59	2		58	1		58	1		58	1	
R1388V		1	B	58	65	7		62	3		60	5	1	57	8	1
R1388W		1	B	60	66	6	1	63	3		62	4		58	8	1
R1388X		1	B	60	66	6	1	64	2		62	4		58	8	1
R1389A	Yes	1	B	67	75	8	1	69	6	1	66	9	1	61	14	1
R1389B	Yes	1	B	69	75	6	1	73	2		69	6	1	62	13	1
R1389C	Yes	1	B	70	76	6	1	75	1		73	3		63	13	1
R1389D	Yes	1	B	62	68	6	1	65	3		63	5	1	59	9	1
R1389E	Yes	1	B	62	69	7	1	67	2		65	4		60	9	1
R1389F	Yes	1	B	63	69	6	1	68	1		66	3		61	8	1
R1389G	Yes	1	B	57	63	6		61	2		60	3		57	6	1
R1389H	Yes	1	B	57	64	7		62	2		61	3		59	5	1
R1389I	Yes	1	B	59	65	6		63	2		63	2		60	5	1
R1389J	Yes	1	B	66	75	9	1	68	7	1	65	10	1	61	14	1
R1389K	Yes	1	B	69	75	6	1	72	3		68	7	1	62	13	1
R1389L	Yes	1	B	70	76	6	1	75	1		72	4		63	13	1
R1389M	Yes	1	B	66	75	9	1	67	8	1	64	11	1	60	15	1
R1389N	Yes	1	B	69	75	6	1	72	3		68	7	1	61	14	1
R1389O	Yes	1	B	69	76	7	1	75	1		72	4		63	13	1
R1389P	Yes	1	B	66	75	9	1	68	7	1	64	11	1	60	15	1
R1389Q	Yes	1	B	69	75	6	1	73	2		68	7	1	61	14	1
R1389R	Yes	1	B	70	76	6	1	75	1		73	3		63	13	1
R1389S	Yes	1	B	59	68	9	1	65	3		61	7	1	58	10	1
R1389T	Yes	1	B	62	69	7	1	68	1		65	4		59	10	1
R1389U	Yes	1	B	63	69	6	1	69	0		68	1		61	8	1
R1389V	Yes	1	B	57	64	7		63	1		60	4		58	6	1
R1389W	Yes	1	B	58	65	7		64	1		64	1		59	6	1
R1389X	Yes	1	B	59	66	7	1	65	1		65	1		61	5	1
R1390A	Yes	1	B	61	68	7	1	63	5	1	60	8	1	58	10	1
R1390B	Yes	1	B	63	69	6	1	65	4		62	7	1	59	10	1
R1390C	Yes	1	B	64	70	6	1	66	4		63	7	1	60	10	1
R1390D	Yes	1	B	61	67	6	1	62	5	1	60	7	1	58	9	1
R1390E	Yes	1	B	62	69	7	1	64	5	1	62	7	1	59	10	1
R1390F	Yes	1	B	64	70	6	1	65	5	1	63	7	1	60	10	1

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Noise Wall 47

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴			
				Existing dB(A)	Build dB(A)	Impacted Increase	Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1390G	Yes	1	B	60	66	6	1	62	4		60	6	1	58	8	1
R1390H	Yes	1	B	62	68	6	1	64	4		62	6	1	59	9	1
R1390I	Yes	1	B	63	69	6	1	65	4		63	6	1	59	10	1
R1390J	Yes	1	B	59	65	6		61	4		59	6	1	57	8	1
R1390K	Yes	1	B	61	67	6	1	63	4		61	6	1	58	9	1
R1390L	Yes	1	B	62	68	6	1	64	4		62	6	1	59	9	1
R1390M	Yes	1	B	57	61	4		58	3		57	4		56	5	1
R1390N	Yes	1	B	57	62	5		59	3		58	4		57	5	1
R1390O	Yes	1	B	57	64	7		60	4		59	5	1	58	6	1
R1390P	Yes	1	B	57	62	5		58	4		56	6	1	53	9	1
R1390Q	Yes	1	B	57	64	7		60	4		57	7	1	54	10	1
R1390R	Yes	1	B	59	65	6		60	5	1	58	7	1	55	10	1
R1390S	Yes	1	B	58	65	7		60	5	1	57	8	1	55	10	1
R1390T	Yes	1	B	60	66	6	1	62	4		59	7	1	55	11	1
R1390U	Yes	1	B	61	67	6	1	62	5	1	60	7	1	55	12	1
R1390V	Yes	1	B	60	66	6	1	61	5	1	59	7	1	56	10	1
R1390W	Yes	1	B	62	68	6	1	63	5	1	60	8	1	57	11	1
R1390X	Yes	1	B	63	69	6	1	64	5	1	61	8	1	57	12	1
R1391A	Yes	1	B	60	66	6	1	61	5	1	59	7	1	57	9	1
R1391B	Yes	1	B	62	68	6	1	63	5	1	61	7	1	58	10	1
R1391C	Yes	1	B	63	69	6	1	64	5	1	61	8	1	58	11	1
R1391D	Yes	1	B	60	66	6	1	62	4		60	6	1	57	9	1
R1391E	Yes	1	B	62	68	6	1	64	4		61	7	1	58	10	1
R1391F	Yes	1	B	63	69	6	1	65	4		63	6	1	58	11	1
R1391G	Yes	1	B	60	66	6	1	62	4		60	6	1	57	9	1
R1391H	Yes	1	B	61	68	7	1	64	4		62	6	1	58	10	1
R1391I	Yes	1	B	63	69	6	1	65	4		63	6	1	58	11	1
R1391J	Yes	1	B	59	66	7	1	61	5	1	60	6	1	57	9	1
R1391K	Yes	1	B	61	67	6	1	64	3		62	5	1	58	9	1
R1391L	Yes	1	B	63	69	6	1	65	4		63	6	1	58	11	1
R1391M	Yes	1	B	57	54	-3		53	1		53	1		52	2	
R1391N	Yes	1	B	57	55	-2		54	1		54	1		53	2	
R1391O	Yes	1	B	57	56	-1		56	0		55	1		53	3	
R1391P	Yes	1	B	57	54	-3		52	2		52	2		51	3	
R1391Q	Yes	1	B	57	55	-2		54	1		53	2		52	3	
R1391R	Yes	1	B	57	56	-1		56	0		55	1		53	3	
R1391S	Yes	1	B	57	55	-2		53	2		52	3		52	3	
R1391T	Yes	1	B	57	56	-1		54	2		54	2		53	3	
R1391U	Yes	1	B	57	58	1		57	1		56	2		54	4	
R1391V	Yes	1	B	57	61	4		56	5	1	55	6	1	54	7	1
R1391W	Yes	1	B	57	64	7		59	5	1	57	7	1	55	9	1
R1391X	Yes	1	B	59	65	6		61	4		58	7	1	56	9	1
R1392A		1	B	57	60	3		59	1		58	2		54	6	1
R1392B		1	B	57	62	5		61	1		60	2		55	7	1
R1392C		1	B	58	63	5		62	1		61	2		56	7	1
R1392D		1	B	57	62	5		60	2		59	3		55	7	1
R1392E		1	B	58	63	5		62	1		61	2		56	7	1
R1392F		1	B	59	64	5		63	1		62	2		57	7	1
R1392G		1	B	57	63	6		61	2		60	3		56	7	1
R1392H		1	B	59	65	6		63	2		62	3		57	8	1
R1392I		1	B	60	66	6	1	64	2		63	3		58	8	1
R1392J		1	B	57	64	7		61	3		60	4		56	8	1
R1392K		1	B	59	65	6		63	2		62	3		58	7	1
R1392L		1	B	60	66	6	1	65	1		63	3		58	8	1
R1392M		1	B	57	62	5		59	3		58	4		55	7	1
R1392N		1	B	57	64	7		62	2		60	4		56	8	1
R1392O		1	B	58	65	7		63	2		61	4		57	8	1
R1392P		1	B	57	63	6		60	3		59	4		56	7	1
R1392Q		1	B	57	65	8		62	3		61	4		57	8	1
R1392R		1	B	59	66	7	1	64	2		62	4		58	8	1
R1392S		1	B	57	64	7		60	4		59	5	1	56	8	1
R1392T		1	B	58	65	7		63	2		61	4		57	8	1
R1392U		1	B	60	66	6	1	64	2		62	4		58	8	1
R1392V		1	B	57	65	8		61	4		60	5	1	56	9	1
R1392W		1	B	59	66	7	1	63	3		62	4		58	8	1
R1392X		1	B	61	67	6	1	65	2		63	4		58	9	1
R1393A	Yes	1	B	65	71	6	1	67	4		65	6	1	61	10	1
R1393B	Yes	1	B	68	74	6	1	68	6	1	66	8	1	62	12	1
R1393C	Yes	1	B	70	75	5	1	69	6	1	67	8	1	62	13	1
R1393D	Yes	1	B	63	69	6	1	66	3		64	5	1	60	9	1
R1393E	Yes	1	B	66	72	6	1	68	4		66	6	1	61	11	1
R1393F	Yes	1	B	68	73	5	1	69	4		67	6	1	61	12	1
R1393G	Yes	1	B	62	69	7	1	65	4		63	6	1	59	10	1
R1393H	Yes	1	B	65	71	6	1	67	4		65	6	1	60	11	1
R1393I	Yes	1	B	67	72	5	1	68	4		66	6	1	61	11	1
R1393J	Yes	1	B	66	72	6	1	67	5	1	65	7	1	62	10	1
R1393K	Yes	1	B	70	76	6	1	69	7	1	67	9	1	63	13	1
R1393L	Yes	1	B	71	77	6	1	70	7	1	68	9	1	64	13	1

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Noise Wall 47

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Impacted Increase	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1393M	Yes	1	B	57	58	1	56	2		55	3		54	4	
R1393N	Yes	1	B	57	61	4	59	2		58	3		55	6	1
R1393O	Yes	1	B	58	63	5	61	2		60	3		57	6	1
R1393P	Yes	1	B	57	57	0	55	2		55	2		53	4	
R1393Q	Yes	1	B	57	61	4	56	5	1	55	6	1	53	8	1
R1393R	Yes	1	B	58	64	6	57	7	1	56	8	1	54	10	1
R1393S	Yes	1	B	57	60	3	57	3		56	4		54	6	1
R1393T	Yes	1	B	59	64	5	58	6	1	57	7	1	54	10	1
R1393U	Yes	1	B	61	67	6	59	8	1	57	10	1	55	12	1
R1393V	Yes	1	B	61	65	4	60	5	1	59	6	1	56	9	1
R1393W	Yes	1	B	64	70	6	61	9	1	59	11	1	56	14	1
R1393X	Yes	1	B	66	72	6	62	10	1	60	12	1	57	15	1
R1394A	Yes	1	B	67	73	6	66	7	1	65	8	1	62	11	1
R1394B	Yes	1	B	70	76	6	68	8	1	67	9	1	63	13	1
R1394C	Yes	1	B	71	76	5	70	6	1	68	8	1	64	12	1
R1394D	Yes	1	B	65	72	7	66	6	1	65	7	1	61	11	1
R1394E	Yes	1	B	68	75	7	68	7	1	66	9	1	62	13	1
R1394F	Yes	1	B	69	75	6	69	6	1	67	8	1	63	12	1
R1394G	Yes	1	B	64	70	6	65	5	1	64	6	1	61	9	1
R1394H	Yes	1	B	67	73	6	67	6	1	65	8	1	62	11	1
R1394I	Yes	1	B	69	74	5	68	6	1	66	8	1	63	11	1
R1394J	Yes	1	B	63	69	6	63	6	1	62	7	1	59	10	1
R1394K	Yes	1	B	66	72	6	65	7	1	63	9	1	60	12	1
R1394L	Yes	1	B	67	73	6	67	6	1	64	9	1	60	13	1
R1394M	Yes	1	B	57	58	1	56	2		55	3		54	4	
R1394N	Yes	1	B	57	61	4	57	4		57	4		54	7	1
R1394O	Yes	1	B	57	62	5	59	3		58	4		55	7	1
R1394P	Yes	1	B	57	59	2	55	4		55	4		53	6	1
R1394Q	Yes	1	B	57	62	5	57	5	1	56	6	1	53	9	1
R1394R	Yes	1	B	58	63	5	58	5	1	56	7	1	54	9	1
R1394S	Yes	1	B	57	60	3	56	4		55	5	1	53	7	1
R1394T	Yes	1	B	58	64	6	57	7	1	56	8	1	53	11	1
R1394U	Yes	1	B	61	66	5	58	8	1	57	9	1	54	12	1
R1394V	Yes	1	B	60	64	4	59	5	1	58	6	1	55	9	1
R1394W	Yes	1	B	63	69	6	60	9	1	58	11	1	56	13	1
R1394X	Yes	1	B	66	71	5	62	9	1	60	11	1	56	15	1
R1395A		1	B	59	64	5	61	3		60	4		56	8	1
R1395B		1	B	61	67	6	63	4		62	5	1	57	10	1
R1395C		1	B	63	69	6	65	4		63	6	1	58	11	1
R1395D		1	B	59	65	6	63	2		62	3		57	8	1
R1395E		1	B	62	68	6	65	3		64	4		58	10	1
R1395F		1	B	63	69	6	66	3		64	5	1	59	10	1
R1395G		1	B	57	57	0	55	2		55	2		54	3	
R1395H		1	B	57	60	3	57	3		56	4		55	5	1
R1395I		1	B	58	63	5	58	5	1	57	6	1	56	7	1
R1395J		1	B	57	55	-2	55	0		55	0		54	1	
R1395K		1	B	57	57	0	57	0		57	0		56	1	
R1395L		1	B	57	59	2	58	1		58	1		57	2	
R1396A	Yes	1	B	67	73	6	69	4		68	5	1	64	9	1
R1396B	Yes	1	B	69	76	7	70	6	1	69	7	1	65	11	1
R1396C	Yes	1	B	71	76	5	72	4		70	6	1	66	10	1
R1396D	Yes	1	B	66	73	7	68	5	1	67	6	1	64	9	1
R1396E	Yes	1	B	69	75	6	70	5	1	69	6	1	65	10	1
R1396F	Yes	1	B	70	76	6	72	4		70	6	1	66	10	1
R1396G	Yes	1	B	67	73	6	68	5	1	67	6	1	64	9	1
R1396H	Yes	1	B	69	75	6	70	5	1	68	7	1	65	10	1
R1396I	Yes	1	B	70	76	6	72	4		69	7	1	66	10	1
R1396J	Yes	1	B	66	73	7	68	5	1	67	6	1	63	10	1
R1396K	Yes	1	B	69	75	6	70	5	1	68	7	1	65	10	1
R1396L	Yes	1	B	70	76	6	71	5	1	69	7	1	66	10	1
R1396M	Yes	1	B	61	68	7	65	3		64	4		61	7	1
R1396N	Yes	1	B	64	70	6	66	4		65	5	1	62	8	1
R1396O	Yes	1	B	65	71	6	67	4		66	5	1	63	8	1
R1396P	Yes	1	B	60	66	6	65	1		65	1		61	5	1
R1396Q	Yes	1	B	61	67	6	66	1		66	1	1	63	4	
R1396R	Yes	1	B	62	68	6	67	1		67	1		64	4	
R1396S	Yes	1	B	60	66	6	66	0		65	1		61	5	1
R1396T	Yes	1	B	62	67	5	67	0		67	0		63	4	
R1396U	Yes	1	B	63	68	5	68	0		67	1		64	4	
R1396V	Yes	1	B	63	69	6	67	2		66	3		62	7	1
R1396W	Yes	1	B	65	71	6	68	3		68	3		63	8	1
R1396X	Yes	1	B	65	71	6	69	2		68	3		64	7	1
R1397A	Yes	1	B	64	70	6	69	1		67	3	1	61	9	1
R1397B	Yes	1	B	66	72	6	71	1		69	3		62	10	1
R1397C	Yes	1	B	67	73	6	72	1		70	3		64	9	1
R1397D	Yes	1	B	64	70	6	69	1		67	3		61	9	1
R1397E	Yes	1	B	67	73	6	71	2		69	4		62	11	1
R1397F	Yes	1	B	68	74	6	72	2		70	4		63	11	1

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Noise Wall 47

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1397G	Yes	1	B	65	70	5	1	69	1		67	3		61	9	1
R1397H	Yes	1	B	67	73	6	1	71	2		69	4		63	10	1
R1397I	Yes	1	B	68	74	6	1	72	2		70	4		64	10	1
R1397J	Yes	1	B	66	72	6	1	70	2		68	4		62	10	1
R1397K	Yes	1	B	68	74	6	1	72	2		70	4		64	10	1
R1397L	Yes	1	B	69	75	6	1	72	3		71	4		65	10	1
R1397M	Yes	1	B	57	61	4		57	4		57	4		55	6	1
R1397N	Yes	1	B	60	66	6	1	59	7	1	58	8	1	56	10	1
R1397O	Yes	1	B	63	69	6	1	61	8	1	59	10	1	57	12	1
R1397P	Yes	1	B	57	56	-1		55	1		54	2		53	3	
R1397Q	Yes	1	B	57	58	1		56	2		56	2		54	4	
R1397R	Yes	1	B	57	62	5		58	4		57	5	1	55	7	1
R1397S	Yes	1	B	57	55	-2		55	0		54	1		52	3	
R1397T	Yes	1	B	57	56	-1		56	0		55	1		53	3	
R1397U	Yes	1	B	57	59	2		57	2		57	2		55	4	
R1397V	Yes	1	B	57	58	1		58	0		57	1		56	2	
R1397W	Yes	1	B	57	60	3		60	0		59	1		58	2	
R1397X	Yes	1	B	58	61	3		61	0		60	1		59	2	
R1833A		1	B	57	62	5		61	1		61	1		60	2	
R1833B		1	B	57	63	6		62	1		62	1		61	2	
R1833C		1	B	57	64	7		63	1		62	2		62	2	
R1833D		1	B	57	63	6		62	1		61	2		60	3	
R1833E		1	B	57	65	8		63	2		63	2		62	3	
R1833F		1	B	58	65	7		64	1		63	2		62	3	
R1833G		1	B	57	63	6		62	1		61	2		61	2	
R1833H		1	B	57	64	7		63	1		63	1		62	2	
R1833I		1	B	57	65	8		64	1		64	1		63	2	
R1833J		1	B	57	62	5		61	1		61	1		61	1	
R1833K		1	B	57	63	6		62	1		62	1		62	1	
R1833L		1	B	57	64	7		63	1		63	1		62	2	
R1833M		1	B	57	63	6		62	1		61	2		61	2	
R1833N		1	B	57	64	7		63	1		63	1		62	2	
R1833O		1	B	57	65	8		64	1		64	1		63	2	
R1833P		1	B	57	63	6		62	1		62	1		62	1	
R1833Q		1	B	57	65	8		64	1		63	2		63	2	
R1833R		1	B	57	65	8		65	0		64	1		63	2	
R1833S		1	B	57	63	6		62	1		62	1		62	1	
R1833T		1	B	57	65	8		64	1		63	2		63	2	
R1833U		1	B	57	65	8		65	0		64	1		63	2	
R1833V		1	B	57	63	6		62	1		62	1		61	2	
R1833W		1	B	57	64	7		64	0		63	1		62	2	
R1833X		1	B	57	65	8		65	0		64	1		63	2	
R1834A		1	B	57	57	0		55	2		55	2		54	3	
R1834B		1	B	57	59	2		57	2		56	3		56	3	
R1834C		1	B	57	60	3		58	2		57	3		56	4	
R1834D		1	B	57	57	0		54	3		53	4		52	5	1
R1834E		1	B	57	59	2		56	3		55	4		53	6	1
R1834F		1	B	57	60	3		56	4		55	5	1	54	6	1
R1834G		1	B	57	59	2		55	4		54	5	1	52	7	1
R1834H		1	B	57	60	3		57	3		55	5	1	53	7	1
R1834I		1	B	57	61	4		57	4		56	5	1	53	8	1
R1834J		1	B	57	61	4		56	5	1	55	6	1	53	8	1
R1834K		1	B	57	63	6		59	4		57	6	1	54	9	1
R1834L		1	B	58	64	6		60	4		58	6	1	55	9	1
R1834M		1	B	57	64	7		60	4		59	5	1	57	7	1
R1834N		1	B	59	65	6		62	3		61	4		58	7	1
R1834O		1	B	60	67	7	1	63	4		62	5	1	58	9	1
R1834P		1	B	57	63	6		60	3		58	5	1	57	6	1
R1834Q		1	B	58	65	7		62	3		60	5	1	58	7	1
R1834R		1	B	59	66	7	1	63	3		61	5	1	58	8	1
R1834S		1	B	57	63	6		60	3		59	4		58	5	1
R1834T		1	B	58	65	7		62	3		61	4		59	6	1
R1834U		1	B	59	66	7	1	63	3		62	4		60	6	1
R1834V		1	B	57	63	6		61	2		60	3		59	4	
R1834W		1	B	57	65	8		63	2		62	3		61	4	
R1834X		1	B	58	66	8	1	64	2		63	3		61	5	1
R1835A		1	B	57	57	0		54	3		54	3		53	4	
R1835B		1	B	57	59	2		56	3		55	4		54	5	1
R1835C		1	B	57	61	4		57	4		56	5	1	55	6	1
R1835D		1	B	57	56	-1		54	2		54	2		53	3	
R1835E		1	B	57	58	1		56	2		55	3		54	4	
R1835F		1	B	57	59	2		57	2		56	3		54	5	1
R1835G		1	B	57	56	-1		55	1		54	2		53	3	
R1835H		1	B	57	58	1		56	2		55	3		54	4	
R1835I		1	B	57	59	2		57	2		56	3		55	4	
R1835J		1	B	57	58	1		55	3		54	4		53	5	1
R1835K		1	B	57	59	2		57	2		56	3		54	5	1
R1835L		1	B	57	60	3		58	2		57	3		55	5	1

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Noise Wall 47

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴			
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1835M		1	B	57	57	0		55	2		54	3		53	4	
R1835N		1	B	57	59	2		56	3		56	3		54	5	1
R1835O		1	B	57	60	3		58	2		57	3		55	5	1
R1835P		1	B	57	57	0		54	3		54	3		53	4	
R1835Q		1	B	57	58	1		56	2		55	3		54	4	
R1835R		1	B	57	60	3		57	3		56	4		55	5	1
R1835S		1	B	57	58	1		54	4		54	4		53	5	1
R1835T		1	B	57	59	2		56	3		55	4		54	5	1
R1835U		1	B	57	60	3		58	2		56	4		55	5	1
R1835V		1	B	57	59	2		55	4		54	5	1	53	6	1
R1835W		1	B	57	60	3		57	3		56	4		54	6	1
R1835X		1	B	57	62	5		58	4		57	5	1	55	7	1
R1836A		1	B	57	60	3		58	2		57	3		55	5	1
R1836B		1	B	57	62	5		60	2		59	3		56	6	1
R1836C		1	B	57	63	6		61	2		60	3		57	6	1
R1836D		1	B	57	59	2		56	3		56	3		54	5	1
R1836E		1	B	57	60	3		58	2		57	3		55	5	1
R1836F		1	B	57	62	5		59	3		58	4		56	6	1
R1836G		1	B	57	58	1		56	2		55	3		54	4	
R1836H		1	B	57	60	3		58	2		57	3		55	5	1
R1836I		1	B	57	61	4		59	2		58	3		56	5	1
R1836J		1	B	57	58	1		56	2		56	2		55	3	
R1836K		1	B	57	60	3		58	2		57	3		56	4	
R1836L		1	B	57	61	4		59	2		58	3		56	5	1
R1836M		1	B	57	59	2		56	3		56	3		55	4	
R1836N		1	B	57	60	3		58	2		58	2		56	4	
R1836O		1	B	57	61	4		59	2		58	3		57	4	
R1836P		1	B	57	59	2		57	2		56	3		55	4	
R1836Q		1	B	57	60	3		59	1		58	2		56	4	
R1836R		1	B	57	61	4		60	1		59	2		56	5	1
R1836S		1	B	57	60	3		58	2		57	3		55	5	1
R1836T		1	B	57	61	4		60	1		59	2		56	5	1
R1836U		1	B	57	62	5		61	1		60	2		57	5	1
R1836V		1	B	57	60	3		59	1		58	2		55	5	1
R1836W		1	B	57	62	5		61	1		60	2		57	5	1
R1836X		1	B	57	63	6		62	1		60	3		57	6	1
R1837A		1	B	57	61	4		59	2		58	3		55	6	1
R1837B		1	B	57	63	6		62	1		60	3		57	6	1
R1837C		1	B	59	65	6		63	2		61	4		57	8	1
R1837D		1	B	57	62	5		61	1		60	2		56	6	1
R1837E		1	B	59	64	5		63	1		62	2		58	6	1
R1837F		1	B	60	66	6	1	64	2		63	3		59	7	1
R1837G		1	B	58	63	5		62	1		61	2		57	6	1
R1837H		1	B	60	66	6	1	63	3		63	3		59	7	1
R1837I		1	B	62	67	5	1	64	3		63	4		60	7	1
R1837J		1	B	59	64	5		62	2		62	2		58	6	1
R1837K		1	B	61	67	6	1	64	3		63	4		60	7	1
R1837L		1	B	63	69	6	1	65	4		64	5	1	60	9	1
R1837M		1	B	57	58	1		55	3		54	4		53	5	1
R1837N		1	B	57	61	4		57	4		56	5	1	54	7	1
R1837O		1	B	58	62	4		59	3		57	5	1	55	7	1
R1837P		1	B	57	57	0		55	2		54	3		53	4	
R1837Q		1	B	57	59	2		57	2		56	3		54	5	1
R1837R		1	B	57	61	4		58	3		57	4		56	5	1
R1837S		1	B	57	56	-1		54	2		54	2		53	3	
R1837T		1	B	57	59	2		57	2		56	3		54	5	1
R1837U		1	B	57	61	4		58	3		57	4		56	5	1
R1837V		1	B	57	56	-1		54	2		53	3		52	4	
R1837W		1	B	57	58	1		56	2		55	3		53	5	1
R1837X		1	B	57	60	3		57	3		56	4		54	6	1
R1839A		1	B	57	54	-3		52	2		52	2		51	3	
R1839B		1	B	57	55	-2		53	2		53	2		52	3	
R1839C		1	B	57	57	0		54	3		54	3		53	4	
R1839D		1	B	57	54	-3		52	2		52	2		51	3	
R1839E		1	B	57	56	-1		54	2		53	3		52	4	
R1839F		1	B	57	59	2		55	4		54	5	1	53	6	1
R1839G		1	B	57	55	-2		53	2		52	3		51	4	
R1839H		1	B	57	58	1		54	4		54	4		52	6	1
R1839I		1	B	57	61	4		56	5	1	55	6	1	53	8	1
R1839J		1	B	57	57	0		54	3		54	3		52	5	1
R1839K		1	B	57	59	2		55	4		55	4		53	6	1
R1839L		1	B	57	62	5		56	6	1	55	7	1	53	9	1
R1839M		1	B	58	61	3		60	1		60	1		57	4	
R1839N		1	B	59	64	5		62	2		61	3		59	5	1
R1839O		1	B	61	65	4		64	1		62	3		59	6	1
R1839P		1	B	58	62	4		62	0		61	1		58	4	
R1839Q		1	B	60	64	4		64	0		63	1		59	5	1
R1839R		1	B	61	66	5	1	65	1		64	2		60	6	1

Red Corridor

Noise Wall 47

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴			
				Existing dB(A)	Build dB(A)	Impacted Increase	Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1839S		1	B	57	62	5		62	0		62	0		57	5	1
R1839T		1	B	59	64	5		64	0		64	0		59	5	1
R1839U		1	B	60	66	6	1	65	1		65	1		60	6	1
R1839V		1	B	57	61	4		62	-1		61	0		56	5	1
R1839W		1	B	58	64	6		64	0		63	1		58	6	1
R1839X		1	B	59	65	6		65	0		64	1		59	6	1
R1840		RECREATIONAL	C	57	57	0										
R1840-1		NODAL ARRAY	C	57	58	1		55	3		54	4		53	5	5
R1840-2		NODAL ARRAY	C	57	57	0		55	2		54	3		53	4	
R1840-3		NODAL ARRAY	C	57	57	0		56	1		55	2		53	4	
R1840-4		NODAL ARRAY	C	57	57	0		55	2		54	3		53	4	
R1840-5		NODAL ARRAY	C	57	57	0		56	1		56	1		54	3	
R1841A		1	B	59	63	4		62	1		61	2		58	5	1
R1841B		1	B	61	65	4		65	0		64	1		60	5	1
R1841C		1	B	62	67	5	1	66	1		65	2		61	6	1
R1841D		1	B	60	64	4		63	1		62	2		58	6	1
R1841E		1	B	61	66	5	1	66	0		64	2		60	6	1
R1841F		1	B	63	68	5	1	67	1		66	2		61	7	1
R1841G		1	B	60	64	4		63	1		62	2		58	6	1
R1841H		1	B	62	67	5	1	66	1		65	2		60	7	1
R1841I		1	B	63	69	6	1	68	1		66	3		61	8	1
R1841J		1	B	61	65	4		65	0		64	1		59	6	1
R1841K		1	B	63	68	5	1	67	1		66	2		61	7	1
R1841L		1	B	64	70	6	1	68	2		67	3		62	8	1
R1841M		1	B	59	64	5		64	0		63	1		57	7	1
R1841N		1	B	61	67	6	1	66	1		65	2		59	8	1
R1841O		1	B	62	68	6	1	67	1		66	2		60	8	1
R1841P		1	B	57	62	5		62	0		61	1		55	7	1
R1841Q		1	B	58	64	6		64	0		63	1		57	7	1
R1841R		1	B	60	65	5		65	0		64	1		58	7	1
R1841S		1	B	57	60	3		59	1		58	2		53	7	1
R1841T		1	B	57	62	5		62	0		61	1		55	7	1
R1841U		1	B	58	64	6		63	1		62	2		56	8	1
R1841V		1	B	57	58	1		57	1		56	2		52	6	1
R1841W		1	B	57	60	3		60	0		59	1		53	7	1
R1841X		1	B	57	62	5		61	1		60	2		54	8	1
R1902A		1	B	57	62	5		60	2		60	2		60	2	
R1902B		1	B	57	63	6		62	1		62	1		61	2	
R1902C		1	B	57	64	7		63	1		63	1		62	2	
R1902D		1	B	57	62	5		61	1		60	2		60	2	
R1902E		1	B	57	63	6		62	1		62	1		61	2	
R1902F		1	B	57	64	7		63	1		63	1		62	2	
R1902G		1	B	57	62	5		61	1		61	1		60	2	
R1902H		1	B	57	63	6		62	1		62	1		61	2	
R1902I		1	B	57	64	7		63	1		63	1		62	2	
R1902J		1	B	57	62	5		61	1		61	1		60	2	
R1902K		1	B	57	63	6		63	0		62	1		62	1	
R1902L		1	B	57	64	7		64	0		63	1		62	2	
R1902M		1	B	57	62	5		61	1		60	2		60	2	
R1902N		1	B	57	63	6		62	1		62	1		61	2	
R1902O		1	B	57	64	7		63	1		63	1		62	2	
R1902P		1	B	57	62	5		61	1		60	2		60	2	
R1902Q		1	B	57	63	6		62	1		62	1		61	2	
R1902R		1	B	57	64	7		63	1		63	1		62	2	
R1902S		1	B	57	62	5		60	2		60	2		60	2	
R1902T		1	B	57	63	6		62	1		62	1		61	2	
R1902U		1	B	57	64	7		63	1		63	1		62	2	
R1902V		1	B	57	61	4		60	1		60	1		59	2	
R1902W		1	B	57	63	6		62	1		61	2		61	2	
R1902X		1	B	57	64	7		63	1		62	2		61	3	
R1903A		1	B	57	60	3		59	1		58	2		58	2	
R1903B		1	B	57	62	5		60	2		60	2		59	3	
R1903C		1	B	57	62	5		61	1		60	2		60	2	
R1903D		1	B	57	60	3		58	2		58	2		57	3	
R1903E		1	B	57	61	4		60	1		59	2		59	2	
R1903F		1	B	57	62	5		61	1		60	2		60	2	
R1903G		1	B	57	60	3		58	2		58	2		58	2	
R1903H		1	B	57	61	4		60	1		59	2		59	2	
R1903I		1	B	57	62	5		61	1		60	2		60	2	
R1903J		1	B	57	60	3		59	1		58	2		58	2	
R1903K		1	B	57	61	4		60	1		60	1		59	2	
R1903L		1	B	57	62	5		61	1		61	1		60	2	
R1903M		1	B	57	62	5		60	2		59	3		59	3	
R1903N		1	B	57	63	6		62	1		61	2		60	3	
R1903O		1	B	57	64	7		63	1		62	2		61	3	
R1903P		1	B	57	61	4		59	2		59	2		58	3	
R1903Q		1	B	57	62	5		61	1		60	2		60	2	
R1903R		1	B	57	63	6		62	1		61	2		60	3	

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Noise Wall 47

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴			
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1903S		1	B	57	60	3		58	2		58	2		58	2	
R1903T		1	B	57	61	4		60	1		60	1		59	2	
R1903U		1	B	57	63	6		61	2		61	2		60	3	
R1903V		1	B	57	60	3		59	1		58	2		58	2	
R1903W		1	B	57	61	4		60	1		60	1		59	2	
R1903X		1	B	57	62	5		61	1		61	1		60	2	
R1904		RECREATIONAL	C	57	60	3										
R1904-1		NODAL ARRAY	C	57	60	3		57	3		56	4		55	5	5
R1904-2		NODAL ARRAY	C	57	60	3		57	3		56	4		55	5	5
R1904-3		NODAL ARRAY	C	57	60	3		57	3		56	4		54	6	5
R1904-4		NODAL ARRAY	C	57	60	3		57	3		56	4		55	5	5
R1904-5		NODAL ARRAY	C	57	60	3		57	3		56	4		55	5	5
R1905A		1	B	57	62	5		58	4		57	5	1	55	7	1
R1905B		1	B	57	63	6		60	3		59	4		56	7	1
R1905C		1	B	58	64	6		61	3		60	4		57	7	1
R1905D		1	B	57	61	4		58	3		56	5	1	55	6	1
R1905E		1	B	57	62	5		60	2		59	3		56	6	1
R1905F		1	B	57	63	6		61	2		59	4		56	7	1
R1905G		1	B	57	60	3		57	3		56	4		55	5	1
R1905H		1	B	57	62	5		59	3		58	4		56	6	1
R1905I		1	B	57	63	6		60	3		59	4		56	7	1
R1905J		1	B	57	60	3		57	3		56	4		55	5	1
R1905K		1	B	57	61	4		59	2		58	3		56	5	1
R1905L		1	B	57	62	5		60	2		59	3		56	6	1
R1905M		1	B	57	60	3		57	3		56	4		55	5	1
R1905N		1	B	57	61	4		59	2		58	3		56	5	1
R1905O		1	B	57	62	5		60	2		59	3		56	6	1
R1905P		1	B	57	60	3		57	3		56	4		55	5	1
R1905Q		1	B	57	61	4		59	2		58	3		56	5	1
R1905R		1	B	57	62	5		60	2		59	3		56	6	1
R1905S		1	B	57	60	3		57	3		56	4		54	6	1
R1905T		1	B	57	62	5		59	3		58	4		56	6	1
R1905U		1	B	57	63	6		61	2		59	4		56	7	1
R1905V		1	B	57	61	4		58	3		57	4		55	6	1
R1905W		1	B	57	62	5		60	2		59	3		57	5	1
R1905X		1	B	57	64	7		61	3		60	4		57	7	1
R1906A		1	B	57	58	1		56	2		55	3		54	4	
R1906B		1	B	57	60	3		58	2		56	4		55	5	1
R1906C		1	B	57	60	3		59	1		57	3		56	4	
R1906D		1	B	57	58	1		55	3		54	4		53	5	1
R1906E		1	B	57	59	2		57	2		56	3		55	4	
R1906F		1	B	57	60	3		58	2		57	3		55	5	1
R1906G		1	B	57	57	0		55	2		54	3		53	4	
R1906H		1	B	57	59	2		56	3		55	4		54	5	1
R1906I		1	B	57	59	2		58	1		56	3		55	4	
R1906J		1	B	57	57	0		55	2		54	3		53	4	
R1906K		1	B	57	58	1		56	2		55	3		54	4	
R1906L		1	B	57	59	2		57	2		56	3		55	4	
R1906M		1	B	57	57	0		55	2		54	3		54	3	
R1906N		1	B	57	58	1		56	2		55	3		55	3	
R1906O		1	B	57	59	2		57	2		56	3		55	4	
R1906P		1	B	57	57	0		55	2		54	3		54	3	
R1906Q		1	B	57	58	1		57	1		56	2		55	3	
R1906R		1	B	57	59	2		58	1		57	2		56	3	
R1906S		1	B	57	58	1		55	3		55	3		54	4	
R1906T		1	B	57	59	2		57	2		56	3		55	4	
R1906U		1	B	57	60	3		58	2		57	3		56	4	
R1906V		1	B	57	58	1		56	2		55	3		55	3	
R1906W		1	B	57	59	2		58	1		57	2		56	3	
R1906X		1	B	57	60	3		59	1		58	2		57	3	
R1907A		1	B	57	58	1		55	3		54	4		53	5	1
R1907B		1	B	57	59	2		57	2		56	3		55	4	
R1907C		1	B	57	60	3		58	2		56	4		55	5	1
R1907D		1	B	57	58	1		56	2		55	3		54	4	
R1907E		1	B	57	60	3		58	2		57	3		55	5	1
R1907F		1	B	57	61	4		59	2		58	3		56	5	1
R1907G		1	B	57	58	1		56	2		55	3		54	4	
R1907H		1	B	57	60	3		58	2		57	3		56	4	
R1907I		1	B	57	61	4		59	2		58	3		56	5	1
R1907J		1	B	57	58	1		55	3		55	3		54	4	
R1907K		1	B	57	59	2		57	2		56	3		55	4	
R1907L		1	B	57	61	4		58	3		57	4		56	5	1
R1907M		1	B	57	57	0		55	2		55	2		54	3	
R1907N		1	B	57	59	2		57	2		56	3		55	4	
R1907O		1	B	57	60	3		58	2		57	3		56	4	
R1907P		1	B	57	58	1		55	3		55	3		54	4	
R1907Q		1	B	57	59	2		57	2		56	3		55	4	
R1907R		1	B	57	60	3		58	2		57	3		56	4	

Red Corridor

Noise Wall 47

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Impacted Increase	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1907S		1	B	57	58	1	55	3		55	3		54	4	
R1907T		1	B	57	59	2	57	2		56	3		55	4	
R1907U		1	B	57	60	3	58	2		57	3		56	4	
R1907V		1	B	57	57	0	55	2		54	3		54	3	
R1907W		1	B	57	59	2	57	2		56	3		55	4	
R1907X		1	B	57	60	3	58	2		57	3		56	4	
R1908A		1	B	57	58	1	57	1		56	2		55	3	
R1908B		1	B	57	60	3	59	1		58	2		56	4	
R1908C		1	B	57	61	4	60	1		59	2		57	4	
R1908D		1	B	57	58	1	57	1		56	2		54	4	
R1908E		1	B	57	60	3	59	1		58	2		56	4	
R1908F		1	B	57	61	4	60	1		59	2		57	4	
R1908G		1	B	57	58	1	57	1		56	2		54	4	
R1908H		1	B	57	60	3	59	1		58	2		56	4	
R1908I		1	B	57	61	4	60	1		59	2		57	4	
R1908J		1	B	57	58	1	57	1		56	2		54	4	
R1908K		1	B	57	59	2	58	1		58	1		56	3	
R1908L		1	B	57	60	3	59	1		59	1		57	3	
R1908M		1	B	57	58	1	56	2		56	2		54	4	
R1908N		1	B	57	59	2	58	1		57	2		55	4	
R1908O		1	B	57	60	3	59	1		58	2		56	4	
R1908P		1	B	57	58	1	57	1		57	1		55	3	
R1908Q		1	B	57	60	3	59	1		58	2		56	4	
R1908R		1	B	57	61	4	60	1		59	2		57	4	
R1908S		1	B	57	59	2	58	1		57	2		55	4	
R1908T		1	B	57	60	3	59	1		58	2		56	4	
R1908U		1	B	57	61	4	60	1		60	1		57	4	
R1908V		1	B	57	59	2	58	1		57	2		55	4	
R1908W		1	B	57	60	3	60	0		59	1		56	4	
R1908X		1	B	57	61	4	60	1		60	1		57	4	
R1909A		1	B	57	58	1	57	1		57	1		55	3	
R1909B		1	B	57	60	3	59	1		59	1		57	3	
R1909C		1	B	57	61	4	60	1		60	1		58	3	
R1909D		1	B	57	58	1	57	1		56	2		54	4	
R1909E		1	B	57	59	2	59	0		58	1		56	3	
R1909F		1	B	57	61	4	60	1		59	2		57	4	
R1909G		1	B	57	58	1	56	2		56	2		54	4	
R1909H		1	B	57	59	2	58	1		57	2		55	4	
R1909I		1	B	57	60	3	59	1		58	2		56	4	
R1909J		1	B	57	57	0	56	1		55	2		54	3	
R1909K		1	B	57	59	2	57	2		57	2		55	4	
R1909L		1	B	57	60	3	58	2		58	2		56	4	
R1909M		1	B	57	58	1	58	0		57	1		55	3	
R1909N		1	B	57	60	3	60	0		59	1		56	4	
R1909O		1	B	57	61	4	61	0		60	1		57	4	
R1909P		1	B	57	59	2	58	1		58	1		56	3	
R1909Q		1	B	57	60	3	60	0		60	0		58	2	
R1909R		1	B	57	62	5	61	1		61	1		58	4	
R1909S		1	B	57	59	2	58	1		58	1		56	3	
R1909T		1	B	57	60	3	60	0		60	0		58	2	
R1909U		1	B	57	62	5	61	1		61	1		59	3	
R1909V		1	B	57	59	2	58	1		58	1		56	3	
R1909W		1	B	57	60	3	60	0		60	0		58	2	
R1909X		1	B	57	62	5	61	1		61	1		59	3	
R1910A		1	B	57	59	2	58	1		57	2		55	4	
R1910B		1	B	57	60	3	60	0		60	0		57	3	
R1910C		1	B	58	62	4	62	0		61	1		59	3	
R1910D		1	B	57	59	2	58	1		57	2		56	3	
R1910E		1	B	57	61	4	60	1		60	1		58	3	
R1910F		1	B	58	62	4	62	0		61	1		59	3	
R1910G		1	B	57	60	3	58	2		58	2		56	4	
R1910H		1	B	57	61	4	61	0		60	1		58	3	
R1910I		1	B	58	63	5	62	1		62	1		59	4	
R1910J		1	B	57	60	3	58	2		58	2		56	4	
R1910K		1	B	57	61	4	61	0		60	1		58	3	
R1910L		1	B	59	63	4	62	1		62	1		59	4	
R1910M		1	B	57	60	3	59	1		59	1		56	4	
R1910N		1	B	58	62	4	62	0		61	1		59	3	
R1910O		1	B	59	64	5	63	1		63	1		60	4	
R1910P		1	B	57	60	3	59	1		58	2		56	4	
R1910Q		1	B	58	62	4	61	1		61	1		58	4	
R1910R		1	B	59	63	4	63	0		62	1		60	3	
R1910S		1	B	57	60	3	59	1		58	2		56	4	
R1910T		1	B	58	61	3	61	0		61	0		58	3	
R1910U		1	B	59	63	4	62	1		62	1		59	4	
R1910V		1	B	57	59	2	58	1		58	1		56	3	
R1910W		1	B	57	61	4	61	0		60	1		58	3	
R1910X		1	B	58	62	4	62	0		62	0		59	3	

Red Corridor

Noise Wall 47

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴		
				Existing	Build	Impacted	W/Wall ²	Reduction ³	Benefited	W/Wall ²	Reduction ³	Benefited	Tall Wall		
				dB(A)	dB(A)								Increase	Receptors	dB(A)

Length (ft)=	3021	3021	3021
Average Height =	10	14	24
Area of Noise Wall (sft)=	30215	42299	72514
Impacted Receptors=	171	171	171
Number of Benefited Receptors=	65	140	376
Area of Noise Wall per Benefit Receptor (sft)=	465	302	193
Average Increase in dB(A) of all Impacted Receptors=	6	6	6
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2718	2718	2718
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 24ft barrier is recommended because all criteria for feasible and reasonable have been met, the barrier breaks the line of sight, and the most properties are benefited.

Recommended 24ft wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 47</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>171</u> # BENEFITS - <u>376</u> NAC: A <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>193</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2718</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

Noise Wall 48

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Existing Build		Noise Levels ²		Short Wall		Intermediate Wall		Recommended ⁴ Tall Wall				
				dB(A)	dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1621	Yes	1	B	57	68	11	1	61	7	1	61	7	1	60	8	1
R1423	Yes	SCHOOL	D	40	47	7		41	6	8	41	6	8	41	6	8
R1441A	Yes	1	B	57	65	8		61	4		60	5	1	60	5	1
R1441B	Yes	1	B	57	67	10	1	61	6	1	61	6	1	60	7	1
R1442A	Yes	1	B	57	67	10	1	61	6	1	60	7	1	60	7	1
R1442B	Yes	1	B	57	69	12	1	62	7	1	61	8	1	61	8	1
R1442C	Yes	1	B	57	65	8		61	4		60	5	1	60	5	1
R1443	Yes	1	B	57	70	13	1	63	7	1	62	8	1	62	8	1
R1444	Yes	1	B	57	64	7		61	3		60	4		59	5	1

Length (ft)=	2600	2600
Average Height =	10	12
Area of Noise Wall (sft)=	26002	31200
Impacted Receptors=	5	5
Number of Benefited Receptors=	13	15
Area of Noise Wall per Benefited Receptor (sft)=	2000	2080
Average Increase in dB(A) of all Impacted Receptors=	11	11
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2892	2892
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Recommended 14ft wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 48</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>5</u> # BENEFITS - <u>16</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES	<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES	<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES	<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES	<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES	<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>2275</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2892</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u>	YES	<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES	<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES	<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES	<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES	<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES	<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES	<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:				
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO				

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Red Corridor

Noise Wall 51

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Recommended ⁴			Tail Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
				R0916A	Yes	1	B	69	75	6	1	64	11	1	63	12
R0916B	Yes	1	B	70	77	7	1	65	12	1	64	13	1	64	13	1
R0916C	Yes	1	B	70	77	7	1	65	12	1	64	13	1	64	13	1
R0917		1	B	63	67	4	1	59	8	1	59	8	1	59	8	1
R0918A	Yes	1	B	70	76	6	1	65	11	1	65	11	1	64	12	1
R0918B	Yes	1	B	70	76	6	1	65	11	1	65	11	1	64	12	1
R0918C	Yes	1	B	69	76	7	1	65	11	1	65	11	1	64	12	1
R0919A		1	B	62	67	5	1	59	8	1	59	8	1	58	9	1
R0919B		1	B	60	64	4		58	6	1	57	7	1	57	7	1
R0920		1	B	57	60	3		56	4		56	4		55	5	1
R0921A		1	B	59	63	4		58	5	1	57	6	1	57	6	1
R0921B		1	B	61	65	4		60	5	1	59	6	1	58	7	1
R0921C		1	B	60	63	3		59	4		58	5	1	58	5	1
R0922A	Yes	1	B	68	75	7	1	65	10	1	64	11	1	63	12	1
R0922B	Yes	1	B	68	75	7	1	65	10	1	64	11	1	63	12	1
R0923A		1	B	66	71	5	1	63	8	1	63	8	1	62	9	1
R0923B		1	B	63	66	3	1	61	5	1	61	5	1	60	6	1
R0924A		1	B	58	60	2		57	3		56	4		56	4	
R0924B		1	B	58	60	2		57	3		57	3		56	4	
R0928		1	B	61	62	1		58	4		58	4		57	5	1
R0931A	Yes	1	B	67	72	5	1	64	8	1	63	9	1	62	10	1
R0931B	Yes	1	B	72	79	7	1	65	14	1	65	14	1	64	15	1
R0932A	Yes	1	B	70	74	4	1	64	10	1	63	11	1	63	11	1
R0932B	Yes	1	B	70	72	2	1	63	9	1	63	9	1	62	10	1
R0932C	Yes	1	B	69	70	1	1	62	8	1	62	8	1	61	9	1
R1637	Yes	1	B	71	72	1	1	63	9	1	62	10	1	61	11	1
R0933	Yes	1	B	66	66	0	1	63	3		62	4		62	4	
R0934A	Yes	1	B	60	58	-2		57	1		57	1		57	1	
R0934B	Yes	1	B	59	58	-1		56	2		56	2		55	3	
R0935A	Yes	1	B	55	56	1		53	3		53	3		53	3	
R0935B	Yes	1	B	56	57	1		55	2		54	3		54	3	
R0935C	Yes	1	B	54	54	0		52	2		52	2		52	2	
R2315	Yes	RECREATIONAL	C	55	66	11										
R2315-1	Yes	NODAL ARRAY	C	55	62	7		58	4		57	5	1	57	5	1
R2315-2	Yes	NODAL ARRAY	C	55	62	7		58	4		57	5	1	57	5	1
R2315-3	Yes	NODAL ARRAY	C	55	62	7		58	4		58	4		58	4	
R2315-4	Yes	NODAL ARRAY	C	55	61	6		59	2		58	3		58	3	
R2315-5	Yes	NODAL ARRAY	C	55	66	11	1	62	4		62	4		62	4	
R2315-6	Yes	NODAL ARRAY	C	55	67	12	1	64	3		64	3		63	4	

Length (ft)=	3501	3501	3501
Average Height =	16	18	20
Area of Noise Wall (sft)=	56022	63025	70029
Impacted Receptors=	21	21	21
Number of Benefited Receptors=	21	24	26
Area of Noise Wall per Benefit Receptor (sft)=	2668	2626	2693
Average Increase in dB(A) of all Impacted Receptors=	5	5	5
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2688	2688	2688
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	Yes	Yes

Recommended 18ft wall

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
- (4) A 18ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 51</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>21</u>	# BENEFITS - <u>24</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>2626</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2688</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd					
	<u> </u>	YES		<u> </u>	NO

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

**Complete 540
Traffic Noise Analysis**

Red Corridor

Noise Wall 52

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall				
			Existing dB(A)	Build dB(A) Increase	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0856	Yes	B	64	69	5	64	5	63	6	1	62	7	1
R0857	Yes	B	66	71	5	68	3	65	6	1	64	7	1
R0858A	Yes	B	62	68	6	66	2	65	3		63	5	1
R0858B	Yes	B	61	67	6	65	2	63	4		62	5	1
R0859	Yes	B	65	71	6	67	4	65	6	1	64	7	1
R0860A	Yes	B	68	75	7	67	8	66	9	1	65	10	1
R0860B	Yes	B	68	75	7	68	7	67	8	1	67	8	1
R1842		B	59	64	5	62	2	61	3		60	4	
R1843A		B	62	68	6	66	2	65	3		63	5	1
R1843B		B	61	67	6	64	3	63	4		63	4	
R1844A		B	60	66	6	63	3	63	3		62	4	
R1844B		B	59	64	5	63	1	62	2		61	3	
R2291A		B	61	65	4	64	1	64	1		64	1	
R2291B		B	61	64	3	64	0	63	1		63	1	

Length (ft)=	1600	1600	1600
Average Height =	20	22	24
Area of Noise Wall (sft)=	31998	35199	38398
Impacted Receptors=	10	10	10
Number of Benefited Receptors=	3	5	8
Area of Noise Wall per Benefited Receptor (sft)=	10666	7040	4800
Average Increase in dB(A) of all Impacted Receptors=	6	6	6
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2710	2710	2710
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 52</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>10</u> # BENEFITS - <u>8</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>4800</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2710</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u> YES <u>X</u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u> </u> YES <u>X</u> NO
3 Is the noise mitigation likely?	<u> </u> YES <u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	<u> </u> YES <u> </u> NO
Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Green Corridor

Noise Wall 64

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Tall Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1490A		1	B	56	65	9		61	4		60	5	1	60	5	1			
R1490B		1	B	56	68	12	1	64	4		63	5	1	63	5	1			
R1491	Yes	1	B	56	76	20	1	71	5	1	69	7	1	67	9	1			
R1492A		1	B	56	67	11	1	59	8	1	59	8	1	58	9	1			
R1492B		1	B	56	66	10	1	59	7	1	58	8	1	58	8	1			
R1493A	Yes	1	B	56	70	14	1	61	9	1	60	10	1	60	10	1			
R1493B	Yes	1	B	56	69	13	1	61	8	1	60	9	1	60	9	1			
R1495A	Yes	1	B	56	72	16	1	62	10	1	61	11	1	60	12	1			
R1495B	Yes	1	B	56	73	17	1	63	10	1	62	11	1	61	12	1			
R1496A		1	B	56	68	12	1	61	7	1	61	7	1	60	8	1			
R1496B		1	B	56	69	13	1	61	8	1	60	9	1	59	10	1			
R1497A	Yes	1	B	56	71	15	1	62	9	1	61	10	1	60	11	1			
R1497B	Yes	1	B	56	73	17	1	63	10	1	62	11	1	61	12	1			
R1499A	Yes	1	B	56	67	11	1	59	8	1	59	8	1	58	9	1			
R1499B	Yes	1	B	56	67	11	1	59	8	1	58	9	1	58	9	1			
R1499C	Yes	1	B	56	68	12	1	60	8	1	60	8	1	59	9	1			
R1499D	Yes	1	B	56	68	12	1	61	7	1	61	7	1	60	8	1			
R1852A		1	B	56	66	10	1	59	7	1	58	8	1	58	8	1			
R1852B		1	B	56	64	8		58	6	1	57	7	1	57	7	1			
R1853A		1	B	56	66	10	1	62	4		61	5	1	60	6	1			
R1853B		1	B	56	67	11	1	61	6	1	61	6	1	60	7	1			
R1854A		1	B	56	65	9		61	4		61	4		60	5	1			
R1854B		1	B	56	66	10	1	61	5	1	61	5	1	60	6	1			
R1871A		1	B	56	63	7		59	4		58	5	1	58	5	1			
R1871B		1	B	56	61	5		58	3		58	3		58	3				
R1872A		1	B	56	63	7		60	3		59	4		59	4				
R1872B		1	B	56	62	6		60	2		59	3		59	3				
R1873A		1	B	56	64	8		62	2		61	3		60	4				
R1873B		1	B	56	62	6		61	1		60	2		59	3				
R1874A		1	B	56	63	7		61	2		60	3		60	3				
R1874B		1	B	56	62	6		59	3		59	3		58	4				

Length (ft)=	2200	2200	2200
Average Height =	14	16	18
Area of Noise Wall (sft)=	30800	35200	39600
Impacted Receptors=	20	20	20
Number of Benefited Receptors=	19	23	24
Area of Noise Wall per Benefit Receptor (sft)=	1621	1530	1650
Average Increase in dB(A) of all Impacted Receptors=	13	13	13
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2950	2950	2950
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 18ft barrier is recommended because all criteria for feasible and reasonable have been met, the barrier breaks the line of sight, and the most properties are benefited.

Recommended 18 ft Wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 64</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>20</u>	# BENEFITS - <u>24</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>1650</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2950</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd	Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd
Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd	Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Green Corridor

Noise Wall 65

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1515A	Yes	1	B	56	70	14	1	66	4		65	5	1	61	9	1
R1515B	Yes	1	B	56	74	18	1	65	9	1	64	10	1	61	13	1
R1516A	Yes	1	B	60	69	9	1	60	9	1	59	10	1	57	12	1
R1516B	Yes	1	B	59	69	10	1	61	8	1	60	9	1	58	11	1
R1517	Yes	1	B	61	65	4		57	8	1	56	9	1	55	10	1
R1518	Yes	1	B	60	65	5		58	7	1	57	8	1	56	9	1
R1520A		1	B	56	66	10	1	63	3		61	5	1	59	7	1
R1520B		1	B	56	66	10	1	63	3		62	4		59	7	1
R1520C		1	B	56	67	11	1	63	4		62	5	1	59	8	1
R1521A		1	B	56	65	9		64	1		63	2		59	6	1
R1521B		1	B	56	64	8		63	1		61	3		59	5	1
R1521C		1	B	56	64	8		61	3		60	4		58	6	1
R1522A		1	B	56	61	5		57	4		57	4		55	6	1
R1522B		1	B	56	61	5		58	3		57	4		56	5	1
R1522C		1	B	56	61	5		57	4		56	5	1	55	6	1
R1523A		1	B	56	62	6		60	2		59	3		57	5	1
R1523B		1	B	56	62	6		60	2		59	3		57	5	1
R1524A		1	B	56	62	6		60	2		59	3		57	5	1
R1524B		1	B	56	63	7		60	3		59	4		57	6	1
R1525A		1	B	56	63	7		60	3		60	3		58	5	1
R1525B		1	B	56	63	7		62	1		61	2		59	4	1
R1525C		1	B	56	63	7		60	3		59	4		57	6	1
R1526	Yes	1	B	56	68	12	1	66	2		64	4		61	7	1
R1527	Yes	1	B	56	70	14	1	66	4		64	6	1	61	9	1
R1528A	Yes	1	B	56	67	11	1	63	4		62	5	1	59	8	1
R1528B	Yes	1	B	56	71	15	1	67	4		65	6	1	62	9	1
R1528C	Yes	1	B	56	64	8		59	5	1	59	5	1	58	6	1
R1883A		1	B	56	62	6		61	1		60	2		58	4	1
R1883B		1	B	56	62	6		58	4		58	4		57	5	1
R1883C		1	B	56	64	8		59	5	1	59	5	1	57	7	1
R1529A	Yes	1	B	56	74	18	1	65	9	1	64	10	1	61	13	1
R1529B	Yes	1	B	56	76	20	1	65	11	1	64	12	1	62	14	1
R1529C	Yes	1	B	56	77	21	1	66	11	1	65	12	1	63	14	1
R1530A		1	B	56	72	16	1	65	7	1	63	9	1	61	11	1
R1530B		1	B	56	73	17	1	64	9	1	63	10	1	61	12	1
R1531A		1	B	56	70	14	1	64	6	1	62	8	1	60	10	1
R1531B		1	B	56	70	14	1	63	7	1	62	8	1	60	10	1
R1533A	Yes	1	B	56	75	19	1	66	9	1	65	10	1	62	13	1
R1533B	Yes	1	B	56	75	19	1	66	9	1	65	10	1	62	13	1
R1533C	Yes	1	B	56	75	19	1	66	9	1	65	10	1	62	13	1
R1534A		1	B	56	72	16	1	65	7	1	64	8	1	61	11	1
R1534B		1	B	56	72	16	1	65	7	1	64	8	1	62	10	1
R1534C		1	B	56	72	16	1	65	7	1	64	8	1	61	11	1
R1535A		1	B	56	69	13	1	64	5	1	63	6	1	60	9	1
R1535B		1	B	56	69	13	1	64	5	1	63	6	1	60	9	1
R1535C		1	B	56	69	13	1	64	5	1	63	6	1	60	9	1
R1539A	Yes	1	B	56	77	21	1	67	10	1	66	11	1	63	14	1
R1539B	Yes	1	B	56	77	21	1	66	11	1	65	12	1	62	15	1
R1539C	Yes	1	B	56	74	18	1	65	9	1	64	10	1	62	12	1
R1540A		1	B	56	72	16	1	65	7	1	64	8	1	61	11	1
R1540B		1	B	56	73	17	1	65	8	1	64	9	1	62	11	1
R1540C		1	B	56	72	16	1	64	8	1	63	9	1	61	11	1
R1541A		1	B	56	70	14	1	64	6	1	63	7	1	61	9	1
R1541B		1	B	56	69	13	1	63	6	1	62	7	1	60	9	1
R1541C		1	B	56	68	12	1	63	5	1	62	6	1	60	8	1
R1541D		1	B	56	68	12	1	64	4		62	6	1	60	8	1
R1857A		1	B	56	68	12	1	63	5	1	61	7	1	59	9	1
R1857B		1	B	56	68	12	1	62	6	1	61	7	1	59	9	1
R1857C		1	B	56	68	12	1	63	5	1	62	6	1	59	9	1
R1858A		1	B	56	68	12	1	63	5	1	62	6	1	60	8	1
R1858B		1	B	56	68	12	1	63	5	1	62	6	1	59	9	1
R1858C		1	B	56	67	11	1	64	3		62	5	1	60	7	1
R1859A		1	B	56	66	10	1	61	5	1	60	6	1	58	8	1
R1859B		1	B	56	67	11	1	63	4		62	5	1	60	7	1
R1859C		1	B	56	68	12	1	63	5	1	62	6	1	60	8	1
R1859D		1	B	56	67	11	1	62	5	1	61	6	1	59	8	1
R1875A		1	B	56	61	5		57	4		56	5	1	55	6	1
R1875B		1	B	56	62	6		57	5	1	57	5	1	55	7	1
R1876A		1	B	56	62	6		58	4		57	5	1	56	6	1
R1876B		1	B	56	63	7		58	5	1	58	5	1	56	7	1
R1877A		1	B	56	64	8		59	5	1	59	5	1	57	7	1
R1877B		1	B	56	65	9		60	5	1	59	6	1	57	8	1
R1877C		1	B	56	65	9		61	4		60	5	1	58	7	1

Green Corridor

Noise Wall 65

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
				R1878A		1	B	56	65	9		62	3		60	5
R1878B		1	B	56	66	10		62	4		61	5	1	58	8	1
R1879A		1	B	56	67	11	1	62	5	1	61	6	1	59	8	1
R1879B		1	B	56	66	10	1	63	3		61	5	1	59	7	1
R1879C		1	B	56	65	9		61	4		60	5	1	58	7	1
R1879D		1	B	56	66	10	1	61	5	1	60	6	1	58	8	1
R1880A		1	B	56	65	9		62	3		61	4		58	7	1
R1880B		1	B	56	65	9		62	3		60	5	1	58	7	1
R1914A		1	B	56	64	8		59	5	1	59	5	1	58	6	1
R1914B		1	B	56	64	8		61	3		60	4		58	6	1
R1914C		1	B	56	65	9		61	4		60	5	1	58	7	1
R1915A		1	B	56	63	7		61	2		60	3		58	5	1
R1915B		1	B	56	64	8		60	4		59	5	1	57	7	1
R1542A		1	B	56	66	10	1	62	4		61	5	1	59	7	1
R1542B		1	B	56	68	12	1	62	6	1	61	7	1	59	9	1
R1543A	Yes	1	B	56	72	16	1	63	9	1	62	10	1	60	12	1
R1543B	Yes	1	B	56	70	14	1	63	7	1	62	8	1	60	10	1
R1860A		1	B	56	64	8		61	3		60	4		58	6	1
R1860B		1	B	56	63	7		59	4		58	5	1	56	7	1
R1860C		1	B	56	65	9		61	4		60	5	1	58	7	1
R1546		1	B	56	67	11	1	62	5	1	61	6	1	59	8	1
R1547A	Yes	1	B	56	70	14	1	63	7	1	62	8	1	60	10	1
R1547B	Yes	1	B	56	73	17	1	64	9	1	63	10	1	61	12	1
R1861		1	B	56	64	8		60	4		59	5	1	57	7	1
R1548A	Yes	1	B	56	66	10	1	60	6	1	60	6	1	58	8	1
R1548B	Yes	1	B	56	69	13	1	62	7	1	61	8	1	59	10	1
R1548C	Yes	1	B	56	68	12	1	61	7	1	60	8	1	59	9	1
R1549A	Yes	1	B	56	65	9		59	6	1	59	6	1	58	7	1
R1549B	Yes	1	B	56	64	8		59	5	1	58	6	1	57	7	1
R1549C	Yes	1	B	56	66	10	1	60	6	1	59	7	1	58	8	1
R1550A	Yes	1	B	56	61	5		57	4		57	4		56	5	1
R1550B	Yes	1	B	56	62	6		57	5	1	57	5	1	56	6	1
R1550C	Yes	1	B	56	60	4		57	3		57	3		56	4	

Length (ft)=	5398	5398	5398
Average Height =	14	16	22
Area of Noise Wall (sft)=	75572	86369	118757
Impacted Receptors=	62	62	62
Number of Benefited Receptors=	60	84	103
Area of Noise Wall per Benefited Receptor (sft)=	1260	1028	1153
Average Increase in dB(A) of all Impacted Receptors=	14	14	14
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2982	2982	2982
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 22ft barrier is recommended because all criteria for feasible and reasonable have been met, the barrier breaks the line of sight, and the most properties are benefited.

Recommended 22 ft Wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 65</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>62</u> # BENEFITS - <u>103</u>	NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
<small>(CIRCLE ALL THAT APPLY)</small>	
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>1153</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2982</u> <small>(CIRCLE ONE)</small> sq.ft. cu.yd.?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

Complete 540
Traffic Noise Analysis

3/18/2015

Green Corridor

Noise Wall 66

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall			Recommended ⁴			Tall Wall		
			Existing dB(A)	Build Increase dB(A)		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1558A	1	B	57	63	6	60	3	59	4	59	4	59	4	
R1558B	1	B	58	64	6	61	3	60	4	60	4	60	4	
R1558C	1	B	59	65	6	62	3	62	3	62	3	62	3	
R1559A	Yes	B	64	71	7	67	4	65	6	64	7	64	7	
R1559B	Yes	B	63	70	7	65	5	64	6	63	7	63	7	
R1559C	Yes	B	64	72	8	68	4	66	6	65	7	65	7	
R1560A	1	B	59	64	5	59	5	59	5	59	5	59	5	
R1560B	1	B	58	64	6	59	5	59	5	58	6	58	6	
R1561A	Yes	B	66	73	7	63	10	62	11	62	11	62	11	
R1561B	Yes	B	64	71	7	64	7	63	8	62	9	62	9	
R1562A	Yes	B	64	69	5	61	8	61	8	61	8	61	8	
R1562B	Yes	B	65	71	6	62	9	61	10	61	10	61	10	
R1562C	Yes	B	62	67	5	61	6	60	7	60	7	60	7	
R1862	1	B	60	65	5	59	6	59	6	59	6	59	6	
R1881A	1	B	58	63	5	59	4	58	5	58	5	58	5	
R1881B	1	B	57	62	5	58	4	57	5	57	5	57	5	
R1882A	1	B	58	63	5	58	5	58	5	58	5	58	5	
R1882B	1	B	57	62	5	58	4	57	5	57	5	57	5	
R2301A	1	B	57	62	5	60	2	60	2	60	2	60	2	
R2301B	1	B	57	63	6	61	2	60	3	60	3	60	3	

Length (ft)=	1800	1800
Average Height =	20	24
Area of Noise Wall (sf)=	36004	43202
Impacted Receptors=	8	8
Number of Benefited Receptors=	10	15
Area of Noise Wall per Benefit Receptor (sf)=	3600	2880
Average Increase in dB(A) of all Impacted Receptors=	7	7
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	2728	2728
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Recommended 22 ft Wall

Complete 540
Traffic Noise Analysis

Lilac Corridor

Noise Wall 73

Receptor	Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Recommended ⁴			
			Existing dB(A)	Build Increase dB(A)	W/Wall ³ dB(A)	Reduction ³	Benefited Receptors	W/Wall ³ dB(A)	Reduction ³	Benefited Receptors	W/Wall ³ dB(A)	Reduction ³
R0497A	Yes	B	45	67	22	62	5	61	6	59	8	1
R0497B	Yes	B	45	66	21	64	4	61	5	59	7	1
R0497C	Yes	B	45	67	22	64	3	62	5	59	8	1
R0498A	Yes	B	45	67	22	64	3	62	5	59	8	1
R0498B	Yes	B	45	67	22	64	3	62	5	59	8	1
R0498C	Yes	B	45	67	22	64	3	62	5	59	8	1
R0499A	Yes	B	45	69	24	63	6	62	7	60	9	1
R0499B	Yes	B	45	68	23	63	5	62	6	60	8	1
R0499C	Yes	B	45	69	24	62	7	62	7	60	9	1
R0500A	Yes	B	45	57	12	57	0	57	0	55	2	1
R0500B	Yes	B	45	58	13	57	1	57	1	55	3	1
R0501A	Yes	B	45	70	25	63	7	62	8	60	10	1
R0501B	Yes	B	45	70	25	63	7	62	8	60	10	1
R0502A	Yes	B	45	58	13	58	0	57	1	56	2	1
R0502B	Yes	B	45	57	12	57	0	57	0	55	2	1
R0503A	Yes	B	45	71	26	63	8	62	9	60	11	1
R0503B	Yes	B	45	71	26	63	8	62	9	60	11	1
R0504A	Yes	B	45	58	13	56	2	56	2	55	3	1
R0504B	Yes	B	45	56	11	56	0	56	0	54	2	1
R0505A	Yes	B	45	69	24	61	8	61	8	59	10	1
R0505B	Yes	B	45	67	22	60	7	60	7	58	9	1
R0506A	Yes	B	45	68	23	60	8	59	9	58	10	1
R0506B	Yes	B	45	65	20	58	7	58	7	57	8	1
R0507A	Yes	B	45	57	12	55	2	55	2	54	3	1
R0507B	Yes	B	45	57	12	55	2	55	2	55	2	1
R0508A	Yes	B	45	59	11	58	1	58	1	58	1	1
R0508B	Yes	B	55	62	7	62	0	62	0	62	0	1
R0509A	Yes	B	45	63	18	57	6	57	6	56	7	1
R0509B	Yes	B	52	63	11	58	5	57	6	56	7	1
R0513B	Yes	B	50	68	18	59	9	58	10	57	11	1
R1764A	Yes	B	45	61	16	59	2	58	3	57	4	1
R1764B	Yes	B	45	60	15	58	2	57	3	55	5	1
R1765	Yes	B	45	59	14	57	2	56	3	54	5	1
R1766	Yes	B	45	57	12	55	2	54	3	53	4	1
R1767A	Yes	B	45	57	12	56	1	55	2	54	3	1
R1767B	Yes	B	45	56	11	55	1	55	1	53	3	1
R1768	Yes	B	45	57	12	56	1	55	2	54	3	1
R1769	Yes	B	45	56	11	55	1	55	1	54	2	1

Length (ft)=	3400
Average Height =	12
Area of Noise Wall (sf)=	40801
Impacted Receptors=	21
Number of Benefited Receptors=	15
Area of Noise Wall per Benefited Receptor (sf)=	2720
Average Increase in dB(A) of all Impacted Receptors=	22
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	3267
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	Yes
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
 (4) A 20ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 20ft wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 73</u>	COUNTY(IES) - <u>Wake and Johnston</u>
IMPACTS - <u>21</u> # BENEFITS - <u>22</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>3091</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3267</u> ^(CIRCLE ONE) <u>69</u> sq.ft./cu.yd?	<u>X</u> YES <u> </u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u>X</u> YES <u> </u> NO
3 Is the noise mitigation likely?	<u>X</u> YES <u> </u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	<u> </u> YES <u> </u> NO
Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Lilac Corridor

Noise Wall 74

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Recommended ⁴		
			Existing dB(A)	Build Increase dB(A)		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)
R0516	Yes	B	47	65	18	58	7	58	7	57	8	1
R0517	Yes	B	46	62	16	58	4	57	5	57	5	1
R0518A	Yes	B	45	66	21	59	7	59	7	58	8	1
R0518B	Yes	B	45	63	18	56	7	56	7	56	7	1
R0518C	Yes	B	45	67	22	60	7	59	8	59	8	1
R0519A	Yes	B	45	70	25	62	8	61	9	60	10	1
R0519B	Yes	B	45	68	23	60	8	60	8	59	9	1
R0520A	Yes	B	45	72	27	64	8	64	8	62	10	1
R0520B	Yes	B	45	69	24	62	7	62	7	61	8	1
R0521A	Yes	B	45	61	16	60	1	60	1	59	2	
R0521B	Yes	B	45	64	19	64	0	63	1	62	2	
R0522A	Yes	B	45	58	13	58	0	58	0	57	1	
R0522B	Yes	B	45	56	11	57	-1	56	0	56	0	
R0523A	Yes	B	45	57	12	57	0	57	0	56	1	
R0523B	Yes	B	45	57	12	56	1	56	1	56	1	
R0523C	Yes	B	45	55	10	55	0	55	0	54	1	
R0526A	Yes	B	45	55	10	56	-1	55	0	55	0	
R0526B	Yes	B	45	59	14	57	2	57	2	56	3	
R0526C	Yes	B	45	55	10	55	0	55	0	54	1	
R0527A	Yes	B	45	59	14	56	3	56	3	55	4	
R0527B	Yes	B	45	57	12	55	2	55	2	55	2	
R0534A	Yes	B	45	56	11	55	1	55	1	55	1	
R0534B	Yes	B	45	56	11	55	1	55	1	55	1	
R0534C	Yes	B	45	58	13	56	2	55	3	55	3	
R0541	Yes	CHURCH	40	44	4	44	0	44	0	44	0	
R0542	Yes	B	47	60	13	60	0	60	0	60	0	
R1630	Yes	B	45	67	22	65	2	64	3	63	4	
R1653A	Yes	B	45	71	26	65	6	64	7	62	9	1
R1653B	Yes	B	45	71	26	65	6	64	7	63	8	1
R1653C	Yes	B	45	69	24	65	4	64	5	62	7	1

Length (ft)=	2800
Average Height =	10
Area of Noise Wall (sf)=	28002
Impacted Receptors=	15
Number of Benefited Receptors=	10
Area of Noise Wall per Benefit Receptor (sf)=	2800
Average Increase in dB(A) of all Impacted Receptors=	22
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	3263
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	Yes
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	No

2800	2800
12	12
44800	33603
15	15
12	12
3733	2800
22	22
3263	3263
Yes	Yes
No	No
Yes	Yes
Yes	Yes

(1) Category B denotes a residential property.
(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
(4) A 12ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 12ft wall

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 74</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>15</u>	# BENEFITS - <u>12</u>
NAC: A <input checked="" type="radio"/> B C <input checked="" type="radio"/> D E F G	

(CIRCLE ALL THAT APPLY)

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>2800</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3263</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Lilac Corridor

Noise Wall 75

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²					Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Benefit Increases	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefitted Receptors	W/Wall ² dB(A)	Reduction ³	Benefitted Receptors	W/Wall ² dB(A)	Reduction ³	Benefitted Receptors
				R0510A		1	B	53	61	8			62	-1		61	0
R0510B		1	B	50	60	10			61	-1		61	-1		60	0	
R0511A	Yes	1	B	47	61	14			63	-2		62	-1		61	0	
R0511B	Yes	1	B	51	64	13			64	0		64	0		62	2	
R0512A		1	B	46	57	11			59	-2		58	-1		58	-1	
R0512B		1	B	46	57	11			59	-2		59	-2		58	-1	
R0569A		1	B	46	65	19	19	1	59	6	1	58	7	1	57	8	1
R0569B		1	B	46	65	19	19	1	58	7	1	58	7	1	56	9	1
R0572A		1	B	46	64	18	18	1	58	6	1	57	7	1	56	8	1
R0572B		1	B	46	63	17	17	1	57	6	1	56	7	1	55	8	1
R0578	Yes	1	B	46	67	21	21	1	59	8	1	59	8	1	57	10	1
R0579	Yes	1	B	46	66	20	20	1	59	7	1	59	7	1	57	9	1
R0580	Yes	1	B	46	67	21	21	1	59	8	1	59	8	1	57	10	1
R0584	Yes	1	B	46	65	19	19	1	58	7	1	58	7	1	56	9	1
R0586A	Yes	1	B	46	67	21	21	1	58	9	1	58	9	1	56	11	1
R0586B	Yes	1	B	46	66	20	20	1	59	7	1	58	8	1	56	10	1
R0587A		1	B	46	65	19	19	1	58	7	1	58	7	1	56	9	1
R0587B		1	B	46	64	18	18	1	58	6	1	57	7	1	55	9	1
R0587C		1	B	46	63	17	17	1	58	5	1	57	6	1	55	8	1
R0588A	Yes	1	B	46	69	23	23	1	61	8	1	60	9	1	58	11	1
R0588B	Yes	1	B	46	67	21	21	1	59	8	1	58	9	1	57	10	1
R0592		1	B	46	66	20	20	1	58	8	1	58	8	1	56	10	1
R0593A		1	B	46	65	19	19	1	58	7	1	57	8	1	56	9	1
R0593B		1	B	46	65	19	19	1	59	6	1	59	6	1	57	8	1
R0594A		1	B	46	65	19	19	1	59	6	1	59	6	1	57	8	1
R0594B		1	B	46	64	18	18	1	60	4		59	5	1	57	7	1
R0594C		1	B	46	64	18	18	1	60	4		59	5	1	57	7	1
R0595A		1	B	46	63	17	17	1	59	4		59	4		57	6	1
R0595B		1	B	46	63	17	17	1	59	4		59	4		57	6	1
R0596A	Yes	1	B	46	65	19	19	1	60	5	1	59	6	1	58	7	1
R0596B	Yes	1	B	46	65	19	19	1	60	5	1	59	6	1	58	7	1
R0596C	Yes	1	B	46	65	19	19	1	60	5	1	59	6	1	58	7	1
R0597A	Yes	1	B	46	67	21	21	1	60	7	1	59	8	1	57	10	1
R0597B	Yes	1	B	46	66	20	20	1	58	8	1	57	9	1	55	11	1
R1770A		1	B	46	53	7			56	-3		56	-3		55	-2	
R1770B		1	B	46	58	12			56	2		56	2		54	4	
R1771A		1	B	46	63	17	17	1	60	3		59	4		57	6	1
R1771B		1	B	46	63	17	17	1	60	3		59	4		57	6	1
R1771C		1	B	46	64	18	18	1	61	3		60	4		58	6	1
R1772A		1	B	46	55	9			58	-3		57	-2		56	-1	
R1772B		1	B	46	55	9			58	-3		57	-2		56	-1	
R1773A		1	B	46	58	12			57	1		56	2		55	3	
R1773B		1	B	46	57	11			58	-1		57	0		57	0	
R1774A		1	B	46	57	11			57	0		56	1		56	1	
R1774B		1	B	46	56	10			56	0		55	1		55	1	
R1774C		1	B	46	56	10			58	-2		57	-1		56	0	
R1775A		1	B	46	64	18	18	1	57	7	1	57	7	1	55	9	1
R1775B		1	B	46	63	17	17	1	57	6	1	56	7	1	55	8	1
R1776		1	B	46	63	17	17	1	57	6	1	56	7	1	55	8	1
R1777A		1	B	46	62	16	16	1	57	5	1	56	6	1	55	7	1
R1777B		1	B	46	63	17	17	1	56	7	1	56	7	1	55	8	1
R1778A		1	B	46	62	16	16	1	55	7	1	55	7	1	54	8	1
R1778B		1	B	46	61	15	15	1	56	5	1	56	5	1	54	7	1
R1779		1	B	46	62	16	16	1	57	5	1	57	5	1	55	7	1
R1790A		1	B	46	63	17	17	1	57	6	1	57	6	1	55	8	1
R1790B		1	B	46	63	17	17	1	58	5	1	57	6	1	56	7	1
R1790C		1	B	46	62	16	16	1	58	4		57	5	1	56	6	1
R1791A		1	B	46	62	16	16	1	57	5	1	57	5	1	55	7	1
R1791B		1	B	46	61	15	15	1	57	4		57	4		56	5	1
R1792A		1	B	46	62	16	16	1	57	5	1	57	5	1	56	6	1
R1792B		1	B	46	61	15	15	1	58	3		58	3		56	5	1
R1793A		1	B	46	63	17	17	1	59	4		58	5	1	57	6	1
R1793B		1	B	46	64	18	18	1	56	8	1	56	8	1	55	9	1
R1884A		1	B	46	57	11			56	1		55	2		54	3	
R1884B		1	B	46	57	11			55	2		54	3		53	4	
R1885A		1	B	46	57	11			56	1		55	2		54	3	
R1885B		1	B	46	57	11			61	-4		61	-4		58	-1	
R1886A		1	B	46	69	23	23	1	62	7	1	62	7	1	60	9	1
R1887A		1	B	46	61	15	15	1	56	5	1	56	5	1	54	7	1
R1887B		1	B	46	60	14			56	4		55	5	1	54	6	1
R1888		1	B	46	58	12			55	3		54	4		53	5	1
R1889		1	B	46	62	16	16	1	57	5	1	56	6	1	55	7	1
R1890		1	B	46	61	15	15	1	56	5	1	56	5	1	54	7	1
R1891A		1	B	46	60	14			55	5	1	55	5	1	53	7	1
R1891B		1	B	46	59	13			55	4		55	4		54	5	1
R1891C		1	B	46	60	14			55	5	1	55	5	1	53	7	1
R1892A		1	B	46	65	19	19	1	58	7	1	58	7	1	56	9	1
R1892B		1	B	46	65	19	19	1	58	7	1	58	7	1	56	9	1
R1892C		1	B	46	63	17	17	1	57	6	1	57	6	1	55	8	1
R1893A		1	B	46	61	15	15	1	56	5	1	55	6	1	54	7	1
R1893B		1	B	46	62	16	16	1	56	6	1	56	6	1	54	8	1

Lilac Corridor

Noise Wall 75

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall				
				Existing dB(A)	Build dB(A)	Increase	Benefit Increases	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
				R1894		1	B	46	60	14				55	5	1	55	5
R1895		1	B	46	61	15	15	1	56	5	1	55	6	1	54	7	1	
R1896A		1	B	46	59	13			54	5	1	54	5	1	52	7	1	
R1896B		1	B	46	58	12			54	4		53	5	1	52	6	1	
R1897		1	B	46	60	14			55	5	1	54	6	1	53	7	1	
R1898		1	B	46	59	13			54	5	1	54	5	1	53	6	1	
R1899A		1	B	46	60	14			55	5	1	55	5	1	53	7	1	
R1899B		1	B	46	61	15	15	1	56	5	1	56	5	1	54	7	1	
R1899C		1	B	46	59	13			54	5	1	54	5	1	53	6	1	
R1900A		1	B	46	60	14			56	4		56	4		54	6	1	
R1900B		1	B	46	59	13			54	5	1	54	5	1	53	6	1	
R1901A		1	B	46	60	14			56	4		56	4		55	5	1	
R1901B		1	B	46	59	13			55	4		55	4		54	5	1	
R1901C		1	B	46	59	13			55	4		55	4		54	5	1	

Length (ft)=	5936	5936	5936
Average Height =	14	16	24
Area of Noise Wall (sft)=	83104	94973	142462
Impacted Receptors=	59	59	59
Number of Benefited Receptors=	57	63	76
Area of Noise Wall per Benefited Receptor (sft)=	1458	1508	1875
Average Increase in dB(A) of all Impacted Receptors=	18	18	18
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3125	3125	3125
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 24ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 24ft wall

Lilac Corridor

Noise Wall 76

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0515	Yes	1	B	49	70	21	1	67	3		67	3		63	7	1
R0550	Yes	1	B	46	69	23	1	61	8	1	60	9	1	60	9	1
R0551A	Yes	1	B	46	67	21	1	61	6	1	60	7	1	59	8	1
R0551B	Yes	1	B	46	69	23	1	62	7	1	61	8	1	60	9	1
R0552	Yes	1	B	46	64	18	1	59	5	1	58	6	1	57	7	1
R0553	Yes	1	B	46	62	16	1	58	4		56	6	1	55	7	1
R0554A	Yes	1	B	46	57	11		53	4		52	5	1	51	6	1
R0554B	Yes	1	B	46	57	11		54	3		53	4		52	5	1
R0555A	Yes	1	B	46	59	13		55	4		54	5	1	53	6	1
R0555B	Yes	1	B	46	62	16	1	56	6	1	55	7	1	54	8	1
R0555C	Yes	1	B	46	62	16	1	57	5	1	56	6	1	55	7	1
R0563A	Yes	1	B	46	60	14		55	5	1	54	6	1	54	6	1
R0563B	Yes	1	B	46	60	14		55	5	1	54	6	1	54	6	1
R0564A	Yes	1	B	46	59	13		55	4		54	5	1	53	6	1
R0564B	Yes	1	B	46	60	14		56	4		55	5	1	54	6	1
R0564C	Yes	1	B	46	63	17	1	58	5	1	57	6	1	56	7	1
R0565A	Yes	1	B	46	64	18	1	58	6	1	57	7	1	57	7	1
R0565B	Yes	1	B	46	65	19	1	59	6	1	58	7	1	58	7	1
R0576A	Yes	1	B	46	66	20	1	60	6	1	59	7	1	59	7	1
R0576B	Yes	1	B	46	65	19	1	59	6	1	58	7	1	58	7	1
R0577A		1	B	46	63	17	1	58	5	1	57	6	1	57	6	1
R0577B		1	B	46	62	16	1	58	4		57	5	1	57	5	1
R0577C		1	B	46	64	18	1	59	5	1	58	6	1	58	6	1
R0582A	Yes	1	B	46	63	17	1	59	4		57	6	1	57	6	1
R0582B	Yes	1	B	46	64	18	1	59	5	1	58	6	1	57	7	1
R0583A	Yes	1	B	46	65	19	1	60	5	1	59	6	1	58	7	1
R0583B	Yes	1	B	46	65	19	1	60	5	1	59	6	1	58	7	1
R0601A	Yes	1	B	46	66	20	1	60	6	1	59	7	1	59	7	1
R0601B	Yes	1	B	46	65	19	1	60	5	1	59	6	1	58	7	1
R0601C	Yes	1	B	46	66	20	1	61	5	1	60	6	1	59	7	1
R0603A	Yes	1	B	46	72	26	1	68	4		64	8	1	63	9	1
R0603B	Yes	1	B	46	72	26	1	66	6	1	64	8	1	63	9	1
R0604A	Yes	1	B	46	65	19	1	62	3		60	5	1	59	6	1
R0604B	Yes	1	B	46	65	19	1	63	2		60	5	1	59	6	1
R0604C	Yes	1	B	46	65	19	1	63	2		61	4		59	6	1
R0606A	Yes	1	B	46	76	30	1	70	6	1	66	10	1	65	11	1
R0606B	Yes	1	B	46	66	20	1	63	3		61	5	1	60	6	1
R0607A		1	B	46	65	19	1	63	2		61	4		60	5	1
R0607B		1	B	46	66	20	1	64	2		62	4		60	6	1
R0608A	Yes	1	B	46	68	22	1	65	3		63	5	1	61	7	1
R0608B	Yes	1	B	46	67	21	1	64	3		60	7	1	59	8	1
R0623	Yes	1	B	46	65	19	1	62	3		60	5	1	59	6	1
R0624A	Yes	1	B	46	68	22	1	66	2		63	5	1	61	7	1
R0624B	Yes	1	B	46	68	22	1	66	2		63	5	1	62	6	1
R0625A	Yes	1	B	46	69	23	1	66	3		63	6	1	62	7	1
R0625B	Yes	1	B	46	68	22	1	66	2		63	5	1	62	6	1
R0626A	Yes	1	B	46	70	24	1	67	3		64	6	1	63	7	1
R0626B	Yes	1	B	53	69	16	1	66	3		64	5	1	63	6	1
R0626C	Yes	1	B	46	70	24	1	66	4		64	6	1	62	8	1
R0628		1	B	46	62	16	1	59	3		57	5	1	56	6	1
R0629		1	B	46	60	14		58	2		56	4		55	5	1
R0630A	Yes	1	B	52	62	10		60	2		59	3		59	3	
R0630B	Yes	1	B	52	61	9		60	1		59	2		59	2	
R0630C	Yes	1	B	55	63	8		62	1		61	2		60	3	
R1780A		1	B	46	59	13		56	3		55	4		54	5	1
R1780B		1	B	46	60	14		56	4		55	5	1	54	6	1
R1780C		1	B	46	60	14		57	3		56	4		55	5	1
R1781A		1	B	46	61	15	1	58	3		56	5	1	56	5	1
R1781B		1	B	46	62	16	1	58	4		57	5	1	56	6	1
R1781C		1	B	46	61	15	1	58	3		56	5	1	55	6	1
R1782A		1	B	46	58	12		57	1		54	4		53	5	1
R1782B		1	B	46	59	13		57	2		55	4		54	5	1
R1783A		1	B	46	58	12		57	1		54	4		54	4	
R1783B		1	B	46	59	13		57	2		55	4		54	5	1
R1783C		1	B	46	59	13		57	2		55	4		54	5	1
R1784A		1	B	46	61	15	1	58	3		56	5	1	55	6	1
R1784B		1	B	46	60	14		57	3		55	5	1	55	5	1
R1785A		1	B	46	62	16	1	59	3		57	5	1	56	6	1
R1785B		1	B	46	62	16	1	59	3		57	5	1	56	6	1
R1785C		1	B	46	62	16	1	58	4		57	5	1	56	6	1
R1786A		1	B	46	61	15	1	58	3		56	5	1	55	6	1
R1786B		1	B	46	61	15	1	57	4		56	5	1	55	6	1
R1787A		1	B	46	61	15	1	59	2		57	4		56	5	1
R1787B		1	B	46	61	15	1	58	3		56	5	1	55	6	1

Lilac Corridor

Noise Wall 76

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Impacted Receptors	Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1788A		1	B	46	61	15	1	59	2		57	4		56	5	1
R1788B		1	B	46	62	16	1	60	2		57	5	1	56	6	1
R1789A		1	B	46	63	17	1	61	2		58	5	1	57	6	1
R1789B		1	B	46	64	18	1	62	2		59	5	1	58	6	1
R1794A		1	B	46	63	17	1	59	4		57	6	1	56	7	1
R1794B		1	B	46	61	15	1	58	3		56	5	1	55	6	1
R1795A		1	B	46	61	15	1	58	3		55	6	1	55	6	1
R1795B		1	B	46	61	15	1	58	3		56	5	1	55	6	1
R1796A		1	B	46	62	16	1	60	2		57	5	1	56	6	1
R1796B		1	B	46	62	16	1	60	2		58	4		57	5	1
R1797		1	B	46	62	16	1	60	2		57	5	1	57	5	1

Length (ft)=	7193	7193	7193
Average Height =	10	12	14
Area of Noise Wall (sft)=	71935	86320	100699
Impacted Receptors=	65	65	65
Number of Benefited Receptors=	23	66	81
Area of Noise Wall per Benefit Receptor (sft)=	3128	1308	1243
Average Increase in dB(A) of all Impacted Receptors=	19	19	19
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3148	3148	3148
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 14ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 14ft wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 76</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>65</u> # BENEFITS - <u>81</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>1243</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3148</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd <input type="checkbox"/> YES <input type="checkbox"/> NO	
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

Lilac Corridor

Noise Wall 77

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0668A	Yes	1	B	55	64	9		61	3		61	3		60	4	
R0668B	Yes	1	B	52	64	12		61	3		60	4		59	5	1
R0668C	Yes	1	B	62	67	5	1	62	5	1	60	7	1	59	8	1
R0669A		1	B	50	63	13		58	5	1	58	5	1	57	6	1
R0669B		1	B	50	65	15	1	58	7	1	57	8	1	56	9	1
R0670A	Yes	1	B	54	67	13	1	58	9	1	57	10	1	57	10	1
R0670B	Yes	1	B	51	65	14	1	58	7	1	57	8	1	57	8	1
R0671A	Yes	1	B	63	70	7	1	61	9	1	58	12	1	58	12	1
R0671B	Yes	1	B	57	69	12	1	60	9	1	58	11	1	58	11	1
R0691A	Yes	1	B	50	68	18	1	61	7	1	59	9	1	58	10	1
R0691B	Yes	1	B	50	66	16	1	61	5	1	58	8	1	58	8	1
R0691C	Yes	1	B	50	68	18	1	60	8	1	59	9	1	58	10	1
R0693A	Yes	1	B	50	69	19	1	67	2		62	7	1	61	8	1
R0693B	Yes	1	B	50	71	21	1	68	3		63	8	1	62	9	1
R0694		RECREATIONAL	C	50	63	13										
R0694-1		NODAL ARRAY	C	50	62	12		61	1		57	5	3	57	5	3
R0694-2		NODAL ARRAY	C	50	63	13		60	3		58	5	3	57	6	3
R0694-3		NODAL ARRAY	C	50	63	13		62	1		57	6	3	57	6	3
R0694-4		NODAL ARRAY	C	50	63	13		62	1		58	5	3	57	6	3
R0694-5		NODAL ARRAY	C	50	63	13		62	1		58	5	3	57	6	3
R0694-6		NODAL ARRAY	C	50	64	14		63	1		58	6	3	58	6	3
R0694-7		NODAL ARRAY	C	50	64	14		63	1		58	6	3	58	6	3
R0694-8		NODAL ARRAY	C	50	64	14		63	1		58	6	3	58	6	3
R0694-9		NODAL ARRAY	C	50	64	14		63	1		59	5	1	58	6	1
R0694-10		NODAL ARRAY	C	50	64	14		63	1		59	5	1	58	6	1
R0699A	Yes	1	B	50	66	16	1	66	0		62	4		61	5	1
R0699B	Yes	1	B	50	68	18	1	67	1		61	7	1	60	8	1
R0700A	Yes	1	B	50	65	15	1	65	0		62	3		60	5	1
R0700B	Yes	1	B	50	70	20	1	69	1		66	4		62	8	1
R0701	Yes	1	B	50	67	17	1	65	2		59	8	1	58	9	1
R0702A	Yes	1	B	50	62	12		57	5	1	55	7	1	55	7	1
R0702B	Yes	1	B	50	63	13		59	4		57	6	1	57	6	1
R0703A		1	B	50	60	10		55	5	1	54	6	1	54	6	1
R0703B		1	B	50	59	9		55	4		54	5	1	53	6	1
R0704A		1	B	50	59	9		55	4		53	6	1	53	6	1
R0704B		1	B	50	59	9		54	5	1	53	6	1	53	6	1
R0705	Yes	1	B	50	63	13		57	6	1	56	7	1	56	7	1
R0706A	Yes	1	B	50	60	10		55	5	1	55	5	1	54	6	1
R0706B	Yes	1	B	50	62	12		57	5	1	55	7	1	55	7	1
R0707A		1	B	50	58	8		54	4		53	5	1	53	5	1
R0707B		1	B	50	58	8		53	5	1	53	5	1	52	6	1
R0708A	Yes	1	B	50	62	12		56	6	1	55	7	1	55	7	1
R0708B	Yes	1	B	50	65	15	1	58	7	1	57	8	1	56	9	1
R0709		1	B	50	59	9		54	5	1	54	5	1	53	6	1
R0710	Yes	1	B	50	63	13		56	7	1	55	8	1	55	8	1

Length (ft)=	5893	5893	5893
Average Height =	12	18	20
Area of Noise Wall (sft)=	70718	106073	117859
Impacted Receptors=	17	17	17
Number of Benefited Receptors=	21	55	59
Area of Noise Wall per Benefit Receptor (sft)=	3368	1929	1998
Average Increase in dB(A) of all Impacted Receptors=	15	15	15
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3033	3033	3033
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 20ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 20ft wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 77</u>	COUNTY(IES) - <u>Wake and Johnston</u>
(CIRCLE ALL THAT APPLY)	
# IMPACTS - <u>17</u>	# BENEFITS - <u>59</u> NAC: A <input checked="" type="radio"/> B <input checked="" type="radio"/> C D E F G

A. FEASIBILITY:			
1	Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES _____ NO _____
2	Does topography negatively affect the proposed abatement measure?	_____	YES _____ NO <u>X</u>
3	Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	_____	YES _____ NO <u>X</u>
4	Is there control of access in the vicinity of the proposed abatement measure?	_____	YES _____ NO <u>X</u>
B. REASONABLENESS:			
1	Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES _____ NO _____
2	Is the design criteria per benefited receptor of _____ 1998 ^(CIRCLE ONE) <u>sq.ft.</u> cu.yd less than the maximum allowable design criteria per benefited receptor of _____ 3033 ^(CIRCLE ONE) <u>sq.ft.</u> cu.yd?	<u>X</u>	YES _____ NO _____
C. NOISE ABATEMENT DECISION:			
1	Is the noise mitigation feasible?	<u>X</u>	YES _____ NO _____
2	Is the noise mitigation reasonable?	<u>X</u>	YES _____ NO _____
3	Is the noise mitigation likely?	<u>X</u>	YES _____ NO _____
4	Have the owners' and residents' viewpoints been solicited?	_____	YES _____ NO <u>X</u>
5	Is the noise mitigation recommended for construction?	_____	YES _____ NO _____
D. OPTIONAL REASONABLENESS CONSIDERATION:			
1	Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	_____	YES _____ NO <u>X</u>
2	If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
	Bar No. _____ ^(CIRCLE ONE) _____ sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) _____ sq.ft./cu.yd	
	Bar No. _____ ^(CIRCLE ONE) _____ sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) _____ sq.ft./cu.yd	
3	If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) _____ sq.ft./cu.yd _____ YES _____ NO _____		
Form Completed By: <u>E SALUTZ</u>		Date: _____	
In Consultation With: _____		Date: _____	

Lilac Corridor

Noise Wall 78

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Impacted Receptors	Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	Tall Wall		
														W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0674A	Yes	1	B	54	67	13	1	61	6	1	61	6	1	60	7	1
R0674B	Yes	1	B	56	66	10	1	63	3		63	3		62	4	
R0676	Yes	1	B	50	66	16	1	59	7	1	58	8	1	57	9	1
R0677A	Yes	1	B	50	66	16	1	60	6	1	60	6	1	59	7	1
R0677B	Yes	1	B	50	66	16	1	60	6	1	60	6	1	59	7	1
R0678A	Yes	1	B	50	66	16	1	61	5	1	60	6	1	60	6	1
R0678B	Yes	1	B	50	65	15	1	61	4		60	5	1	59	6	1
R0679A		1	B	54	62	8		60	2		60	2		59	3	
R0679B		1	B	54	64	10		61	3		61	3		60	4	
R0679C		1	B	56	65	9		62	3		62	3		62	3	
R0680	Yes	COMMERCIAL	E	60	63	3		62	1		62	1		62	1	
R0681A	Yes	1	B	53	61	8		59	2		58	3		58	3	
R0681B	Yes	1	B	59	62	3		61	1		61	1		61	1	
R0681C	Yes	1	B	56	60	4		60	0		59	1		59	1	
R0683		1	B	50	65	15	1	59	6	1	58	7	1	58	7	1
R0684A		1	B	50	66	16	1	59	7	1	58	8	1	57	9	1
R0684B		1	B	50	67	17	1	59	8	1	58	9	1	58	9	1
R0685A		1	B	50	66	16	1	60	6	1	59	7	1	58	8	1
R0685B		1	B	50	66	16	1	61	5	1	60	6	1	59	7	1
R0686	Yes	1	B	50	67	17	1	59	8	1	58	9	1	58	9	1
R0689A	Yes	1	B	50	73	23	1	64	9	1	63	10	1	62	11	1
R0689B	Yes	1	B	50	69	19	1	66	3		62	7	1	61	8	1
R0690A		1	B	50	60	10		57	3		56	4		55	5	1
R0690B		1	B	50	61	11		58	3		57	4		56	5	1
R0692	Yes	1	B	50	75	25	1	70	5	1	67	8	1	65	10	1
R0695A		1	B	50	63	13		58	5	1	57	6	1	56	7	1
R0695B		1	B	50	63	13		58	5	1	57	6	1	56	7	1
R0696A	Yes	1	B	50	62	12		56	6	1	55	7	1	55	7	1
R0696B	Yes	1	B	50	61	11		57	4		56	5	1	55	6	1
R0697	Yes	1	B	50	66	16	1	59	7	1	58	8	1	58	8	1
R0712	Yes	1	B	50	64	14		58	6	1	57	7	1	57	7	1
R0713	Yes	1	B	50	68	18	1	59	9	1	58	10	1	58	10	1
R0714		1	B	50	61	11		56	5	1	55	6	1	55	6	1
R0715A	Yes	1	B	50	68	18	1	61	7	1	60	8	1	59	9	1
R0715B	Yes	1	B	50	69	19	1	61	8	1	61	8	1	60	9	1
R0715C	Yes	1	B	50	67	17	1	60	7	1	60	7	1	59	8	1
R0716A		1	B	50	60	10		55	5	1	55	5	1	54	6	1
R0716B		1	B	50	60	10		55	5	1	55	5	1	54	6	1
R0716C		1	B	50	60	10		55	5	1	55	5	1	55	5	1
R0717A	Yes	1	B	50	68	18	1	61	7	1	60	8	1	60	8	1
R0717B	Yes	1	B	50	67	17	1	60	7	1	59	8	1	59	8	1
R0718A		1	B	50	60	10		56	4		55	5	1	55	5	1
R0718B		1	B	50	61	11		56	5	1	56	5	1	55	6	1
R0720A	Yes	1	B	50	62	12		56	6	1	56	6	1	56	6	1
R0720B	Yes	1	B	50	64	14		57	7	1	57	7	1	56	8	1
R1803		1	B	50	61	11		59	2		58	3		57	4	
R1804		1	B	50	62	12		60	2		58	4		57	5	1
R1805		1	B	50	64	14		61	3		59	5	1	58	6	1
R1806A		1	B	50	63	13		61	2		58	5	1	57	6	1
R1806B		1	B	50	62	12		60	2		57	5	1	57	5	1
R1807		1	B	50	62	12		59	3		57	5	1	56	6	1

Length (ft)=	4600	4600	4600
Average Height =	10	12	14
Area of Noise Wall (sft)=	46000	55198	64401
Impacted Receptors=	23	23	23
Number of Benefited Receptors=	31	39	42
Area of Noise Wall per Benefited Receptor (sft)=	1484	1415	1533
Average Increase in dB(A) of all Impacted Receptors=	17	17	17
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3092	3092	3092
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
 (4) A 14ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 14ft wall

Lilac Corridor

Noise Wall 79

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tall Wall					
				Existing dB(A)	Build Increase		WWall ² dB(A)	Reduction ³	Benefited Receptors	WWall ² dB(A)	Reduction ³	Benefited Receptors	WWall ² dB(A)	Reduction ³	Benefited Receptors	
R0841A	Yes	1	B	49	68	19	61	7	60	8	60	8	1	60	8	1
R0841B	Yes	1	B	49	66	17	62	4	61	5	61	5	1	61	5	1
R0844	Yes	1	B	49	63	14	62	1	61	2	61	2		61	2	
R0851A	Yes	1	B	49	59	10	59	0	59	0	59	0		59	0	
R0851B	Yes	1	B	49	60	11	60	0	59	1	59	1		59	1	
R0852A	Yes	1	B	49	68	19	66	2	64	4	64	4		63	5	1
R0852B	Yes	1	B	49	70	21	66	4	64	6	64	6	1	63	7	1
R0853A	Yes	1	B	49	63	14	59	4	58	5	58	5	1	58	5	1
R0853B	Yes	1	B	49	65	16	59	6	58	7	58	7	1	58	7	1
R0853C	Yes	1	B	49	66	17	59	7	59	7	59	7	1	58	8	1
R0854A	Yes	1	B	49	63	14	59	4	59	4	59	4		59	4	
R0854B	Yes	1	B	49	65	16	60	5	60	5	60	5	1	59	6	1
R0855A	Yes	1	B	49	66	17	61	5	60	6	60	6	1	60	6	1
R0855B	Yes	1	B	49	64	15	60	4	59	5	59	5	1	59	5	1
R0855C	Yes	1	B	49	63	14	59	4	59	4	59	4		59	4	
R1845A		1	B	49	62	13	61	1	60	2	60	2		60	2	
R1845B		1	B	49	62	13	61	1	61	1	61	1		60	2	
R1846A		1	B	49	61	12	59	2	59	2	59	2		59	2	
R1846B		1	B	49	62	13	60	2	59	3	59	3		59	3	
R1847A		1	B	49	62	13	60	2	60	2	60	2		59	3	
R1847B		1	B	49	62	13	59	3	59	3	59	3		58	4	
R1847C		1	B	49	63	14	61	2	60	3	60	3		60	3	

Length (ft)= 2557
 Average Height = 12
 Area of Noise Wall (sft)= 30685
 Impacted Receptors= 9
 Number of Benefited Receptors= 5
 Area of Noise Wall per Benefited Receptor (sft)= 6137
 Average Increase in dB(A) of all Impacted Receptors= 17
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)= 3111
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = No
 Breaks Line of Sight to Impacted Properties? = No

2557	16	2557
14	16	14
30685	40913	35799
9	9	9
5	10	9
6137	4091	3978
17	17	17
3111	3111	3111
Yes	Yes	Yes
No	No	No
Yes	Yes	Yes
No	No	No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are 5 dB(A) or greater reduction in noise levels.
 Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>		TIP # - <u>R-2721, R-2828, R-2829</u>	
LOCATION - <u>Barrier 79</u>		COUNTY(IES) - <u>Wake and Johnston</u>	
# IMPACTS - <u>9</u>	# BENEFITS - <u>10</u>	NAC: A	(CIRCLE ALL THAT APPLY) (B) C D E F G
A. FEASIBILITY:			
1	Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3	Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4	Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
B. REASONABLENESS:			
1	Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the design criteria per benefited receptor of <u>4091</u> ^(CIRCLE ONE) (sq.ft./cu.yd) less than the maximum allowable design criteria per benefited receptor of <u>3111</u> ^(CIRCLE ONE) (sq.ft./cu.yd) ?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:			
1	Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the noise mitigation reasonable?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3	Is the noise mitigation likely?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4	Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
5	Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:			
1	Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
2	If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd
	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd
3	If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>		Date: _____	
In Consultation With: _____		Date: _____	

**Complete 540
Traffic Noise Analysis**

3/16/2015

Lilac Corridor

Noise Wall 80

Receptor	First Residences Row Represented	NAC Land Use Category	Existing Build		Noise Levels ²		Short Wall		Intermediate Wall		Recommended ⁴	
			dB(A)	dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0833A	Yes	B	49	60	11		58	2		58	2	
R0833B	Yes	B	49	59	10		57	2		57	2	
R0834A	Yes	B	49	62	13		59	3		58	4	
R0834B	Yes	B	49	62	13		59	3		59	4	
R0835A		B	49	63	14		60	3		60	4	
R0835B		B	49	63	14		61	2		60	3	
R0836A	Yes	B	49	64	15	1	60	4		59	5	1
R0836B	Yes	B	49	63	14		59	4		58	5	1
R0837A	Yes	B	49	68	19	1	62	6		61	7	1
R0837B	Yes	B	49	67	18	1	61	6		60	7	1
R0838A		B	49	59	10		57	2		57	3	
R0838B		B	49	61	12		58	3		57	4	
R0839A		B	49	65	16	1	61	4		60	5	1
R0839B		B	49	63	14		59	4		59	5	1
R0840A	Yes	B	49	66	17	1	62	4		61	5	1
R0840B	Yes	B	49	70	21	1	64	6		63	7	1

Length (ft)=	1760	1760
Average Height =	10	12
Area of Noise Wall (sf)=	17593	21111
Impacted Receptors=	6	6
Number of Benefited Receptors=	3	7
Area of Noise Wall per Benefit Receptor (sf)=	5864	3016
Average Increase in dB(A) of all Impacted Receptors=	18	18
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	3118	3118
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	Yes
Reasonable (7 dB(A) Reduction) =	No	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
 (4) A 14ft barrier is recommended because all criteria for feasible and reasonable have been met, the barrier breaks the line of sight, and the most properties are benefited.

Recommended 14ft wall

Noise Wall 81

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall						
			Existing dB(A)	Build dB(A) Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors				
R0856	Yes	B	64	70	6	1	65	5	1	64	6	1	64	6	1
R0857	Yes	B	66	72	6	1	67	5	1	65	7	1	64	8	1
R0858A	Yes	B	62	68	6	1	65	3		65	3		63	5	1
R0858B	Yes	B	61	67	6	1	64	3		63	4		62	5	1
R0859	Yes	B	65	72	7	1	67	5	1	65	7	1	64	8	1
R0860A	Yes	B	68	75	7	1	68	7	1	66	9	1	65	10	1
R0860B	Yes	B	68	75	7	1	68	7	1	67	8	1	66	9	1
R1842		B	59	65	6		62	3		61	4		60	5	1
R1843A		B	62	68	6	1	65	3		64	4		63	5	1
R1843B		B	61	67	6	1	64	3		63	4		62	5	1
R1844A		B	60	66	6	1	63	3		62	4		61	5	1
R1844B		B	59	65	6		62	3		61	4		61	4	
R2291A		B	61	64	3		62	2		62	2		61	3	
R2291B		B	61	63	2		62	1		62	1		62	1	

Length (ft)=	2000	2000	2000
Average Height =	12	14	16
Area of Noise Wall (sft)=	24000	28000	32000
Impacted Receptors=	10	10	10
Number of Benefited Receptors=	5	5	11
Area of Noise Wall per Benefited Receptor (sft)=	4800	5600	2909
Average Increase in dB(A) of all Impacted Receptors=	6	6	6
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2721	2721	2721
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 81</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>10</u> # BENEFITS - <u>11</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>2909</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> less than the maximum allowable design criteria per benefited receptor of <u>2721</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> ?	<u> </u> YES <u>X</u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u> </u> YES <u>X</u> NO
3 Is the noise mitigation likely?	<u> </u> YES <u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> <u> </u> YES <u> </u> NO	
Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Lilac Corridor

Noise Wall 82

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
				R0916A	Yes	1	B	69	74	5	1	64	10	1	64	10
R0916B	Yes	1	B	70	76	6	1	65	11	1	64	12	1	64	12	1
R0916C	Yes	1	B	70	76	6	1	66	10	1	65	11	1	64	12	1
R0917		1	B	63	66	3	1	61	5	1	60	6	1	60	6	1
R0918A	Yes	1	B	70	75	5	1	67	8	1	66	9	1	65	10	1
R0918B	Yes	1	B	70	75	5	1	67	8	1	66	9	1	65	10	1
R0918C	Yes	1	B	69	75	6	1	66	9	1	65	10	1	64	11	1
R0919A		1	B	62	66	4	1	60	6	1	60	6	1	59	7	1
R0919B		1	B	60	63	3		59	4		59	4		58	5	1
R0920		1	B	57	60	3		57	3		57	3		57	3	
R0921A		1	B	59	63	4		59	4		59	4		58	5	1
R0921B		1	B	61	64	3		60	4		60	4		59	5	1
R0921C		1	B	60	63	3		60	3		59	4		59	4	
R0922A	Yes	1	B	68	74	6	1	66	8	1	65	9	1	64	10	1
R0922B	Yes	1	B	68	74	6	1	66	8	1	64	10	1	63	11	1
R0923A		1	B	66	70	4	1	65	5	1	64	6	1	63	7	1
R0923B		1	B	63	66	3	1	62	4		61	5	1	61	5	1
R0924A		1	B	58	61	3		58	3		57	4		57	4	
R0924B		1	B	58	61	3		58	3		57	4		57	4	
R0928		1	B	61	64	3		60	4		59	5	1	58	6	1
R0931A	Yes	1	B	67	72	5	1	66	6	1	65	7	1	64	8	1
R0931B	Yes	1	B	72	77	5	1	69	8	1	67	10	1	66	11	1
R0932A	Yes	1	B	70	76	6	1	68	8	1	66	10	1	65	11	1
R0932B	Yes	1	B	70	75	5	1	66	9	1	65	10	1	64	11	1
R0932C	Yes	1	B	69	74	5	1	64	10	1	63	11	1	62	12	1
R0933	Yes	1	B	66	69	3	1	64	5	1	64	5	1	64	5	1
R0934A	Yes	1	B	60	63	3		60	3		59	4		59	4	
R0934B	Yes	1	B	59	62	3		57	5	1	57	5	1	57	5	1
R0935A	Yes	1	B	55	58	3		55	3		55	3		55	3	
R0935B	Yes	1	B	56	59	3		57	2		57	2		57	2	
R0935C	Yes	1	B	54	57	3		56	1		56	1		56	1	
R1637	Yes	1	B	71	76	5	1	63	13	1	62	14	1	62	14	1
R2315	Yes	RECREATIONAL	C	55	66	11										
R2315-1	Yes	NODAL ARRAY	C	55	62	7		60	2		60	2		59	3	
R2315-2	Yes	NODAL ARRAY	C	55	62	7		60	2		60	2		59	3	
R2315-3	Yes	NODAL ARRAY	C	55	62	7		61	1		60	2		60	2	
R2315-4	Yes	NODAL ARRAY	C	55	62	7		61	1		60	2		60	2	
R2315-5	Yes	NODAL ARRAY	C	55	66	11	1	64	2		64	2		63	3	
R2315-6	Yes	NODAL ARRAY	C	55	67	12	1	65	2		65	2		64	3	

Length (ft)=	3102	3102	3102
Average Height =	14	16	18
Area of Noise Wall (sft)=	43430	49635	55839
Impacted Receptors=	21	21	21
Number of Benefited Receptors=	19	21	24
Area of Noise Wall per Benefit Receptor (sft)=	2286	2364	2327
Average Increase in dB(A) of all Impacted Receptors=	6	6	6
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2693	2693	2693
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 18ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited and below the NAC impact criteria.

Recommended 18ft wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 82</u>	COUNTY(IES) - <u>Wake and Johnston</u>
IMPACTS - <u>21</u> # BENEFITS - <u>24</u> NAC: A <input checked="" type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>2327</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2693</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd <input type="checkbox"/> YES <input type="checkbox"/> NO		

Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

**Complete 540
Traffic Noise Analysis**

3/16/2015

Purple Corridor

Noise Wall 83

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall		Intermediate Wall		Tall Wall				
			Existing dB(A)	Build dB(A)	Increase	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R2053	Yes	B	47	68	21	61	7	1	60	8	1	60	8	1
R2054	Yes	B	47	69	22	62	7	1	61	8	1	61	8	1
R2055	Yes	B	47	67	20	63	4		61	6	1	61	6	1
R2056	Yes	B	50	63	13	59	4		59	4		58	5	1
R2057	Yes	B	58	69	11	65	4		64	5	1	64	5	1
R2070	Yes	B	47	68	21	63	5	1	62	6	1	61	7	1
R2071	Yes	B	47	69	22	63	6	1	62	7	1	62	7	1

Length (ft)=	3800	3800
Average Height =	10	12
Area of Noise Wall (sft)=	37996	45600
Impacted Receptors=	6	6
Number of Benefited Receptors=	4	6
Area of Noise Wall per Benefit Receptor (sft)=	9499	7600
Average Increase in dB(A) of all Impacted Receptors=	20	20
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3183	3183
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 83</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>6</u>	# BENEFITS - <u>7</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES _____ NO
2 Does topography negatively affect the proposed abatement measure?	_____ YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	_____ YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	_____ YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES _____ NO
2 Is the design criteria per benefited receptor of _____ 7600 <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of _____ 3183 <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	_____ YES <u>X</u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES _____ NO
2 Is the noise mitigation reasonable?	_____ YES <u>X</u> NO
3 Is the noise mitigation likely?	_____ YES <u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	_____ YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	_____ YES _____ NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	_____ YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd
Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	_____ YES _____ NO
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

Purple Corridor

Noise Wall 84

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall			
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
				R2029A		1	B	55	56	1		55	1		55	1
R2029B		1	B	55	55	0		55	0		55	0		55	0	
R2029C		1	B	55	59	4		58	1		58	1		58	1	
R2030A		1	B	55	60	5		59	1		59	1		59	1	
R2030B		1	B	55	59	4		58	1		58	1		58	1	
R2030C		1	B	58	63	5		62	1		62	1		62	1	
R2031A		1	B	60	64	4		64	0		64	0		63	1	
R2031B		1	B	60	65	5		64	1		64	1		64	1	
R2031C		1	B	60	63	3		63	0		63	0		63	0	
R2032A		1	B	55	58	3		56	2		55	3		55	3	
R2032B		1	B	55	60	5		58	2		57	3		56	4	
R2033A		1	B	55	57	2		55	2		55	2		54	3	
R2033B		1	B	55	57	2		55	2		55	2		54	3	
R2034A		1	B	55	56	1		55	1		54	2		54	2	
R2034B		1	B	55	56	1		54	2		54	2		53	3	
R2034C		1	B	55	58	3		57	1		57	1		56	2	
R2035A		1	B	55	59	4		58	1		58	1		58	1	
R2035B		1	B	55	53	-2		52	1		52	1		52	1	
R2036A		1	B	55	57	2		53	4		53	4		52	5	1
R2036B		1	B	55	54	-1		52	2		52	2		52	2	
R2037A		1	B	58	67	9	1	64	3		64	3		64	3	
R2037B		1	B	56	66	10	1	64	2		64	2		63	3	
R2038A		1	B	55	63	8		59	4		59	4		58	5	1
R2038B		1	B	55	63	8		59	4		59	4		58	5	1
R2038C		1	B	55	64	9		60	4		60	4		60	4	
R2039A		1	B	58	68	10	1	65	3		65	3		64	4	
R2039B		1	B	59	69	10	1	64	5	1	64	5	1	64	5	1
R2040	Yes	1	B	58	69	11	1	63	6	1	63	6	1	62	7	1
R2041A		1	B	55	63	8		56	7	1	55	8	1	54	9	1
R2041B		1	B	55	60	5		56	4		56	4		55	5	1
R2042A		1	B	55	63	8		57	6	1	56	7	1	55	8	1
R2042B		1	B	55	60	5		55	5	1	54	6	1	54	6	1
R2043A	Yes	1	B	55	70	15	1	61	9	1	61	9	1	60	10	1
R2043B	Yes	1	B	55	70	15	1	61	9	1	61	9	1	60	10	1
R2044A		1	B	55	60	5		56	4		55	5	1	54	6	1
R2044B		1	B	55	59	4		56	3		55	4		55	4	
R2045A	Yes	1	B	55	69	14	1	62	7	1	61	8	1	60	9	1
R2045B	Yes	1	B	55	69	14	1	62	7	1	61	8	1	60	9	1
R2046A		1	B	55	62	7		59	3		58	4		57	5	1
R2046B		1	B	55	61	6		58	3		57	4		56	5	1
R2047A	Yes	1	B	55	69	14	1	62	7	1	61	8	1	60	9	1
R2047B	Yes	1	B	55	69	14	1	62	7	1	61	8	1	60	9	1
R2048A	Yes	1	B	55	68	13	1	63	5	1	62	6	1	60	8	1
R2048B	Yes	1	B	55	69	14	1	63	6	1	61	8	1	60	9	1
R2049A	Yes	1	B	55	68	13	1	65	3		62	6	1	60	8	1
R2049B	Yes	1	B	55	68	13	1	64	4		62	6	1	60	8	1
R2050A	Yes	1	B	55	66	11	1	64	2		61	5	1	59	7	1
R2050B	Yes	1	B	55	66	11	1	65	1		61	5	1	59	7	1
R2051	Yes	1	B	47	72	25	1	66	6	1	65	7	1	63	9	1
R2052	Yes	1	B	47	70	23	1	66	4		63	7	1	61	9	1
R2072	Yes	1	B	47	70	23	1	68	2		65	5	1	64	6	1
R1808A		1	B	55	63	8		60	3		58	5	1	57	6	1
R1808B		1	B	55	63	8		61	2		59	4		57	6	1
R1809A		1	B	55	62	7		60	2		58	4		57	5	1
R1809B		1	B	55	62	7		60	2		58	4		57	5	1
R1809C		1	B	55	62	7		60	2		58	4		57	5	1
R1810A		1	B	55	64	9		63	1		61	3		59	5	1
R1810B		1	B	55	65	10	1	63	2		61	4		58	7	1
R1810C		1	B	55	64	9		62	2		61	3		58	6	1

Length (ft)=	4000	4000	4000
Average Height =	8	10	14
Area of Noise Wall (sft)=	32000	39960	56001
Impacted Receptors=	21	21	21
Number of Benefited Receptors=	14	22	35
Area of Noise Wall per Benefited Receptor (sft)=	2286	1818	1600
Average Increase in dB(A) of all Impacted Receptors=	14	14	14
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2987	2987	2987
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

Recommended 14 ft wall

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
- (4) A 14ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 84</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>21</u> # BENEFITS - <u>35</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>1600</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2987</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd <input type="checkbox"/> YES <input type="checkbox"/> NO		

Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

**Complete 540
Traffic Noise Analysis
Purple Corridor**

Noise Wall 85

Receptor	First Row Represented	Residences Category ¹	NAC		Noise Levels ²			Short Wall		Intermediate Wall		Tail Wall		
			Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³
R2075	Yes	B	47	64	17	1	62	2	61	3	61	3	61	3
R2076	Yes	B	47	64	17	1	61	3	60	4	59	5	59	5
R2078		B	47	67	20	1	62	5	60	7	59	8	59	8
R2079	Yes	B	47	75	28	1	63	12	62	13	62	13	62	13
R2080	Yes	B	47	68	21	1	59	9	58	10	58	10	58	10
R1811A		B	54	60	6		57	3	56	4	56	4	56	4
R1811B		B	54	60	6		57	3	56	4	56	4	56	4
R1812A		B	54	65	11	1	60	5	59	6	58	7	58	7
R1812B		B	54	66	12	1	61	5	60	6	59	7	59	7
R1813A		B	54	64	10	1	58	6	58	6	57	7	57	7
R1813B		B	54	62	8	1	57	5	57	5	56	6	56	6
R1813C		B	54	66	12	1	59	7	58	8	57	9	57	9

Length (ft)=	3200
Average Height =	20
Area of Noise Wall (sft)=	63999
Impacted Receptors=	8
Number of Benefited Receptors=	8
Area of Noise Wall per Benefited Receptor (sft)=	8000
Area Increase in dB(A) of all Impacted Receptors=	17
Average Increase in dB(A) of all Impacted Receptors=	17
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3104
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	No
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	Yes

Length (ft)=	3200
Average Height =	18
Area of Noise Wall (sft)=	57599
Impacted Receptors=	8
Number of Benefited Receptors=	8
Area of Noise Wall per Benefited Receptor (sft)=	7200
Area Increase in dB(A) of all Impacted Receptors=	17
Average Increase in dB(A) of all Impacted Receptors=	17
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3104
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	No
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	Yes

Length (ft)=	3200
Average Height =	20
Area of Noise Wall (sft)=	63999
Impacted Receptors=	8
Number of Benefited Receptors=	8
Area of Noise Wall per Benefited Receptor (sft)=	8000
Area Increase in dB(A) of all Impacted Receptors=	17
Average Increase in dB(A) of all Impacted Receptors=	17
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3104
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	No
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

Noise Wall 86

Receptor	First Residences Represented	NAC Land Use Category ¹	Existing dB(A)		Noise Levels ²		Impacted Receptors		Short Wall		Intermediate Wall		Tall Wall	
			dB(A)	Increase	dB(A)	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³
R2077	Yes	B	47	64	17	1	61	3	60	4	59	5	1	
R2081A	Yes	B	54	58	14	1	60	8	58	10	58	10	1	
R2081B	Yes	B	54	66	12	1	58	8	57	9	56	10	1	
R2082A	Yes	B	54	67	13	1	60	7	58	9	58	9	1	
R2082B	Yes	B	54	66	12	1	59	7	58	8	57	9	1	
R2083	Yes	B	54	65	11	1	60	5	58	7	58	7	1	
R2084	Yes	B	54	65	11	1	59	6	58	7	57	8	1	
R2085	Yes	B	54	65	11	1	58	7	57	8	57	8	1	
R2086A	Yes	B	54	65	11	1	58	7	57	8	56	9	1	
R2086B	Yes	B	54	64	10	1	57	7	56	8	56	8	1	
R2087	Yes	B	54	59	5	1	55	4	54	5	54	5	1	
R2088A	Yes	B	54	62	8	1	55	7	55	7	54	8	1	
R2088B	Yes	B	54	61	7	1	55	6	54	7	54	7	1	
R2089A	Yes	B	54	57	3	1	53	4	52	5	52	5	1	
R2089B	Yes	B	54	57	3	1	54	3	53	4	52	5	1	
R2090	Yes	B	54	57	3	1	54	3	53	4	53	4	1	
R2092	Yes	B	54	54	0	1	52	2	52	2	52	2	1	
R2093	Yes	B	54	57	3	1	54	3	53	4	53	4	1	
R2095	Yes	B	54	59	5	1	58	1	58	1	58	1	1	
R1814	Yes	B	54	64	10	1	57	7	56	8	55	9	1	
R1815A	Yes	B	54	62	8	1	56	6	55	7	55	7	1	
R1815B	Yes	B	54	62	8	1	57	5	55	7	55	7	1	
R1816A	Yes	B	54	62	8	1	57	5	56	6	55	7	1	
R1816B	Yes	B	54	62	8	1	58	4	56	6	56	6	1	
R1817A	Yes	B	54	61	7	1	57	4	55	6	55	6	1	
R1817B	Yes	B	54	61	7	1	56	5	54	7	54	7	1	
R1818A	Yes	B	54	62	8	1	60	2	58	4	57	5	1	
R1818B	Yes	B	54	62	8	1	60	2	58	4	57	5	1	
R1819	Yes	B	54	60	6	1	57	3	56	4	55	5	1	

Length (ft)=	4200	4200	4200
Average Height =	14	14	18
Area of Noise Wall (sft)=	56000	56000	75603
Impacted Receptors=	9	9	9
Number of Benefited Receptors=	16	16	20
Area of Noise Wall per Benefited Receptor (sft)=	3500	3500	3780
Average Increase in dB(A) of all Impacted Receptors=	12	12	12
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2936	2936	2936
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit)=	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.
(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 86</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>9</u> # BENEFITS - <u>25</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>3360</u> ^(CIRCLE ONE) <input checked="" type="radio"/> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2936</u> ^(CIRCLE ONE) <input checked="" type="radio"/> sq.ft./cu.yd?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd <input type="checkbox"/> YES <input type="checkbox"/> NO	
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

Purple Corridor

Noise Wall 87

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Recommended ⁴			Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	Intermediate Wall			W/Wall ² dB(A)	Reduction ³	Benefited Receptors
								W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R2098	Yes	1	B	56	66	10	1	65	1		63	3		63	3	
R2099A		1	B	54	58	4		56	2		56	2		56	2	
R2099B		1	B	54	57	3		55	2		54	3		54	3	
R2100		1	B	54	56	2		54	2		53	3		53	3	
R2101		1	B	54	56	2		54	2		53	3		53	3	
R2102		1	B	54	58	4		57	1		57	1		57	1	
R2103A		1	B	54	58	4		58	0		58	0		58	0	
R2103B		1	B	54	53	-1		53	0		53	0		53	0	
R2104		1	B	55	60	5		60	0		60	0		60	0	
R2105		1	B	54	53	-1		52	1		51	2		51	2	
R2106A		1	B	54	53	-1		52	1		52	1		52	1	
R2106B		1	B	54	55	1		54	1		54	1		54	1	
R2107A		1	B	54	56	2		54	2		53	3		53	3	
R2107B		1	B	54	56	2		54	2		53	3		53	3	
R2108A		1	B	54	52	-2		51	1		50	2		50	2	
R2108B		1	B	54	52	-2		52	0		51	1		51	1	
R2109A		1	B	54	56	2		53	3		53	3		52	4	
R2109B		1	B	54	56	2		53	3		53	3		53	3	
R2109C		1	B	54	57	3		53	4		52	5	1	52	5	1
R2110A		1	B	54	53	-1		52	1		51	2		51	2	
R2110B		1	B	54	53	-1		51	2		51	2		51	2	
R2111		1	B	54	54	0		52	2		51	3		51	3	
R2112	Yes	1	B	54	68	14	1	61	7	1	61	7	1	60	8	1
R2113		1	B	54	64	10		59	5	1	58	6	1	57	7	1
R2114A		1	B	54	60	6		56	4		56	4		55	5	1
R2114B		1	B	54	60	6		56	4		55	5	1	55	5	1
R2115A		1	B	54	59	5		55	4		54	5	1	54	5	1
R2115B		1	B	54	59	5		55	4		54	5	1	54	5	1
R2125	Yes	1	B	54	66	12	1	60	6	1	59	7	1	59	7	1
R2126	Yes	1	B	54	65	11	1	60	5	1	59	6	1	58	7	1
R2127A	Yes	1	B	54	60	6		56	4		55	5	1	54	6	1
R2127B	Yes	1	B	54	57	3		54	3		53	4		53	4	
R2127C	Yes	1	B	54	66	12	1	60	6	1	59	7	1	59	7	1
R2129A	Yes	1	B	54	69	15	1	62	7	1	61	8	1	61	8	1
R2129B	Yes	1	B	54	68	14	1	62	6	1	61	7	1	60	8	1
R2129C	Yes	1	B	54	71	17	1	63	8	1	62	9	1	61	10	1
R2131A	Yes	1	B	54	71	17	1	63	8	1	62	9	1	61	10	1
R2131B	Yes	1	B	54	70	16	1	62	8	1	61	9	1	61	9	1
R2132		1	B	54	66	12	1	60	6	1	59	7	1	58	8	1
R2133		1	B	54	65	11	1	60	5	1	59	6	1	58	7	1
R2134		1	B	54	63	9		59	4		57	6	1	57	6	1
R2135		1	B	54	60	6		56	4		55	5	1	54	6	1
R2136		1	B	54	59	5		58	1		56	3		56	3	
R2137		1	B	54	62	8		59	3		58	4		57	5	1
R2138	Yes	1	B	54	72	18	1	64	8	1	63	9	1	62	10	1

Length (ft)=	4200	4200	4200
Average Height =	12	14	16
Area of Noise Wall (sft)=	50399	58799	67201
Impacted Receptors=	13	13	13
Number of Benefited Receptors=	13	20	22
Area of Noise Wall per Benefit Receptor (sft)=	3877	2940	3055
Average Increase in dB(A) of all Impacted Receptors=	14	14	14
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2982	2982	2982
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	Yes	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

Recommended 14 ft wall

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
- (4) A 14ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 87</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>13</u> # BENEFITS - <u>20</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>2940</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2982</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u> YES <u> </u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u>X</u> YES <u> </u> NO
3 Is the noise mitigation likely?	<u>X</u> YES <u> </u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	<u> </u> YES <u> </u> NO
Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

**Complete 540
Traffic Noise Analysis**

3/16/2015

Purple Corridor

Noise Wall 88

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tall Wall		
			Existing Build dB(A)	Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)
R2118	Yes	B	54	5	59	58	1	1	58	1	58	1
R2119A	Yes	B	54	5	59	58	1	1	58	1	58	1
R2119B	Yes	B	54	4	58	57	1	1	57	1	57	1
R2120A	Yes	B	54	3	57	55	2	2	54	3	54	3
R2120B	Yes	B	54	4	58	57	1	1	57	1	57	1
R2121	Yes	B	54	13	67	62	5	1	61	6	60	7
R2122	Yes	B	54	13	67	61	6	1	60	7	60	7
R2123	Yes	B	54	19	73	63	10	1	62	11	61	12
R2124	Yes	B	54	18	72	64	8	1	62	10	62	10
R2128	Yes	B	54	17	71	68	3	1	65	6	63	8
R2130	Yes	B	54	13	67	64	3	1	61	6	60	7
R2139	Yes	B	54	12	66	62	4	1	60	6	60	6
R2140A	Yes	B	54	12	66	62	3	1	62	4	61	5
R2140B	Yes	B	54	18	72	64	8	1	64	8	63	9
R1820	Yes	B	54	8	62	61	1	1	60	2	58	4
R1821A	Yes	B	54	10	64	63	1	1	61	3	61	3
R1821B	Yes	B	54	8	62	61	1	1	59	3	58	4
R1822A	Yes	B	54	8	62	61	1	1	59	3	59	3
R1822B	Yes	B	54	8	62	61	1	1	59	3	59	3

Length (ft)=	3200	3200	3200
Average Height =	14	12	16
Area of Noise Wall (sf)=	44800	38400	51200
Impacted Receptors=	9	9	9
Number of Benefited Receptors=	8	5	9
Area of Noise Wall per Benefited Receptor (sf)=	5600	7680	5689
Average Increase in dB(A) of all Impacted Receptors=	15	15	15
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	3025	3025	3025
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	Yes	No	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>		TIP # - <u>R-2721, R-2828, R-2829</u>	
LOCATION - <u>Barrier 88</u>		COUNTY(IES) - <u>Wake and Johnston</u>	
# IMPACTS - <u>9</u>	# BENEFITS - <u>8</u>	NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input checked="" type="radio"/> B C D E F G
A. FEASIBILITY:			
1	Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3	Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4	Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
B. REASONABLENESS:			
1	Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the design criteria per benefited receptor of <u>5600</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3025</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:			
1	Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
2	Is the noise mitigation reasonable?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
3	Is the noise mitigation likely?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
4	Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
5	Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:			
1	Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
2	If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:		
	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____	<small>(CIRCLE ONE)</small> sq.ft./cu.yd
	Bar No. _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. _____	<small>(CIRCLE ONE)</small> sq.ft./cu.yd
3	If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ <small>(CIRCLE ONE)</small> sq.ft./cu.yd	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>		Date: _____	
In Consultation With: _____		Date: _____	

**Complete 540
Traffic Noise Analysis**

Blue Corridor

Noise Wall 89

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Existing Build		Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall			
				dB(A)	dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³
R2150	Yes	1	B	55	72	17	1	60	12	59	13	1	57	15	1
R2151	Yes	1	B	55	70	15	1	62	8	62	8	1	60	10	1
R2152		CHURCH	D	40	41	1		39	2	39	2		38	3	
R2153	Yes	1	B	55	67	12	1	63	4	63	4		62	5	1
R2154	Yes	1	B	55	64	9		60	4	60	4		59	5	1

Length (ft)=	1400	1400
Average Height =	12	14
Area of Noise Wall (sft)=	16801	19601
Area of Noise Wall (sft)= Impacted Receptors=	3	3
Area of Noise Wall (sft)= Number of Benefited Receptors=	2	2
Area of Noise Wall per Benefited Receptor (sft)=	8401	9801
Average Increase in dB(A) of all Impacted Receptors=	15	15
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3013	3013
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**Complete 540
Traffic Noise Analysis**

Blue Corridor

Noise Wall 90

Receptor	First Row Represented	Residences	NAC Land Use Category ¹	Existing Build		Noise Levels ²		Impacted		Short Wall		Intermediate Wall		Tall Wall	
				dB(A)	dB(A)	Increase	Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³
R2155A	Yes	1	B	55	66	11	1	61	5	60	6	1	59	7	1
R2155B	Yes	1	B	55	62	7		59	3	58	4		57	5	1
R2156A	Yes	1	B	55	65	10	1	61	4	60	5	1	59	6	1
R2156B	Yes	1	B	55	67	12	1	61	6	60	7	1	59	8	1
R2157A		1	B	55	59	4		58	1	57	2		56	3	
R2157B		1	B	55	58	3		58	0	58	0		57	1	
R2158		1	B	55	63	8		63	0	63	0		62	1	
R2159	Yes	1	B	55	67	12	1	61	6	60	7	1	58	9	1
R2160		1	B	55	63	8		63	0	63	0		62	1	
R2161		1	B	55	62	7		64	-2	64	-2		64	-2	
R2162	Yes	1	B	57	64	7		60	4	60	4		59	5	1
R2163		1	B	59	66	7	1	66	0	66	0		66	0	
R2164		1	B	58	64	6		64	0	64	0		64	0	
R2165		COMMERCIAL	F	59	62	3		62	0	62	0		62	0	

2423	2423
12	12
29077	29077
5	5
4	4
7269	7269
10	10
2864	2864
Yes	Yes
No	No
Yes	Yes
Yes	Yes

2423	2423
10	10
24230	24230
5	5
3	3
8077	8077
10	10
2864	2864
Yes	Yes
No	No
No	No
No	No

Length (ft)=
Average Height =
Area of Noise Wall (sft)=
Impacted Receptors=
Number of Benefited Receptors=
Area of Noise Wall per Benefited Receptor (sft)=
Average Increase in dB(A) of all Impacted Receptors=
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=
Feasible (5 dB(A) Reduction)=
Reasonable (Wall Area per Benefit) =
Reasonable (7 dB(A) Reduction) =
Breaks Line of Sight to Impacted Properties? =

2423
16
38769
5
6
6462
10
2864
Yes
No
Yes
Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 90</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>5</u>	# BENEFITS - <u>4</u>
NAC: A (B) C D E F G	
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>7269</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2864</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u> YES <u>X</u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u> </u> YES <u>X</u> NO
3 Is the noise mitigation likely?	<u> </u> YES <u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	<u> </u> YES <u> </u> NO
Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Noise Wall 92

Receptor	First Row Represented	Residences	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Recommended ⁴ Intermediate Wall			Tall Wall			
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R2183A		1	B	52	52	0		52	0		52	0		52	0	
R2183B		1	B	52	51	-1		51	0		51	0		51	0	
R2184A		1	B	52	51	-1		51	0		50	1		50	1	
R2184B		1	B	52	52	0		51	1		51	1		51	1	
R2186	Yes	1	B	52	71	19	1	63	8	1	62	9	1	61	10	1
R2187	Yes	1	B	52	69	17	1	61	8	1	60	9	1	60	9	1
R2188	Yes	1	B	52	69	17	1	62	7	1	61	8	1	60	9	1

800
10
8000
3
3
2667
18
3118
Yes
Yes
Yes
Yes

Length (ft)= 800
 Average Height = 8
 Area of Noise Wall (sft)= 6400
 Impacted Receptors= 3
 Number of Benefited Receptors= 3
 Area of Noise Wall per Benefited Receptor (sft)= 2133
 Average Increase in dB(A) of all Impacted Receptors= 18
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)= 3118
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = Yes
 Reasonable (7 dB(A) Reduction) = Yes
 Breaks Line of Sight to Impacted Properties? = Yes

Recommended 10ft wall

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
- (4) A 10ft barrier was chosen because all criteria for feasible and reasonable have been met, and the most properties are benefited.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 92</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>3</u>	# BENEFITS - <u>3</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES	<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES	<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES	<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES	<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES	<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>2667</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3118</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u>X</u>	YES	<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES	<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES	<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES	<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES	<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES	<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES	<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:				
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd <u> </u> YES <u> </u> NO				

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Noise Wall 93

Receptor	First Row Represented	Residences Category ¹	Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Tall Wall			
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R2190A	Yes	1	B	52	63	11		59	4		58	5	1	58	5	1
R2190B	Yes	1	B	52	57	5		55	2		55	2		54	3	
R2191A	Yes	1	B	52	59	7		57	2		57	2		56	3	
R2191B	Yes	1	B	52	59	7		57	2		57	2		56	3	
R2192A	Yes	1	B	52	59	7		57	2		57	2		56	3	
R2192B	Yes	1	B	52	64	12		59	5		58	6	1	58	6	1
R2193		1	B	52	67	15	1	61	6	1	60	7	1	59	8	1
R2194A		1	B	52	62	10		58	4		57	5	1	57	5	1
R2194B		1	B	52	57	5		54	3		54	3		53	4	
R2195		1	B	52	54	2		52	2		52	2		51	3	
R2196A		1	B	52	54	2		51	3		51	3		51	3	
R2196B		1	B	52	53	1		51	2		51	2		50	3	
R2197A		1	B	52	51	-1		50	1		50	1		49	2	
R2197B		1	B	52	48	-4		48	0		48	0		48	0	
R2204A		1	B	52	57	5		54	3		54	3		53	4	
R2204B		1	B	52	58	6		55	3		55	3		55	3	
R2205A		1	B	52	61	9		59	2		59	2		59	2	
R2205B		1	B	52	60	8		57	3		57	3		57	3	
R2205C		1	B	52	61	9		60	1		60	1		60	1	
R2205D		1	B	52	61	9		60	1		60	1		60	1	
R2206		1	B	57	61	4		61	0		61	0		61	0	

Length (ft)=	1531	1531
Average Height =	10	10
Area of Noise Wall (sft)=	15312	15312
Area of Noise Wall (sft)=	18375	18375
Impacted Receptors=	1	1
Number of Benefited Receptors=	2	4
Area of Noise Wall per Benefited Receptor (sft)=	7656	4594
Average Increase in dB(A) of all Impacted Receptors=	15	15
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3025	3025
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No
Reasonable (7 dB(A) Reduction) =	No	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 93</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>1</u> # BENEFITS - <u>4</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>4594</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3025</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

**Complete 540
Traffic Noise Analysis**

3/16/2015

Blue Corridor

Noise Wall 94

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Recommended ⁴			
			Existing dB(A)	Build dB(A) Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R2216A	1	B	52	65	13	1	57	8	1	57	8	1
R2216B	1	B	52	67	15	1	58	9	1	57	10	1
R2216C	1	B	52	63	11	1	56	7	1	56	7	1
R2217	1	B	52	60	8	1	55	5	1	54	6	1
R2218A	1	B	52	59	7	1	54	5	1	53	6	1
R2218B	1	B	52	60	8	1	55	5	1	54	6	1
R2219	1	B	52	57	5	1	54	3	1	54	3	1
R2220A	Yes	B	52	71	19	1	60	11	1	59	12	1
R2220B	Yes	B	52	72	20	1	60	12	1	59	13	1
R2220C	Yes	B	52	70	18	1	59	11	1	58	12	1
R2221A	Yes	B	52	73	21	1	63	10	1	61	12	1
R2221B	Yes	B	52	72	20	1	63	9	1	62	10	1
R2222A	Yes	B	52	72	20	1	67	5	1	64	8	1
R2222B	Yes	B	52	66	14	1	64	2	1	62	4	1
R2223A	1	B	52	64	12	1	62	2	1	61	3	1
R2223B	1	B	52	60	8	1	59	1	1	59	1	1
R1823	1	B	52	60	8	1	55	5	1	54	6	1

Length (ft)=	2000
Average Height =	18
Area of Noise Wall (sft)=	35999
Impacted Receptors=	9
Number of Benefited Receptors=	13
Area of Noise Wall per Benefit Receptor (sft)=	2461
Average Increase in dB(A) of all Impacted Receptors=	18
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3122
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	Yes
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	No

Recommended 20ft wall

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are 5 dB(A) or greater reduction in noise levels.
- (4) A 20ft barrier was chosen because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Complete 540
Traffic Noise Analysis

3/16/2015

Blue Corridor

Noise Wall 95

Receptor	First Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tall Wall	
			Existing dB(A)	Build Increase		W/Wall ² dB(A)	Reduction ³	W/Wall ² dB(A)	Reduction ³	W/Wall ² dB(A)	Reduction ³
R2229A	1	B	52	61	9	61	0	61	0	61	0
R2229B	1	B	52	60	8	60	0	60	0	60	0
R2229C	1	B	56	64	8	64	0	64	0	64	0
R2230A	1	B	52	59	7	58	1	58	1	57	2
R2230B	1	B	52	59	7	58	1	58	1	58	1
R2231	Yes	B	52	70	18	63	7	63	7	62	8
R2232	Yes	B	52	68	16	63	5	62	6	61	7
R2233	Yes	B	52	64	12	59	5	58	6	57	7
R2242	1	B	56	64	8	58	6	57	7	56	8
R2243A	1	B	52	65	13	61	4	58	7	57	8
R2243B	1	B	52	62	10	60	2	58	4	56	6
R2244	Yes	B	52	67	15	59	8	58	9	58	9
R2245	Yes	B	52	63	11	58	5	57	6	56	7
R2246A	1	B	52	64	12	61	3	60	4	59	5
R2246B	1	B	52	64	12	60	4	59	5	58	6
R2247	Yes	B	52	63	11	59	4	58	5	58	5
R2248A	Yes	B	52	67	15	61	6	61	6	60	7
R2248B	Yes	B	52	66	14	61	5	60	6	60	6
R2249	Yes	B	52	66	14	60	6	60	6	59	7
R2250A	1	B	52	57	5	54	3	54	3	53	4
R2250B	1	B	52	56	4	54	2	53	3	53	3
R2250C	1	B	52	57	5	55	2	55	2	54	3
R2251	Yes	B	52	70	18	62	8	61	9	61	9

Length (ft)=	3423	3423	3423
Average Height =	12	12	14
Area of Noise Wall (sf)=	41077	41077	47924
Impacted Receptors=	8	8	8
Number of Benefitted Receptors=	10	13	15
Area of Noise Wall per Benefit Receptor (sf)=	4108	3686	3651
Average Increase in dB(A) of all Impacted Receptors=	15	15	15
Maximum Allowable Base Quantity of Noise Wall per Benefitted Receptor (sf)=	3038	3038	3038
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 95</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>8</u> # BENEFITS - <u>15</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>3651</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> less than the maximum allowable design criteria per benefited receptor of <u>3038</u> ^(CIRCLE ONE) <u>sq.ft./cu.yd</u> ?	<u> </u>	YES		<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES		<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES		<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd				
Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd				
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) <u> </u> sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

**Complete 540
Traffic Noise Analysis
Blue Corridor**

Noise Wall 97

Receptor	First Residences Represented	NAC Land Use Category ¹	Existing Build		Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall				
			dB(A)	dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R2266	1	B	51	63	12		58	5	1	57	6	1	57	6	1
R2267A	1	B	51	62	11		59	3		58	4		57	5	1
R2267B	1	B	51	60	9		57	3		57	3		56	4	
R2268	Yes	B	51	70	19	1	63	7	1	63	7	1	62	8	1
R2269A	1	B	51	64	13		60	4		60	4		59	5	1
R2269B	1	B	51	62	11		58	4		58	4		57	5	1
R2270	1	B	51	60	9		57	3		56	4		56	4	
R2271	1	B	51	57	6		55	2		55	2		54	3	

Length (ft)=	1417	1417	1417
Average Height =	12	14	16
Area of Noise Wall (sft)=	17003	19836	22668
Impacted Receptors=	1	1	1
Number of Benefited Receptors=	2	2	5
Area of Noise Wall per Benefit Receptor (sft)=	8502	9918	4534
Average Increase in dB(A) of all Impacted Receptors=	19	19	19
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3165	3165	3165
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 97</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>1</u> # BENEFITS - <u>5</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>4534</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3165</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

**Complete 540
Traffic Noise Analysis**

Blue Corridor

Noise Wall 98

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tail Wall			
			Existing Build dB(A)	Increase	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³
R2279	Yes	B	46	16	58	4	58	4	57	5	1	1
R2280	Yes	B	46	14	56	4	56	4	55	5	1	1
R2281	Yes	B	46	16	58	4	57	5	56	6	1	1
R0651	Yes	B	46	21	63	4	59	8	58	9	1	1
R2282A	Yes	B	46	23	63	6	62	7	60	9	1	1
R2282B	Yes	B	46	20	61	5	59	7	59	7	1	1
R2283	1	B	46	16	60	2	57	5	56	6	1	1
R2284A	Yes	B	46	24	62	8	61	9	61	9	1	1
R2284B	Yes	B	46	24	62	8	61	9	60	10	1	1
R2285A	1	B	46	14	56	4	55	5	54	6	1	1
R2285B	1	B	46	12	55	3	54	4	54	4	1	1
R2286A	Yes	B	46	20	60	6	60	6	59	7	1	1
R2286B	Yes	B	46	23	61	8	61	8	60	9	1	1

Length (ft)=	3800	3800	3800
Average Height =	10	10	12
Area of Noise Wall (sft)=	37994	37994	45592
Impacted Receptors=	10	10	10
Number of Benefited Receptors=	6	6	10
Area of Noise Wall per Benefited Receptor (sft)=	6332	6332	4559
Average Increase in dB(A) of all Impacted Receptors=	20	20	20
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3211	3211	3211
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 98</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>10</u> # BENEFITS - <u>12</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>4433</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3211</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u>	YES		<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES		<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES		<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd				
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd				
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Complete 540
Traffic Noise Analysis

4/1/2015

Blue Corridor

Noise Wall 99

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall		Intermediate Wall		Tall Wall		
			Existing Build dB(A)	Increase	Benefit Increases	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0637	Yes	B	46	55	9		53	2	53	2	52	3
R0638	Yes	B	50	57	7		56	1	55	2	55	2
R0639A	Yes	B	51	60	9		59	1	57	3	57	3
R0639B	Yes	B	52	59	7		58	1	57	2	56	3
R0639C	Yes	B	52	59	7		58	1	56	3	56	3
R0641A	Yes	B	46	62	16	16	59	3	57	5	57	5
R0641B	Yes	B	46	63	17	17	61	2	59	4	58	5
R0641C	Yes	B	46	62	16	16	61	1	58	4	58	4
R0642A	Yes	B	46	70	24	24	61	9	60	10	60	10
R0642B	Yes	B	46	67	21	21	61	6	60	7	59	8
R0642C	Yes	B	46	68	22	22	63	5	61	7	60	8

Length (ft)=	2200	2200	2200
Average Height =	10	10	12
Area of Noise Wall (sft)=	22002	22002	26401
Impacted Receptors=	6	6	6
Number of Benefited Receptors=	3	3	4
Area of Noise Wall per Benefited Receptor (sft)=	7334	7334	6600
Area Increase in dB(A) of all Impacted Receptors=	19	19	19
Average Increase in dB(A) of all Impacted Receptors (sft)=	3177	3177	3177
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	Yes	Yes	Yes
Feasible (5 dB(A) Reduction)=	No	No	No
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	No	No	No
Breaks Line of Sight to Impacted Properties? =	No	No	No

- (1) Category B denotes a residential property.
- (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
- (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 99</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>6</u> # BENEFITS - <u>5</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>6160</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3177</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Brown Corridor

Noise Wall 100

Receptor	First Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall			Recommended ⁴ Intermediate Wall			Tail Wall					
			Existing dB(A)	Build dB(A) Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors			
R0961A	Yes	B	53	61	8	60	1	60	1	60	1	60	1	60	1	60	1
R0961B	Yes	B	55	64	9	63	1	63	1	63	1	63	1	63	1	63	1
R0961C	Yes	B	58	66	8	65	1	65	1	65	1	65	1	65	1	65	1
R0962A		B	51	63	12	59	4	59	4	59	4	59	4	59	4	59	4
R0962B		B	51	62	11	59	3	58	4	58	4	58	4	58	4	58	4
R0962C		B	51	65	14	60	5	59	6	59	6	59	6	59	6	59	6
R0963A	Yes	B	51	66	15	59	7	58	8	58	8	58	8	58	8	58	8
R0963B	Yes	B	57	68	11	60	8	60	8	60	8	60	8	60	8	60	8
R0965A		B	51	63	12	58	5	58	5	58	5	58	5	58	5	58	5
R0965B		B	51	62	11	58	4	57	5	57	5	57	5	57	5	57	5
R0966	Yes	B	51	66	15	59	7	59	8	59	8	59	8	59	8	59	8
R0967A		B	51	63	12	58	5	58	6	58	6	58	6	58	6	58	6
R0967B		B	51	64	13	58	6	57	7	57	7	57	7	57	7	57	7
R0968A		B	51	63	12	57	6	56	7	56	7	56	7	56	7	56	7
R0968B		B	51	63	12	57	6	57	6	57	6	57	6	57	6	57	6
R0969	Yes	B	51	65	14	59	6	59	7	59	7	59	7	59	7	59	7

Length (ft)= 2000
 Average Height = 12
 Area of Noise Wall (sft)= 23999
 Impacted Receptors= 6
 Number of Benefited Receptors= 10
 Area of Noise Wall per Benefited Receptor (sft)= 2400
 Area of Noise Wall per Benefited Receptor (sft)= 13
 Average Increase in dB(A) of all Impacted Receptors= 2949
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)= Yes
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = Yes
 Reasonable (7 dB(A) Reduction) = Yes
 Breaks Line of Sight to Impacted Properties? = Yes

2000
 14
 27999
 6
 11
 10
 2545
 13
 2949
 Yes
 Yes
 Yes
 Yes

2000
 16
 31999
 6
 11
 2909
 13
 2949
 Yes
 Yes
 Yes
 Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 14ft barrier was chosen because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 14ft wall

Brown Corridor

Noise Wall 101

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tall Wall			
			Existing dB(A)	Buid Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³
R0970A	Yes	B	51	67	16	63	4	61	6	1	60	7	1
R0970B	Yes	B	51	66	15	61	5	61	5	1	60	6	1
R0971A	Yes	B	51	68	17	63	5	62	6	1	60	8	1
R0971B	Yes	B	51	67	16	62	5	61	6	1	60	7	1
R0972A	Yes	B	51	65	14	61	4	60	5	1	59	6	1
R0972B	Yes	B	51	65	14	61	4	60	5	1	59	6	1
R0973A	Yes	B	51	66	15	61	5	61	5	1	60	6	1
R0973B	Yes	B	51	66	15	61	5	60	6	1	59	7	1
R0974	Yes	B	51	69	18	63	6	63	6	1	62	7	1
R1849A		B	51	59	8	57	2	56	3		56	3	
R1849B		B	51	58	7	56	2	56	2		55	3	
R1850A		B	51	60	9	58	2	58	2		57	3	
R1850B		B	51	60	9	57	3	57	3		57	3	
R1851A		B	51	62	11	60	2	60	2		59	3	
R1851B		B	51	62	11	59	3	59	3		59	3	
R1851C		B	51	59	8	57	2	57	2		57	2	
R1851D		B	51	58	7	57	1	57	1		56	2	
R1851E		B	51	59	8	57	2	57	2		57	2	
R1851F		B	51	62	11	61	1	60	2		60	2	
R1851G		B	51	61	10	60	1	60	1		60	1	
R1851H		B	51	61	10	60	1	59	2		59	2	

Length (ft)=	2000	2000	2000
Average Height =	14	16	16
Area of Noise Wall (sft)=	28000	32000	40000
Impacted Receptors=	9	9	9
Number of Benefited Receptors=	6	9	9
Area of Noise Wall per Benefited Receptor (sft)=	4667	3556	4444
Average Increase in dB(A) of all Impacted Receptors=	16	16	16
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3044	3044	3044
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No	No
Reasonable (7 dB(A) Reduction) =	No	No	No
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 101</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>9</u>	# BENEFITS - <u>9</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>4444</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3044</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u>	YES		<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES		<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES		<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd	Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd
Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd	Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Tan Corridor

Noise Wall 102

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tall Wall					
			Existing dB(A)	Build dB(A) Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R0961A	Yes	B	53	62	9	60	2	60	2	60	2	60	2	60	2
R0961B	Yes	B	55	64	9	63	1	63	1	63	1	63	1	63	1
R0961C	Yes	B	58	67	9	65	2	65	2	65	2	65	2	65	2
R0962A	1	B	51	63	12	60	3	60	3	60	3	60	3	60	3
R0962B	1	B	51	63	12	60	3	60	3	60	3	60	3	60	3
R0962C	1	B	51	65	14	60	5	60	5	60	5	60	5	60	5
R0963A	Yes	B	51	67	16	60	7	60	7	60	7	60	7	60	7
R0963B	Yes	B	57	69	12	61	8	61	8	61	8	61	8	61	8
R0965A	1	B	51	63	12	60	3	60	3	60	3	60	3	60	3
R0965B	1	B	51	63	12	60	3	60	3	60	3	60	3	60	3
R0966	Yes	B	51	66	15	60	6	60	6	60	6	60	6	60	6
R0967A	1	B	51	64	13	60	4	60	4	60	4	60	4	60	4
R0967B	1	B	51	64	13	60	4	60	4	60	4	60	4	60	4
R0968A	1	B	51	64	13	59	5	59	5	59	5	59	5	59	5
R0968B	1	B	51	64	13	59	5	59	5	59	5	59	5	59	5
R0969	Yes	B	51	66	15	59	7	59	7	59	7	59	7	59	7

Length (ft)=	1800
Average Height =	14
Area of Noise Wall (sft)=	25201
Impacted Receptors=	6
Number of Benefited Receptors=	7
Area of Noise Wall per Benefit Receptor (sft)=	3600
Average Increase in dB(A) of all Impacted Receptors=	14
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2973
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	No
Reasonable (7 dB(A) Reduction) =	Yes
Breaks Line of Sight to Impacted Properties? =	Yes

1800	1800
20	16
36004	28801
6	6
11	9
3273	3200
14	14
2973	2973
Yes	Yes
No	No
Yes	Yes
Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 102</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>6</u> # BENEFITS - <u>9</u>	NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>3200</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2973</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Is the noise mitigation likely?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd <input type="checkbox"/> YES <input type="checkbox"/> NO	
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

Tan Corridor

Noise Wall 103

Receptor	First Residences Row Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Recommended ⁴		Tail Wall		
			Existing dB(A)	Increase dB(A)		W/Wall ² dB(A)	Reduction ³	W/Wall ² dB(A)	Reduction ³		W/Wall ² dB(A)	Reduction ³
R0970A	Yes	B	51	68	17	62	6	62	6	62	6	1
R0970B	Yes	B	51	67	16	62	5	61	6	61	6	1
R0971A	Yes	B	51	68	17	62	6	62	6	61	7	1
R0971B	Yes	B	51	67	16	62	5	61	6	61	6	1
R0972A	Yes	B	51	65	14	61	4	60	5	60	5	1
R0972B	Yes	B	51	65	14	61	4	60	5	60	5	1
R0973A	Yes	B	51	65	14	60	5	60	5	60	5	1
R0973B	Yes	B	51	65	14	60	5	60	5	60	5	1
R0974	Yes	B	51	68	17	62	6	61	7	61	7	1
R1849A		B	51	58	7	56	2	56	2	55	2	
R1849B		B	51	58	7	56	2	55	3	55	3	
R1850A		B	51	59	8	57	2	57	2	57	2	
R1850B		B	51	59	8	57	2	56	3	56	3	
R1851A		B	51	61	10	59	2	59	2	59	2	
R1851B		B	51	61	10	58	3	58	3	58	3	
R1851C		B	51	59	8	57	2	57	2	57	2	
R1851D		B	51	58	7	57	1	57	1	56	2	
R1851E		B	51	58	7	57	1	57	1	57	1	
R1851F		B	51	62	11	60	2	60	2	60	2	
R1851G		B	51	61	10	60	1	60	1	60	1	
R1851H		B	51	61	10	60	1	60	1	60	1	

Length (ft)=	1699
Average Height =	14
Area of Noise Wall (sf)=	23780
Impacted Receptors=	7
Number of Benefited Receptors=	9
Area of Noise Wall per Benefited Receptor (sf)=	3397
Average Increase in dB(A) of all Impacted Receptors=	15
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	3041
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	No
Reasonable (7 dB(A) Reduction) =	No
Breaks Line of Sight to Impacted Properties? =	Yes

Benefited Receptors	1699
Benefited Receptors	18
Benefited Receptors	30574
Benefited Receptors	9
Benefited Receptors	9
Benefited Receptors	3397
Benefited Receptors	15
Benefited Receptors	3041
Benefited Receptors	Yes
Benefited Receptors	No
Benefited Receptors	Yes
Benefited Receptors	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.
 (4) A 16ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 16 ft Wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 103</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>9</u>	# BENEFITS - <u>9</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>3020</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3041</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u>X</u>	YES		<u> </u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u>X</u>	YES		<u> </u>	NO
3 Is the noise mitigation likely?	<u>X</u>	YES		<u> </u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u>	<u> </u>	sq.ft./cu.yd	Bar No. <u> </u>	<u> </u>	sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO <u> </u>					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Complete 540
Traffic Noise Analysis
Tan Corridor

Noise Wall 104

Receptor	First Row Represented	Residences	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tall Wall				
				Existing dB(A)	Build dB(A) Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1464A	Yes	1	B	51	70	19	1	66	4	65	5	1	64	6	1
R1464B	Yes	1	B	51	70	19	1	66	4	65	5	1	65	5	1
R1466A	Yes	1	B	51	67	16	1	63	4	62	5	1	61	6	1
R1468B	Yes	1	B	51	72	21	1	64	8	63	9	1	62	10	1
R1473	Yes	1	B	51	67	16	1	63	4	62	5	1	60	7	1
R1474	Yes	1	B	51	71	20	1	66	5	63	8	1	62	9	1
R1476A	Yes	1	B	51	66	15	1	61	5	60	6	1	60	6	1
R1476B	Yes	1	B	51	66	15	1	61	5	60	6	1	60	6	1
R1476C	Yes	1	B	51	65	14	1	61	4	60	5	1	59	6	1
R1477	Yes	1	B	51	67	16	1	61	6	60	7	1	60	7	1
R1478A		1	B	51	64	13		62	2	60	4		60	4	
R1478B		1	B	51	65	14		63	2	62	3		61	4	
R1478C		1	B	51	63	12		61	2	59	4		59	4	
R1479A	Yes	1	B	51	73	22	1	64	9	64	9	1	63	10	1
R1479B	Yes	1	B	51	73	22	1	65	8	64	9	1	64	9	1
R1479C	Yes	1	B	51	71	20	1	64	7	63	8	1	63	8	1
R1480A		1	B	51	67	16	1	65	2	64	3		64	3	
R1480B		1	B	51	65	14	1	63	2	62	3		62	3	
R1481	Yes	1	B	51	75	24	1	66	9	65	10	1	65	10	1
R1867		1	B	51	63	12		60	3	59	4		58	5	1
R1868A		1	B	51	61	10		58	3	57	4		57	4	
R1868B		1	B	51	61	10		59	2	59	2		57	4	
R1869A		1	B	51	61	10		59	2	58	3		58	3	
R1869B		1	B	51	61	10		59	2	58	3		57	4	
R1870A		1	B	51	61	10		59	2	58	3		57	4	
R1870B		1	B	51	61	10		59	2	58	3		58	3	

3200
16
51207
17
14
3658
18
3124
Yes
No
Yes
No

3200
14
44804
17
8
5601
18
3124
Yes
No
Yes
No

Length (ft)= 3200
 Average Height = 14
 Area of Noise Wall (sf)= 44804
 Impacted Receptors= 17
 Number of Benefited Receptors= 8
 Area of Noise Wall per Benefited Receptor (sf)= 5601
 Average Increase in dB(A) of all Impacted Receptors= 18
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)= 3124
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = Yes
 Breaks Line of Sight to Impacted Properties? = No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

Teal Corridor

Noise Wall 105

Receptor	First Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tail Wall					
			Existing dB(A)	Build Increase dB(A)	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors			
R1431A	Yes	B	57	66	1	63	3	62	4	62	4	62	4	
R1431B	Yes	B	57	65	8	61	4	61	4	61	4	61	4	
R1430	Yes	B	57	65	8	60	5	60	5	60	5	60	5	1

2400
18
43200
1
1
1
43200
9
2815
Yes
No
No
Yes

Length (ft)=	2400
Average Height =	16
Area of Noise Wall (sft)=	38401
Impacted Receptors=	1
Number of Benefited Receptors=	1
Area of Noise Wall per Benefited Receptor (sft)=	38401
Average Increase in dB(A) of all Impacted Receptors=	9
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2815
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	No
Reasonable (7 dB(A) Reduction) =	No
Breaks Line of Sight to Impacted Properties? =	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 105</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>1</u>	# BENEFITS - <u>1</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	_____ YES	_____ X	_____ NO
2 Does topography negatively affect the proposed abatement measure?	_____ YES	_____ X	_____ NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	_____ YES	_____ X	_____ NO
4 Is there control of access in the vicinity of the proposed abatement measure?	_____ YES	_____ X	_____ NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	_____ YES	_____ X	_____ NO
2 Is the design criteria per benefited receptor of _____ 43200 ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of _____ 2815 ^(CIRCLE ONE) sq.ft. ^(CIRCLE ONE) cu.yd.?	_____ YES	_____ X	_____ NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	_____ YES	_____ X	_____ NO
2 Is the noise mitigation reasonable?	_____ YES	_____ X	_____ NO
3 Is the noise mitigation likely?	_____ YES	_____ X	_____ NO
4 Have the owners' and residents' viewpoints been solicited?	_____ YES	_____ X	_____ NO
5 Is the noise mitigation recommended for construction?	_____ YES	_____ X	_____ NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	_____ YES	_____ X	_____ NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:			
Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____	_____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd _____ YES _____ NO			

Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Teal Corridor

Noise Wall 106

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall				
				Existing dB(A)	Build dB(A) Increase	Impacted Receptors	WW/Wall ² dB(A)	Reduction ³	Benefited Receptors	WW/Wall ² dB(A)	Reduction ³	Benefited Receptors	WW/Wall ² dB(A)	Reduction ³
R1620	Yes	1	B	57	69	12	63	6	62	7	1	61	8	1
R1434	Yes	1	B	58	65	7	64	1	64	1		64	1	
R1435A	Yes	1	B	57	65	8	64	1	64	1		64	1	
R1435B	Yes	1	B	57	62	5	62	0	62	0		62	0	
R1437A	Yes	1	B	57	60	3	60	0	60	0		60	0	
R1437B	Yes	1	B	57	61	4	60	1	60	1		60	1	
R1437C	Yes	1	B	57	60	3	60	0	60	0		59	1	
R1438A	Yes	1	B	57	59	2	58	1	58	1		58	1	
R1438B	Yes	1	B	57	59	2	59	0	59	0		59	0	
R1438C	Yes	1	B	57	59	2	58	1	58	1		58	1	
R1618	Yes	1	B	57	58	1	57	1	56	2		56	2	
R1619	Yes	1	B	57	60	3	59	1	59	1		59	1	
R1648	Yes	1	B	57	66	9	62	4	62	4		62	4	

Length (ft)=	2000	2000
Average Height =	12	12
Area of Noise Wall (sft)=	24000	24000
Impacted Receptors=	2	2
Number of Benefited Receptors=	1	1
Area of Noise Wall per Benefited Receptor (sft)=	24000	24000
Average Increase in dB(A) of all Impacted Receptors=	11	11
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2868	2868
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No
Reasonable (7 dB(A) Reduction) =	No	No
Breaks Line of Sight to Impacted Properties? =	Yes	Yes

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 106</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>2</u>	# BENEFITS - <u>1</u>
NAC: A	(CIRCLE ALL THAT APPLY) <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>27999</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2868</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u>	YES		<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES		<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES		<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd	Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd
Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd	Bar No. <u> </u>	^(CIRCLE ONE)	<u> </u> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Green Corridor

Noise Wall 107

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴			
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R1556A	Yes	1	B	60	66	6	1	64	2		62	4		61	5	1
R1556B	Yes	1	B	60	66	6	1	64	2		63	3		62	4	
R1556C	Yes	1	B	57	63	6		61	2		60	3		60	3	
R2302		1	B	57	62	5		59	3		58	4		58	4	
R2303A	Yes	1	B	62	67	5	1	65	2		63	4		62	5	1
R2303B	Yes	1	B	61	66	5	1	64	2		63	3		61	5	1
R2303C	Yes	1	B	63	69	6	1	65	4		63	6	1	62	7	1
R2304A	Yes	1	B	65	70	5	1	67	3		64	6	1	63	7	1
R2304B	Yes	1	B	64	70	6	1	66	4		64	6	1	63	7	1
R2304C	Yes	1	B	66	71	5	1	67	4		65	6	1	63	8	1
R2305A	Yes	1	B	67	72	5	1	67	5	1	64	8	1	63	9	1
R2305B	Yes	1	B	67	72	5	1	65	7	1	64	8	1	63	9	1
R2305C	Yes	1	B	66	71	5	1	67	4		65	6	1	64	7	1
R2306A	Yes	1	B	66	72	6	1	65	7	1	64	8	1	63	9	1
R2306B	Yes	1	B	66	71	5	1	64	7	1	63	8	1	62	9	1
R2306C	Yes	1	B	66	72	6	1	65	7	1	64	8	1	63	9	1
R2307A	Yes	1	B	66	71	5	1	64	7	1	63	8	1	62	9	1
R2307B	Yes	1	B	66	71	5	1	64	7	1	63	8	1	62	9	1
R2307C	Yes	1	B	65	71	6	1	64	7	1	63	8	1	62	9	1
R2308A	Yes	1	B	66	71	5	1	64	7	1	63	8	1	62	9	1
R2308B	Yes	1	B	65	71	6	1	64	7	1	63	8	1	62	9	1
R2309A	Yes	1	B	66	72	6	1	65	7	1	64	8	1	63	9	1
R2309B	Yes	1	B	66	72	6	1	66	6	1	65	7	1	63	9	1
R2310A	Yes	1	B	66	72	6	1	66	6	1	65	7	1	64	8	1
R2310B	Yes	1	B	66	72	6	1	67	5	1	65	7	1	64	8	1
R2310C	Yes	1	B	66	72	6	1	66	6	1	65	7	1	64	8	1
R2324A		1	B	60	65	5		64	1		62	3		61	4	
R2324B		1	B	59	65	6		63	2		62	3		61	4	
R2325A		1	B	58	64	6		62	2		61	3		59	5	1
R2325B		1	B	59	64	5		62	2		61	3		60	4	
R2325C		1	B	57	63	6		61	2		60	3		58	5	1
R2326A		1	B	58	63	5		61	2		60	3		59	4	
R2326B		1	B	58	64	6		61	3		60	4		59	5	1
R2326C		1	B	58	63	5		62	1		61	2		59	4	
R2327A		1	B	60	65	5		62	3		61	4		60	5	1
R2327B		1	B	60	65	5		63	2		61	4		60	5	1
R2327C		1	B	59	64	5		62	2		61	3		60	4	
R2328A		1	B	60	66	6	1	63	3		61	5	1	60	6	1
R2328B		1	B	60	65	5		63	2		61	4		60	5	1
R2328C		1	B	61	66	5	1	63	3		61	5	1	60	6	1
R2329A		1	B	60	65	5		61	4		60	5	1	59	6	1
R2329B		1	B	60	65	5		62	3		60	5	1	60	5	1
R2329C		1	B	60	65	5		61	4		60	5	1	59	6	1
R2330A		1	B	60	65	5		61	4		60	5	1	59	6	1
R2330B		1	B	60	65	5		62	3		60	5	1	59	6	1
R2330C		1	B	59	65	6		61	4		60	5	1	59	6	1
R2331A		1	B	59	64	5		61	3		60	4		59	5	1
R2331B		1	B	59	64	5		61	3		60	4		59	5	1
R2331C		1	B	59	65	6		62	3		60	5	1	59	6	1
R2332A		1	B	59	65	6		62	3		60	5	1	59	6	1
R2332B		1	B	58	64	6		61	3		59	5	1	59	5	1
R2333A		1	B	60	66	6	1	63	3		61	5	1	60	6	1
R2333B		1	B	61	67	6	1	64	3		62	5	1	61	6	1
R2334A	Yes	1	B	65	72	7	1	64	8	1	63	9	1	62	10	1
R2334B	Yes	1	B	65	72	7	1	63	9	1	62	10	1	62	10	1
R2334C	Yes	1	B	64	71	7	1	64	7	1	63	8	1	62	9	1
R2335A		1	B	60	65	5		61	4		60	5	1	59	6	1
R2335B		1	B	59	65	6		61	4		60	5	1	59	6	1
R2336A		1	B	59	65	6		61	4		60	5	1	59	6	1
R2336B		1	B	58	64	6		60	4		59	5	1	58	6	1
R2337A		1	B	59	64	5		61	3		60	4		59	5	1
R2337B		1	B	59	64	5		62	2		61	3		59	5	1
R2338A		1	B	58	63	5		60	3		58	5	1	58	5	1
R2338B		1	B	58	64	6		60	4		59	5	1	58	6	1
R2339A		1	B	58	64	6		60	4		59	5	1	58	6	1
R2339B		1	B	57	63	6		60	3		58	5	1	57	6	1
R2339C		1	B	57	62	5		59	3		58	4		57	5	1
R2340A		1	B	57	63	6		60	3		58	5	1	57	6	1
R2340B		1	B	58	63	5		60	3		59	4		58	5	1
R2341A		1	B	58	64	6		60	4		59	5	1	59	5	1
R2341B		1	B	58	64	6		59	5	1	59	5	1	58	6	1

Length (ft)=	3302	3302	3302
Average Height =	16	18	20
Area of Noise Wall (sf)=	52840	59444	66046
Impacted Receptors=	31	31	31
Number of Benefited Receptors=	19	47	62
Area of Noise Wall per Benefited Receptor (sf)=	2781	1265	1065
Average Increase in dB(A) of all Impacted Receptors=	6	6	6
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	2700	2700	2700
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 20ft barrier is Recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 20 ft Wall

Orange Corridor

Noise Wall 108

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²				Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0075	Yes	RECREATIONAL	C	53	67	14	1									
R0075-1	Yes	NODAL ARRAY	C	53	72	19	1	62	10	4	61	11	4	60	12	4
R0075-2	Yes	NODAL ARRAY	C	53	72	19	1	62	10	4	61	11	4	60	12	4
R0075-3		NODAL ARRAY	C	53	71	18	1	62	9	4	61	10	4	60	11	4
R0075-4		NODAL ARRAY	C	53	70	17	1	62	8	4	61	9	4	60	10	4
R0075-5		NODAL ARRAY	C	53	69	16	1	64	5	4	61	8	4	60	9	4
R0075-6		NODAL ARRAY	C	53	67	14	1	61	6	4	60	7	4	59	8	4
R0075-7		NODAL ARRAY	C	53	65	12	1	62	3		59	6	4	58	7	4
R0075-8		NODAL ARRAY	C	53	65	12	1	62	3		59	6	4	58	7	4
R0075-9		NODAL ARRAY	C	53	65	12	1	59	6	4	58	7	4	57	8	4
R0075-10		NODAL ARRAY	C	53	65	12	1	59	6	4	58	7	4	57	8	4
R0085A	Yes	1	B	53	66	13	1	63	3		60	6	1	59	7	1
R0085B	Yes	1	B	53	70	17	1	66	4		63	7	1	61	9	1
R0086		1	B	53	60	7		61	-1		59	1		58	2	
R0087A	Yes	1	B	53	62	9		64	-2		63	-1		63	-1	
R0087B	Yes	1	B	53	63	10		64	-1		64	-1		63	0	
R0088A	Yes	1	B	62	64	2		64	0		64	0		64	0	
R0088B	Yes	1	B	57	62	5		62	0		62	0		62	0	
R0088C	Yes	1	B	55	62	7		64	-2		63	-1		63	-1	
R2287A	Yes	1	B	53	71	18	1	61	10	1	60	11	1	59	12	1
R2287B	Yes	1	B	53	68	15	1	60	8	1	59	9	1	58	10	1
R2342A		1	B	53	64	11		58	6	1	57	7	1	56	8	1
R2342B		1	B	53	66	13	1	60	6	1	58	8	1	58	8	1
R2343A		1	B	53	62	9		55	7	1	55	7	1	54	8	1
R2343B		1	B	53	62	9		56	6	1	55	7	1	55	7	1
R2343C		1	B	53	61	8		55	6	1	54	7	1	54	7	1
R2344		1	B	53	59	6		54	5	1	53	6	1	53	6	1
R2345		1	B	53	59	6		54	5	1	54	5	1	53	6	1
R2346A		1	B	53	63	10		60	3		58	5	1	57	6	1
R2346B		1	B	53	63	10		60	3		57	6	1	57	6	1
R2346C		1	B	53	62	9		59	3		57	5	1	56	6	1
R2346D		1	B	53	66	13	1	62	4		60	6	1	59	7	1
R2346E		1	B	53	65	12	1	61	4		60	5	1	58	7	1
R2346F		1	B	53	64	11		61	3		59	5	1	58	6	1
R2347A		1	B	53	69	16	1	65	4		63	6	1	62	7	1
R2347B		1	B	53	69	16	1	65	4		63	6	1	61	8	1
R2347C		1	B	53	69	16	1	65	4		63	6	1	62	7	1
R2347D		1	B	53	70	17	1	65	5	1	63	7	1	62	8	1
R2348A	Yes	1	B	53	70	17	1	64	6	1	63	7	1	62	8	1
R2348B	Yes	1	B	53	70	17	1	64	6	1	63	7	1	62	8	1
R2348C	Yes	1	B	53	70	17	1	64	6	1	63	7	1	62	8	1
R2348D	Yes	1	B	53	69	16	1	63	6	1	62	7	1	61	8	1
R2348E	Yes	1	B	53	69	16	1	63	6	1	62	7	1	61	8	1
R2348F	Yes	1	B	53	70	17	1	63	7	1	62	8	1	61	9	1
R2349A	Yes	1	B	53	70	17	1	62	8	1	61	9	1	60	10	1
R2349B	Yes	1	B	53	70	17	1	62	8	1	61	9	1	60	10	1
R2349C	Yes	1	B	53	70	17	1	62	8	1	61	9	1	60	10	1
R2349D	Yes	1	B	53	70	17	1	62	8	1	61	9	1	61	9	1
R2349E	Yes	1	B	53	70	17	1	63	7	1	62	8	1	61	9	1
R2350A	Yes	1	B	53	69	16	1	63	6	1	62	7	1	61	8	1
R2350B	Yes	1	B	53	69	16	1	63	6	1	62	7	1	61	8	1
R2350C	Yes	1	B	53	69	16	1	63	6	1	61	8	1	61	8	1
R2350D	Yes	1	B	53	70	17	1	63	7	1	61	9	1	61	9	1
R2350E	Yes	1	B	53	70	17	1	63	7	1	61	9	1	60	10	1
R2350F	Yes	1	B	53	70	17	1	63	7	1	61	9	1	60	10	1
R2351A	Yes	1	B	53	69	16	1	63	6	1	62	7	1	61	8	1
R2351B	Yes	1	B	53	69	16	1	62	7	1	62	7	1	61	8	1
R2351C	Yes	1	B	53	69	16	1	62	7	1	62	7	1	61	8	1
R2351D	Yes	1	B	53	69	16	1	62	7	1	61	8	1	61	8	1
R2352A		1	B	53	62	9		58	4		57	5	1	57	5	1
R2352B		1	B	53	62	9		58	4		57	5	1	57	5	1
R2352C		1	B	53	62	9		58	4		57	5	1	57	5	1
R2352D		1	B	53	61	8		57	4		57	4		57	4	
R2353A		1	B	53	62	9		58	4		57	5	1	57	5	1
R2353B		1	B	53	62	9		58	4		57	5	1	57	5	1
R2353C		1	B	53	62	9		57	5	1	57	5	1	57	5	1
R2353D		1	B	53	63	10		58	5	1	57	6	1	57	6	1
R2353E		1	B	53	62	9		57	5	1	57	5	1	57	5	1
R2354A		1	B	53	61	8		57	4		57	4		56	5	1
R2354B		1	B	53	61	8		57	4		57	4		56	5	1
R2354C		1	B	53	61	8		58	3		58	3		58	3	
R2354D		1	B	53	62	9		57	5	1	57	5	1	56	6	1
R2355A		1	B	53	63	10		60	3		59	4		59	4	
R2355B		1	B	53	63	10		60	3		59	4		58	5	1
R2355C		1	B	53	62	9		59	3		59	3		58	4	
R2355D		1	B	53	61	8		58	3		58	3		58	3	

Orange Corridor

Noise Wall 108

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴ Tall Wall		
				Existing dB(A)	Build dB(A)	Impacted Increase	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
				R2356A		1	B	53	62	9	59	3		59	3
R2356B		1	B	53	61	8	59	2		58	3		58	3	
R2356C		1	B	53	60	7	58	2		58	2		58	2	
R2356D		1	B	53	60	7	58	2		57	3		57	3	
R2356E		1	B	53	59	6	57	2		57	2		57	2	

Length (ft)=	3600	3600	3600
Average Height =	12	14	16
Area of Noise Wall (sft)=	43199	50398	57597
Impacted Receptors=	43	43	43
Number of Benefited Receptors=	67	91	94
Area of Noise Wall per Benefit Receptor (sft)=	645	554	613
Average Increase in dB(A) of all Impacted Receptors=	16	16	16
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	3053	3053	3053
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	No	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 16ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 16 ft Wall

NCDOT SOUND BARRIER FEASIBILITY and REASONABLENESS WORKSHEET

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 108</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>43</u> # BENEFITS - <u>94</u> NAC: A <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>613</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3053</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd	<input type="checkbox"/> YES <input type="checkbox"/> NO
Form Completed By: <u>E SALUTZ</u>	Date: _____
In Consultation With: _____	Date: _____

Orange Corridor

Noise Wall 109

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Recommended ⁴		
				Existing dB(A)	Build dB(A)	Impacted Increase	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors
R0125A	Yes	1	B	57	58	1	55	3		55	3		55	3	
R0125B	Yes	1	B	56	56	0	54	2		54	2		54	2	
R0126A		1	B	52	54	2	54	0		54	0		53	1	
R0126B		1	B	52	54	2	54	0		54	0		54	0	
R0126C		1	B	52	54	2	54	0		54	0		54	0	
R0126D		1	B	52	54	2	54	0		54	0		54	0	
R0127A		1	B	52	54	2	53	1		53	1		53	1	
R0127B		1	B	52	54	2	53	1		53	1		53	1	
R0127C		1	B	52	54	2	53	1		53	1		53	1	
R0127D		1	B	52	54	2	53	1		53	1		53	1	
R0127E		1	B	52	54	2	54	0		53	1		53	1	
R0128A		1	B	52	52	0	52	0		52	0		52	0	
R0128B		1	B	52	52	0	52	0		52	0		52	0	
R0128C		1	B	52	53	1	53	0		53	0		53	0	
R0128D		1	B	52	53	1	53	0		53	0		53	0	
R0129A		1	B	52	53	1	53	0		53	0		53	0	
R0129B		1	B	52	54	2	54	0		54	0		54	0	
R0129C		1	B	52	54	2	54	0		54	0		54	0	
R0129D		1	B	52	54	2	54	0		54	0		54	0	
R0129E		1	B	52	55	3	55	0		55	0		55	0	
R0130A	Yes	1	B	59	62	3	57	5	1	56	6	1	55	7	1
R0130B	Yes	1	B	60	63	3	57	6	1	56	7	1	55	8	1
R0130C	Yes	1	B	61	64	3	57	7	1	56	8	1	55	9	1
R0130D	Yes	1	B	58	65	7	56	9	1	55	10	1	55	10	1
R0130E	Yes	1	B	58	66	8	56	10	1	55	11	1	55	11	1
R0130F	Yes	1	B	58	60	2	56	4		56	4		55	5	1
R0131A	Yes	1	B	62	68	6	59	9	1	58	10	1	58	10	1
R0131B	Yes	1	B	62	68	6	58	10	1	57	11	1	56	12	1
R0131C	Yes	1	B	61	65	4	58	7	1	57	8	1	56	9	1
R0131D	Yes	1	B	61	67	6	57	10	1	56	11	1	55	12	1
R0131E	Yes	1	B	61	68	7	57	11	1	56	12	1	55	13	1
R0131F	Yes	1	B	61	64	3	58	6	1	57	7	1	56	8	1

Length (ft)=	616	616	616
Average Height =	10	12	14
Area of Noise Wall (sft)=	6162	7394	8627
Impacted Receptors=	5	5	5
Number of Benefited Receptors=	11	11	12
Area of Noise Wall per Benefit Receptor (sft)=	560	672	719
Average Increase in dB(A) of all Impacted Receptors=	7	7	7
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2731	2731	2731
Feasible (5 dB(A) Reduction)=	Yes	Yes	Yes
Reasonable (Wall Area per Benefit) =	Yes	Yes	Yes
Reasonable (7 dB(A) Reduction) =	Yes	Yes	Yes
Breaks Line of Sight to Impacted Properties? =	No	Yes	Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

(4) A 14ft barrier is recommended because all criteria for feasible and reasonable have been met, and the most properties are benefited.

Recommended 14 ft Wall

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 108</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>5</u> # BENEFITS - <u>12</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Does topography negatively affect the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the design criteria per benefited receptor of <u>719</u> ^(CIRCLE ONE) <input checked="" type="radio"/> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2731</u> ^(CIRCLE ONE) <input checked="" type="radio"/> sq.ft./cu.yd?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2 Is the noise mitigation reasonable?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3 Is the noise mitigation likely?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4 Have the owners' and residents' viewpoints been solicited?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5 Is the noise mitigation recommended for construction?	<input type="checkbox"/> YES <input type="checkbox"/> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. _____ ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of _____ ^(CIRCLE ONE) sq.ft./cu.yd <input type="checkbox"/> YES <input type="checkbox"/> NO	
Form Completed By: <u>E SALUTZ</u> Date: _____	
In Consultation With: _____ Date: _____	

Orange Corridor

Noise Wall 110

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²			Short Wall			Intermediate Wall			Tall Wall		
				Existing dB(A)	Build dB(A)	Increase	Benefit Increases	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)
R0140A	Yes	1	B	52	64	12			0	64	0		64	0	
R0140B	Yes	1	B	52	64	12			1	63	1		63	1	
R0141A	Yes	1	B	53	64	11			1	63	1		63	1	
R0141B	Yes	1	B	54	64	10			2	62	2		62	2	
R0142A	Yes	1	B	55	65	10	10	1	4	61	4		60	5	1
R0142B	Yes	1	B	54	64	10			3	61	3		61	3	
R0143A	Yes	1	B	56	65	9			4	61	4		60	5	1
R0143B	Yes	1	B	56	65	9			5	60	5		59	6	1
R0144A		1	B	52	64	12			0	64	0		64	0	
R0144B		1	B	52	63	11			0	63	0		63	0	
R0144C		1	B	52	63	11			1	62	1		62	1	
R0145		1	B	52	61	9			1	60	1		60	1	
R0146A		1	B	52	59	7			0	59	0		59	0	
R0146B		1	B	52	59	7			0	59	0		59	0	

Length (ft)=	1335
Average Height =	14
Area of Noise Wall (sf)=	18694
Impacted Receptors=	1
Number of Benefited Receptors=	1
Area of Noise Wall per Benefited Receptor (sf)=	18694
Area Increase in dB(A) of all Impacted Receptors=	10
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)=	2850
Feasible (5 dB(A) Reduction)=	Yes
Reasonable (Wall Area per Benefit) =	No
Reasonable (7 dB(A) Reduction) =	No
Breaks Line of Sight to Impacted Properties? =	No

1335
22
29375
1
3
9792
10
2850
Yes
No
No
Yes

(1) Category B denotes a residential property.

(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 110</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>1</u> # BENEFITS - <u>3</u> NAC: A <input checked="" type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G	(CIRCLE ALL THAT APPLY)
A. FEASIBILITY:	
1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u> YES <u> </u> NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u> YES <u>X</u> NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u> YES <u>X</u> NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u> YES <u>X</u> NO
B. REASONABLENESS:	
1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u> YES <u> </u> NO
2 Is the design criteria per benefited receptor of <u>9792</u> ^(CIRCLE ONE) sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2850</u> ^(CIRCLE ONE) sq.ft./cu.yd?	<u> </u> YES <u>X</u> NO
C. NOISE ABATEMENT DECISION:	
1 Is the noise mitigation feasible?	<u>X</u> YES <u> </u> NO
2 Is the noise mitigation reasonable?	<u> </u> YES <u>X</u> NO
3 Is the noise mitigation likely?	<u> </u> YES <u>X</u> NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u> YES <u>X</u> NO
5 Is the noise mitigation recommended for construction?	<u> </u> YES <u> </u> NO
D. OPTIONAL REASONABLENESS CONSIDERATION:	
1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u> YES <u>X</u> NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:	
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	Bar No. <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> ^(CIRCLE ONE) sq.ft./cu.yd	<u> </u> YES <u> </u> NO
Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

Orange Corridor

Noise Wall 111

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Short Wall		Intermediate Wall		Tail Wall							
				Existing dB(A)	Build Increase	Impacted Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors		
R0192A	Yes	1	B	51	65	14	60	5	60	1	60	5	60	1	60	5	60
R0192B	Yes	1	B	49	67	18	61	6	60	1	60	7	60	1	60	7	60
R0192C	Yes	1	B	55	69	14	64	5	62	1	62	7	61	1	61	8	61
R1725A		1	B	54	63	9	61	2	60		60	3	60		60	3	60
R1725B		1	B	58	63	5	63	0	63		63	0	63		63	0	63

1409
20
28181
3
3
9394
15
3037
Yes
No
Yes
No

Length (ft)= 1409
 Average Height = 18
 Area of Noise Wall (sf)= 25363
 Impacted Receptors= 3
 Number of Benefited Receptors= 3
 Area of Noise Wall per Benefited Receptor (sf)= 8454
 Area Increase in dB(A) of all Impacted Receptors= 15
 Average Increase in dB(A) of all Impacted Receptors= 3037
 Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sf)= Yes
 Feasible (5 dB(A) Reduction)= No
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = No
 Breaks Line of Sight to Impacted Properties? = No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 111</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>3</u>	# BENEFITS - <u>3</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES	<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES	<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES	<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES	<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES	<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>9394</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>3037</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u> </u>	YES	<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES	<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES	<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES	<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES	<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES	<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES	<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:				
Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd
Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd	Bar No. <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd <u> </u> YES <u> </u> NO				

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

**Complete 540
Traffic Noise Analysis
Green Corridor**

Noise Wall 112

Receptor	First Residences Represented	NAC Land Use Category	Existing Build		Noise Levels ²		Short Wall		Intermediate Wall		Tall Wall						
			dB(A)	dB(A)	dB(A)	Increase	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors		
R1557A	Yes	B	61	68	7	7	64	4	63	5	1	62	6	1	62	6	1
R1557B	Yes	B	63	70	7	7	64	6	63	7	1	62	8	1	62	8	1
R1557C	Yes	B	64	72	8	8	66	6	64	8	1	63	9	1	63	9	1
R2300A		B	57	62	5	5	61	1	61	1		61	1		61	1	
R2300B		B	58	62	4	4	61	1	61	1		61	1		61	1	

Length (ft)=	1200	1200
Average Height =	20	18
Area of Noise Wall (sft)=	24002	21602
Impacted Receptors=	3	3
Number of Benefited Receptors=	3	2
Area of Noise Wall per Benefited Receptor (sft)=	8001	10801
Average Increase in dB(A) of all Impacted Receptors=	7	7
Maximum Allowable Base Quantity of Noise Wall per Benefited Receptor (sft)=	2757	2757
Feasible (5 dB(A) Reduction)=	Yes	Yes
Reasonable (Wall Area per Benefit) =	No	No
Reasonable (7 dB(A) Reduction) =	No	No
Breaks Line of Sight to Impacted Properties? =	No	No

(1) Category B denotes a residential property.
 (2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.
 (3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

**NCDOT SOUND BARRIER
FEASIBILITY and REASONABLENESS
WORKSHEET**

PROJECT - <u>Complete 540</u>	TIP # - <u>R-2721, R-2828, R-2829</u>
LOCATION - <u>Barrier 112</u>	COUNTY(IES) - <u>Wake and Johnston</u>
# IMPACTS - <u>3</u>	# BENEFITS - <u>3</u>
NAC: A	<small>(CIRCLE ALL THAT APPLY)</small> <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D <input type="radio"/> E <input type="radio"/> F <input type="radio"/> G

A. FEASIBILITY:

1 Can a 5-dB(A) reduction in traffic noise levels be achieved for at least one impacted receptor?	<u>X</u>	YES		<u> </u>	NO
2 Does topography negatively affect the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO
3 Does the abatement measure negatively affect property access, drainage, safety and maintenance requirements?	<u> </u>	YES		<u>X</u>	NO
4 Is there control of access in the vicinity of the proposed abatement measure?	<u> </u>	YES		<u>X</u>	NO

B. REASONABLENESS:

1 Can a 7-dB(A) reduction in traffic noise levels be achieved for at least one impacted front row receptor?	<u>X</u>	YES		<u> </u>	NO
2 Is the design criteria per benefited receptor of <u>8001</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd less than the maximum allowable design criteria per benefited receptor of <u>2757</u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd?	<u> </u>	YES		<u>X</u>	NO

C. NOISE ABATEMENT DECISION:

1 Is the noise mitigation feasible?	<u>X</u>	YES		<u> </u>	NO
2 Is the noise mitigation reasonable?	<u> </u>	YES		<u>X</u>	NO
3 Is the noise mitigation likely?	<u> </u>	YES		<u>X</u>	NO
4 Have the owners' and residents' viewpoints been solicited?	<u> </u>	YES		<u>X</u>	NO
5 Is the noise mitigation recommended for construction?	<u> </u>	YES		<u> </u>	NO

D. OPTIONAL REASONABLENESS CONSIDERATION:

1 Was optional averaging noise abatement allowance within a common noise environment used for consideration of barrier reasonableness?	<u> </u>	YES		<u>X</u>	NO
2 If the answer to D.1 is YES, the design criteria per benefited receptor for each individual barrier within the common noise environment before averaging are:					
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd	Bar No. <u> </u>	<small>(CIRCLE ONE)</small>	sq.ft./cu.yd
3 If the answer to D.1 is YES, is the design criteria per benefited receptor for each individual barrier less than or equal to twice the maximum allowable design criteria per benefited receptor of <u> </u> <small>(CIRCLE ONE)</small> sq.ft./cu.yd <u> </u> YES <u> </u> NO					

Form Completed By: <u>E SALUTZ</u>	Date: <u> </u>
In Consultation With: <u> </u>	Date: <u> </u>

**Complete 540
Traffic Noise Analysis**

4/1/2015

Orange Corridor

Noise Wall 113

Receptor	First Row	Residences Represented	NAC Land Use Category ¹	Noise Levels ²		Impacted Receptors	Short Wall		Intermediate Wall		Tail Wall					
				Existing dB(A)	Build Increase		W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	W/Wall ² dB(A)	Reduction ³	Benefited Receptors	
R0189A	Yes	1	B	46	67	21	63	4	62	5	62	5	1	62	5	1
R0189B	Yes	1	B	46	67	21	61	6	61	6	61	6	1	60	7	1
R0189C	Yes	1	B	46	65	19	60	5	60	5	60	5	1	59	6	1
R0190	Yes	1	B	55	60	5	60	0	60	0	60	0		60	0	
R0191A	Yes	1	B	56	65	9	61	4	61	4	61	4		60	5	1
R0191B	Yes	1	B	55	62	7	60	2	60	2	60	2		60	2	

Length (ft)= 2000
 Average Height = 16
 Area of Noise Wall (sft)= 32002
 Impacted Receptors= 3
 Number of Benefited Receptors= 2
 Area of Noise Wall per Benefited Receptor (sft)= 14001
 Area Increase in dB(A) of all Impacted Receptors= 20
 Average Quantity of Noise Wall per Benefited Receptor (sft)= 3212
 Feasible (5 dB(A) Reduction)= Yes
 Reasonable (Wall Area per Benefit) = No
 Reasonable (7 dB(A) Reduction) = No
 Breaks Line of Sight to Impacted Properties? = Yes

2000
18
36002
3
4
9001
20
3212
Yes
No
No
Yes
Yes

(1) Category B denotes a residential property.

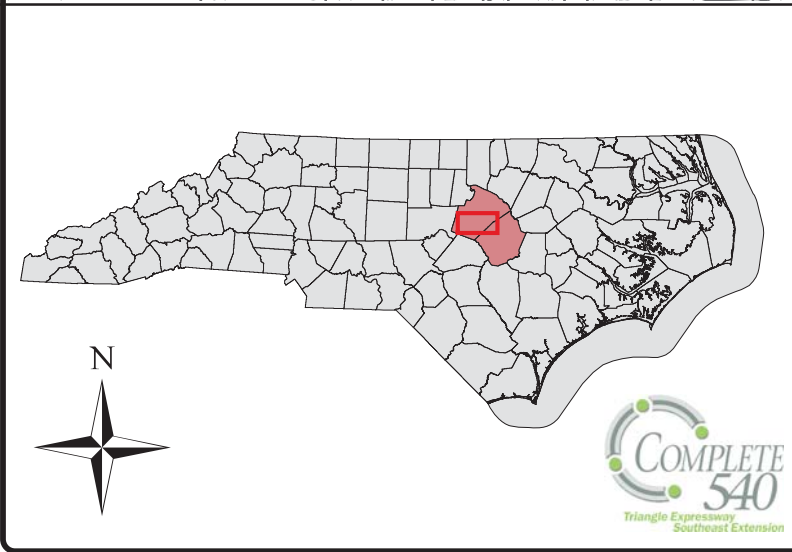
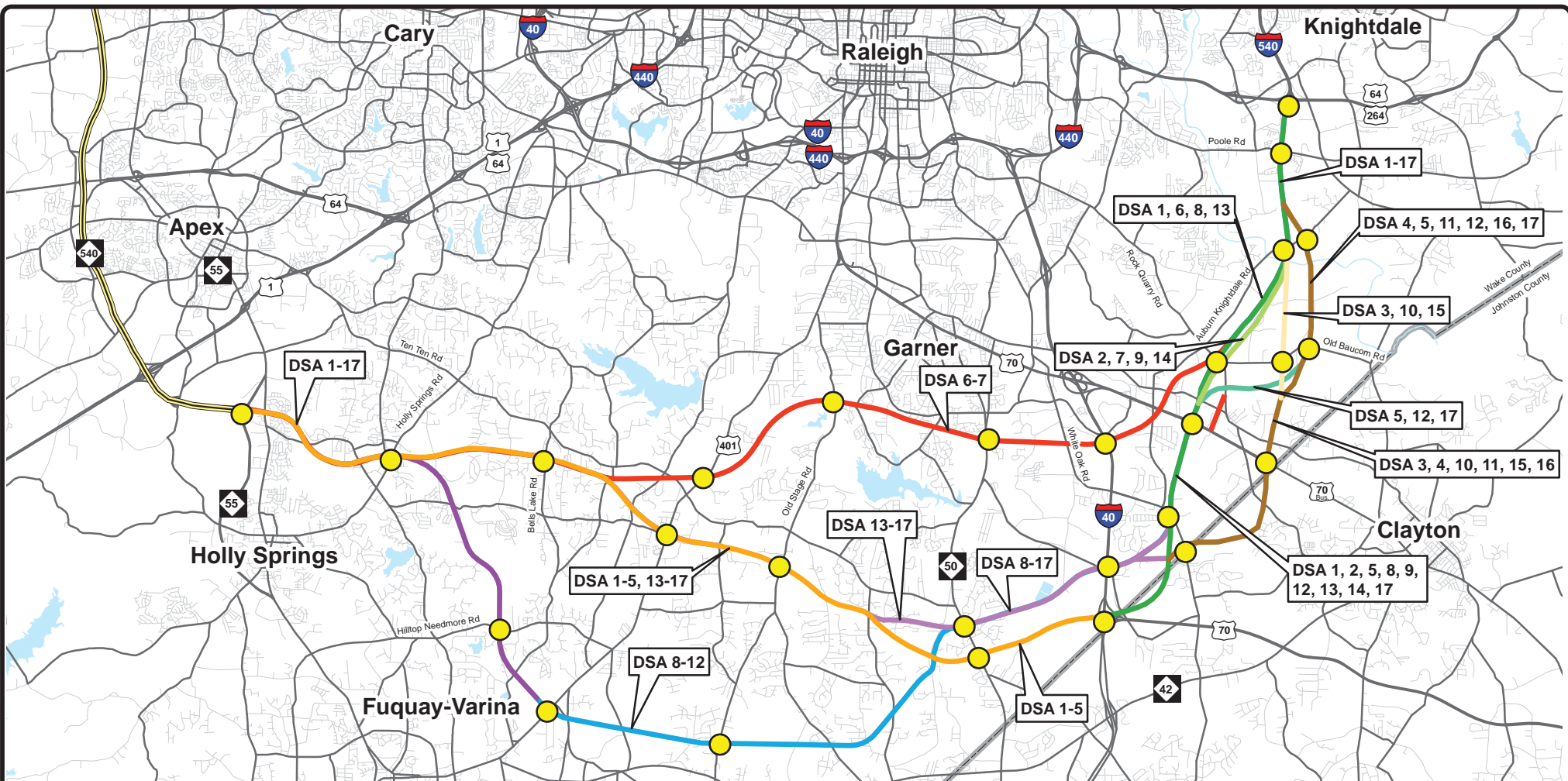
(2) Noise levels highlighted in red are levels above the Noise Abatement Criteria.

(3) Values highlighted in green are a 5 dB(A) or greater reduction in noise levels.

Note: Boxed results indicate barrier discussed in report text.

APPENDIX 5

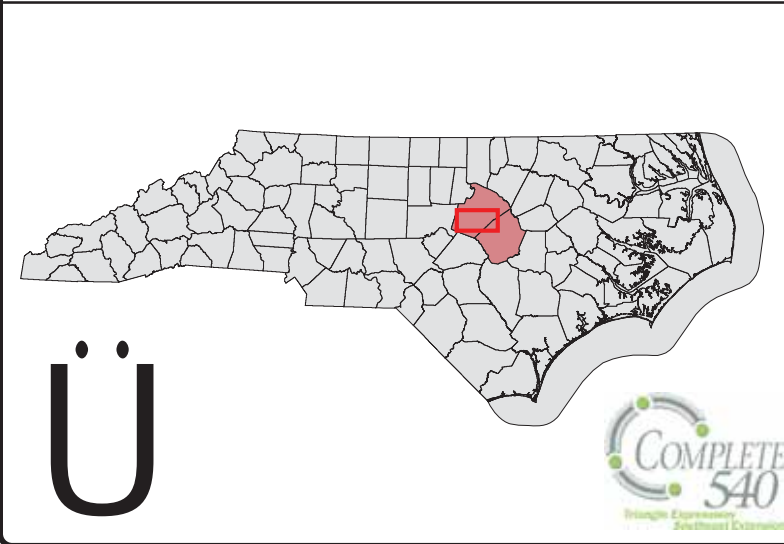
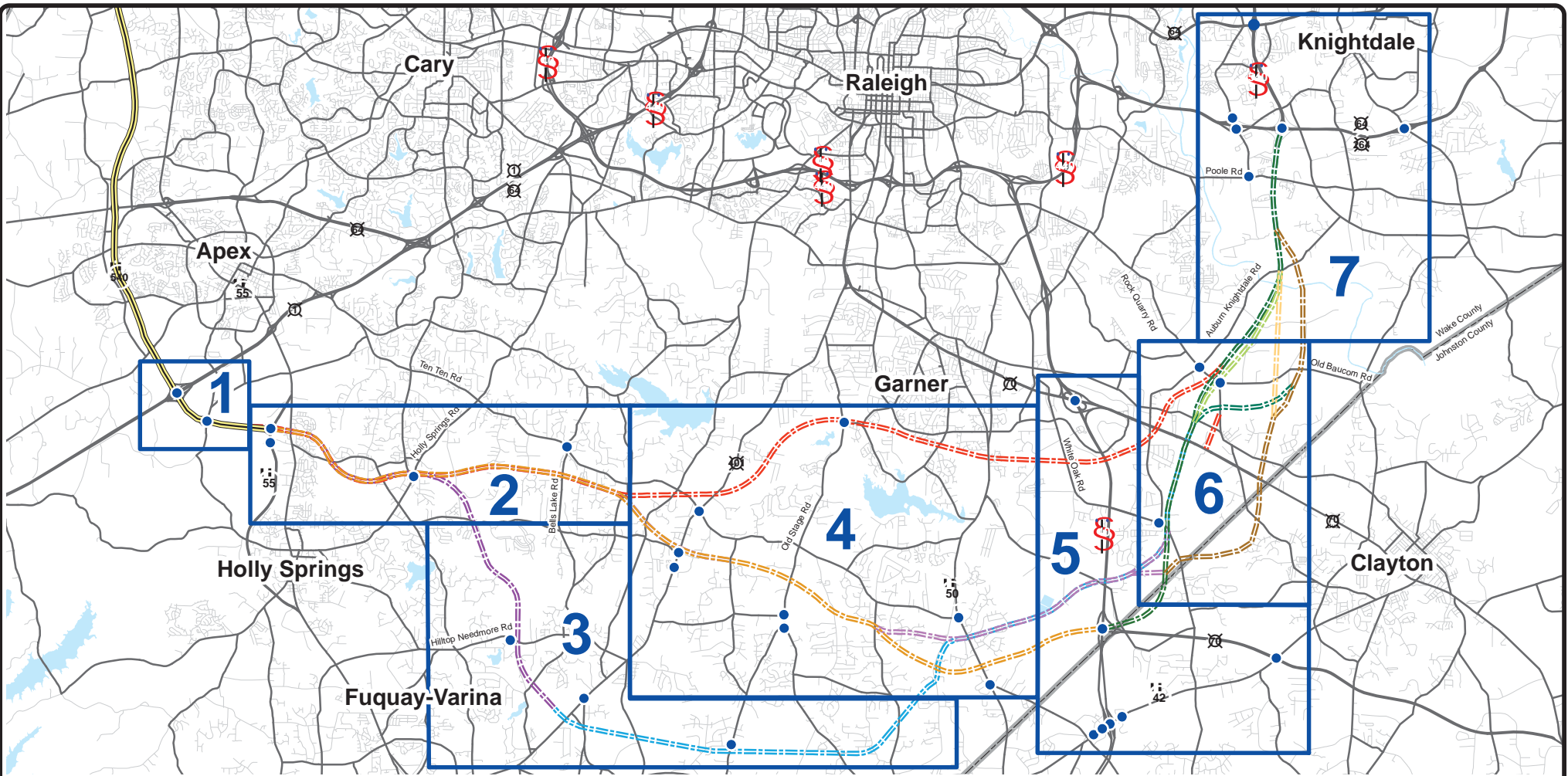
TRAFFIC USED IN THIS ANALYSIS



Detailed Study Alternative Corridors

Legend	
	Interchanges
	Triangle Expressway
	Major Roads
	Counties
DSA Corridors	
	Orange
	Green
	Mint
	Brown
	Tan
	Teal
	Lilac
	Red
	Blue
	Purple

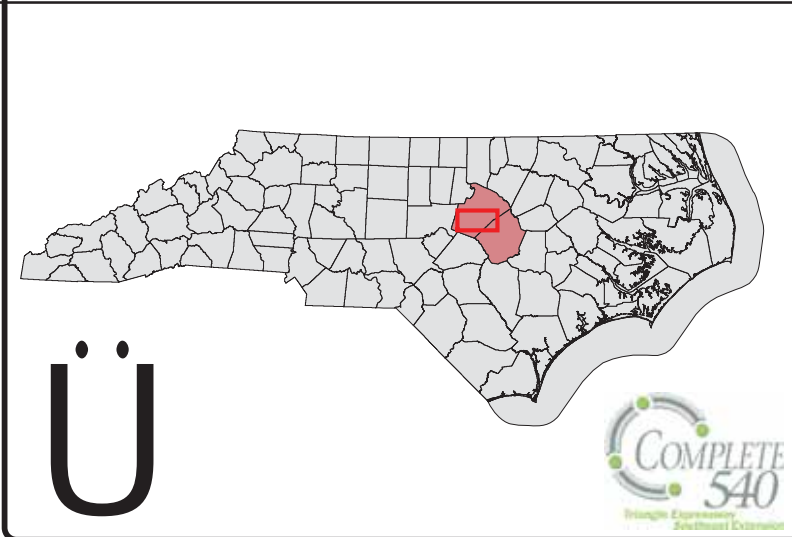
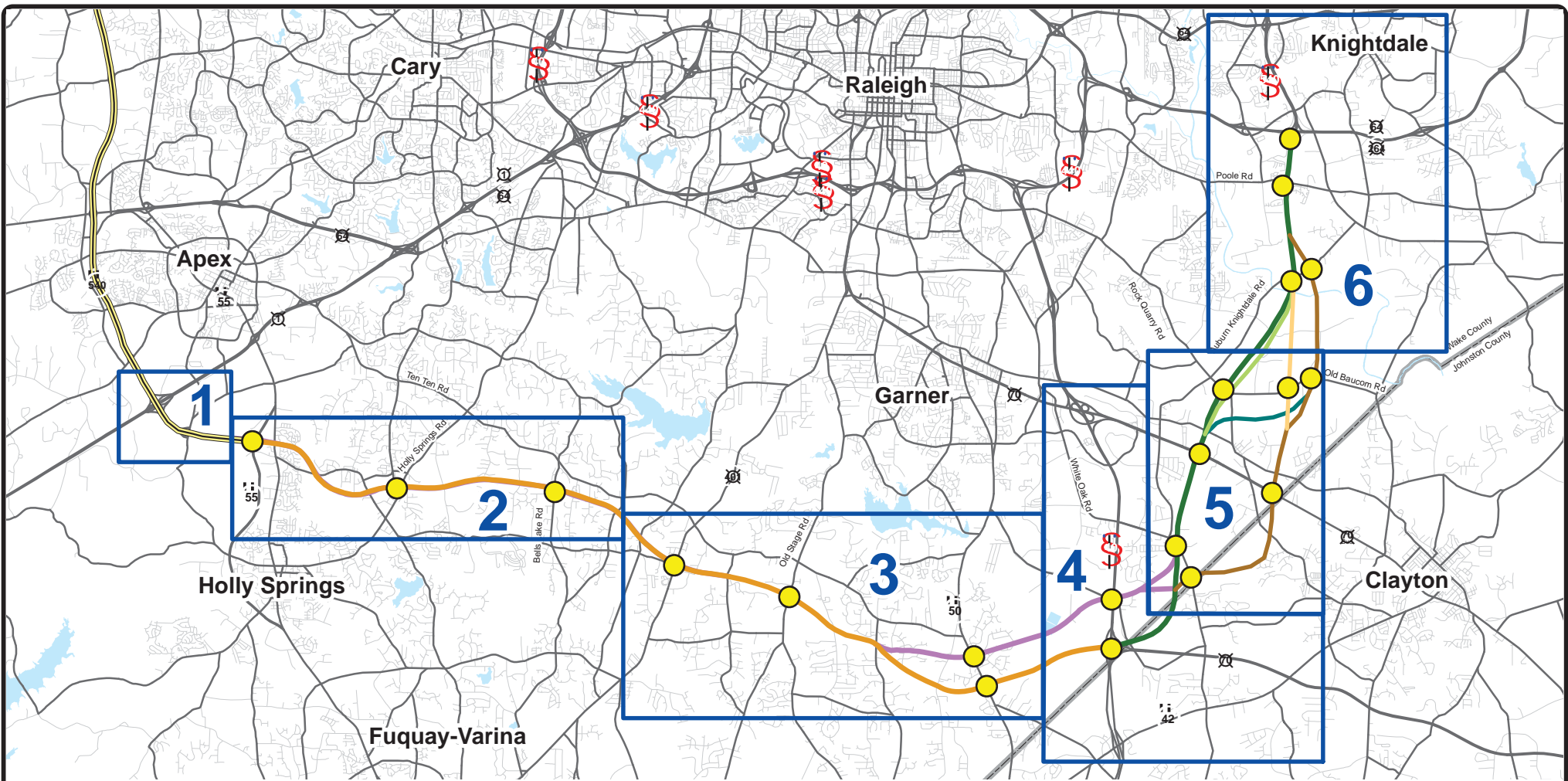
STIP: R-2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 1



No Build Traffic Forecast Figures Sheet Key

- Legend**
- Forecasted Intersections
 - ▬ Triangle Expressway
 - ▬ Major Roads
 - ▭ Counties
- DSA Corridors**
- ▬ Orange
 - ▬ Green
 - ▬ Mint
 - ▬ Brown
 - ▬ Tan
 - ▬ Teal
 - ▬ Lilac
 - ▬ Red
 - ▬ Blue
 - ▬ Purple

STIP: R-2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 7

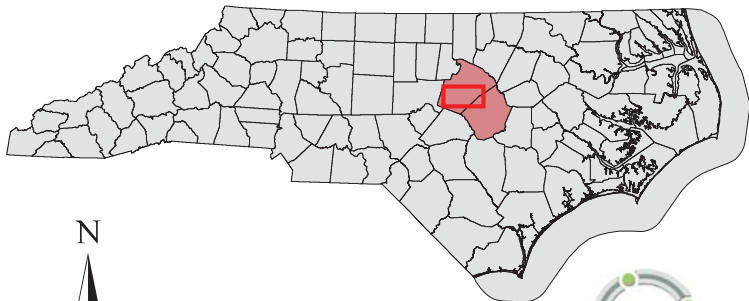
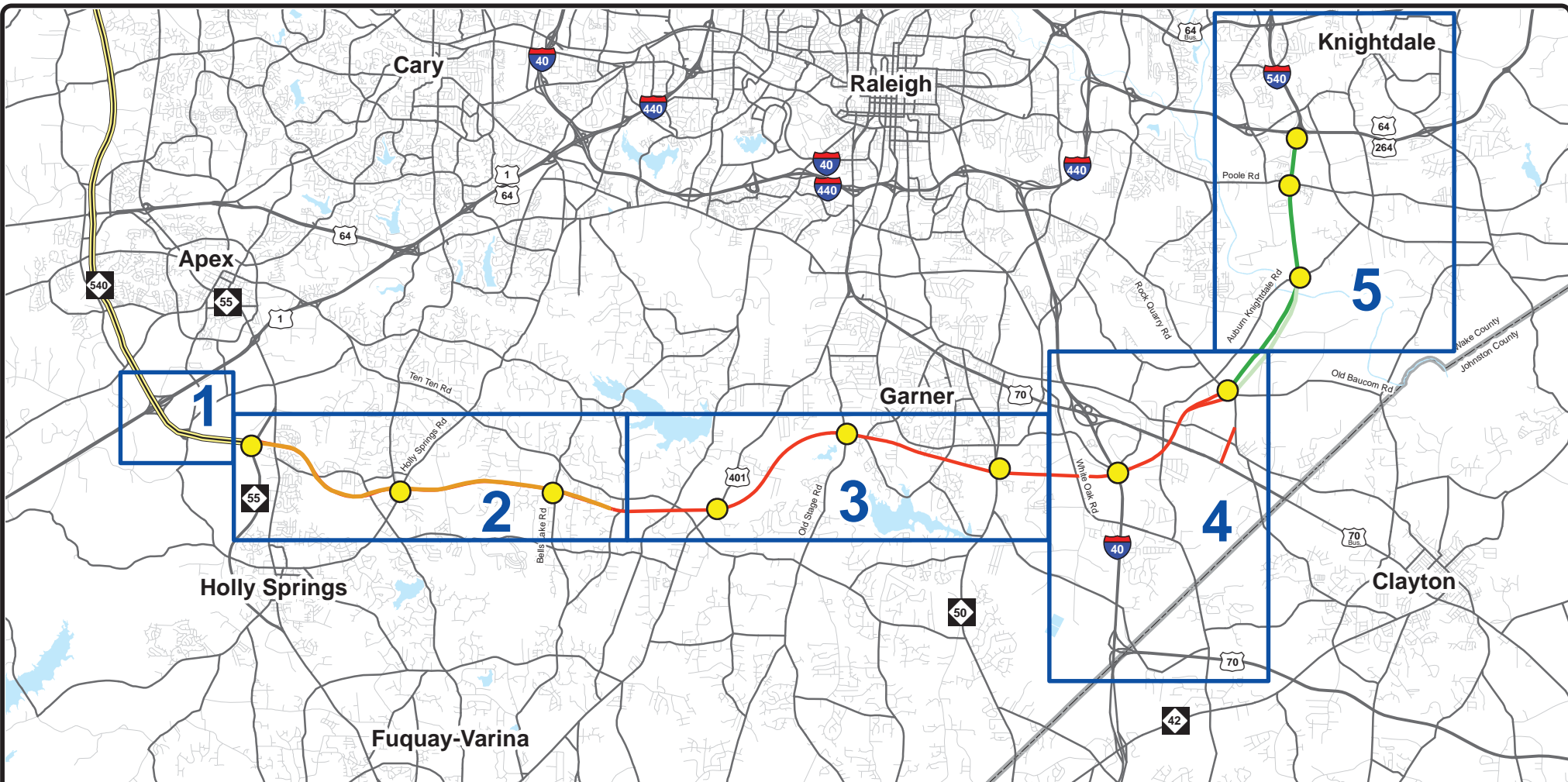


DSA 1-5, 13-17 Traffic Forecast Figures Sheet Key

Legend

- Interchanges
- Triangle Expressway
- Major Roads
- Counties
- DSA Corridors**
- Orange
- Green
- Mint
- Brown
- Tan
- Teal
- Lilac

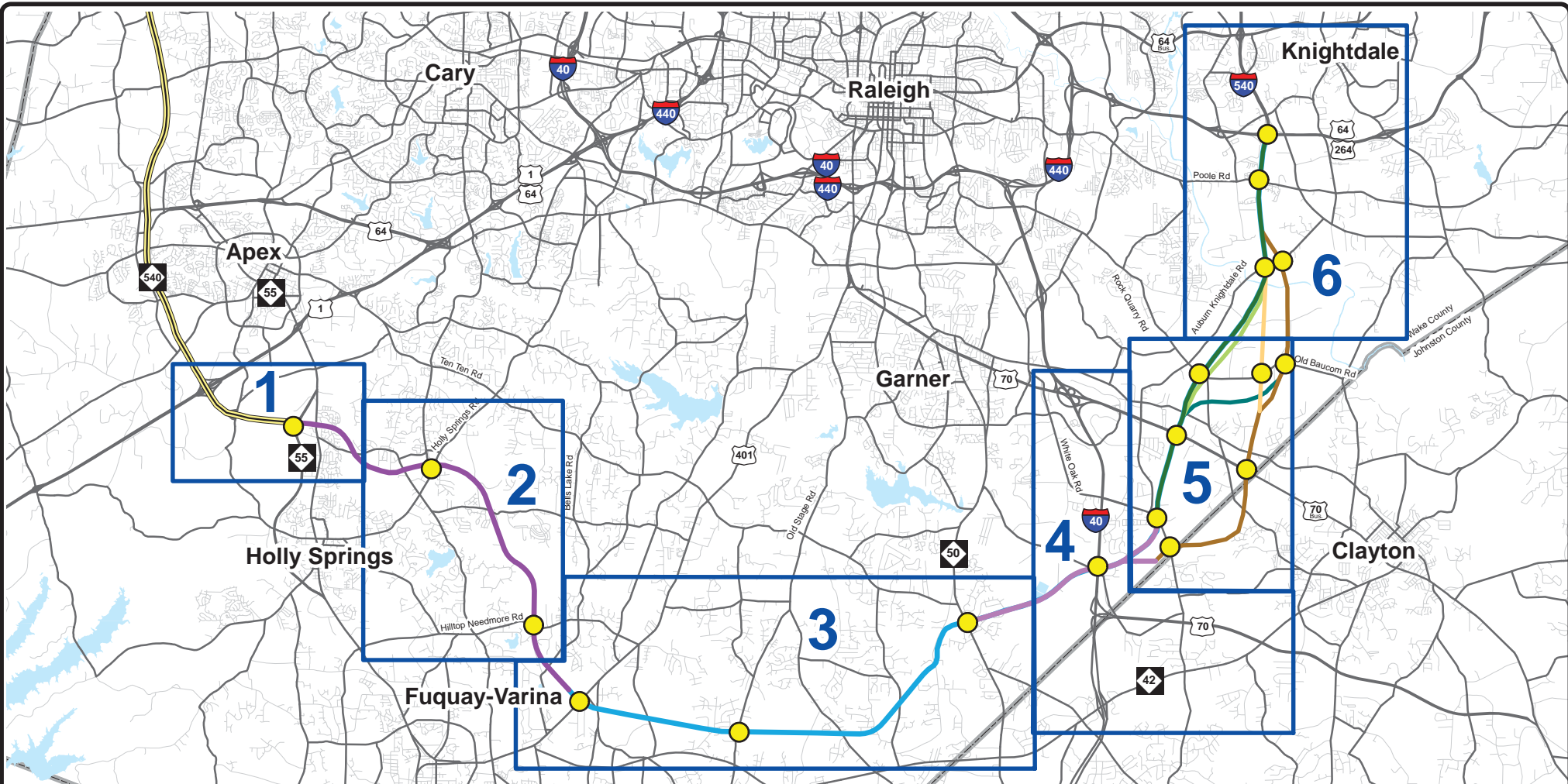
STIP: R-2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 8



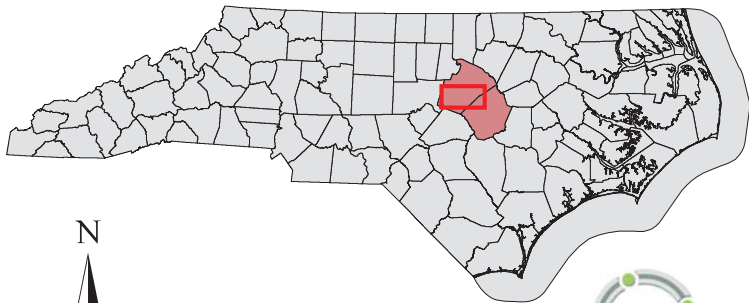
DSA 6-7 Traffic Forecast Figures Sheet Key

- Legend**
- Interchanges
 - Triangle Expressway
 - Major Roads
 - Counties
 - Orange Corridor
 - Red Corridor
 - Green Corridor
 - Mint Corridor

STIP: R-2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 9



DSA 8-12 Traffic Forecast Figures Sheet Key



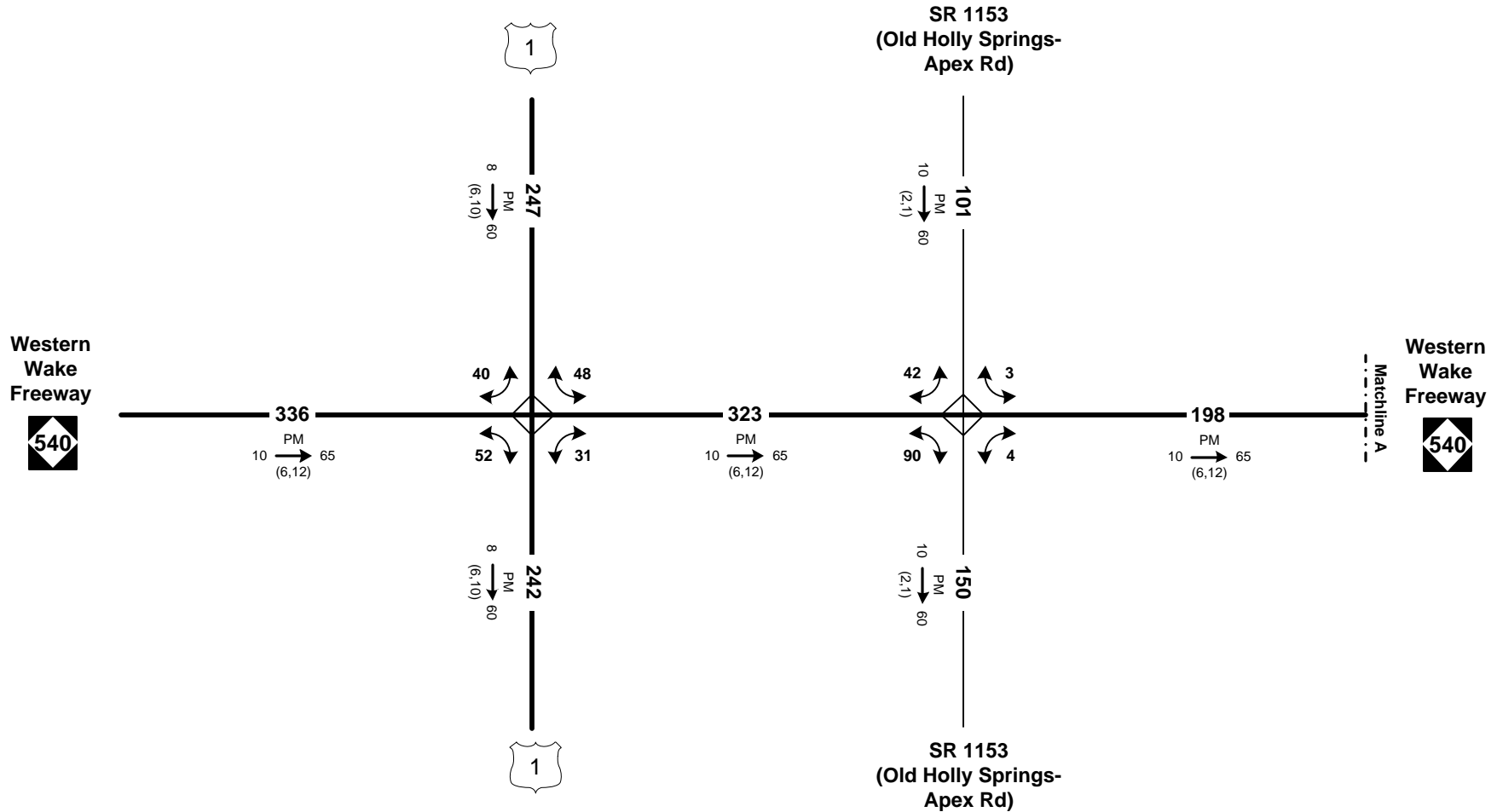
Legend

- Interchanges
- Triangle Expressway
- Major Roads
- Counties

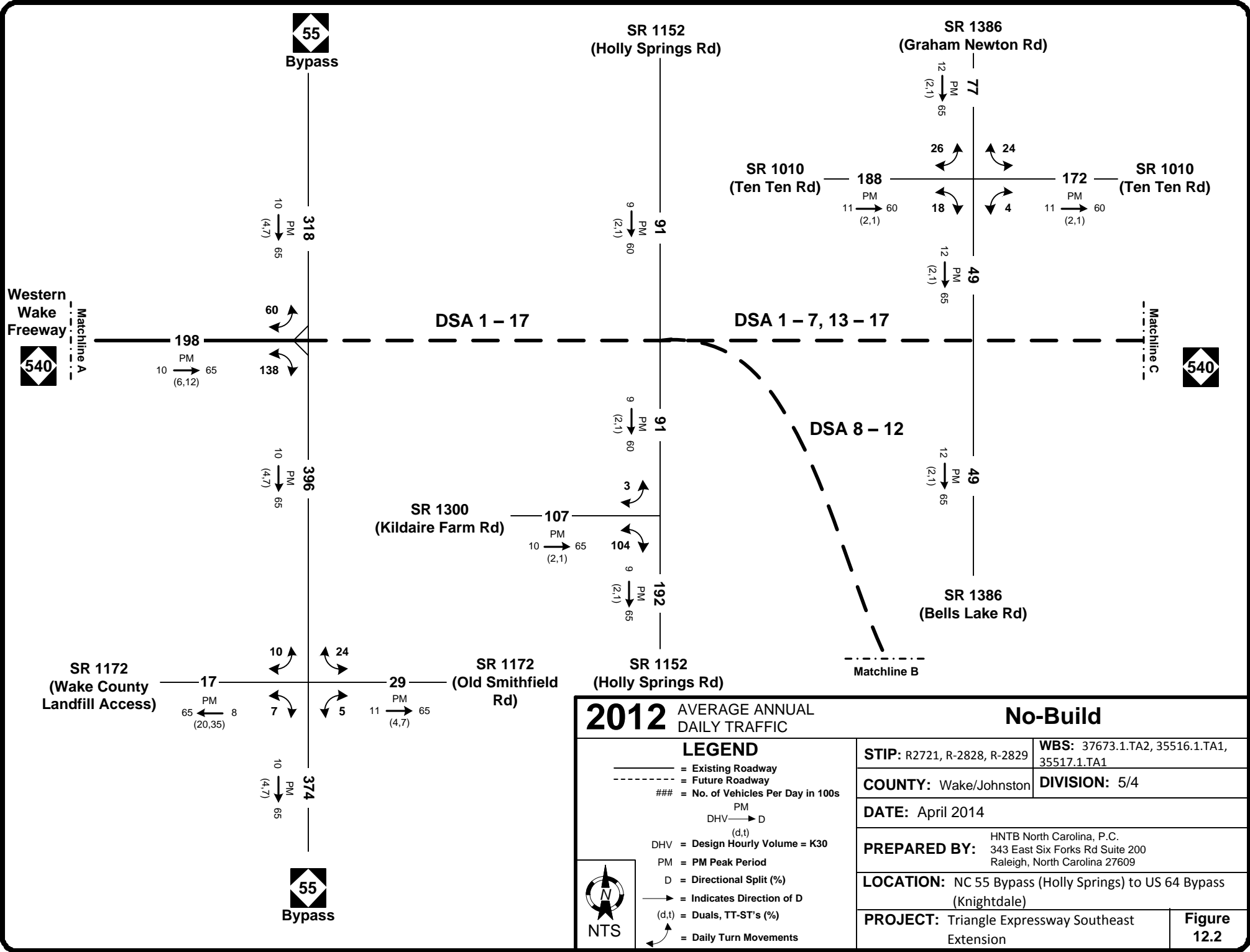
DSA Corridor

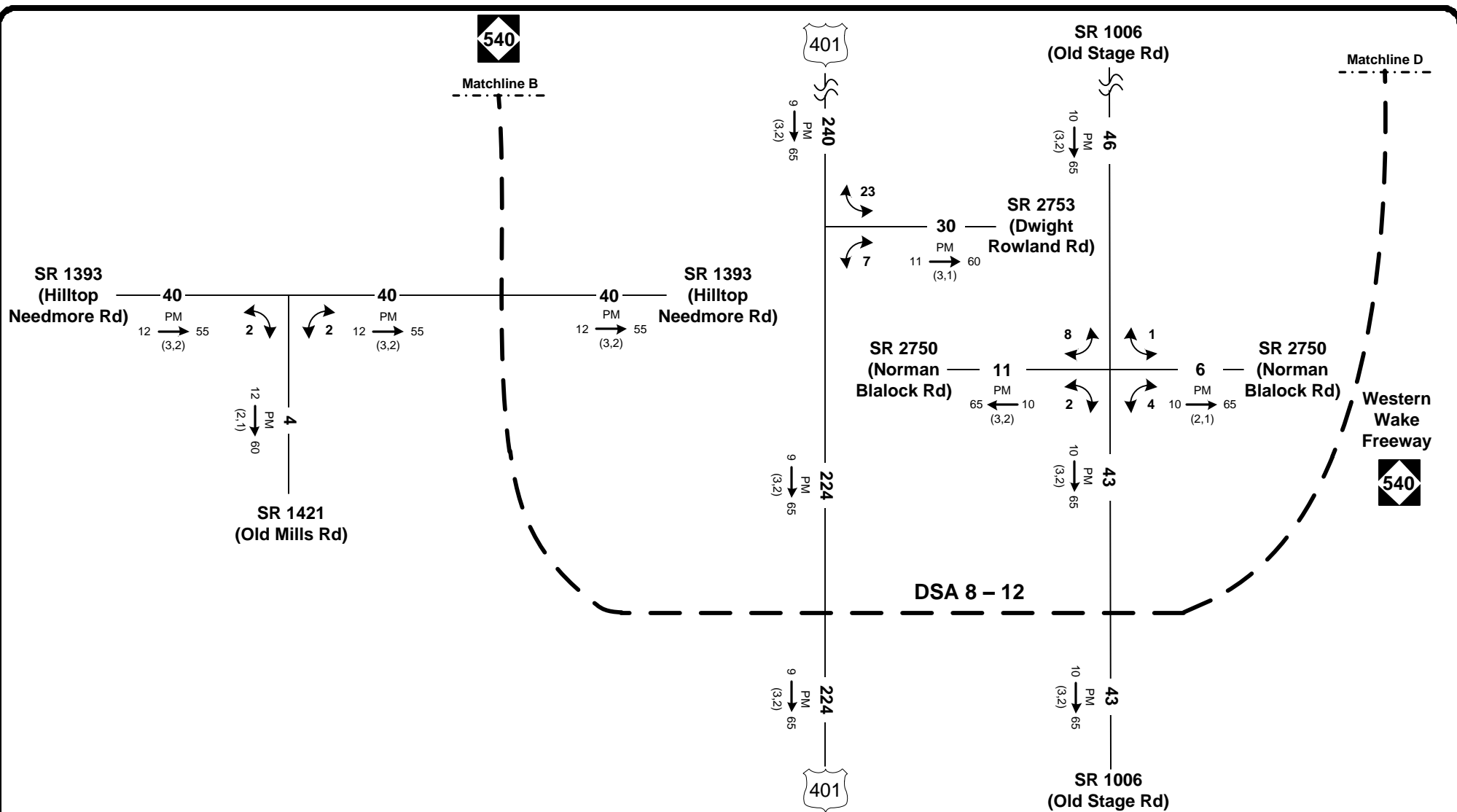
- Green Corridor
- Mint Corridor
- Brown Corridor
- Tan Corridor
- Teal Corridor
- Lilac Corridor
- Blue Corridor
- Purple Corridor

STIP: R-2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 E. Six Forks Rd, Suite 200 Raleigh, NC 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 10



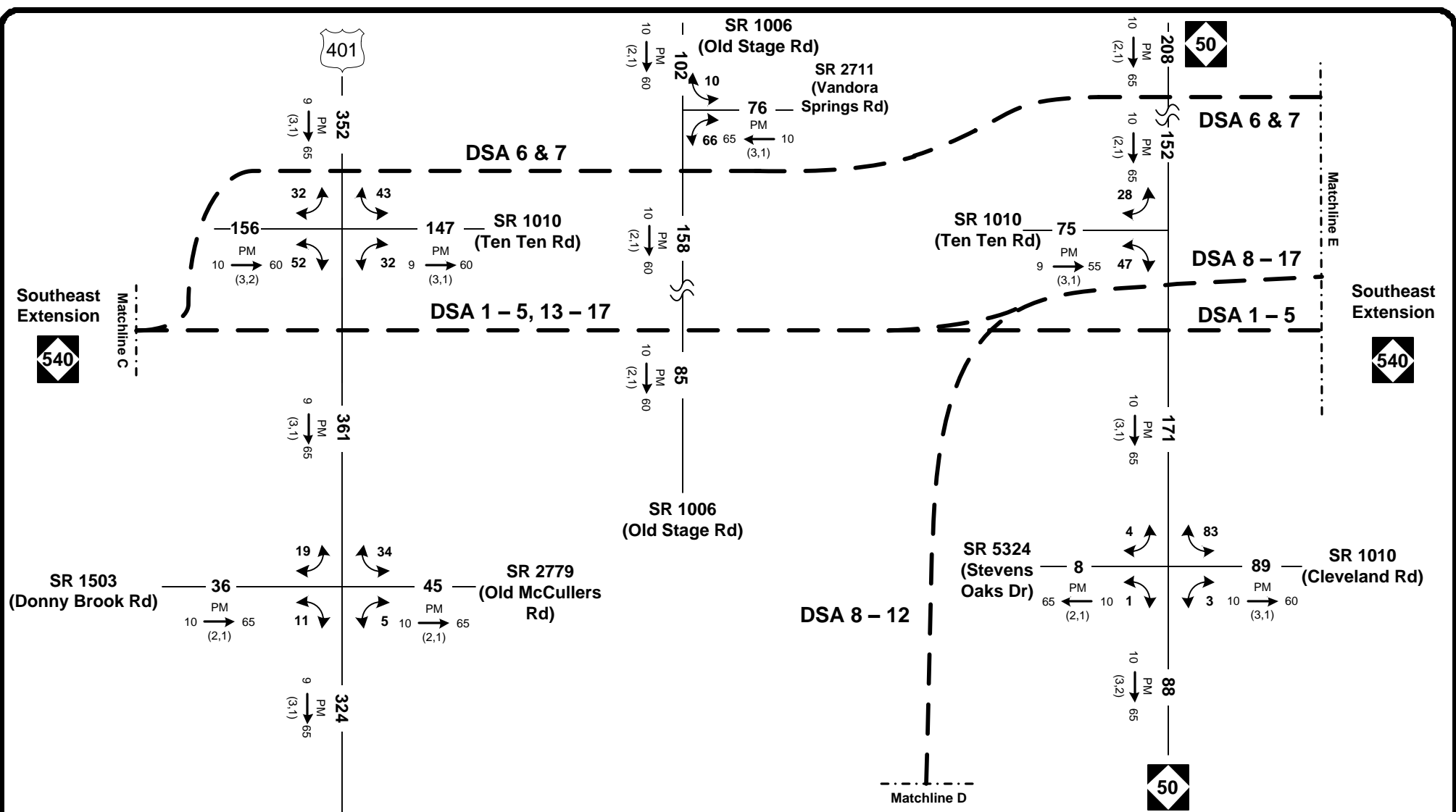
2012 AVERAGE ANNUAL DAILY TRAFFIC		No-Build	
LEGEND		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
—————	= Existing Roadway	COUNTY: Wake/Johnston	DIVISION: 5/4
- - - - -	= Future Roadway	DATE: April 2014	
###	= No. of Vehicles Per Day in 100s	PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
PM		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
DHV → D		PROJECT: Triangle Expressway Southeast Extension	
(d,t)		Figure 12.1	
DHV = Design Hourly Volume = K30			
PM = PM Peak Period			
D = Directional Split (%)			
→ = Indicates Direction of D			
(d,t) = Duals, TT-ST's (%)			
↪ = Daily Turn Movements			




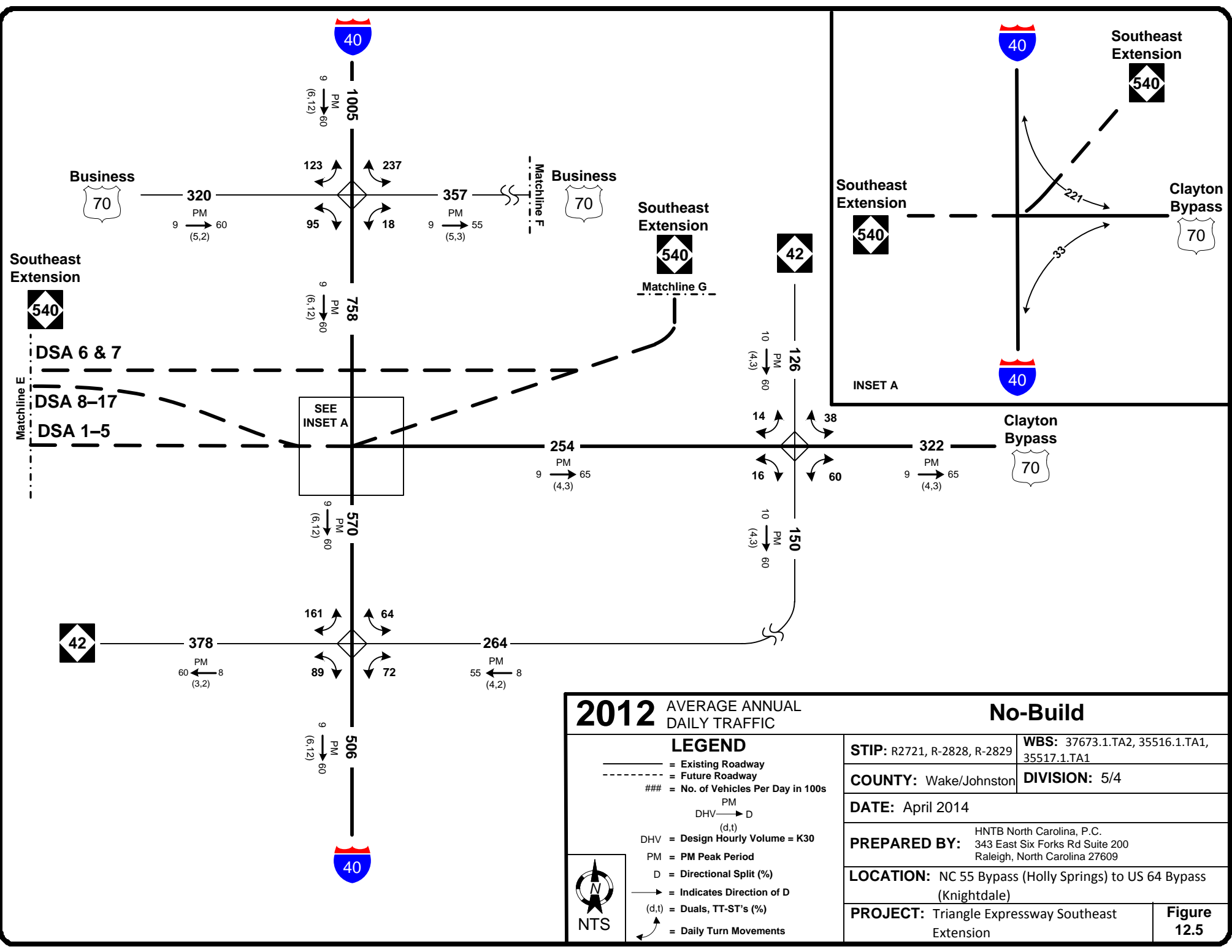



2012 AVERAGE ANNUAL DAILY TRAFFIC		No-Build	
LEGEND		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
— = Existing Roadway	- - - = Future Roadway	COUNTY: Wake/Johnston	DIVISION: 5/4
### = No. of Vehicles Per Day in 100s		DATE: April 2014	
PM DHV → D (d.t)		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
DHV = Design Hourly Volume = K30		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PM = PM Peak Period		PROJECT: Triangle Expressway Southeast Extension	Figure 12.3
D = Directional Split (%)			
→ = Indicates Direction of D			
(d,t) = Duals, TT-ST's (%)			
↪ = Daily Turn Movements			

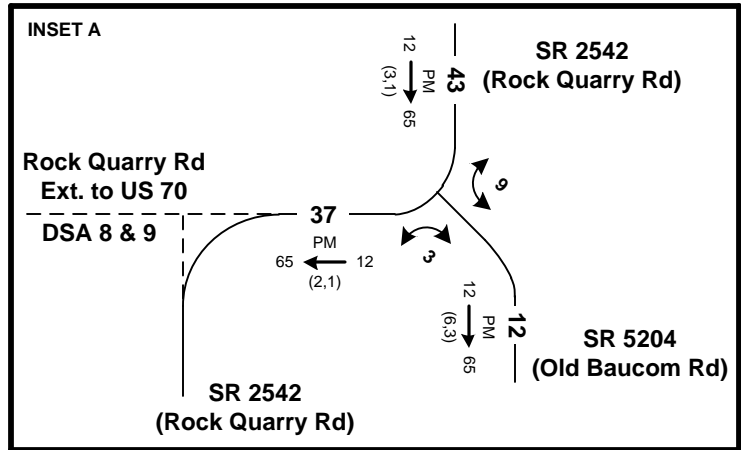
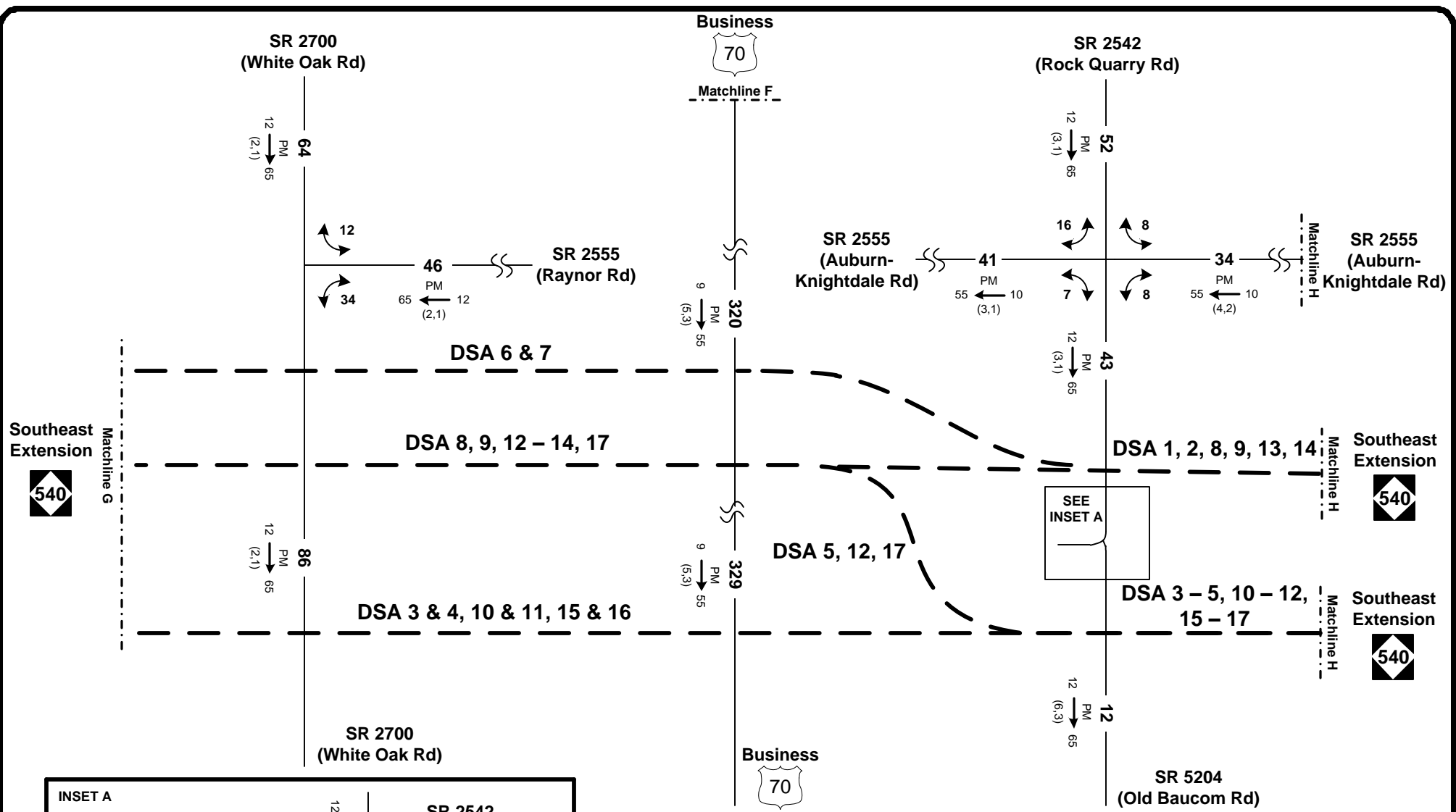




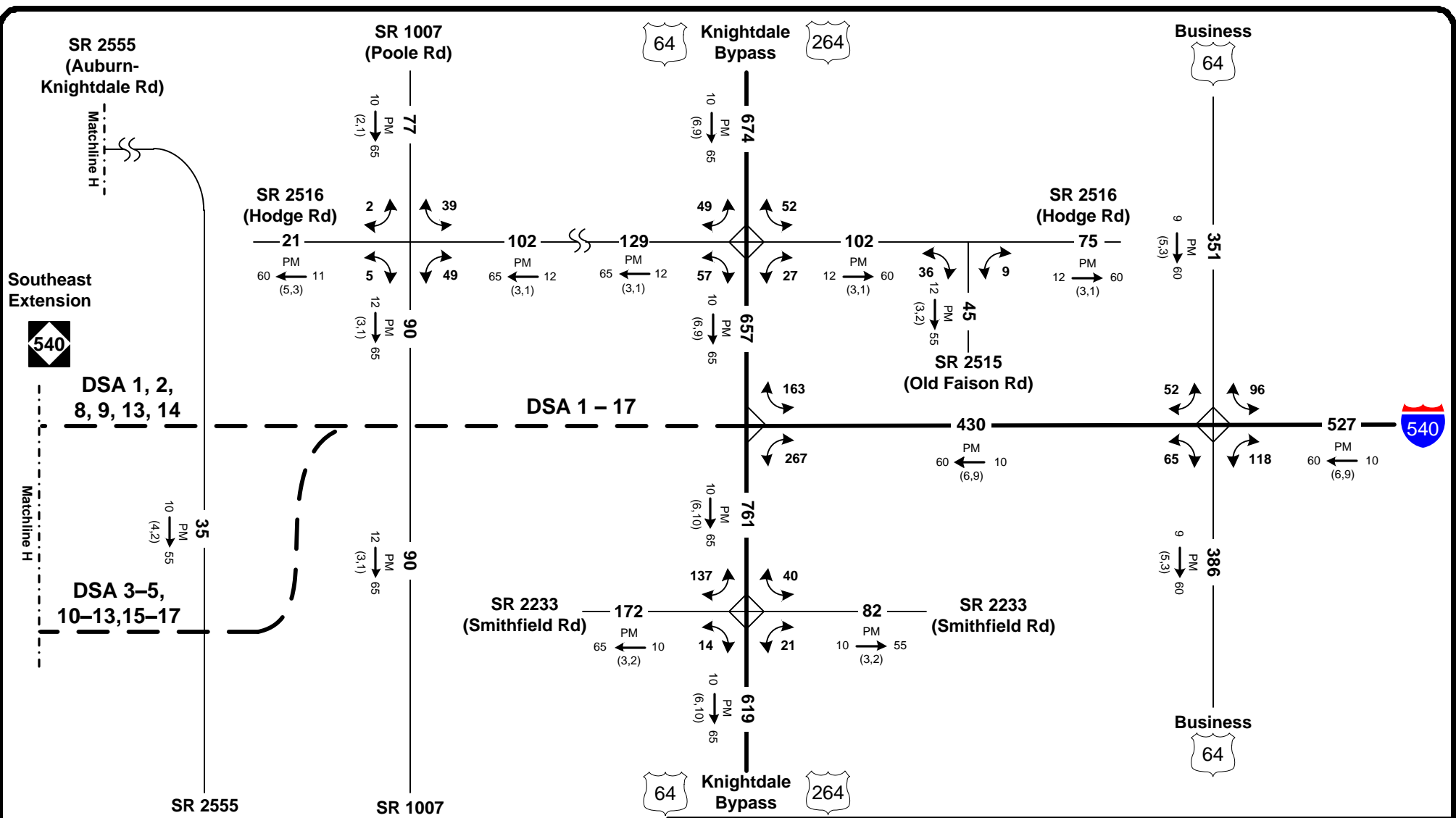
2012 AVERAGE ANNUAL DAILY TRAFFIC		No-Build	
LEGEND		STIP: R2721, R-2828, R-2829	
<ul style="list-style-type: none"> — Existing Roadway - - - Future Roadway ### = No. of Vehicles Per Day in 100s PM DHV → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↻ = Daily Turn Movements 		WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1	
		COUNTY: Wake/Johnston	
		DIVISION: 5/4	
		DATE: April 2014	
		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
		PROJECT: Triangle Expressway Southeast Extension	
		Figure 12.4	



2012 AVERAGE ANNUAL DAILY TRAFFIC		No-Build	
LEGEND		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
— = Existing Roadway	- - - = Future Roadway	COUNTY: Wake/Johnston	DIVISION: 5/4
### = No. of Vehicles Per Day in 100s	PM DHV → D (d,t)	DATE: April 2014	
DHV = Design Hourly Volume = K30	PM = PM Peak Period	PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
D = Directional Split (%)	→ Indicates Direction of D	LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
(d,t) = Duals, TT-ST's (%)	↶ = Daily Turn Movements	PROJECT: Triangle Expressway Southeast Extension	
 NTS		Figure 12.5	

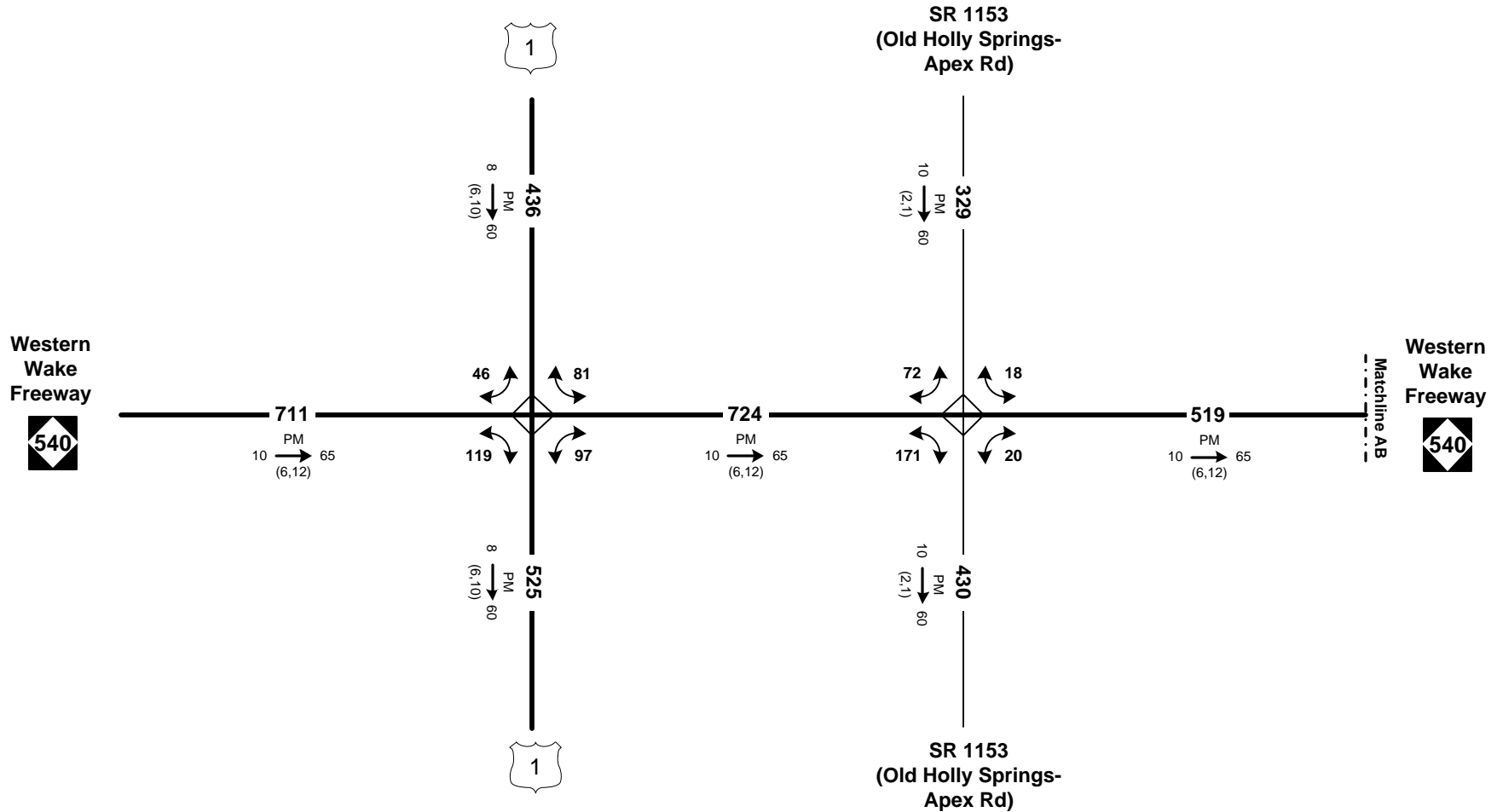


2012 AVERAGE ANNUAL DAILY TRAFFIC		No-Build	
LEGEND — Existing Roadway - - - Future Roadway ### = No. of Vehicles Per Day in 100s PM DHV → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↻ = Daily Turn Movements		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
		COUNTY: Wake/Johnston	DIVISION: 5/4
		DATE: April 2014	
		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
		PROJECT: Triangle Expressway Southeast Extension	Figure 12.6



2012 AVERAGE ANNUAL DAILY TRAFFIC		No-Build	
LEGEND		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
—	= Existing Roadway	COUNTY: Wake/Johnston	DIVISION: 5/4
- - - -	= Future Roadway	DATE: April 2014	
###	= No. of Vehicles Per Day in 100s	PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
PM	DHV → D	LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
(d,t)		PROJECT: Triangle Expressway Southeast	
DHV = Design Hourly Volume = K30		Figure 12.7	
PM = PM Peak Period			
D = Directional Split (%)			
→ = Indicates Direction of D			
(d,t) = Duals, TT-ST's (%)			
↔ = Daily Turn Movements			





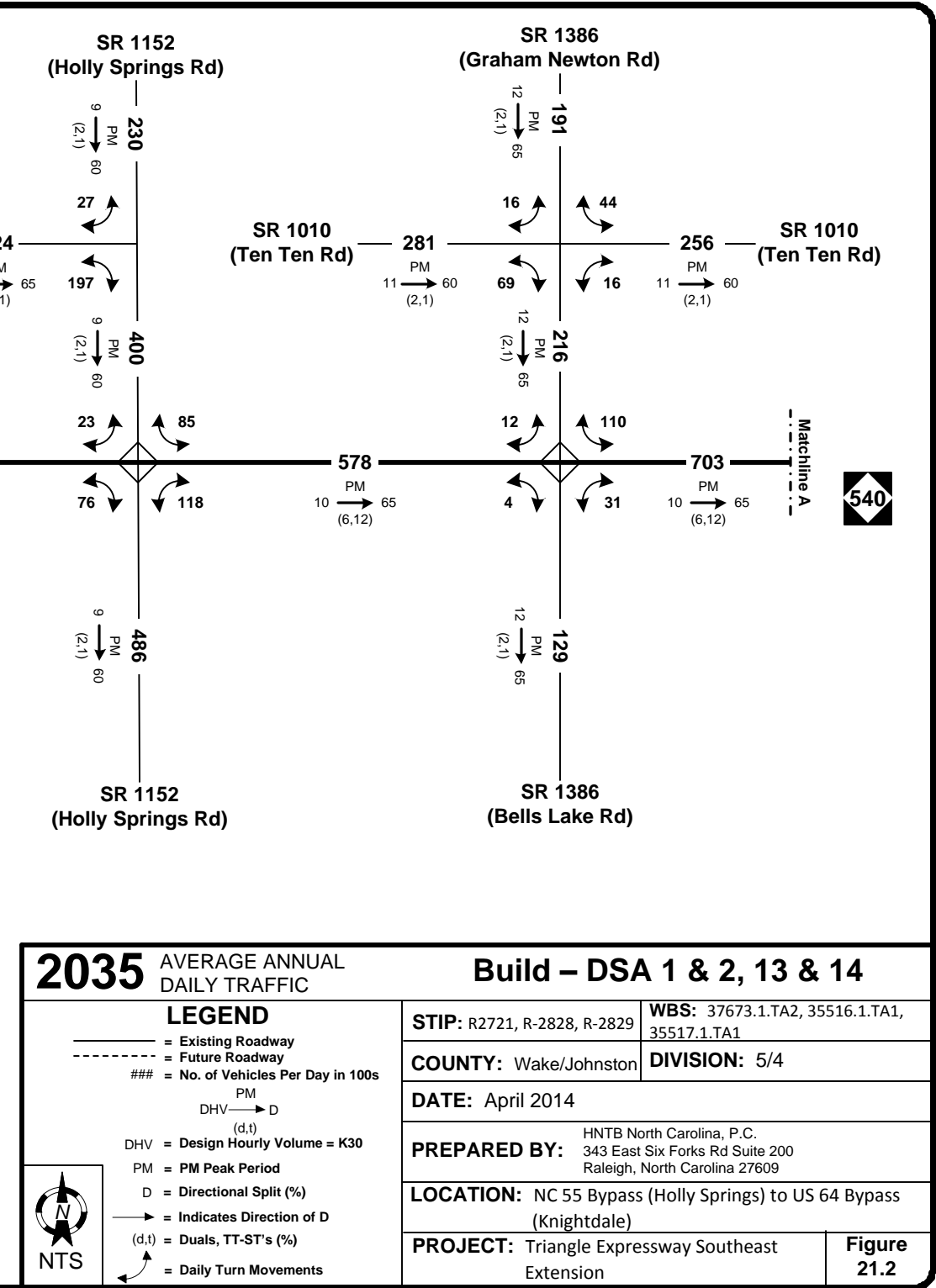
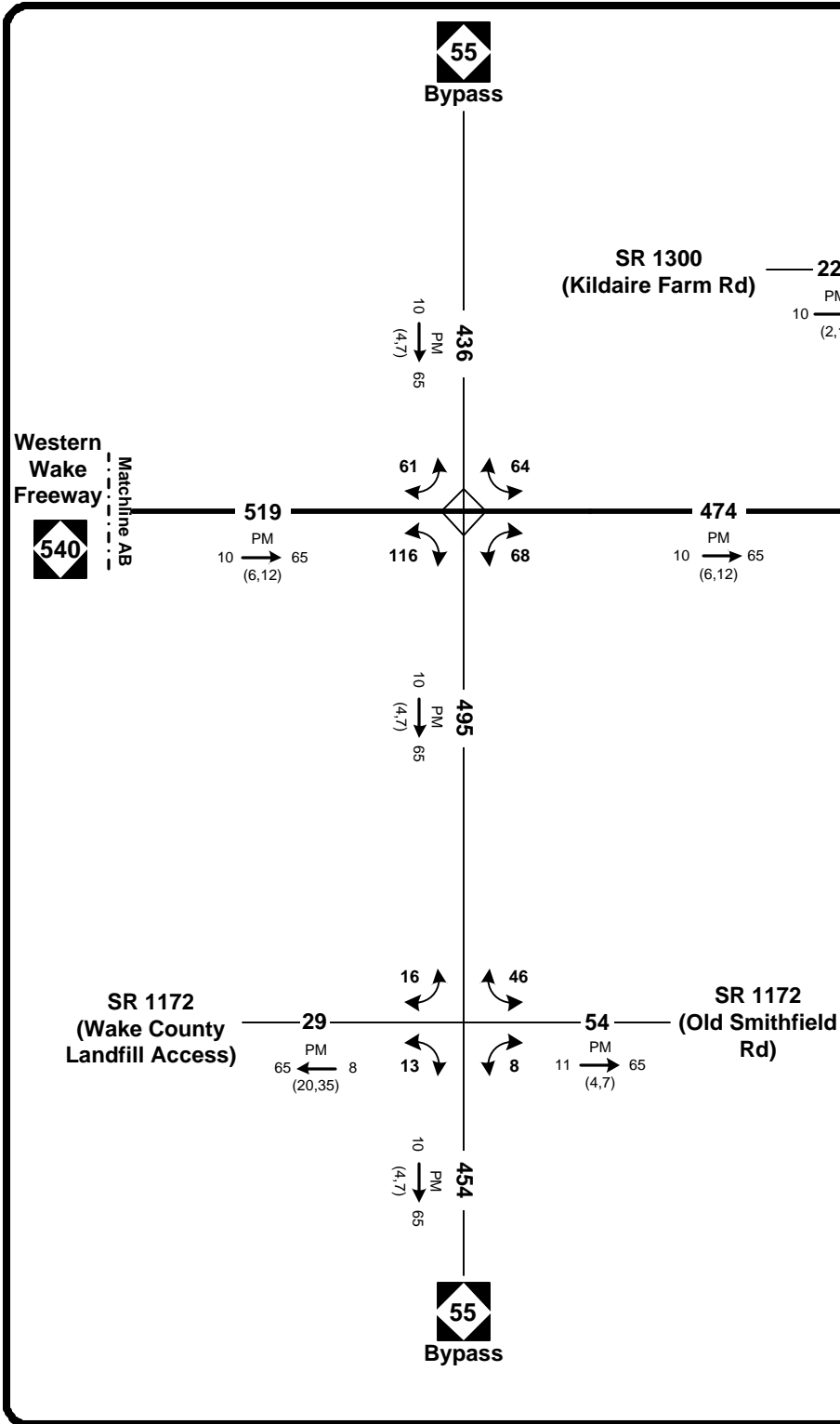
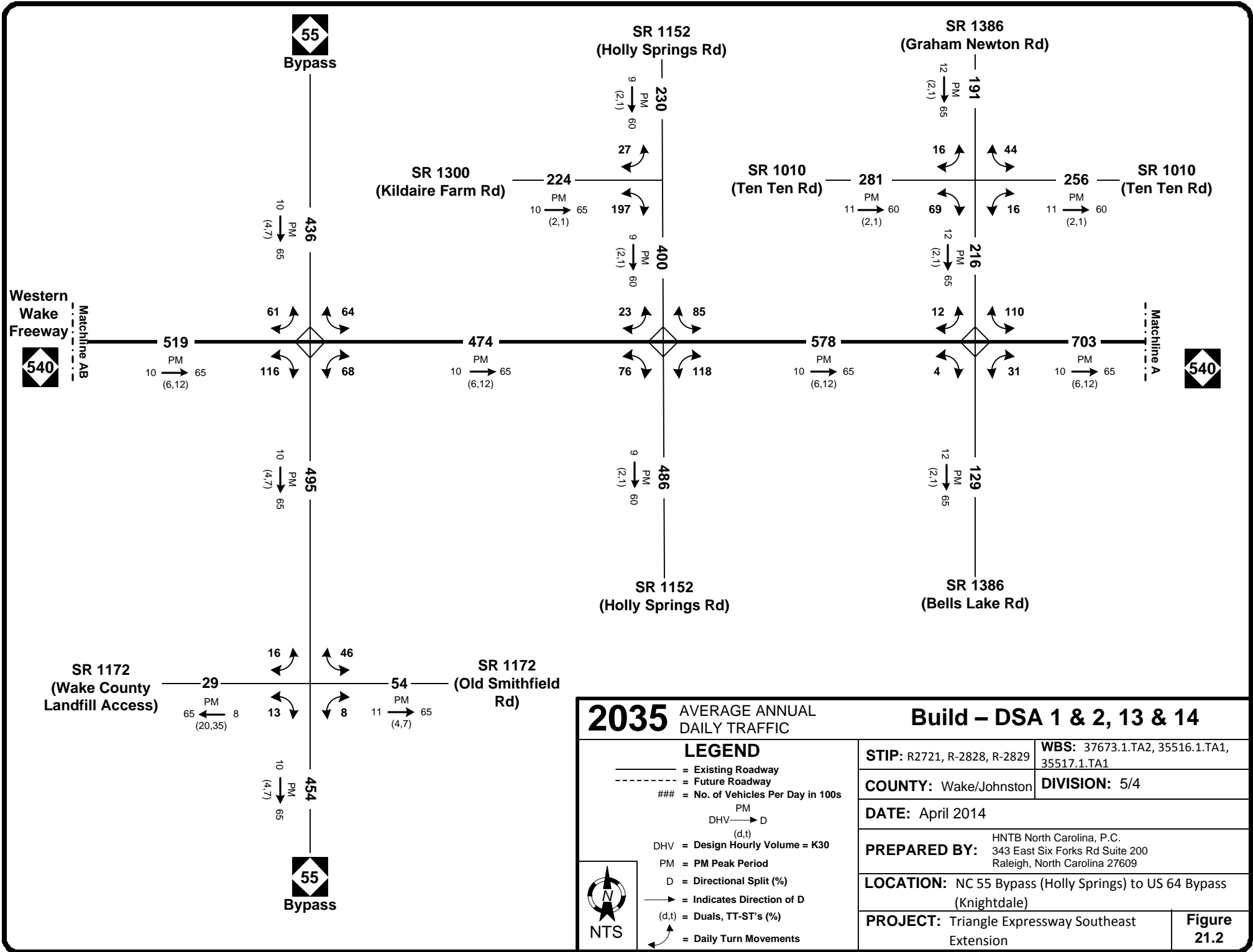
2035 AVERAGE ANNUAL DAILY TRAFFIC

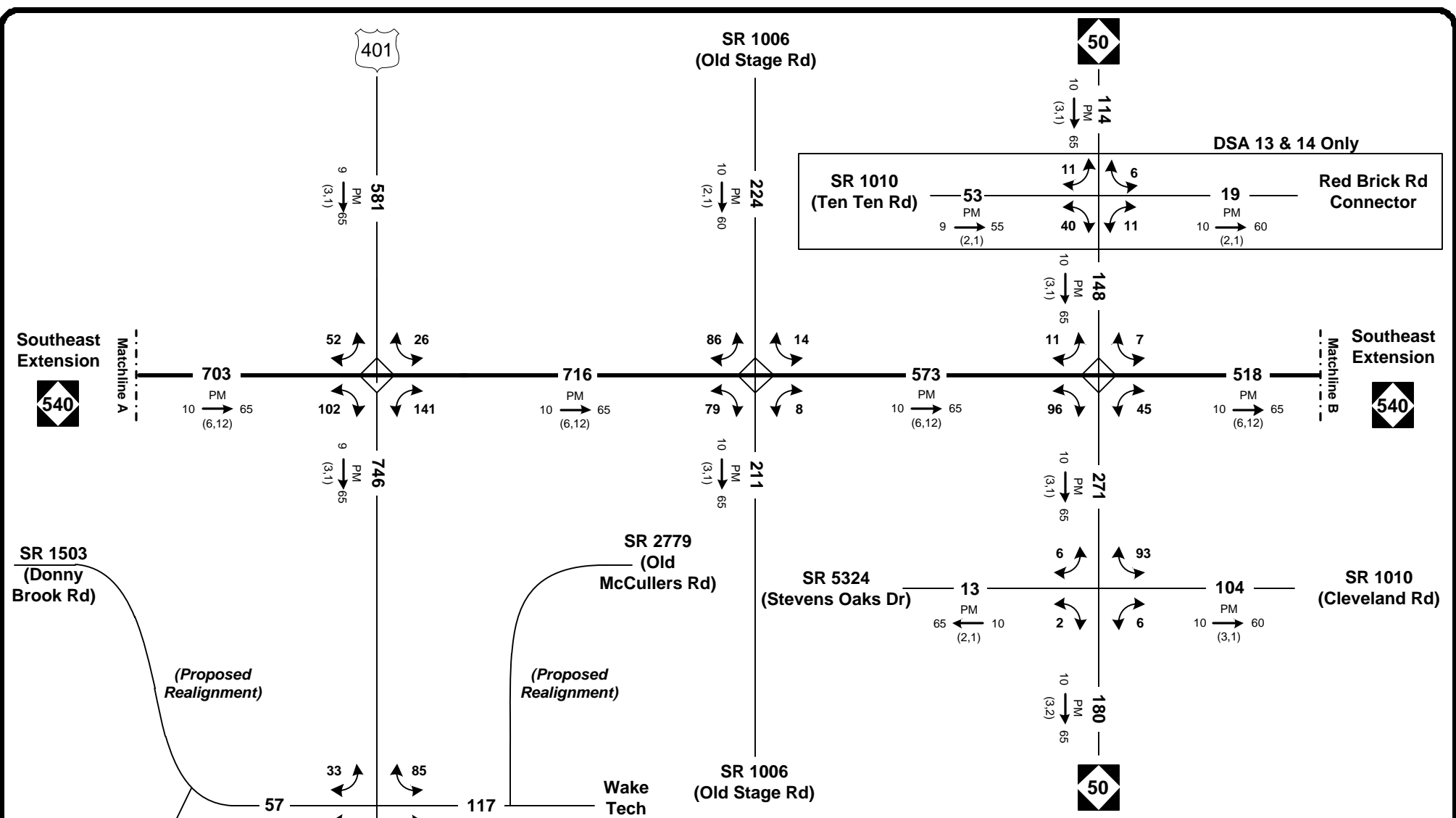
Build – DSA 1 & 2, 13 & 14

- LEGEND**
- = Existing Roadway
 - - - - - = Future Roadway
 - ### = No. of Vehicles Per Day in 100s
 - PM
DHV → D
(d,t)
 - DHV = Design Hourly Volume = K30
 - PM = PM Peak Period
 - D = Directional Split (%)
 - = Indicates Direction of D
 - (d,t) = Duals, TT-ST's (%)
 - ↻ = Daily Turn Movements




STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 21.1

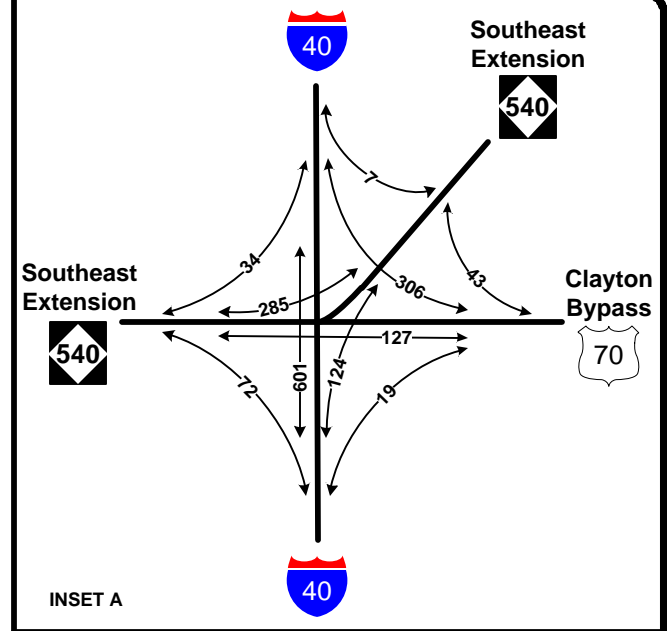
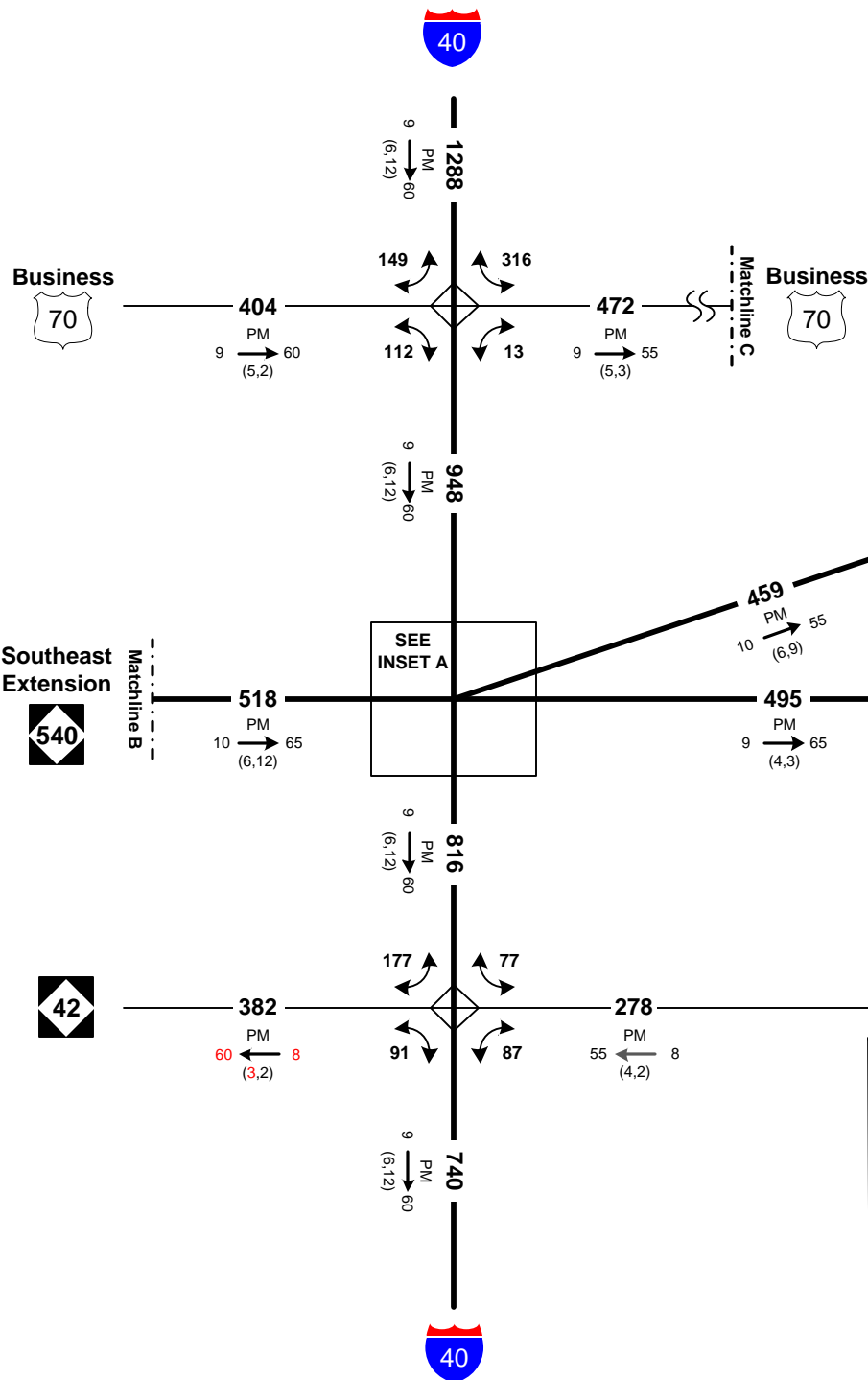




2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 1 & 2, 13 & 14

LEGEND		STIP: R2721, R-2828, R-2829		WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1	
<ul style="list-style-type: none"> — = Existing Roadway - - - = Future Roadway ### = No. of Vehicles Per Day in 100s PM → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → = Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↻ = Daily Turn Movements 		COUNTY: Wake/Johnston		DIVISION: 5/4	
		DATE: April 2014			
		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609			
		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)			
		PROJECT: Triangle Expressway Southeast Extension			Figure 21.3



2035 AVERAGE ANNUAL DAILY TRAFFIC

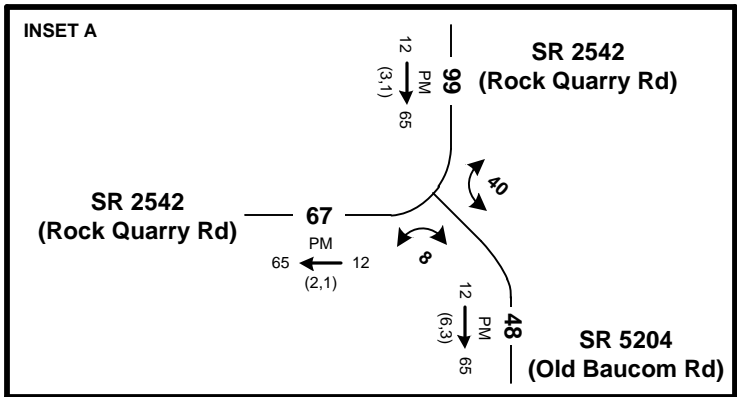
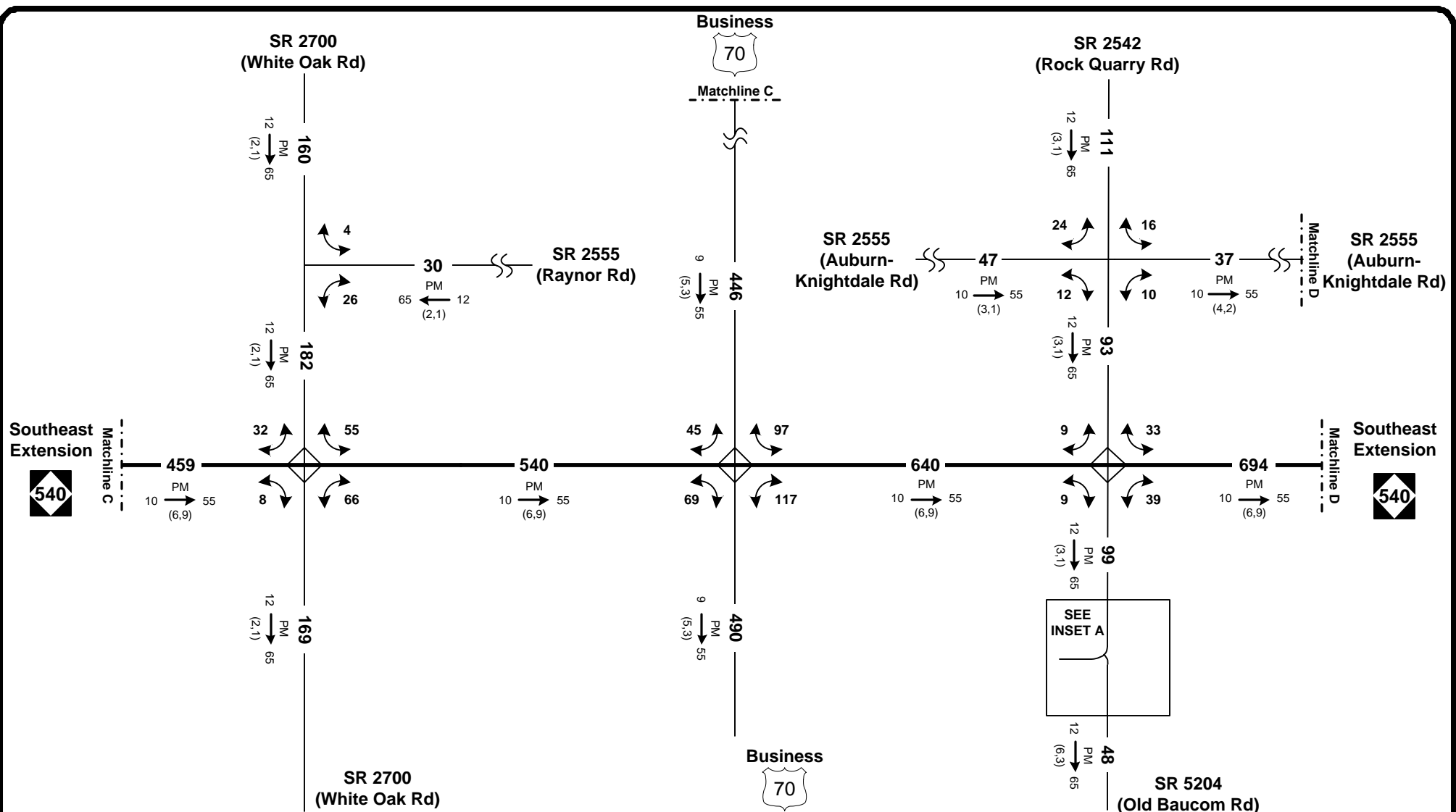
Build – DSA 1 & 2, 13 & 14

STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 21.4

LEGEND

- Existing Roadway
- - - Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM
DHV → D
(d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↷ = Daily Turn Movements

NTS



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 1 & 2, 13 & 14

LEGEND

- Existing Roadway
- - - Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↻ = Daily Turn Movements

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

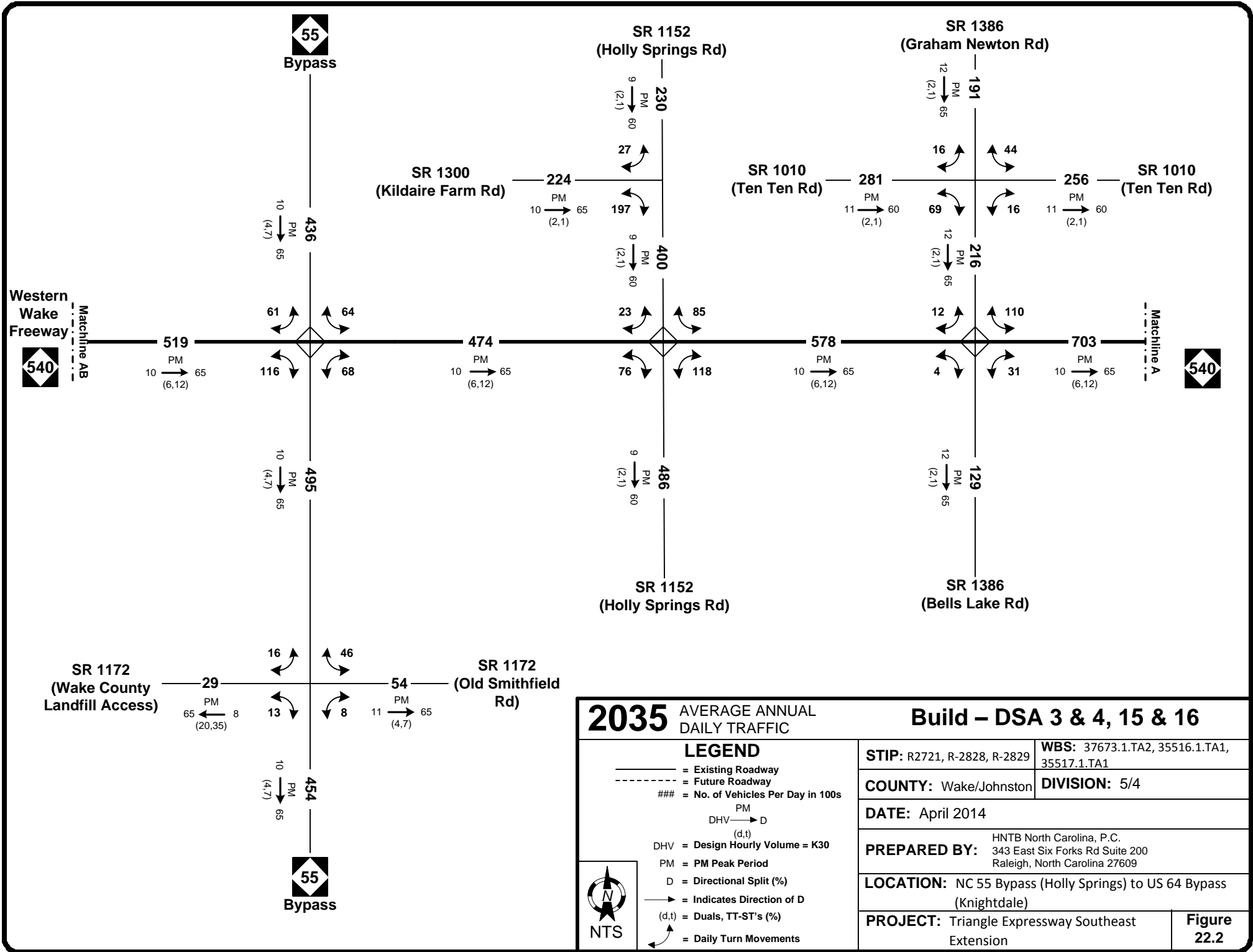
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 21.5



2035 AVERAGE ANNUAL DAILY TRAFFIC

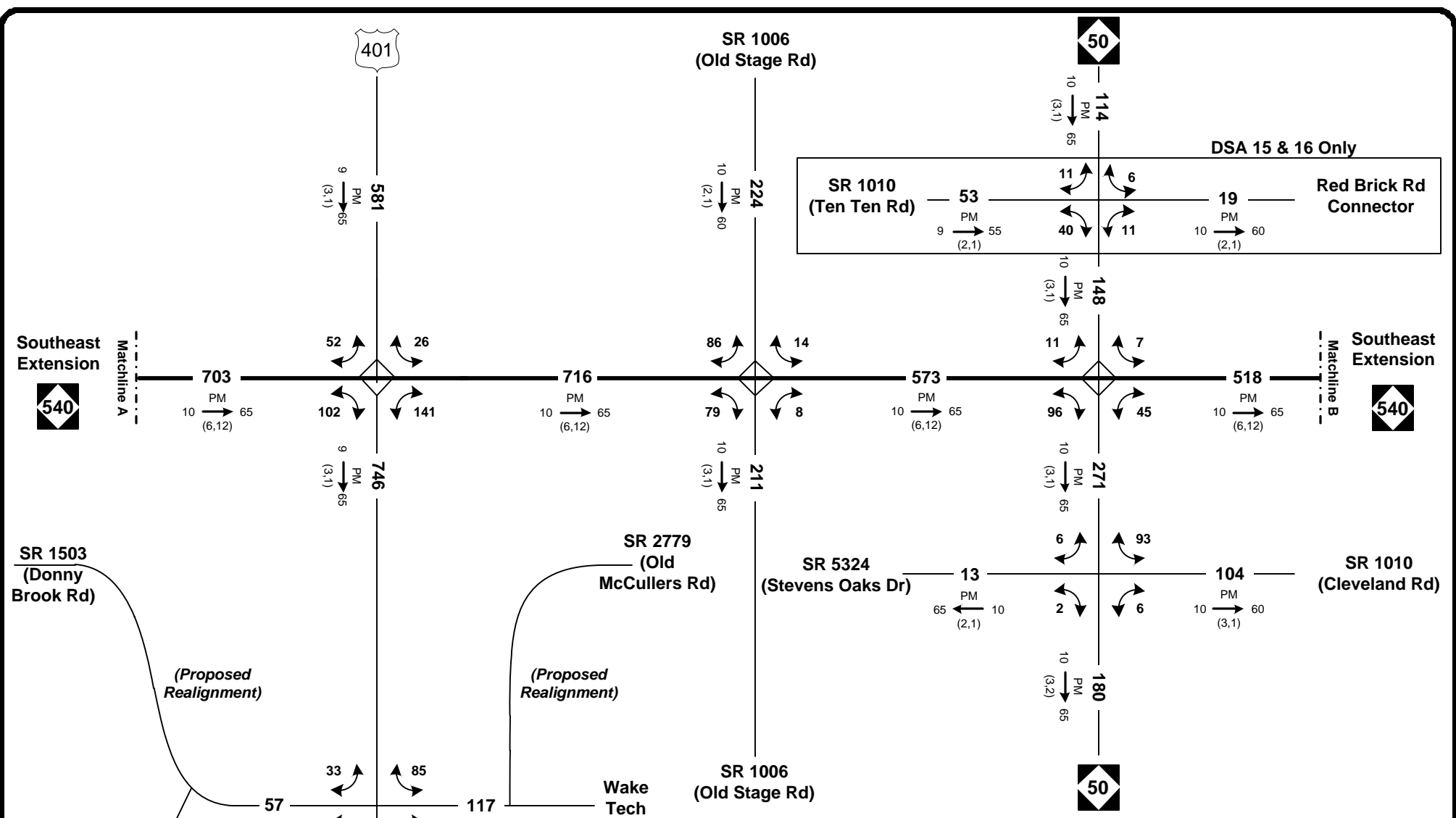
Build – DSA 3 & 4, 15 & 16

STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 22.2

LEGEND

- Existing Roadway
- - - Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↻ = Daily Turn Movements

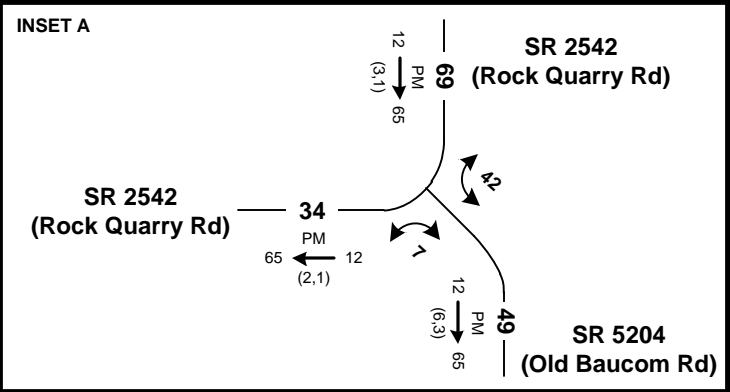
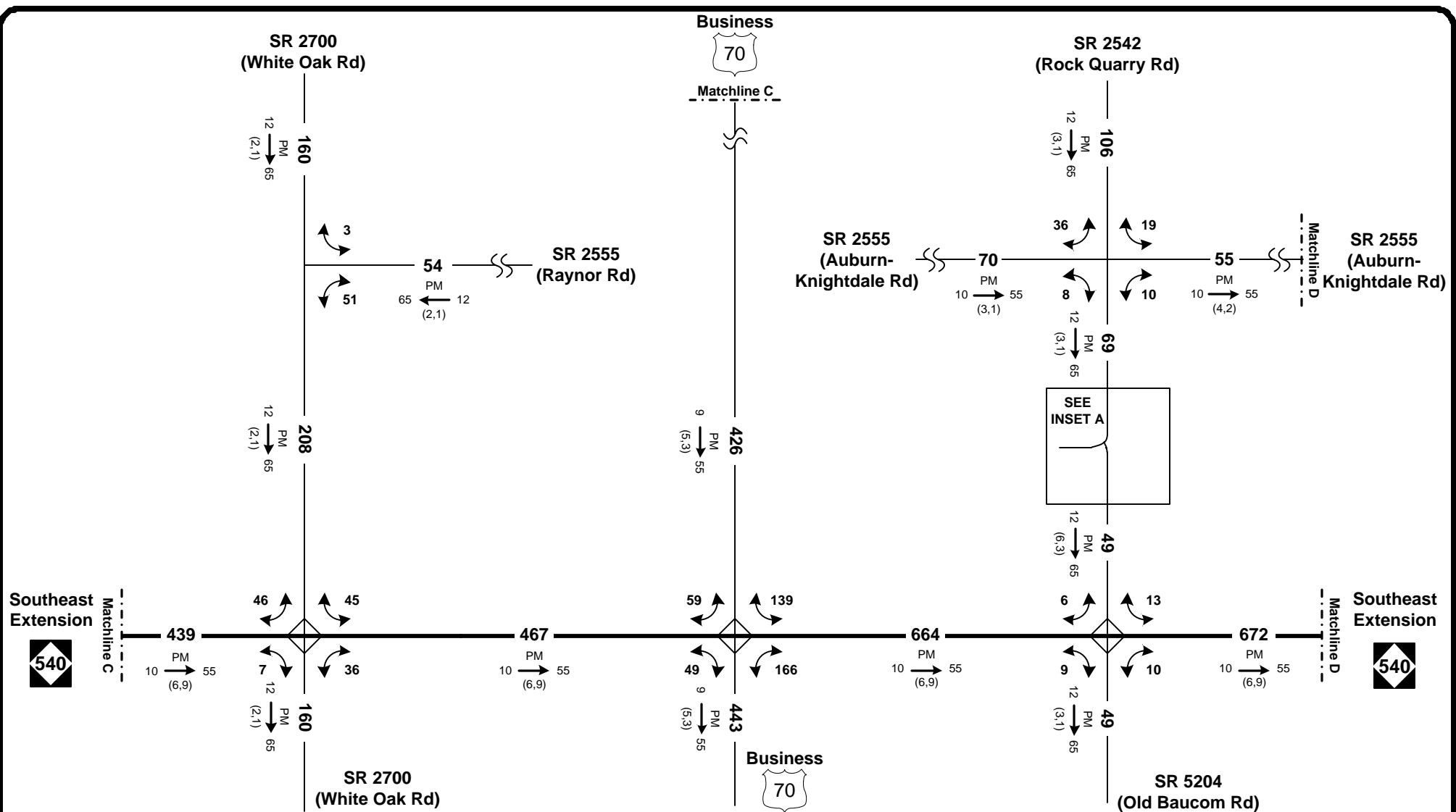
NTS



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 3 & 4, 15 & 16

<p>LEGEND</p> <p>— Existing Roadway</p> <p>- - - Future Roadway</p> <p>### = No. of Vehicles Per Day in 100s</p> <p>PM DHV → D (d,t)</p> <p>DHV = Design Hourly Volume = K30</p> <p>PM = PM Peak Period</p> <p>D = Directional Split (%)</p> <p>→ Indicates Direction of D</p> <p>(d,t) = Duals, TT-ST's (%)</p> <p>↻ = Daily Turn Movements</p>		<p>STIP: R2721, R-2828, R-2829</p> <p>WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1</p> <p>COUNTY: Wake/Johnston</p> <p>DIVISION: 5/4</p> <p>DATE: April 2014</p> <p>PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609</p> <p>LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)</p> <p>PROJECT: Triangle Expressway Southeast Extension</p>
<p>NTS</p>		<p>Figure 22.3</p>



2035 AVERAGE ANNUAL DAILY TRAFFIC

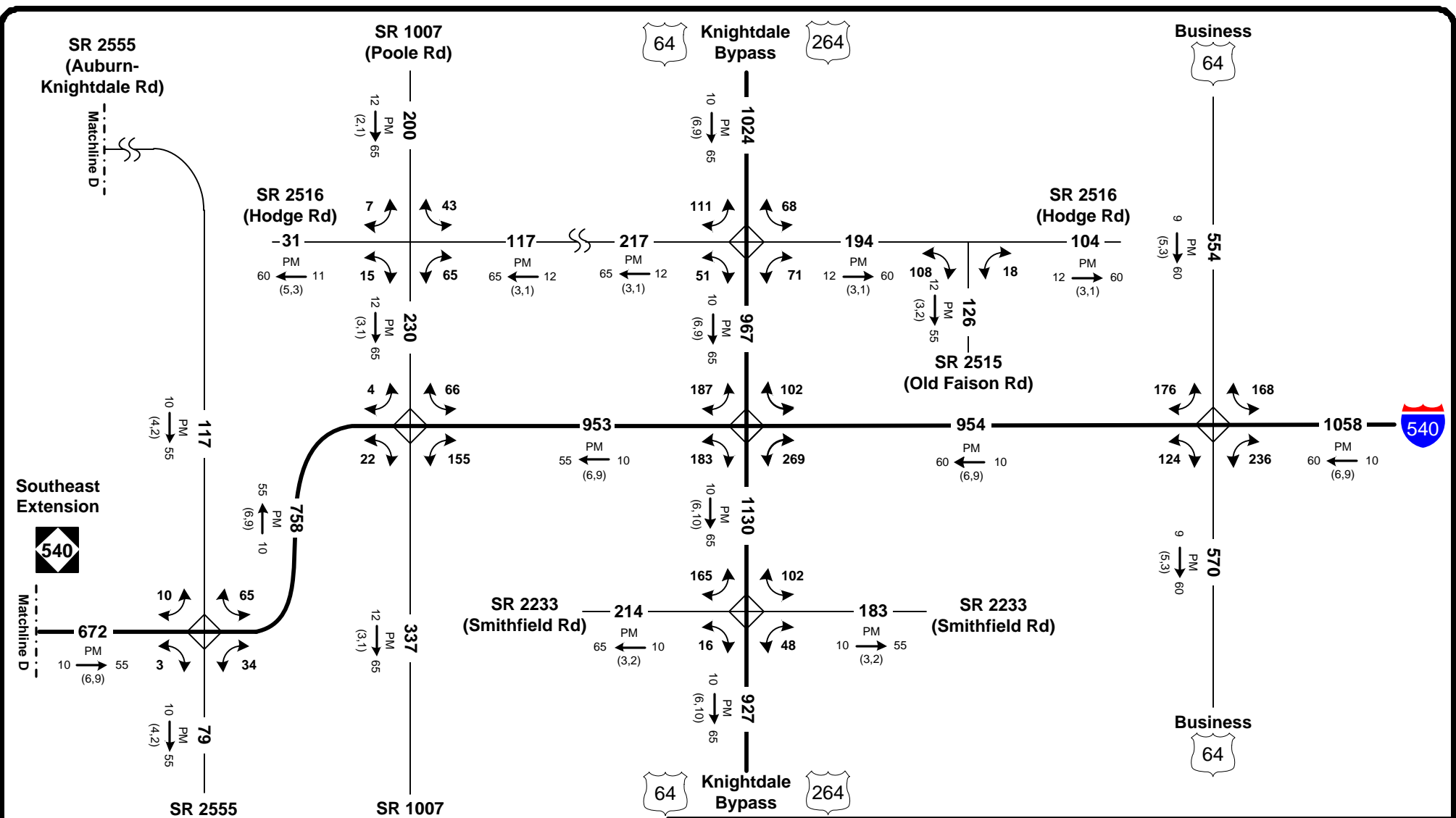
Build – DSA 3 & 4, 15 & 16


LEGEND

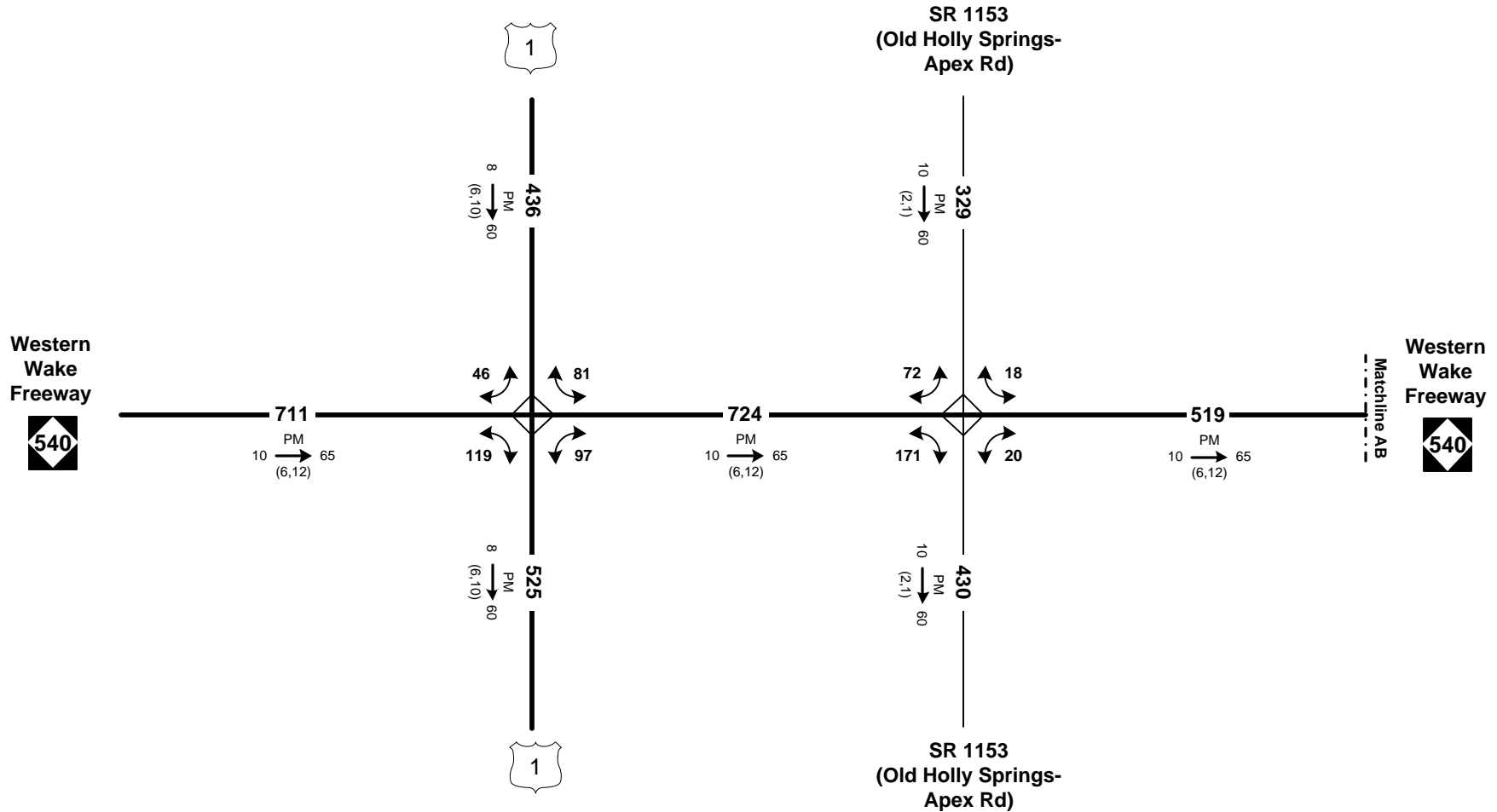
- Existing Roadway
- - - Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↔ = Daily Turn Movements



NTS

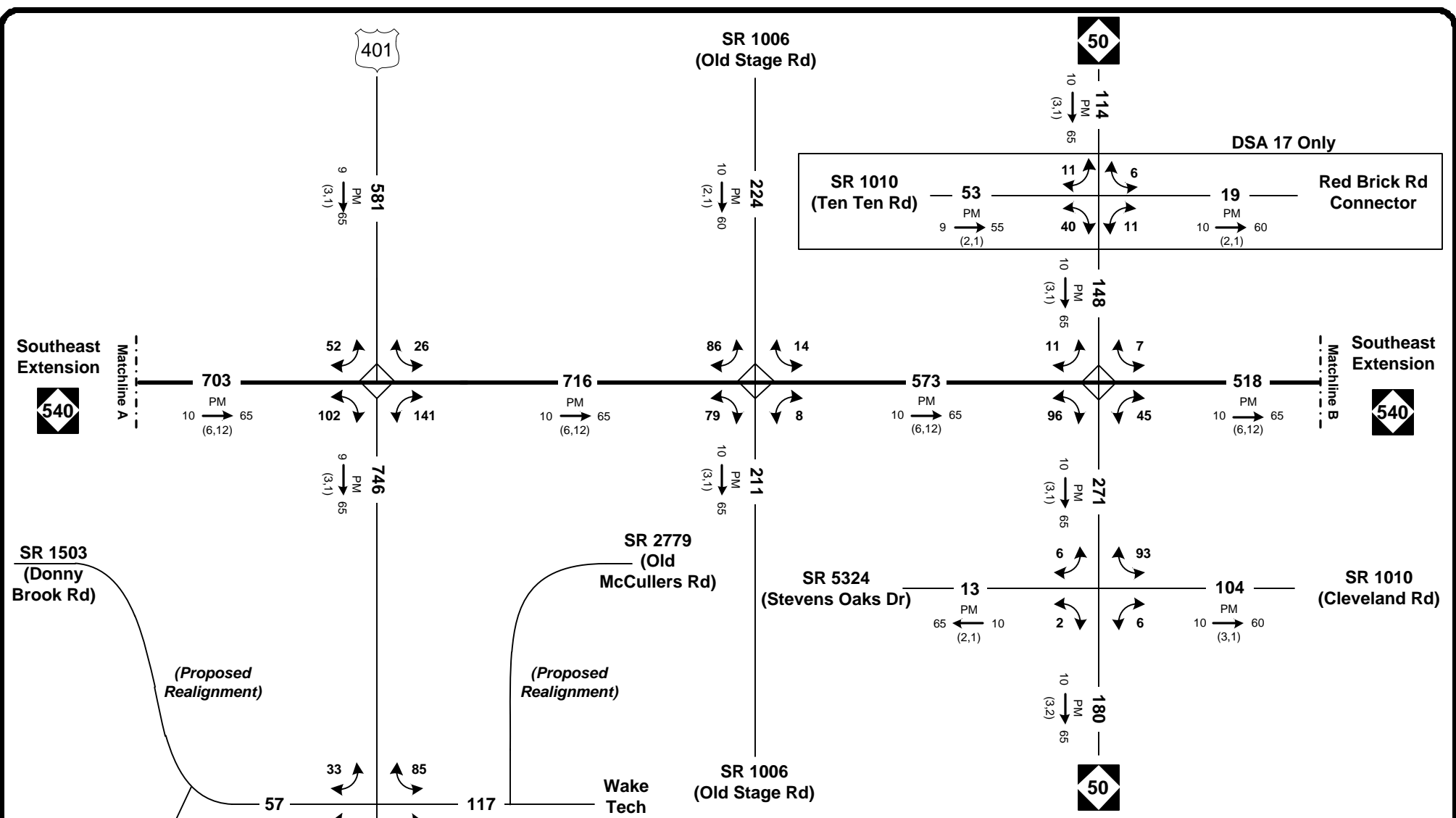
STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 22.5



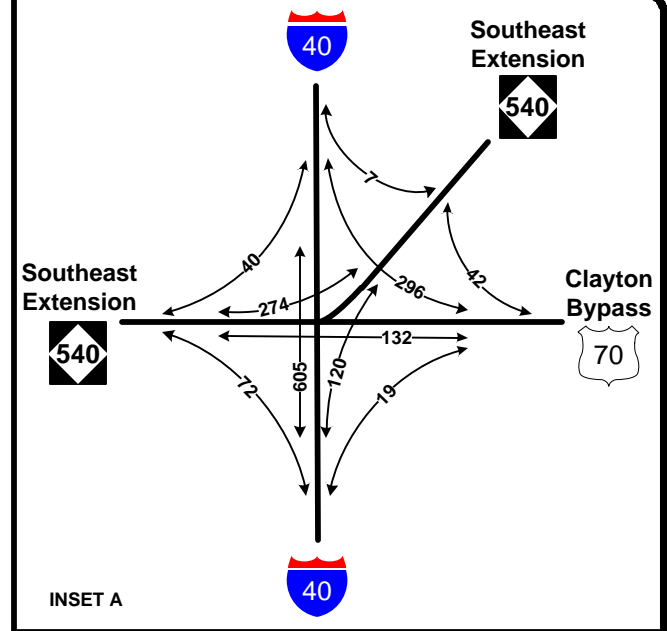
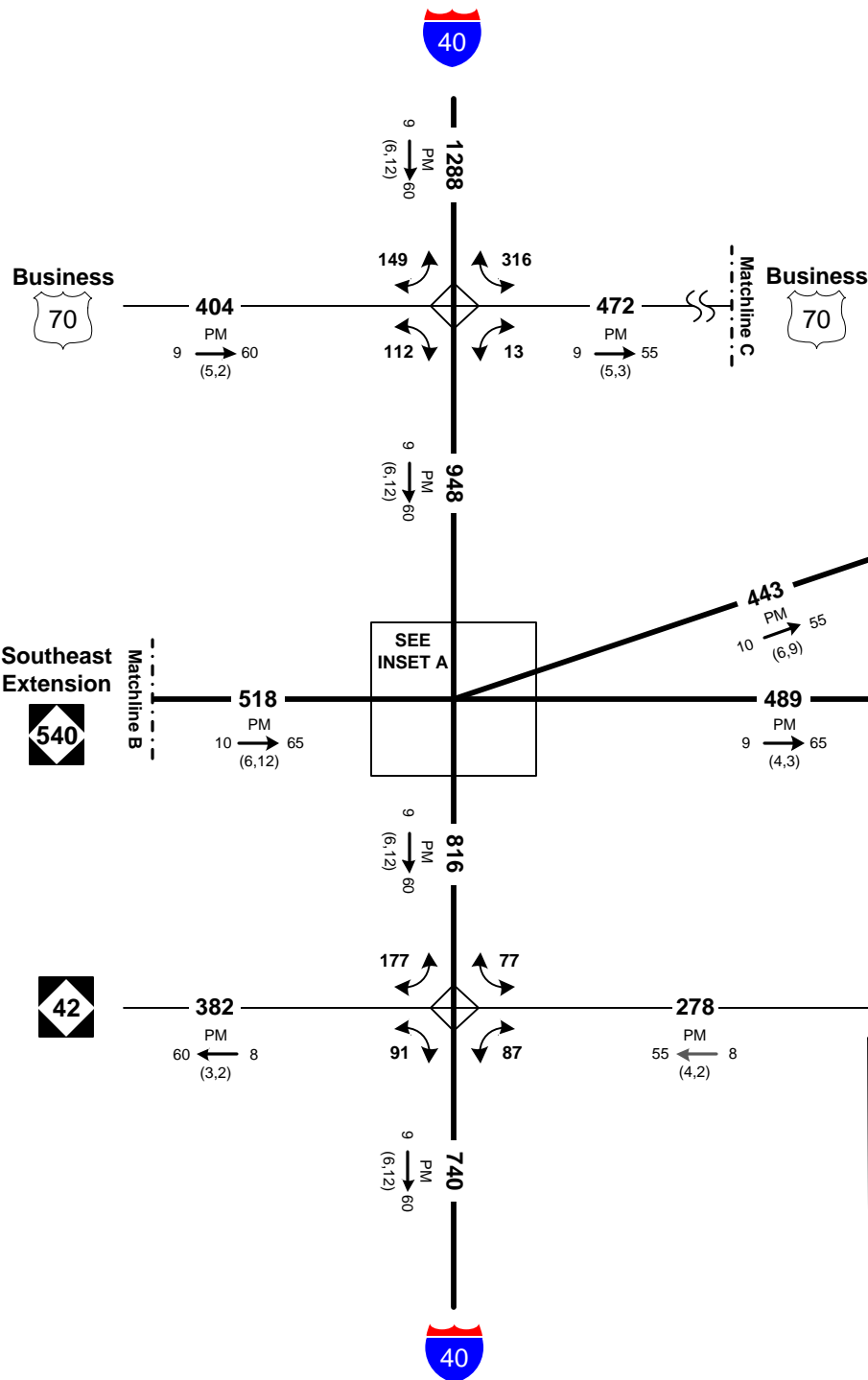
2035 AVERAGE ANNUAL DAILY TRAFFIC		Build – DSA 3 & 4, 15 & 16	
LEGEND		STIP: R2721, R-2828, R-2829	
<ul style="list-style-type: none"> — = Existing Roadway - - - = Future Roadway ### = No. of Vehicles Per Day in 100s PM DHV → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → = Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↻ = Daily Turn Movements 		WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1	
 NTS		COUNTY: Wake/Johnston	
		DATE: April 2014	
		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
		PROJECT: Triangle Expressway Southeast	
		DIVISION: 5/4	
		Figure 22.6	



2035 AVERAGE ANNUAL DAILY TRAFFIC		Build – DSA 5 & 17	
LEGEND — = Existing Roadway - - - = Future Roadway ### = No. of Vehicles Per Day in 100s PM DHV → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → = Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↻ = Daily Turn Movements		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
		COUNTY: Wake/Johnston	DIVISION: 5/4
		DATE: April 2014	
		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
		PROJECT: Triangle Expressway Southeast Extension	Figure 23.1

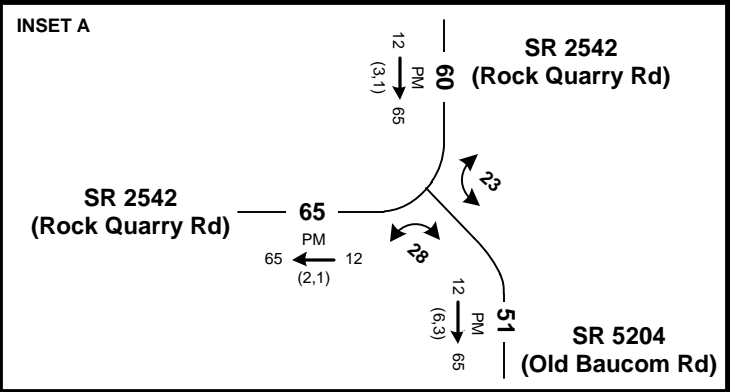
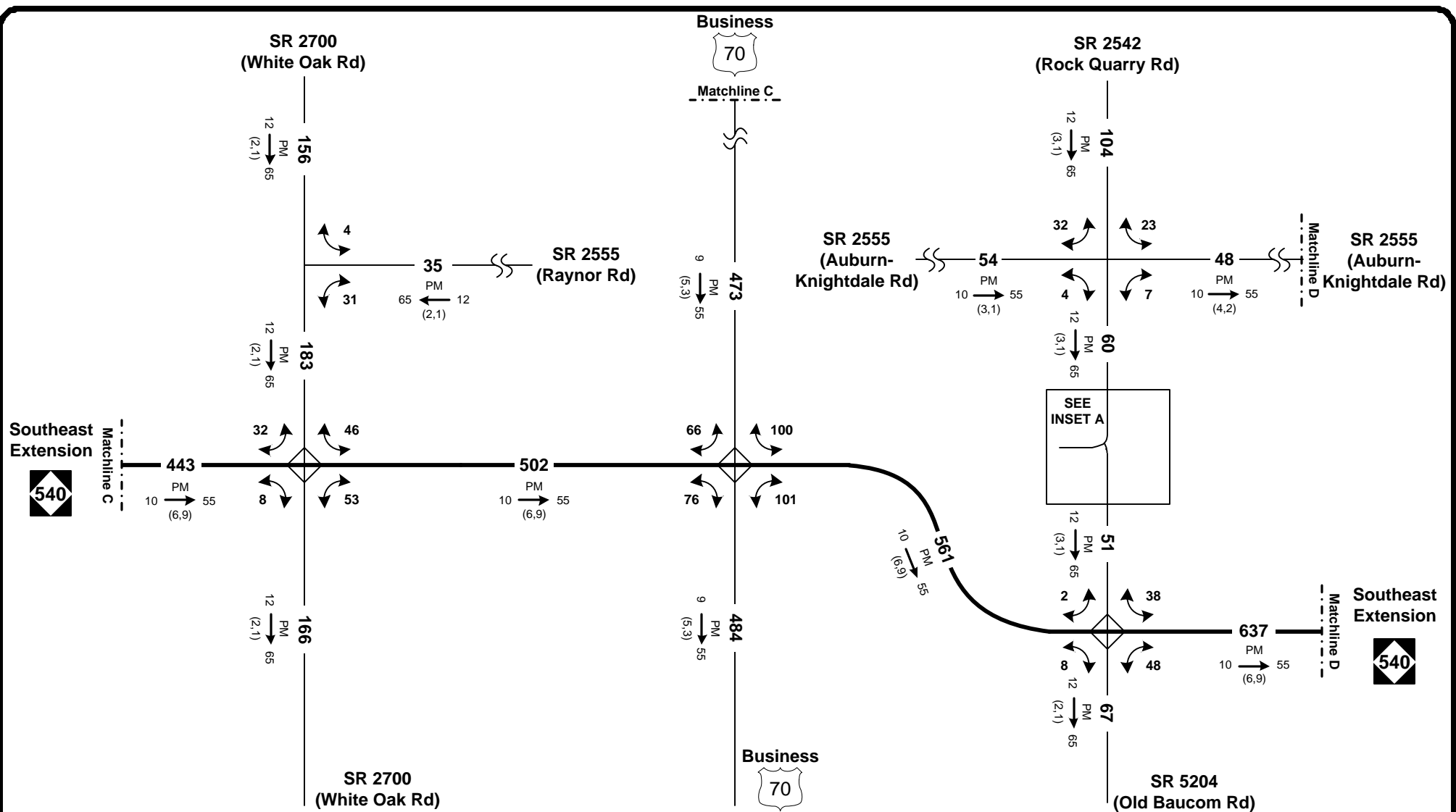


2035 AVERAGE ANNUAL DAILY TRAFFIC		Build – DSA 5 & 17	
LEGEND — Existing Roadway - - - Future Roadway ### = No. of Vehicles Per Day in 100s PM → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↻ = Daily Turn Movements		STIP: R2721, R-2828, R-2829 WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1 COUNTY: Wake/Johnston DIVISION: 5/4 DATE: April 2014	PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609 LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale) PROJECT: Triangle Expressway Southeast Extension
		Figure 23.3	



2035 AVERAGE ANNUAL DAILY TRAFFIC		Build – DSA 5 & 17	
LEGEND		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
— = Existing Roadway	- - - = Future Roadway	COUNTY: Wake/Johnston	DIVISION: 5/4
### = No. of Vehicles Per Day in 100s		DATE: April 2014	
PM DHV → D (d,t)		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
DHV = Design Hourly Volume = K30		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PM = PM Peak Period		PROJECT: Triangle Expressway Southeast Extension	Figure 23.4
D = Directional Split (%)			
→ = Indicates Direction of D			
(d,t) = Duals, TT-ST's (%)			
↪ = Daily Turn Movements			

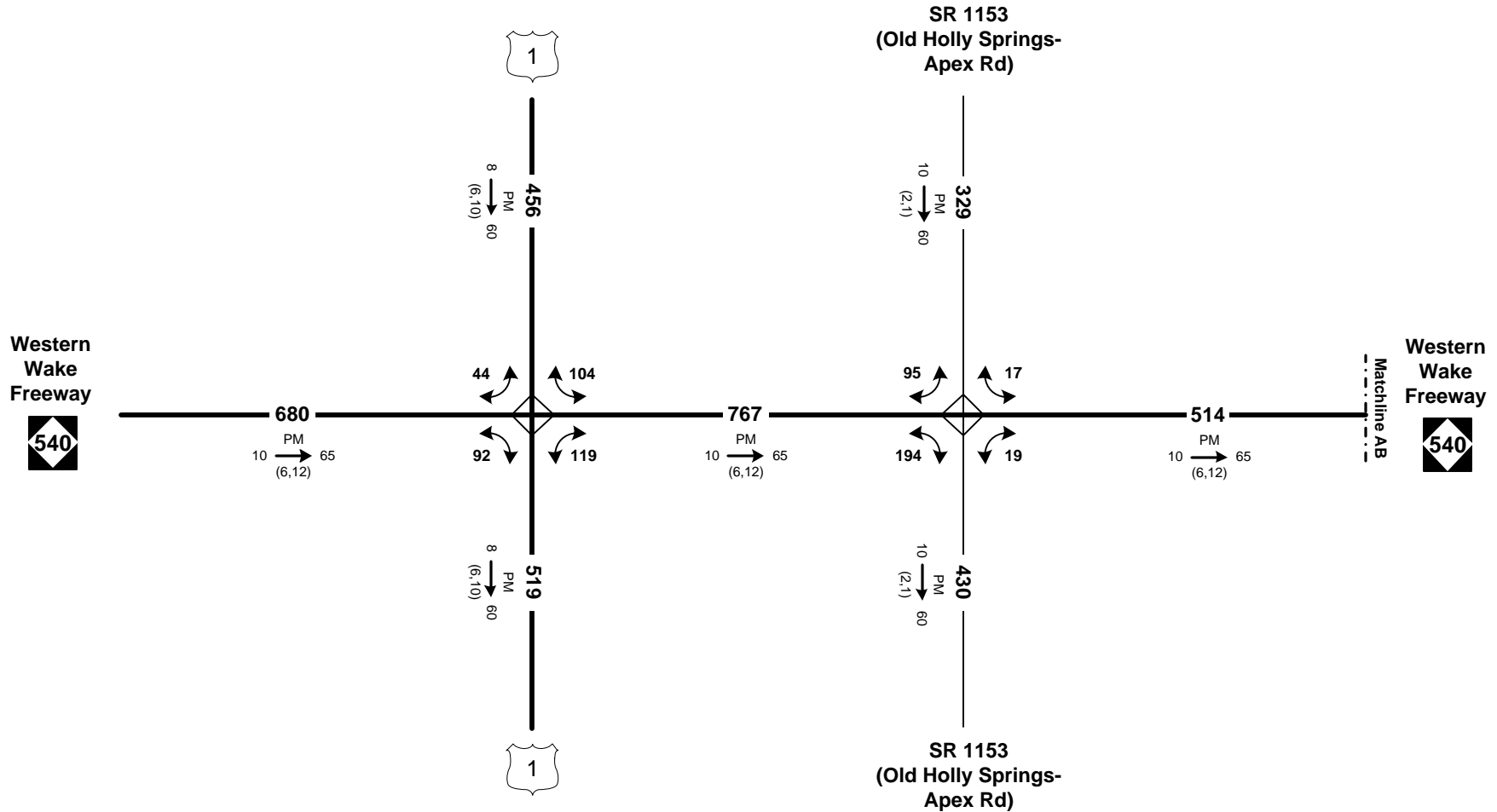




2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 5 & 17

LEGEND		STIP: R2721, R-2828, R-2829		WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1	
<ul style="list-style-type: none"> — Existing Roadway - - - Future Roadway ### = No. of Vehicles Per Day in 100s PM DHV → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↷ = Daily Turn Movements 		COUNTY: Wake/Johnston		DIVISION: 5/4	
		DATE: April 2014			
		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609			
		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)			
		PROJECT: Triangle Expressway Southeast Extension			Figure 23.5



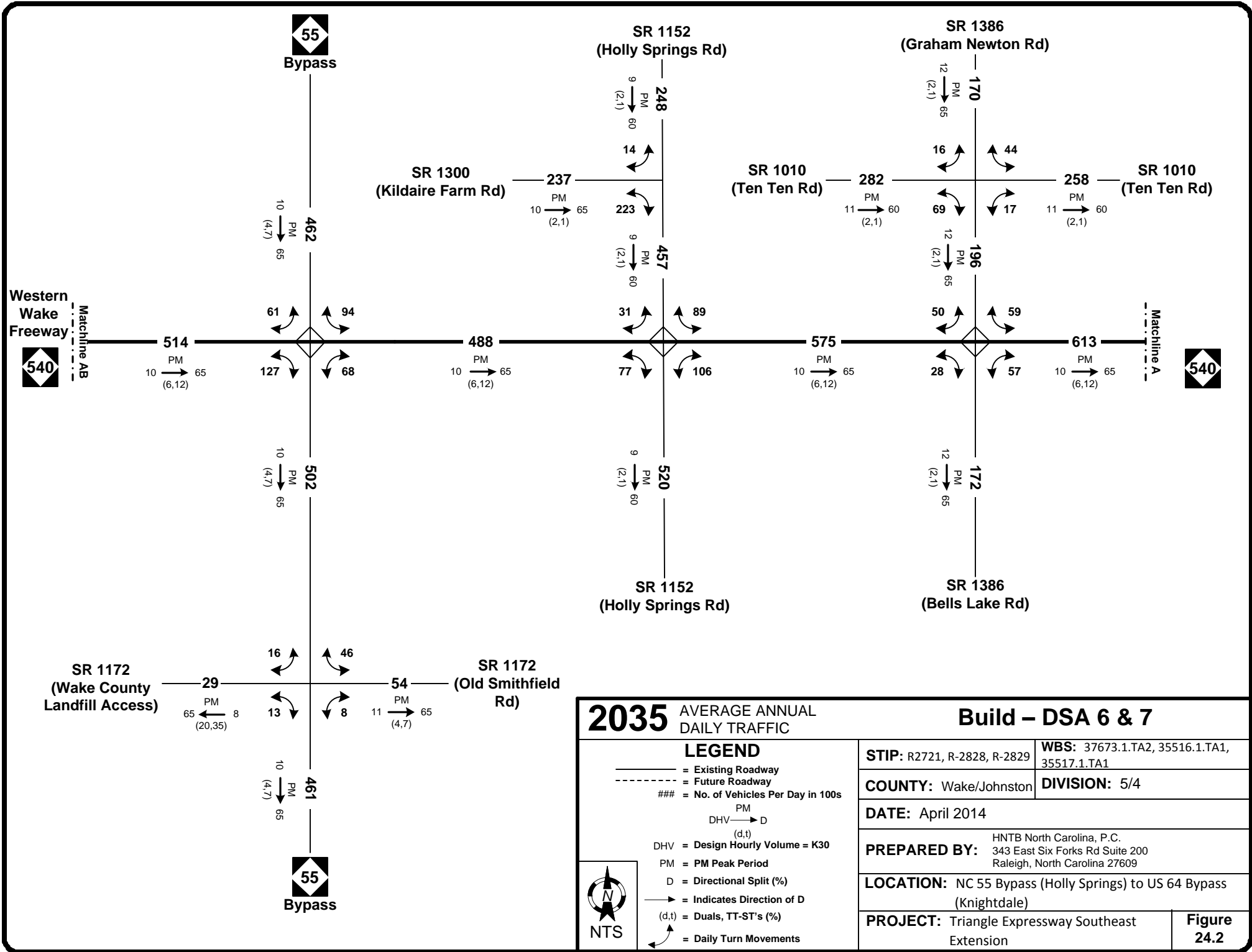
2035 AVERAGE ANNUAL DAILY TRAFFIC **Build – DSA 6 & 7**

LEGEND

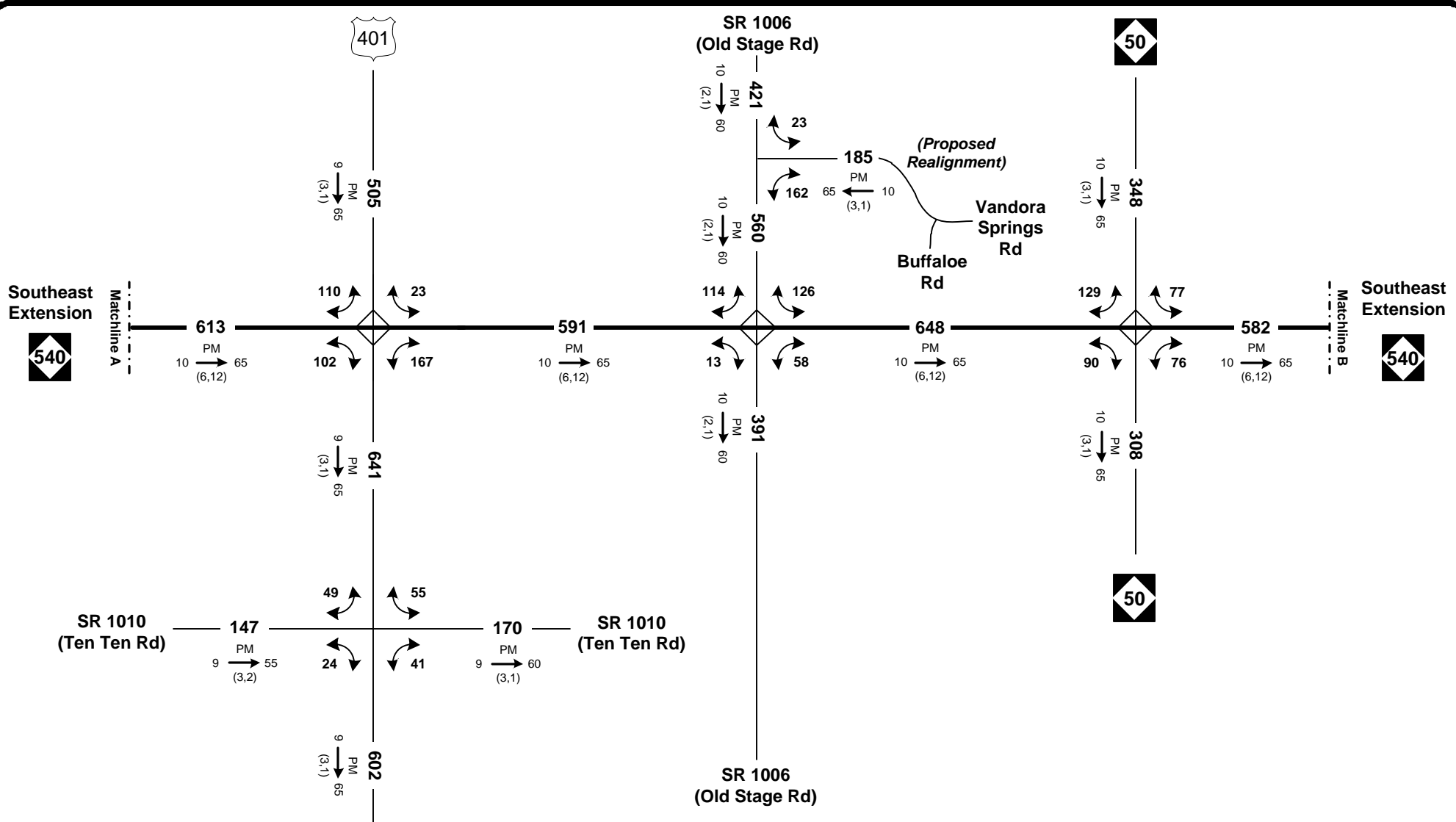
- = Existing Roadway
- - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM
DHV → D
(d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↻ = Daily Turn Movements

NTS

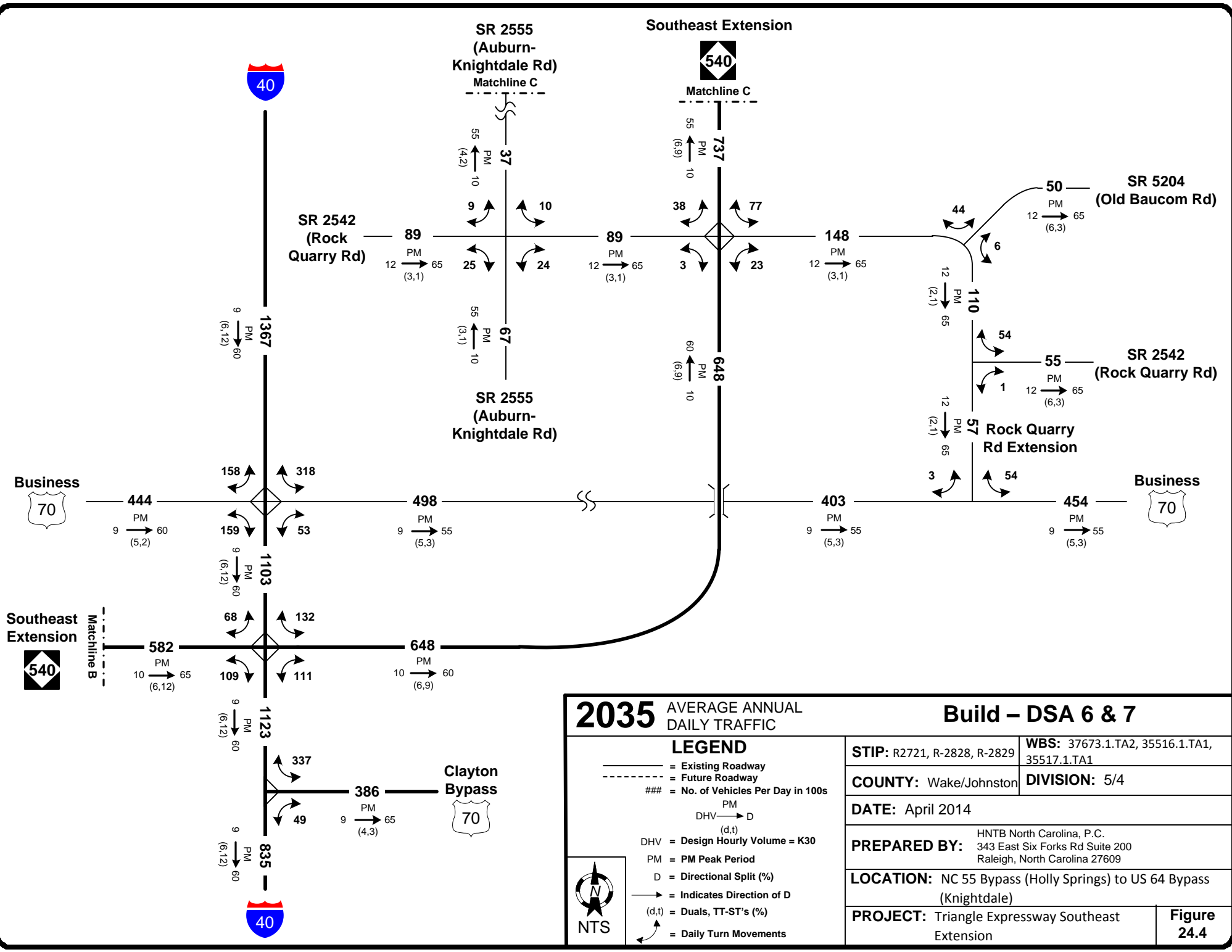
STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 24.1




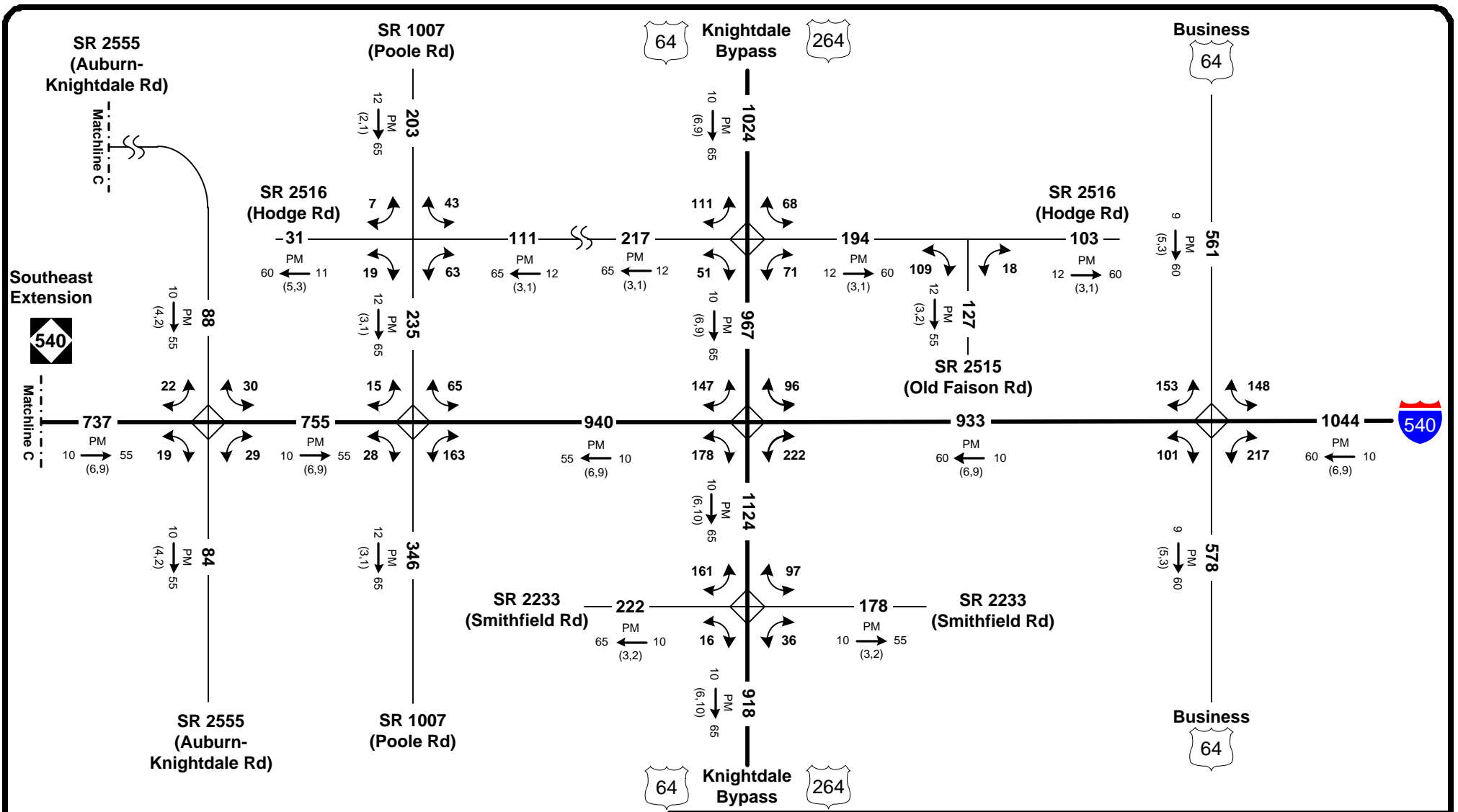
2035 AVERAGE ANNUAL DAILY TRAFFIC		Build - DSA 6 & 7	
LEGEND — Existing Roadway - - - Future Roadway ### = No. of Vehicles Per Day in 100s PM DHV → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↻ = Daily Turn Movements		STIP: R2721, R-2828, R-2829 WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1	COUNTY: Wake/Johnston DIVISION: 5/4
		DATE: April 2014	
		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension		Figure 24.2	



2035 AVERAGE ANNUAL DAILY TRAFFIC		Build – DSA 6 & 7	
LEGEND — = Existing Roadway - - - = Future Roadway ### = No. of Vehicles Per Day in 100s PM → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → = Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↷ = Daily Turn Movements		STIP: R2721, R-2828, R-2829 COUNTY: Wake/Johnston DATE: April 2014 PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1 DIVISION: 5/4 LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)
		PROJECT: Triangle Expressway Southeast Extension	Figure 24.3



2035 AVERAGE ANNUAL DAILY TRAFFIC		Build – DSA 6 & 7	
LEGEND		STIP: R2721, R-2828, R-2829	
<ul style="list-style-type: none"> — = Existing Roadway - - - = Future Roadway ### = No. of Vehicles Per Day in 100s PM → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → = Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↶ = Daily Turn Movements 		WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1	
		COUNTY: Wake/Johnston	
		DIVISION: 5/4	
		DATE: April 2014	
		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
		PROJECT: Triangle Expressway Southeast Extension	
		Figure 24.4	



2035 AVERAGE ANNUAL DAILY TRAFFIC **Build - DSA 6 & 7**

LEGEND

- = Existing Roadway
- - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM
DHV → D
(d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↶ ↷ = Daily Turn Movements

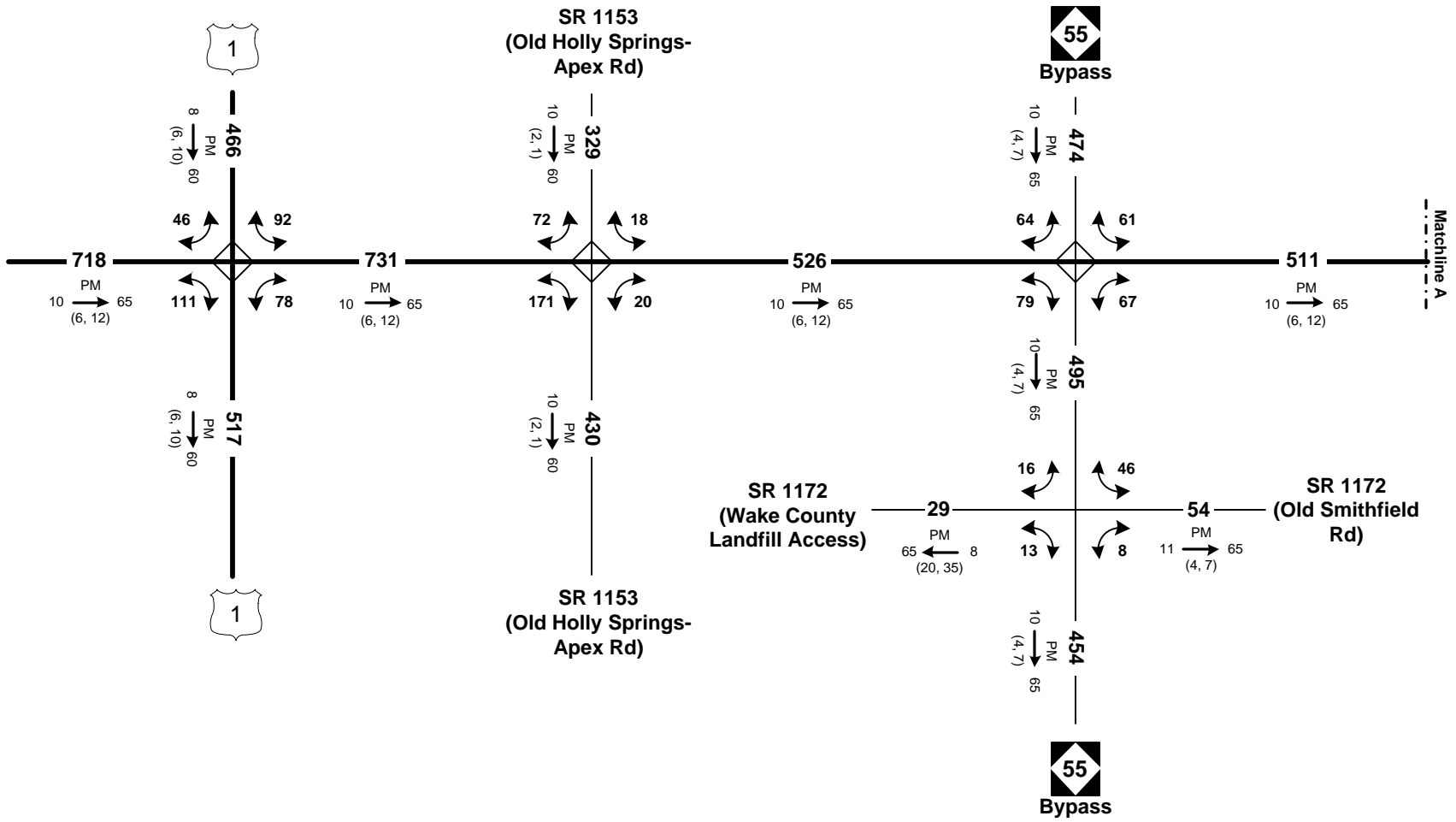
NTS

STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 24.5

Western Wake Freeway



Southeast Extension



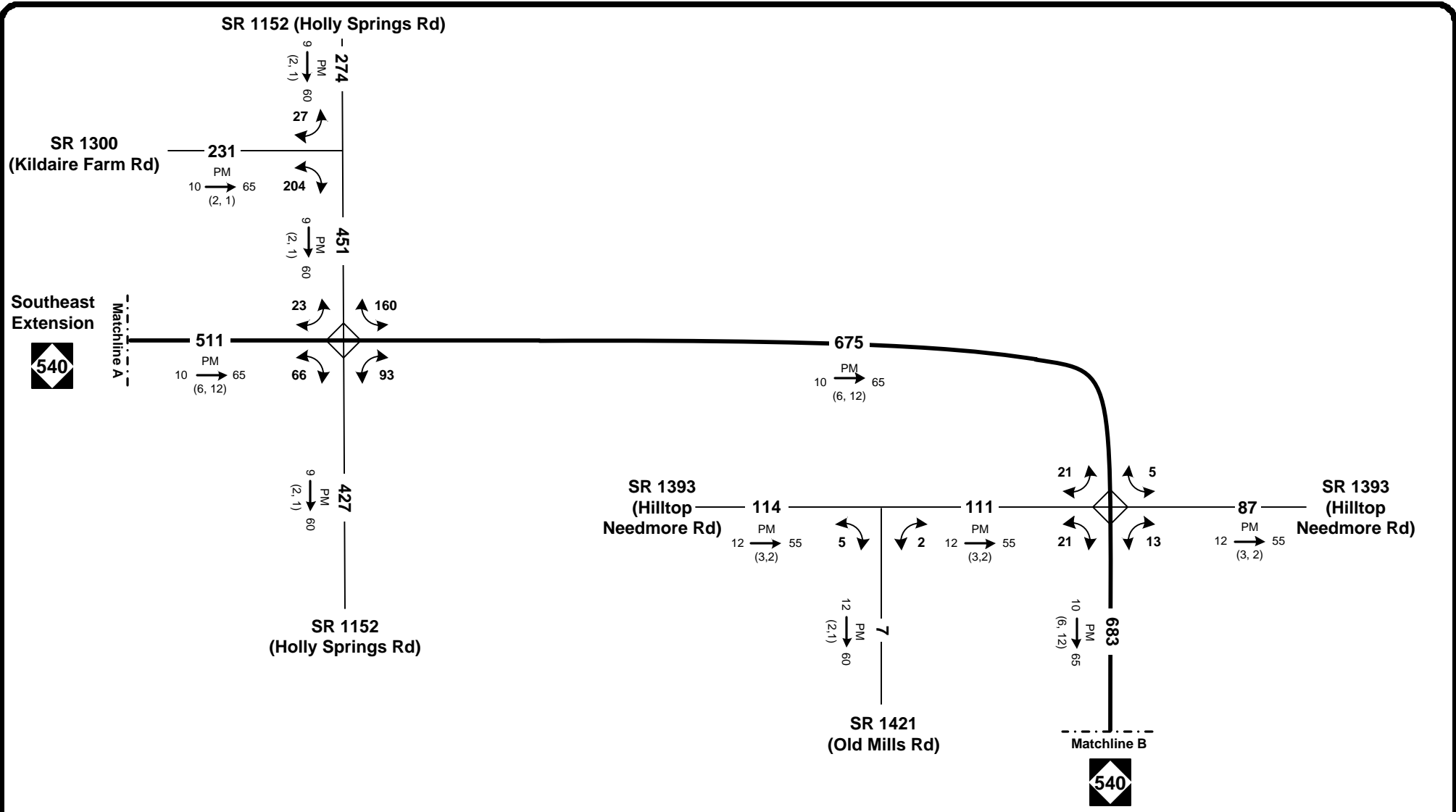
2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

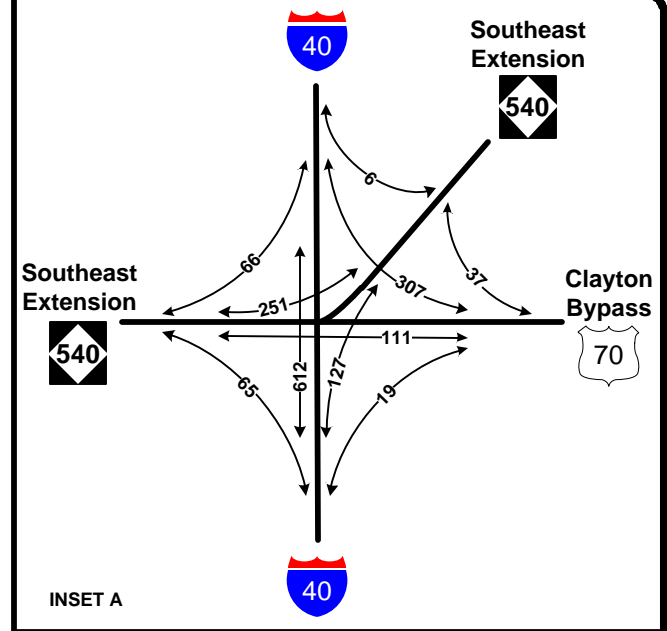
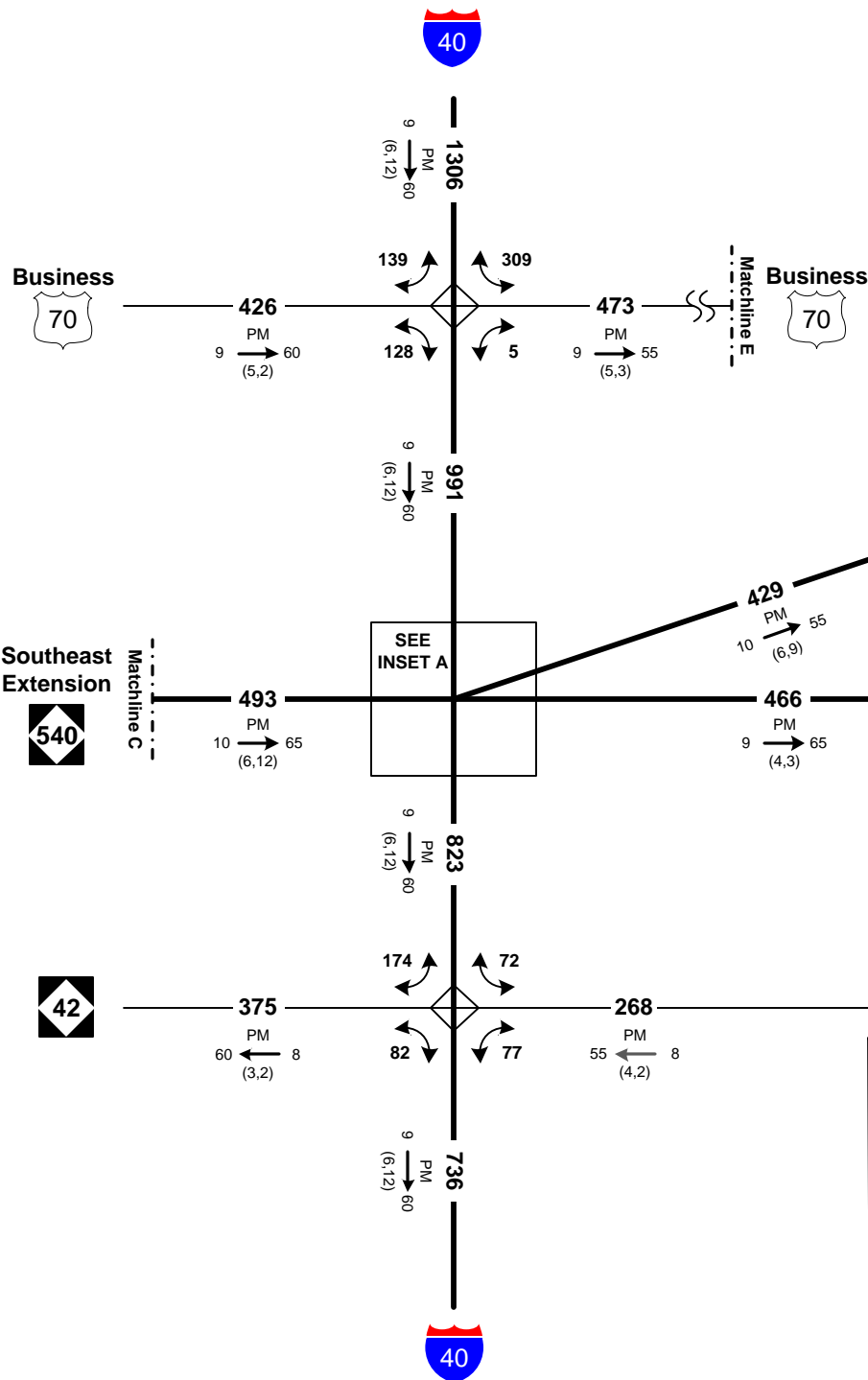
- LEGEND**
- = Existing Roadway
 - - - - - = Future Roadway
 - ### = No. of Vehicles Per Day in 100s
 - PM
DHV → D
(d,t)
 - DHV = Design Hourly Volume = K30
 - PM = PM Peak Period
 - D = Directional Split (%)
 - = Indicates Direction of D
 - (d,t) = Duals, TT-ST's (%)
 - ↶ ↷ = Daily Turn Movements



STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 25.1



2035 AVERAGE ANNUAL DAILY TRAFFIC		Build – DSA 8 & 9	
LEGEND — Existing Roadway - - - Future Roadway ### = No. of Vehicles Per Day in 100s PM DHV → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → Indicates Direction of D (d,t) = Duals, TT-ST's (%) 		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
		COUNTY: Wake/Johnston	DIVISION: 5/4
		DATE: April 2014	
		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
		PROJECT: Triangle Expressway Southeast Extension	Figure 25.2



2035 AVERAGE ANNUAL DAILY TRAFFIC

Build - DSA 8 & 9

LEGEND

- Existing Roadway
- - - Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↷ = Daily Turn Movements

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

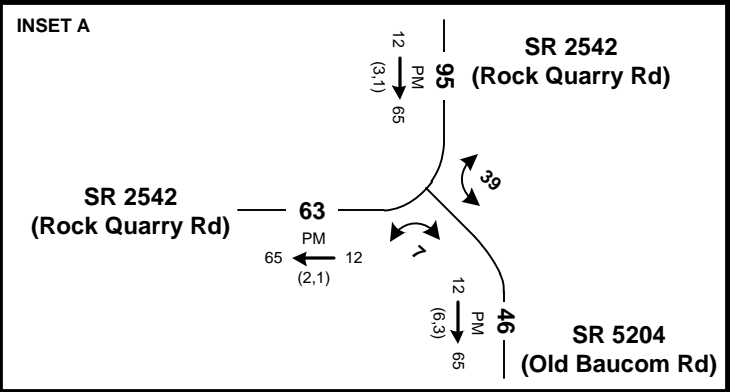
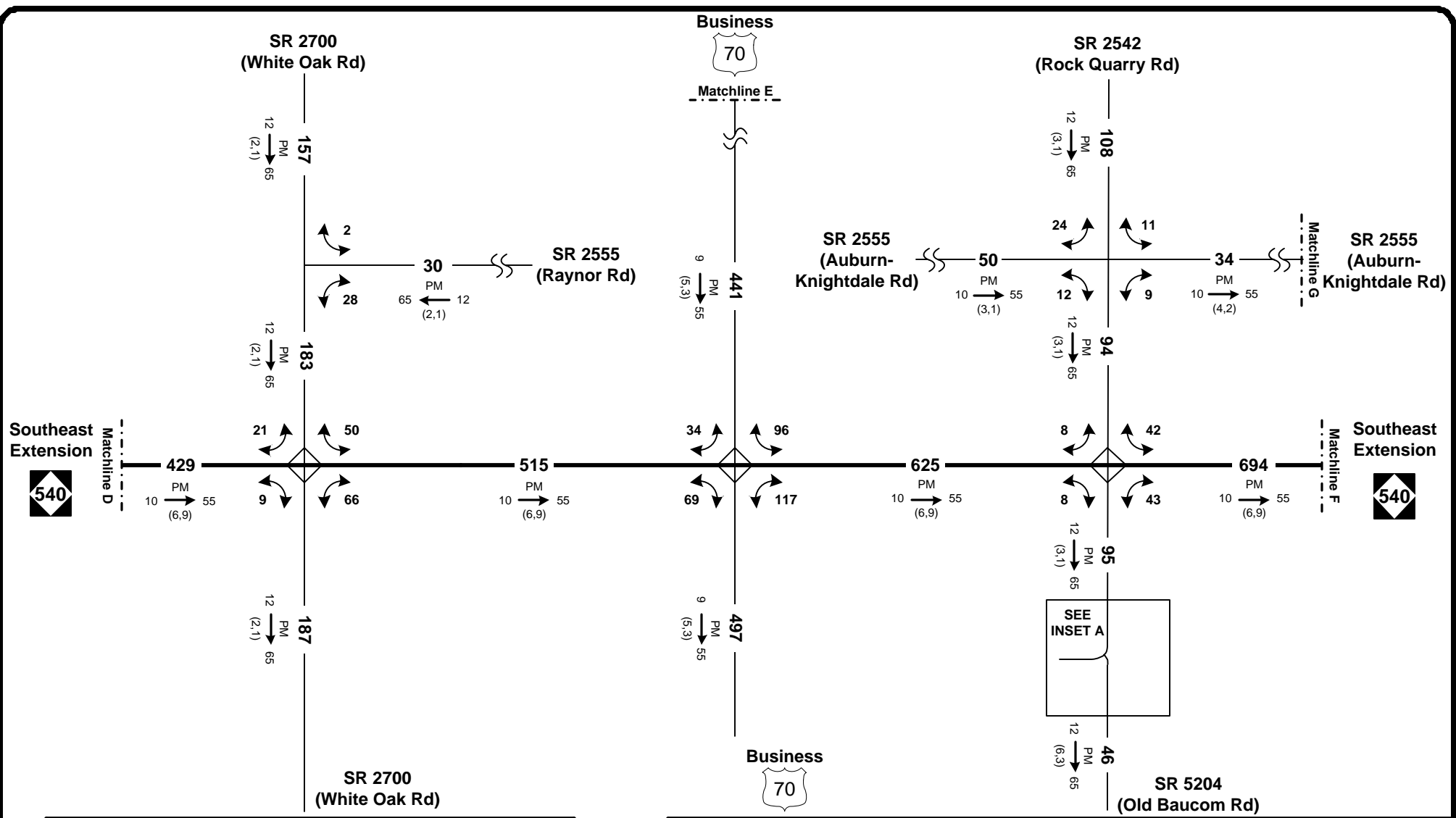
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 25.4

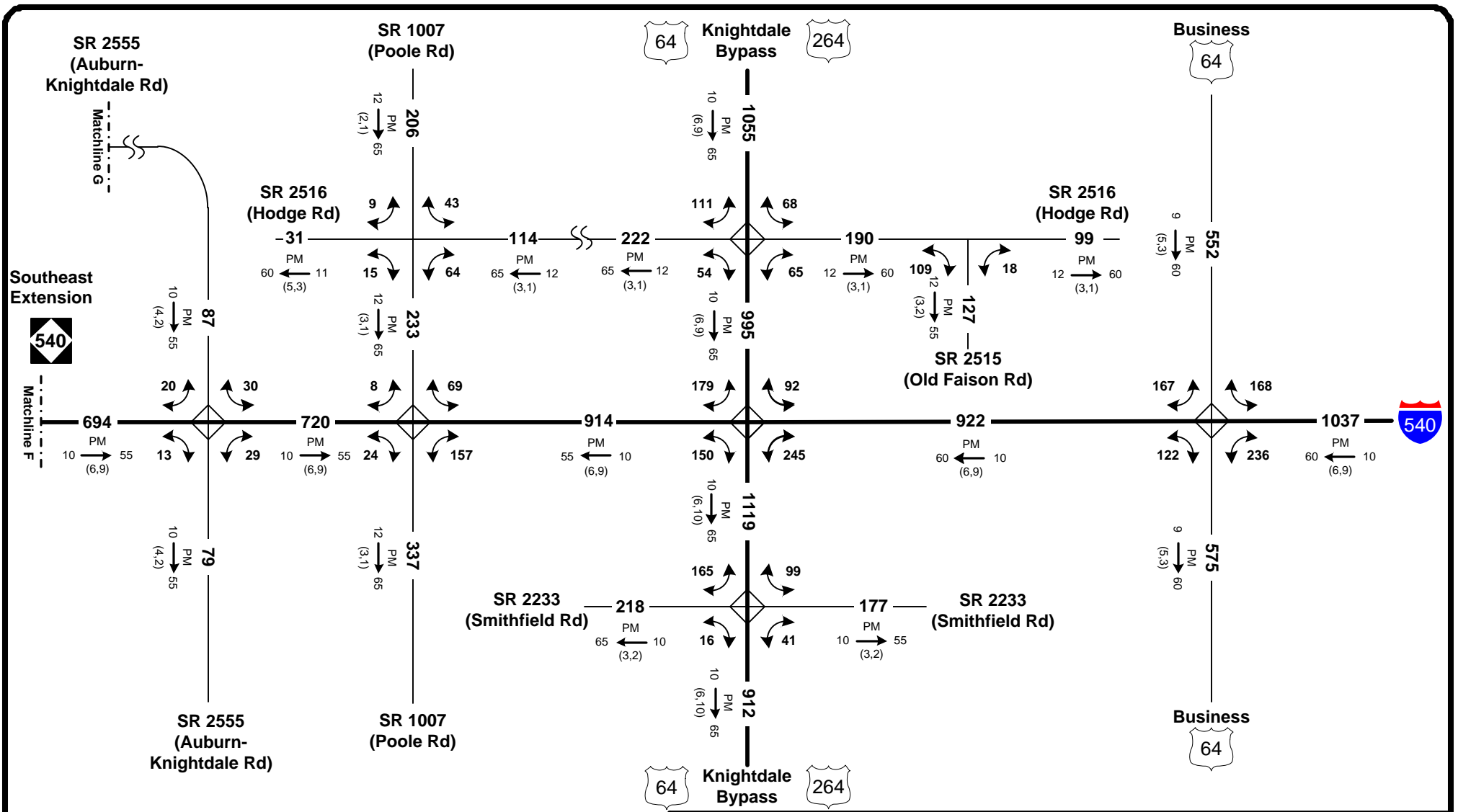


2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 8 & 9

<p>LEGEND</p> <ul style="list-style-type: none"> — Existing Roadway - - - Future Roadway ### = No. of Vehicles Per Day in 100s PM DHV → D (d,t) DHV = Design Hourly Volume = K30 PM = PM Peak Period D = Directional Split (%) → Indicates Direction of D (d,t) = Duals, TT-ST's (%) ↻ = Daily Turn Movements 	<p>STIP: R2721, R-2828, R-2829</p>	<p>WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1</p>
	<p>COUNTY: Wake/Johnston</p>	<p>DIVISION: 5/4</p>
<p>DATE: April 2014</p>		
<p>PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609</p>		
<p>LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)</p>		
<p>PROJECT: Triangle Expressway Southeast Extension</p>	<p>Figure 25.5</p>	

NTS



2035 AVERAGE ANNUAL DAILY TRAFFIC **Build - DSA 8 & 9**

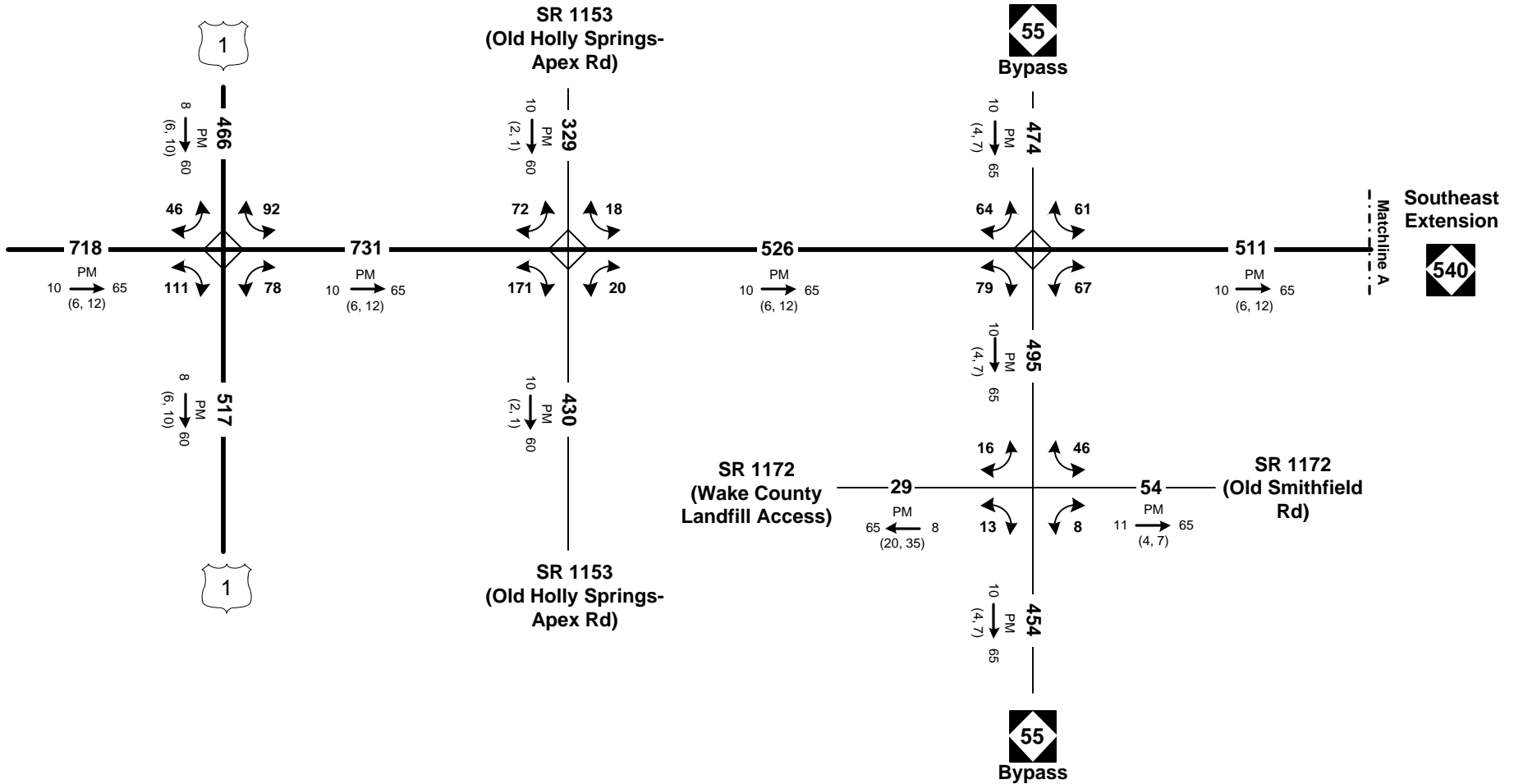
LEGEND

- = Existing Roadway
- - - = Future Roadway
- ### = No. of Vehicles Per Day in 1000s
- PM
DHSV → D
(d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↻ = Daily Turn Movements

NTS

STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 25.6

Western Wake Freeway



2035 AVERAGE ANNUAL DAILY TRAFFIC

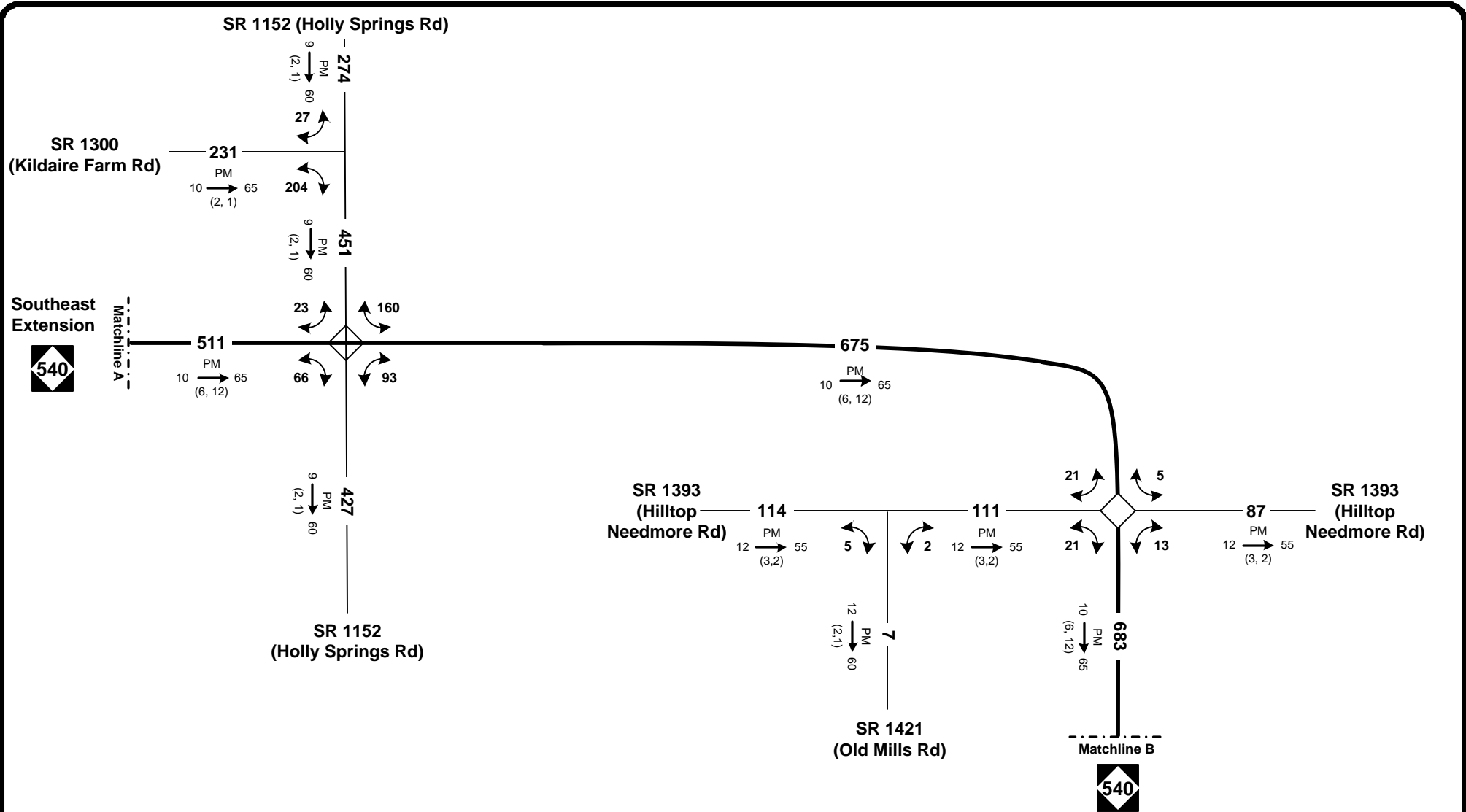
Build – DSA 10 & 11

LEGEND

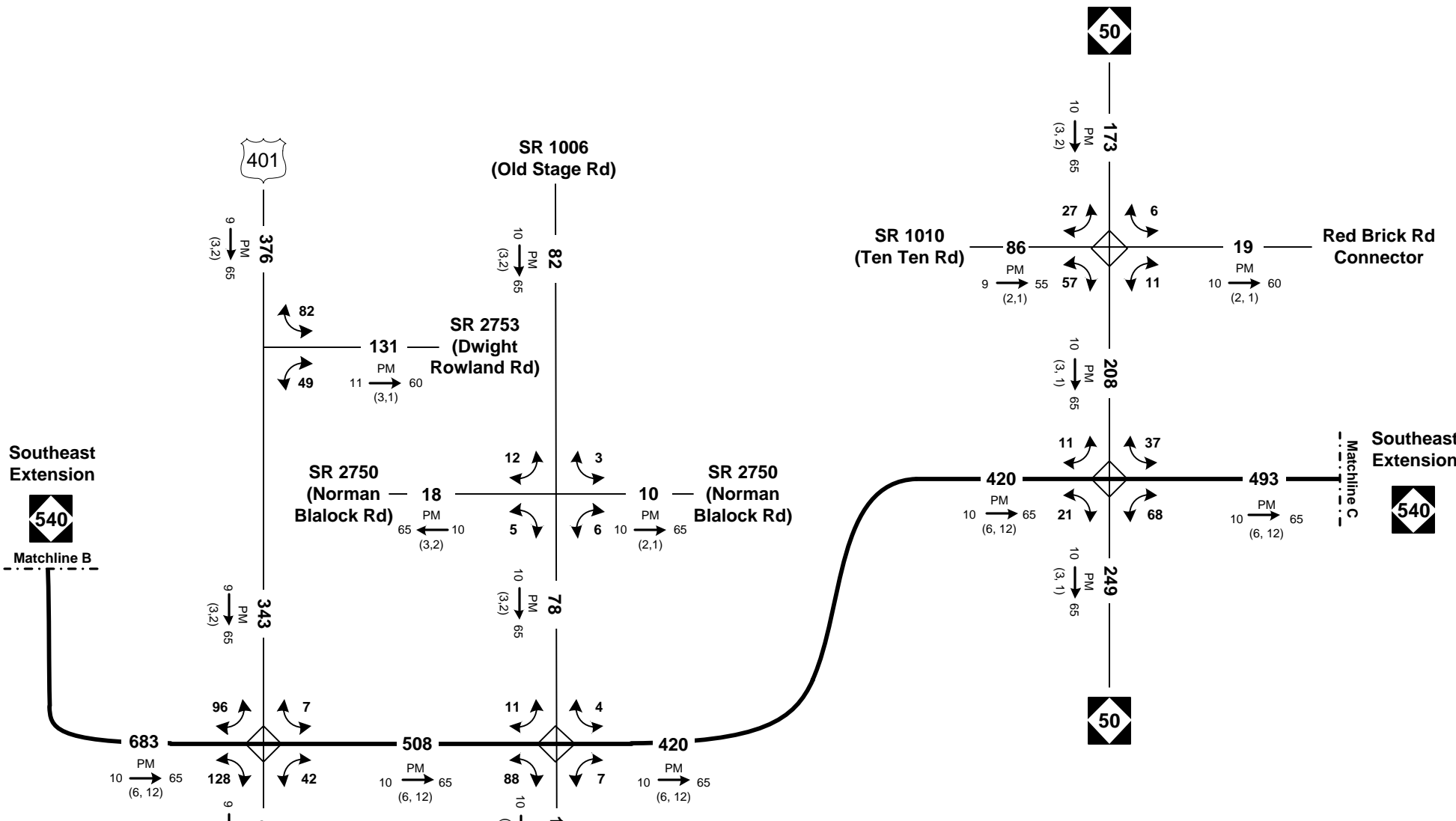
- = Existing Roadway
- - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM
DHV → D
(d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↻ = Daily Turn Movements



STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 26.1

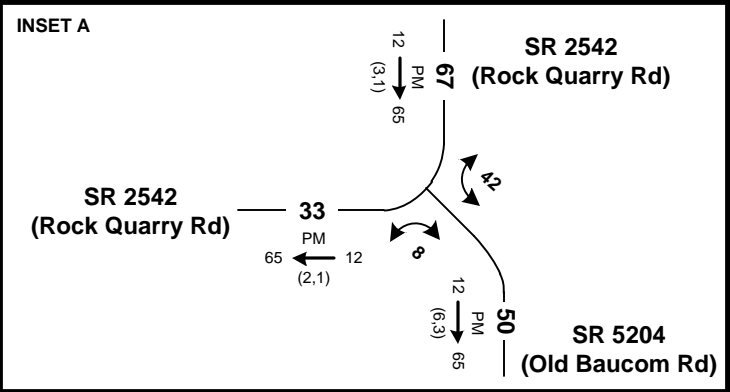
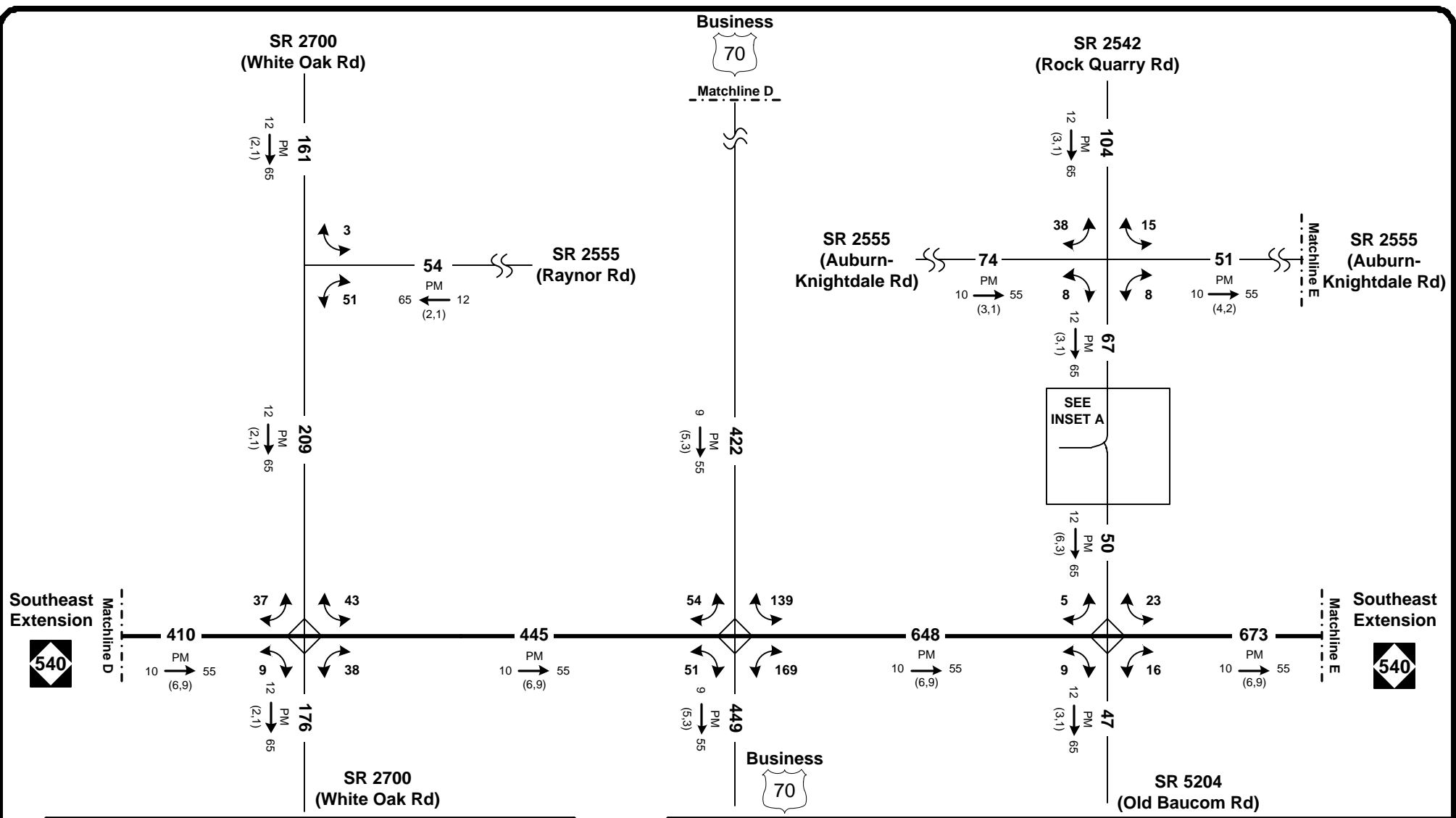


2035 AVERAGE ANNUAL DAILY TRAFFIC		Build – DSA 10 & 11	
LEGEND		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
———— = Existing Roadway	----- = Future Roadway	COUNTY: Wake/Johnston	DIVISION: 5/4
### = No. of Vehicles Per Day in 100s	PM DHV → D (d,t)	DATE: April 2014	
DHV = Design Hourly Volume = K30	PM = PM Peak Period	PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
D = Directional Split (%)	→ = Indicates Direction of D	LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
(d,t) = Duals, TT-ST's (%)	↪ = Daily Turn Movements	PROJECT: Triangle Expressway Southeast Extension	
		Figure 26.2	



2035 AVERAGE ANNUAL DAILY TRAFFIC		Build - DSA 10 & 11	
LEGEND		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
— = Existing Roadway	- - - = Future Roadway	COUNTY: Wake/Johnston	DIVISION: 5/4
### = No. of Vehicles Per Day in 100s		DATE: April 2014	
PM DHV → D (d.t)		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
DHV = Design Hourly Volume = K30		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PM = PM Peak Period		PROJECT: Triangle Expressway Southeast Extension	Figure 26.3
D = Directional Split (%)			
→ = Indicates Direction of D			
(d.t) = Duals, TT-ST's (%)			
↻ = Daily Turn Movements			





2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 10 & 11

LEGEND

- Existing Roadway
- - - Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↪ = Daily Turn Movements

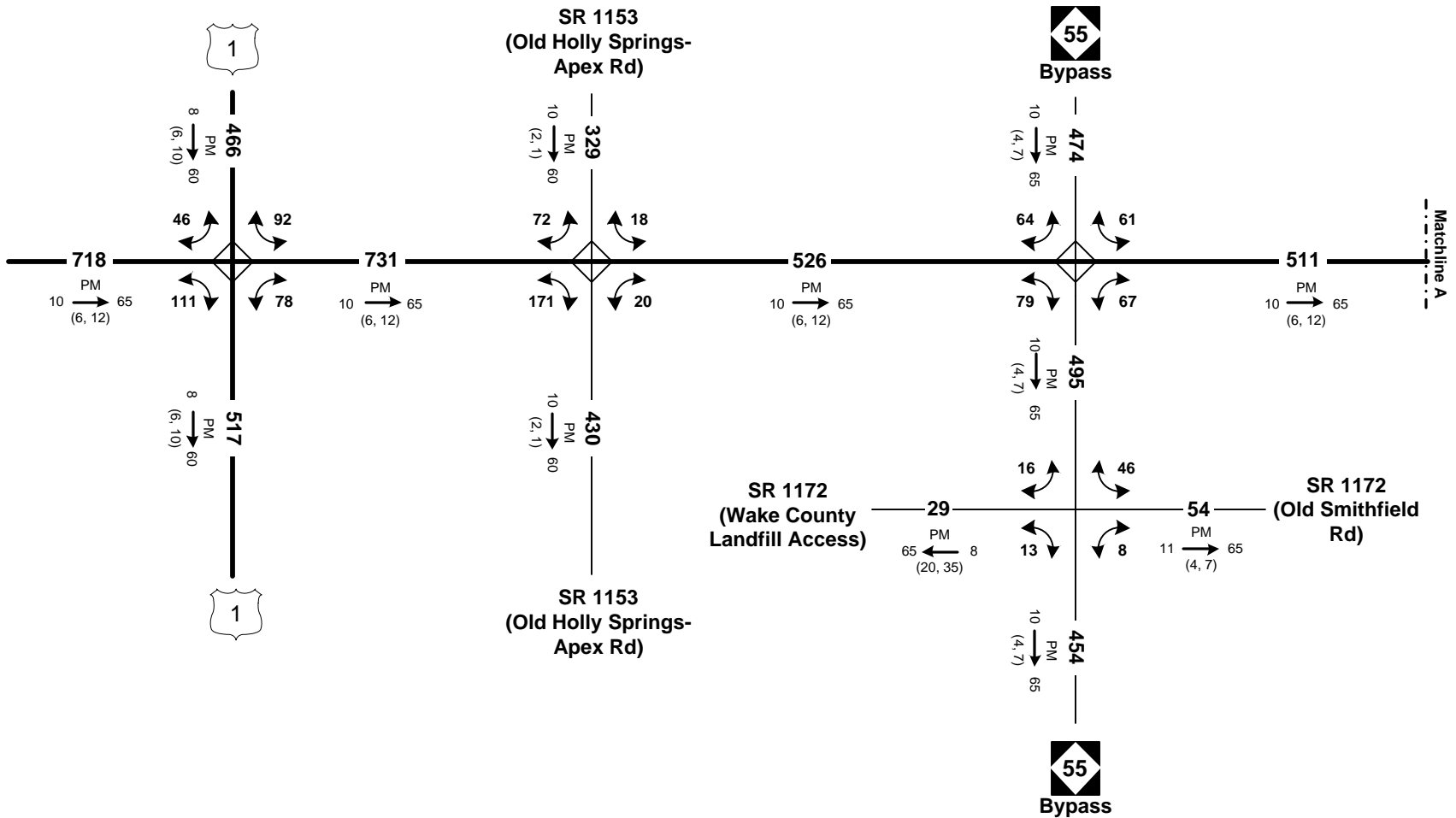
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STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 26.5

Western Wake Freeway



Southeast Extension



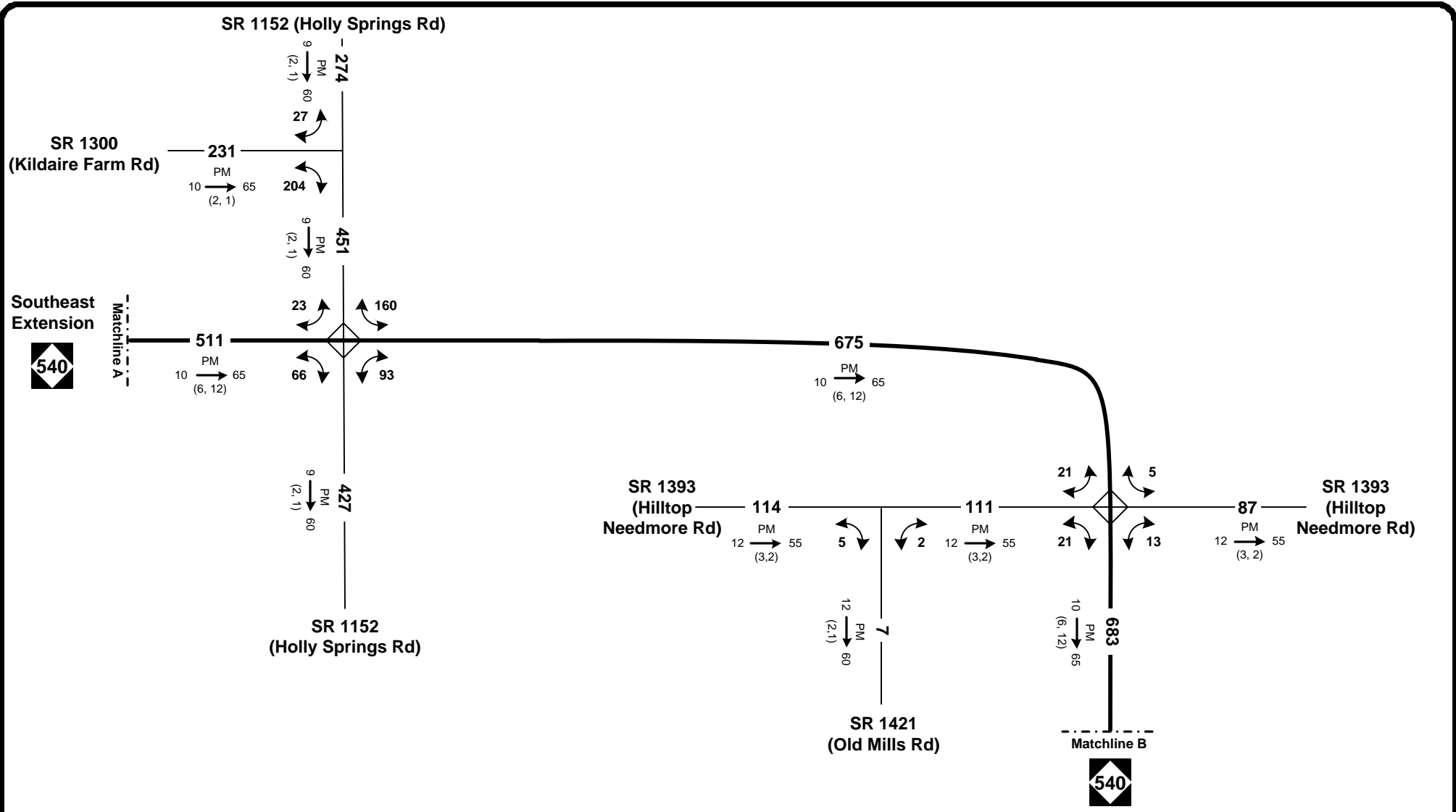
2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

- LEGEND**
- = Existing Roadway
 - - - - - = Future Roadway
 - ### = No. of Vehicles Per Day in 100s
 - PM
DHV → D
(d,t)
 - DHV = Design Hourly Volume = K30
 - PM = PM Peak Period
 - D = Directional Split (%)
 - = Indicates Direction of D
 - (d,t) = Duals, TT-ST's (%)
 - ↶ ↷ = Daily Turn Movements



STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 27.1



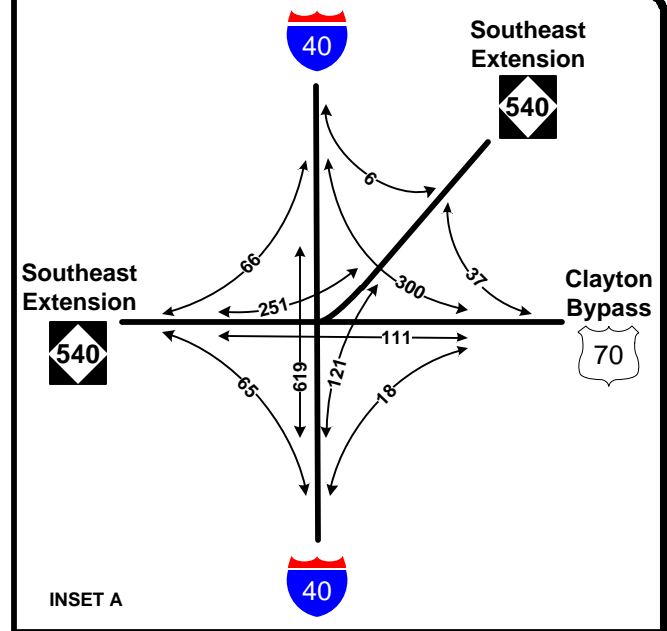
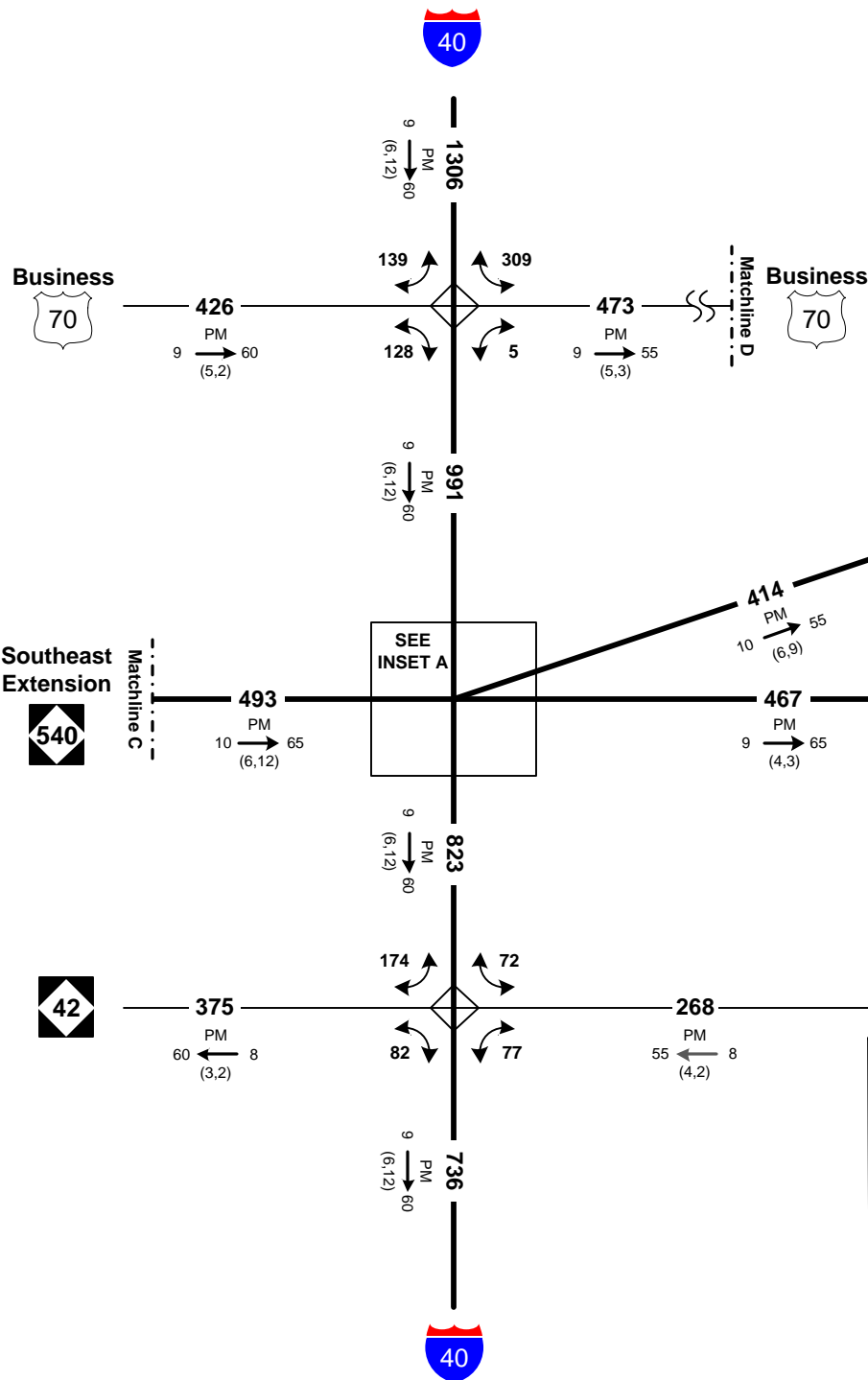
2035 AVERAGE ANNUAL DAILY TRAFFIC **Build – DSA 12**

LEGEND

- = Existing Roadway
- - - - - = Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM
DHV → D
(d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- = Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↪ = Daily Turn Movements

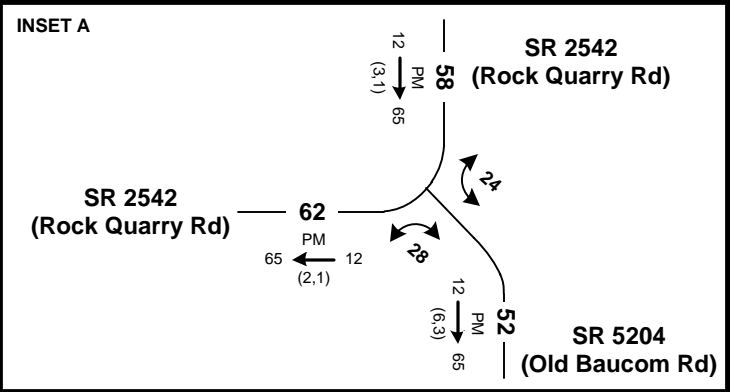
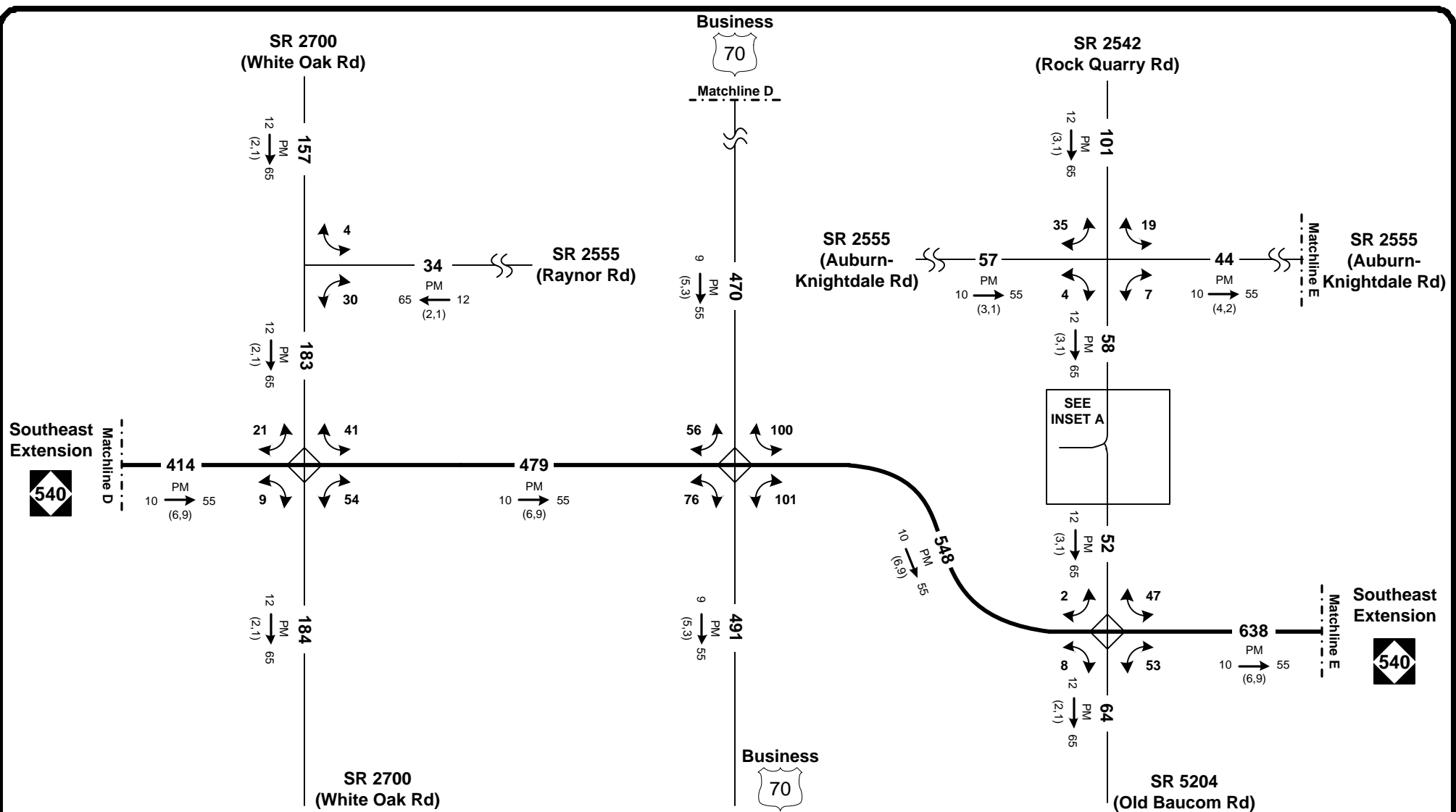


STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 27.2



2035 AVERAGE ANNUAL DAILY TRAFFIC		Build – DSA 12	
LEGEND		STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
— = Existing Roadway	- - - = Future Roadway	COUNTY: Wake/Johnston	DIVISION: 5/4
### = No. of Vehicles Per Day in 100s		DATE: April 2014	
PM DHV → D (d,t)		PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
DHV = Design Hourly Volume = K30		LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PM = PM Peak Period		PROJECT: Triangle Expressway Southeast Extension	Figure 27.4
D = Directional Split (%)			
→ = Indicates Direction of D			
(d,t) = Duals, TT-ST's (%)			
↪ = Daily Turn Movements			





2035 AVERAGE ANNUAL DAILY TRAFFIC

Build – DSA 12

LEGEND

- Existing Roadway
- - - Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM DHV → D (d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
- ↷ = Daily Turn Movements

STIP: R2721, R-2828, R-2829

WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1

COUNTY: Wake/Johnston

DIVISION: 5/4

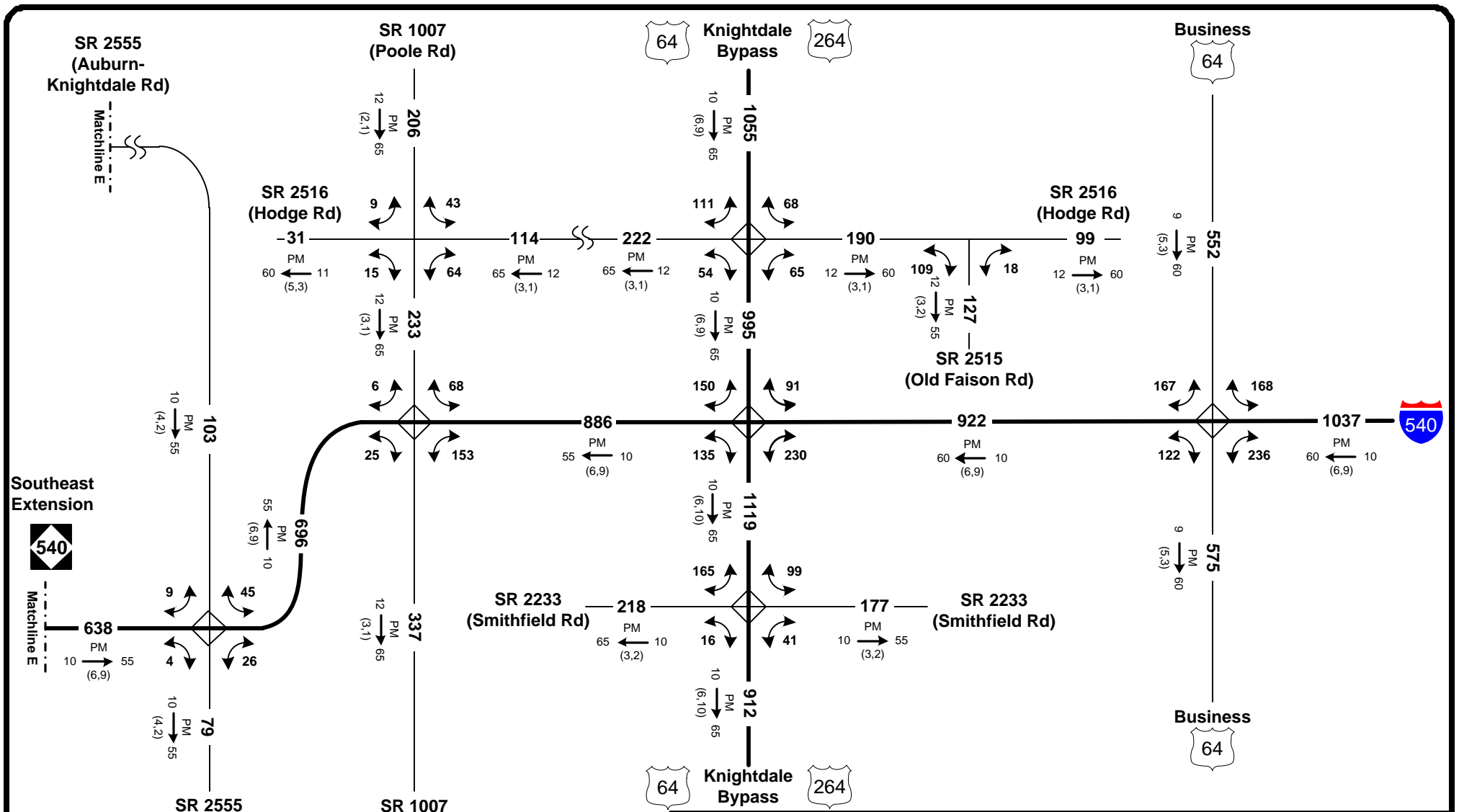
DATE: April 2014

PREPARED BY: HNTB North Carolina, P.C.
343 East Six Forks Rd Suite 200
Raleigh, North Carolina 27609

LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)

PROJECT: Triangle Expressway Southeast Extension

Figure 27.5



2035 AVERAGE ANNUAL DAILY TRAFFIC **Build - DSA 12**

LEGEND

- Existing Roadway
- - - Future Roadway
- ### = No. of Vehicles Per Day in 100s
- PM
DHV → D
(d,t)
- DHV = Design Hourly Volume = K30
- PM = PM Peak Period
- D = Directional Split (%)
- Indicates Direction of D
- (d,t) = Duals, TT-ST's (%)
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NTS

STIP: R2721, R-2828, R-2829	WBS: 37673.1.TA2, 35516.1.TA1, 35517.1.TA1
COUNTY: Wake/Johnston	DIVISION: 5/4
DATE: April 2014	
PREPARED BY: HNTB North Carolina, P.C. 343 East Six Forks Rd Suite 200 Raleigh, North Carolina 27609	
LOCATION: NC 55 Bypass (Holly Springs) to US 64 Bypass (Knightdale)	
PROJECT: Triangle Expressway Southeast Extension	Figure 27.6

APPENDIX 6

NCDOT TRAFFIC NOISE ABATEMENT POLICY

**NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
TRAFFIC NOISE ABATEMENT POLICY**



Effective Date: July 13, 2011


Noise Policy Committee: Jay Bennett, PE..... Roadway Design Unit
Drew Joyner, PE..... Human Environment Unit
Daniel Keel, PE..... NCDOT Operations
Mike Mills, PE..... NCDOT Division 7
Gregory A. Smith, PE..... Human Environment Unit

Technical Resource Team: Missy Dickens Pair, PE..... Project Development &
Environmental Analysis Branch
Ed Lewis..... Human Environment Unit
Joe Rauseo..... Human Environment Unit
Tracy Roberts, AICP..... North Carolina Turnpike Authority
Steve Walker..... Human Environment Unit

Sponsors: Rob Ayers..... Federal Highway Administration
Felix Davila, PE..... Federal Highway Administration
Mike Fox..... Board of Transportation
Nina Szlosberg-Landis..... Board of Transportation

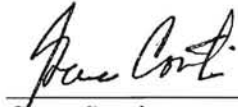
APPROVED BY:

3/9/2011
Date of Approval



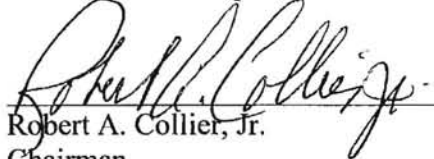
John F. Sullivan, III, PE
Division Administrator
Federal Highway Administration

2/28/2011
Date of Approval



Gene Conti
Secretary of Transportation

2/22/11
Date of Approval



Robert A. Collier, Jr.
Chairman
Board of Transportation

Person Responsible
for Policy:

Gregory A. Smith, PE
Traffic Noise & Air Quality Supervisor
Human Environment Unit
1598 Mail Service Center
Raleigh, North Carolina 27699-1598
(919) 707-6087
gasmith@ncdot.gov

INTRODUCTION

This document contains the North Carolina Department of Transportation (hereinafter NCDOT) policy on highway traffic noise and construction noise and describes the implementation of the requirements of the Federal Highway Administration (hereinafter FHWA) Noise Standard at 23 Code of Federal Regulations (CFR) Part 772 as they relate to federal and state funded highway construction in North Carolina. This policy was developed by the NCDOT and reviewed and approved by the FHWA.

The North Carolina Department of Transportation Traffic Noise Analysis and Abatement Guidance Manual and 23 CFR 772 are intended to be companion documents to this policy.

PURPOSE

This policy describes the NCDOT process that is used in determining traffic noise impacts and abatement measures and the equitable and cost-effective expenditure of public funds for traffic noise abatement. Where the FHWA has given highway agencies flexibility in implementing the 23 CFR 772 standards, this policy describes the NCDOT approach to implementation.

APPLICABILITY

This policy applies to all "Type I" federal, state or federal-aid highway projects in the State of North Carolina, including federal projects that are administered by local public agencies. NCDOT does not participate in nor fund Type II (retrofit) projects along existing state transportation facilities. Noise analyses are not required for Type III projects. Each of these project types are defined below. This policy shall be applied uniformly and consistently to all Type I federal projects throughout the state.

Type I Project

- (a) The construction of a highway on new location; or,
- (b) The physical alteration of an existing highway where there is either:
 - (i) Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,
 - (ii) Substantial Vertical Alteration. A project that removes shielding, therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor; or,
- (c) The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a HOV lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,

- (d) The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,
- (e) The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,
- (f) Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,
- (g) The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza.
- (h) If a project is determined to be a Type I project under this definition then the entire project area as defined in the environmental document is a Type I project.

Type II Project.

A Federal or Federal-aid highway project for noise abatement on an existing highway. For a Type II project to be eligible for Federal-aid funding, the highway agency must develop and implement a Type II program in accordance with section 772.7(e).

Type III Project

A Federal or Federal-aid highway project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

The highway traffic noise prediction requirements, noise analyses, noise abatement criteria, and requirements for informing local officials in 23 CFR 772 and this policy constitute the noise standards mandated by 23 U.S.C. 109(1). All highway projects which are developed in conformance with this policy shall be deemed to be in accordance with the FHWA noise standards.

Projects let for construction on or after July 13, 2011 shall be reviewed under the criteria of this policy; however, the original date of public knowledge shall remain unchanged.

DATE OF PUBLIC KNOWLEDGE

The Date of Public Knowledge of the location and potential noise impacts of a proposed highway project is the approval date of the final environmental document, e.g., Categorical Exclusion (CE), State or Federal Finding of No Significant Impact (FONSI) or State or Federal Record of Decision (ROD).

After this date, the federal and state governments are no longer responsible for providing noise abatement measures for new development within the noise impact area of the proposed highway project. It is the responsibility of local governments and private landowners to ensure that noise-compatible designs are used for development permitted after the Date of Public Knowledge.

This policy applies only to developed land and to undeveloped land for which development is permitted before the project Date of Public Knowledge. The criteria (trigger date) for determining when undeveloped land is permitted for development is the approval date of a building permit for an individual lot or site.

TRAFFIC NOISE PREDICTION

All traffic noise analyses performed by or for NCDOT must utilize the most current version of the FHWA Traffic Noise Model (TNM®) or any other model determined by the FHWA to be consistent with the methodology of the TNM® model, pursuant to 23 CFR 772.9.

Average pavement type shall be used in the FHWA TNM® for future noise level prediction.

Noise contour lines may be used for project alternative screening or for land use planning, but shall not be used for determining highway traffic noise impacts.

Traffic characteristics that would yield the loudest hourly equivalent traffic noise levels for the design year shall be used in predicting noise levels and assessing noise impacts.

Traffic noise prediction must adhere to all methodologies detailed in the NCDOT Traffic Noise Analysis and Abatement Guidance Manual.

NOISE IMPACT DETERMINATION

Traffic noise abatement for NCDOT highway projects is warranted and must be considered when traffic noise impacts are created by either of the following two conditions:

- (a) The predicted traffic noise levels for the Design Year approach (reach one decibel less than) or exceed the Noise Abatement Criteria (NAC) contained in 23 CFR 772 and in Table 1, found on page 4 of this policy, OR
- (b) The predicted traffic noise levels for the Design Year substantially exceed existing noise levels as defined in Table 2, found on page 5 of this policy.

A receptor is a discrete or representative location of a noise sensitive area(s) for any of the land uses listed in Table 1. For multifamily dwellings, each residence shall be counted as one receptor when determining impacted and benefited receptors.

Primary consideration shall be given to exterior areas where frequent human use occurs in the determination of traffic noise impacts.

A traffic noise analysis shall be completed for each project alternative under detailed study and for each Activity Category listed in Table 1 that is present in the study area.

Table 1			
Noise Abatement Criteria			
Hourly Equivalent A-Weighted Sound Level (decibels (dB(A)))			
Activity Category	Activity Criteria ¹ Leq(h) ²	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ³	67	Exterior	Residential
C ³	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E ³	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	--	Undeveloped lands that are not permitted

¹ The Leq(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.

² The equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same time period, with Leq(h) being the hourly value of Leq.

³ Includes undeveloped lands permitted for this activity category.

Table 2	
Substantial Noise Level Increase	
Hourly Equivalent A-Weighted Sound Level (decibels (dB(A)))	
Existing Noise Level ¹ (Leq(h))	Predicted Design Year Noise Level Increase ² (Leq(h))
50 or less	15 or more
51	14 or more
52	13 or more
53	12 or more
54	11 or more
55 or more	10 or more

¹ Loudest hourly equivalent noise level from the combination of natural and mechanical sources and human activity usually present in a particular area.
² Predicted hourly equivalent Design Year traffic noise level minus existing noise level.

ANALYSIS OF NOISE ABATEMENT MEASURES

When traffic noise impacts are identified and noise abatement is warranted, noise abatement measures shall be considered and evaluated for feasibility and reasonableness. All of the following conditions must be met in order for noise abatement to be justified and incorporated into project design, as applicable. Failure to achieve any single element of feasibility or reasonableness will result in the noise abatement measure being deemed not feasible or not reasonable, whichever applies.

Feasibility

The combination of acoustical and engineering factors considered in the evaluation of a noise abatement measure.

- (a) Any receptor that receives a minimum noise level reduction of five dB(A) due to noise abatement measures shall be considered a benefited receptor. Noise reduction of five dB(A) must be achieved for at least one impacted receptor.
- (b) Engineering feasibility of the noise abatement measure(s) shall consider adverse impacts created by or upon property access, drainage, topography, utilities, safety, and maintenance requirements.

Reasonableness

The combination of social, economic, and environmental factors considered in the evaluation of a noise abatement measure.

- (a) Viewpoints of the property owners and residents of all benefited receptors shall be solicited. One owner ballot and one resident ballot shall be solicited for each benefited receptor. Points per ballot shall be distributed in the following weighted manner:
 - 3 points/ballot for benefited front row property owners
 - 1 point/ballot for all other benefited property owners
 - 1 point/ballot vote for all residents

Consideration of the noise abatement measure will continue unless a simple majority of all distributed points are returned that indicates the balloted voters do not want the abatement measure.

- (b) The maximum allowable base quantity of noise walls and/or earthen berms per benefited receptor shall not exceed 2,500 ft² and 7,000 yd³, respectively. Additionally, an incremental increase of 35 ft² for noise walls and 100 yd³ for earthen berms shall be added to the base quantity per the average increase in dB(A) between existing and predicted exterior noise levels of all impacted receptors within each noise sensitive area, which is defined as a group of receptors that are exposed to similar noise sources. A base dollar value of \$37,500 plus an incremental increase of \$525 (as defined above) shall be used to determine reasonableness of buffer zones and noise insulation.
- (c) A noise reduction design goal of at least 7 dB(A) must be evaluated for all front row receptors. At least one benefited front row receptor must achieve the noise reduction design goal of 7 dB(A) to indicate the noise abatement measure effectively reduces traffic noise.

Other Considerations

Prior to CE approval or issuance of a FONSI or ROD, NCDOT shall identify in environmental documents:

- (a) Noise abatement measures that are feasible and reasonable,
- (b) Noise impacts for which no abatement appears to be feasible and reasonable;
- (c) Locations where noise impacts will occur, where noise abatement is feasible and reasonable, and the locations that have no feasible and reasonable abatement.
- (d) Whether it is “likely” or “unlikely” that noise abatement measures will be installed for each noise sensitive area identified. “Likely” does not mean a firm commitment. The final decision on the installation of the abatement measures shall be made upon

completion of the project design, the public involvement process, concurrence with the NCDOT Policy, and FHWA approval.

Acceptable Noise Abatement Measures

The following noise abatement measures may be considered for incorporation into a project to reduce traffic noise impacts.

- (a) Construction of noise barriers
- (b) Traffic management measures
- (c) Alteration of horizontal and vertical alignments
- (d) Establishment of buffer zones
- (e) Noise insulation of Activity Category D land use facilities listed in Table 1 on Page 4 of this policy.

Third Party Participation

- (a) Third party funding of noise abatement measures cannot be used to make up the difference between the reasonable base quantity allowance and the actual quantity of noise abatement. Third party funding is allowed only by public entities, and can only be used to pay for additional features such as landscaping and aesthetic treatments for noise barriers that meet cost-effectiveness criteria.
- (b) Traditional highway construction resources pay for required noise abatement measures. Should a local government request that materials be used that are more costly than those proposed by NCDOT, the requesting entity must assume 100% of the actual additional construction cost.
- (c) If a local government insists on the provision of a noise abatement measure deemed not reasonable by NCDOT, an abatement measure may be installed provided the local government assumes 100% of the costs and obtains an encroachment permit from NCDOT to perform the work. These costs include, but are not limited to, preliminary engineering, actual construction and maintenance. In addition, local governments must ensure that NCDOT's material, design and construction specifications are met. The local government must also assume 100% of the liability associated with the measure and hold harmless the NCDOT.
- (d) For (b) and (c) above, the settlement agreement shall be signed before third party noise abatement design begins and payment shall be made to NCDOT before project construction begins.

Quantity Averaging

NCDOT will utilize abatement measure quantity averaging among all noise sensitive areas within the same Activity Category in Table 1 that are exposed to a common noise environment, i.e., similar noise sources and levels, traffic volumes, traffic mix, speed and topographic features, if:

- (a) No single common noise environment exceeds two times the base quantity reasonableness criteria (e.g., two times 2,500 square feet, or two times 7,000 cubic yards); and,
- (b) Collectively, all common noise environments being averaged do not exceed the base quantity reasonableness criteria.

PUBLIC INVOLVEMENT

Communication with the community regarding noise impacts and possible noise abatement shall occur at the start of the noise study process and continue throughout the development of the project. NCDOT will communicate with citizens to present information on the nature of highway traffic noise and discuss the effects of noise abatement measures in attenuating traffic noise and the types of noise abatement measures that may be considered. The concerns of the community shall be a major consideration in reaching a decision on the abatement measures to be provided.

COORDINATION WITH LOCAL OFFICIALS

NCDOT will provide all traffic noise analyses to local government officials within whose jurisdiction a highway project is proposed as early in the project planning process as possible to protect future development from becoming incompatible with traffic noise levels. Specifically, environmental documents and design noise reports will contain information identifying areas that may be impacted by traffic noise, predicted noise level contour information, the best estimation of future noise levels for developed and undeveloped lands or properties in the immediate vicinity of the project and other appropriate design information. If requested, NCDOT will assist local officials with coordination and distribution of this information to residents, property owners and developers. NCDOT will provide assistance to local jurisdictions in the development of local noise controls, when requested. NCDOT will advocate the planning, design and construction of noise-compatible development and encourage its practice among planners, building officials, developers and others.

All noise-sensitive areas and any known noise abatement measures will be presented and discussed at the Design Public Hearing and Design Public Meetings.

CONSTRUCTION NOISE

To minimize the impacts of construction noise on the public, NCDOT shall:

- (a) Identify land uses or activities that may be affected by noise from construction of the project.
- (b) Determine the measures that are needed in the plans and specifications to minimize or eliminate adverse construction noise impacts to the community. This determination shall consider the benefits achieved and the overall adverse social, economic, and environmental effects and costs of the abatement measures.
- (c) Consider construction techniques and scheduling to reduce construction noise impacts to nearby receptors and incorporate the needed abatement measures in the project plans and specifications.

FEDERAL PARTICIPATION

The costs of noise abatement measures may be included in federal-aid participating project costs with the federal share being the same as that for the system on which the project is located when:

- (a) Traffic noise impacts have been identified; and
- (b) Abatement measures have been determined to be feasible and reasonable pursuant to 23 CFR 772 and this policy.

REVIEW OF POLICY

This policy shall be reviewed by the NCDOT Board of Transportation at least every five years.