

Project No.: IM-0055-02(218), Hinds County

Noise Study Report

I-55 from the Copiah County Line to McDowell Road
Hinds County, Mississippi

Project Number: IM-0055-02(218)
FMS Number: 106023



Prepared by:



December 2011

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Noise Study Report

I-55 from Copiah County Line to McDowell Road Hinds County, Mississippi

INTRODUCTION

The Mississippi Department of Transportation (MDOT) proposes to repair pavement along the current four-lane, median divided highway system from the Copiah County Line north to McDowell Road in Hinds County, Mississippi. The project proposes to add one additional lane each in the northbound and southbound directions providing a total of six travel lanes (three travel lanes in each direction) between Terry Road and McDowell Road (refer to Figure 1). The purpose of the project is to improve the physical roadway conditions throughout the reach of the project and construct additional lanes from Terry Road to McDowell Road to relieve congestion for this portion of the interstate system. The proposed improvements will be accomplished within the existing rights-of-way.

A noise study was conducted for this project to predict the project's effect on the noise environment, identify where noise impacts are likely to occur, determine if noise abatement is feasible to reduce noise impacts, and meet the requirements of Title 23 of the Code of Federal Regulations Part 772 (23 CFR Part 772). The noise analysis was performed using validated computer models created with the Federal Highway Administration Traffic Noise Model® (FHWA TNM v. 2.5) to predict noise levels at occupied facilities in the project vicinity. Conceptual designs, topographic mapping, and aerial photography were used for the alternative analysis; therefore, noise level estimates at each occupied facility are approximate.

SUMMARY OF RESULTS

A total of 317 occupied facilities (receivers) in the vicinity of I-55 were evaluated for noise impacts and are shown in Figures 2 - 4. These include facilities with regular and temporary human use. The approximate location and land use for each facility is listed in Table 1. Of these, 142 facilities have existing traffic noise levels that approach or exceed the 23 CFR Part 772 Noise Abatement Criteria (NAC) levels.

At 155 occupied facilities, traffic noise impacts are expected to occur in the design year (2031) if the proposed project is not constructed. These represent 125 residential buildings, 22 institutions, places of worship, or recreation areas, and eight business facilities.

At 163 facilities, traffic noise impacts are expected to occur in the design year if the proposed project is constructed. These represent 133 residential buildings, 22 institutions, places of worship, or recreation areas, and eight business facilities.

Preliminary studies indicate that noise abatement is likely feasible and reasonable to eliminate or reduce some predicted noise impacts in two areas. These areas are located south of Savanna Street near Pine Ridge Park (Area E) and north of Savanna Street near Timber Ridge Drive (Area G). However, feasibility and reasonableness determinations may change due to changes in project design after approval of the environmental document. The final

recommendation on the construction of abatement measures is determined during the completion of the project's final design and the public involvement process.

FUNDAMENTALS OF SOUND AND NOISE

Sound is the vibration of air molecules in waves. Sound waves are produced by objects which rapidly move back and forth, and the rate of movement is called their frequency. The frequency of the moving objects determines the pitch of the sound. Sound frequencies are represented in units of Hertz (Hz), which correspond to the number of vibrations per second of a given tone. The commonly accepted limitation of human hearing to detect sound frequencies is between 20 Hz and 15,000 Hz.

The intensity or loudness of sound is measured in units of decibels (dB). However, since the human ear does not hear sound waves of different frequencies at the same subjective loudness, an adjustment or weighting of the high-pitched and low-pitched sounds is often used to approximate how a person hears sounds. Such sound level adjustments are called "A-weighted" noise levels and typically labeled as "dBA." Commonly accepted limits of human hearing are between the threshold of hearing at zero dBA and the threshold of pain at 140 dBA. Exhibit 1 shows some common A-weighted noise levels.

Studies have shown that a 10 dBA increase in sound level is perceived to be a doubling of the sound level as heard by the human ear. For example, a sound level of 60 dBA is perceived to be twice as loud as a sound level of 50 dBA. A sound level of 70 dBA is perceived to be twice as loud as a 60 dBA sound level and four times as loud as a 50 dBA sound level.

The decibel scale for measuring the intensity of sound is based on the logarithm of the sound pressure relative to a reference sound pressure. Logarithmic scales are based on powers of ten and are not linear. Changes in sound levels are complex to define. For example, when two sound levels of 60 dBA are added together, the resulting sound level is 63 dBA instead of 120 dBA.

Noise is defined as unwanted sound. Since highway traffic sound is normally unwanted, it is usually called highway traffic noise. The level of highway traffic noise is not constant; therefore, it is necessary to describe varying traffic noise levels statistically. The equivalent continuous sound level (Leq) is the statistical descriptor used in this report. The Leq sound level is the steady A-weighted sound level that would produce the same A-weighted sound energy over a stated period of time as a specified time-varying sound.

Exhibit 1: Common Indoor and Outdoor Noise Levels

Common Outdoor Noise Levels	Noise Level (dBA)	Common Indoor Noise Levels
	110	Rock Band
Jet Flyover at 1,000 feet	100	Inside Subway Train (NY)
Gas Lawn Mower at 3 feet		
Diesel Truck at 50 feet	90	Food Blender at 3 feet
Noisy Urban Daytime	80	Garbage Disposal at 3 feet
Gas Lawn Mower at 100 feet	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Small Theater, Large Conference Room (Background)
Quiet Suburban Nighttime		Library
	30	
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (Background)
	20	
		Broadcast and Recording Studio
	10	
	0	Threshold of Hearing

Sources: Traffic Noise Analysis And Abatement Manual, Mississippi Department of Transportation (MDOT). July 13, 2011.

Adapted from Guide on Evaluation and Attenuation of Traffic Noise, American Association of State Highway and Transportation Officials (AASHTO). 1974 (revised 1993).

NOISE IMPACT CRITERIA

In 23 CFR, Part 772, the FHWA defines traffic noise impacts as those that occur when predicted traffic noise levels approach or exceed the Noise Abatement Criteria (NAC) or when the predicted traffic noise levels substantially exceed the existing noise levels. A summary of the NAC for various land uses is presented in Exhibit 2.

The MDOT Highway Traffic Noise Policy (effective July 13, 2011) established official policy on traffic noise. This document sets policies and procedures for considering highway traffic noise and traffic noise abatement in the planning, design, and construction of highways. In this policy, MDOT defines a noise level approach to be within 1 dBA of the NAC. MDOT defines a substantial increase to be 15 dBA or more above existing noise levels.

Exhibit 2: Noise Abatement Criteria (NAC)

[Hourly A-Weighted Sound Level decibels (dBA)¹]

Activity Category	Activity Criteria ²		Evaluation Location	Activity Description
	Leq(h)	L10(h)		
A	57	60	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	70	Exterior	Residential
	52	55	Interior	
C ³	67	70	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	55	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	75	Exterior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.
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 Either Leq(h) or L10(h) (but not both) may be used on a project.

² The Leq(h) and L10(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.

³ Includes undeveloped lands permitted for this activity category.

Source: MDOT Highway Traffic Noise Policy, Effective July 13, 2011

NOISE LEVEL ESTIMATES

Estimates of exterior noise levels at occupied facilities in the vicinity of the project were calculated using the FHWA Traffic Noise Model® (FHWA TNM v. 2.5). Estimates were made for existing conditions, design year (2031) conditions if the project is constructed, and design year conditions if the project is not constructed. The noise level estimates considered existing and proposed roadway characteristics, conceptual design data, estimated traffic volumes, and operating speeds. Ambient noise measurements and the predictions of validated TNM models were used to determine the existing loudest-hour equivalent noise levels in areas of frequent human use in the project area (refer to documentation in Appendix A). According to FHWA guidance, the predictions documented in this report are based upon the proposed roadway alignment design and traffic conditions for the year 2031 that result in the loudest predicted hourly-equivalent traffic noise levels for each receiver. Existing and predicted design year 2031 hourly equivalent traffic noise levels at each facility are included in Table 1.

Occupied facilities the same distances from the highway have different noise level estimates. These differences are due to variations in existing topographic features, ground cover, building locations, and other factors. Actual noise levels may be lower than the noise level estimates in this report where occupied facilities are shielded by walls, berms, hills, or dense tree cover.

TRAFFIC

23 CFR 772, Section 772.9.d states that in “predicting noise levels and assessing noise impacts, traffic characteristics that would yield the worst traffic noise impact for the design year shall be used.” Since the level of highway traffic noise is normally related directly to the traffic volume, the traffic characteristics which will yield the worst hourly traffic noise impact on a regular basis for the design year will be the average hourly volume for the highest hour of each day of the design year. Traffic volumes for existing (2011) and design year (2031) conditions are shown in Table 2.

EXISTING NOISE ENVIRONMENT

A total of 317 facilities are located in the vicinity of the proposed project. Of these, 142 facilities have existing traffic noise levels that approach or exceed the NAC as described in Exhibit 2. Existing noise levels are shown in Table 1.

DESIGN YEAR (2031) NO-BUILD ALTERNATIVE NOISE ENVIRONMENT

At 155 occupied facilities, traffic noise impacts are expected to occur in the design year (2031) if the proposed project is not constructed. These represent 125 residential buildings, 22 institutions, places of worship, or recreation areas, and eight business facilities (see Exhibit 3). The predicted future noise levels for the 2031 No-Build Alternative are expected to be an average of 0.7 dBA higher than the existing noise levels.



Exhibit 3: Traffic Noise Impact Summary

ROADWAY LOCATION	TOTAL NO. OF RECEIVERS	NUMBER OF IMPACTED RECEIVERS ACCORDING TO TITLE 23 CFR PART 772 / MDOT POLICY				
		A	B	C	D	E
2031 Year No-Build Alternative						
Copiah Co. Line to Green Gable Rd. (Terry)	34	0	13	3	0	1
Green Gable Rd. (Terry) to Siwell Rd. (Byram)	36	0	15	7	0	1
Siwell Rd. (Byram) to McDowell Rd. (Jackson)	247	0	97	12	0	6
Total	317	0	125	22	0	8
2031 Year Build Alternative						
Copiah Co. Line to Green Gable Rd. (Terry)	34	0	13	3	0	1
Green Gable Rd. (Terry) to Siwell Rd. (Byram)	36	0	16	7	0	1
Siwell Rd. (Byram) to McDowell Rd. (Jackson)	247	0	104	12	0	6
Total	317	0	133	22	0	8

DESIGN YEAR (2031) BUILD ALTERNATIVE NOISE ENVIRONMENT

At 163 facilities, traffic noise impacts are expected to occur in the design year if the proposed project is constructed. These represent 133 residential buildings, 22 institutions, places of worship, or recreation areas, and eight business facilities. The predicted future noise levels for the 2031 Build Alternative are expected to be an average of 0.5 dBA higher than the existing noise levels.

TRAFFIC NOISE ABATEMENT

FHWA and MDOT require that feasible and reasonable measures be considered to mitigate noise impacts at the impacted facilities. Noise abatement measures must be considered for all receptors that are predicted to experience a noise impact. The MDOT Highway Traffic Noise Policy outlines the criteria for determining if a noise abatement measure is feasible and reasonable. Feasibility deals with engineering considerations to assess whether a substantial noise reduction can be achieved given the site conditions. A noise barrier is not feasible if a noise reduction of at least 5 dBA cannot be achieved for at least one impacted receiver. A noise barrier is evaluated for its reasonableness based on the following factors:

1. a majority of benefitted residents and property owners want a noise barrier.
2. the cost does not exceed \$30,000 per benefitted receiver.
3. a barrier must reduce the noise level by at least 7 dBA at ten percent or more of the benefitted receivers.
4. the impacted receivers must have been constructed or had building permits issued before the date of public knowledge of the project.

5. more consideration will be given to impacted receivers that predated initial highway construction.
6. more consideration will be given to impacted receivers with larger increases over existing noise levels.
7. more consideration will be given to areas where larger changes in noise levels are expected to occur if the project is constructed.
8. more consideration will be given to benefitted receivers with future build noise levels at or above the NAC.

Noise barriers were modeled in seven noise sensitive areas (Areas A through G). These are in the following locations and shown on Figures 2 – 4:

- Area A – West Side of I-55, North of Copiah County Line
- Area B – West Side of I-55, North of Tank Road
- Area C – East Side of I-55, North of Siwell Road
- Area D – West Side of I-55, North of Siwell Road
- Area E – East Side of I-55, South of Savanna Street
- Area F – West Side of Southbound On-Ramp from Savanna Street
- Area G – West Side of Southbound Off-Ramp for Savanna Street

Each noise barrier was assessed for feasibility and reasonableness as shown in Exhibit 4. Appendix C includes the performance and conceptual design characteristics for Barriers E, F, and G that were modeled in detail. The estimated cost of barrier construction (materials and labor) was assumed to be \$25 per square foot. Additional costs for drainage and barrier protection were also considered for Barriers E, F, and G because of their close proximity to the shoulder of I-55 and the parallel frontage road.

Exhibit 4: Sound Barrier Reasonableness Assessment

Noise Sensitive Area/	Barrier Dimensions (length x height)	Preliminary Construction Cost*	No. of Benefitted Receivers	Cost Per Benefitted Receiver	Allowable Cost Per Benefitted Receiver	Is Barrier Reasonable?
Area A	800ft x 8ft	\$159,975	0	\$159,975	\$30,000	No
Area B	700ft x 10ft	\$174,994	0	\$174,994	\$30,000	No
Area C	1,800ft x 8ft	\$314,886	8	\$39,361	\$30,000	No
Area D	3,120ft x 7ft	\$623,573	15	\$41,572	\$30,000	No
Area E	1,400ft x 12ft	\$605,000	40	\$15,125	\$30,000	Yes
Area F	1,290ft x 9-10ft	\$395,000	12	\$32,917	\$30,000	No
Area G	2,125ft x 12-16ft	\$895,000	93	\$9,624	\$30,000	Yes

*Note: The estimated cost of barrier construction (materials and labor) was assumed to be \$25 per square foot according to the MDOT Highway Traffic Noise Policy. Additional costs for drainage and barrier protection were also considered for Barriers E, F, and G.

Area A

In Area A, located on the west side of I-55 north of the Copiah County line, a barrier 800 feet long and eight feet high was considered to reduce the noise levels at an impacted place of worship. This barrier would not meet the criteria of providing at least a five dBA traffic noise level reduction to be feasible or reasonable.

Area B

In Area B, located on the west side of I-55 north of Tank Road, a barrier 700 feet long and ten feet high was considered to reduce the noise levels at an impacted place of worship. This barrier would not meet the criteria of providing at least a five dBA traffic noise level reduction to be feasible or reasonable.

Area C

In Area C, located on the east side of I-55, north of Siwell Road, a barrier 1,800 feet long and eight feet high was considered to reduce the noise levels at 11 impacted residences. Barrier C is estimated to cost \$314,886. This barrier would provide at least a five dBA traffic noise level reduction at 8 receivers. The \$39,361 cost per benefitted receiver is more than the maximum allowable \$30,000 per benefitted receiver and is not reasonable.

Area D

In Area D, located on the west side of I-55, north of Siwell Road, a barrier 3,120 feet long and seven feet high was considered to reduce the noise levels at 18 impacted facilities. Barrier D is estimated to cost \$623,573. This barrier would provide at least a five dBA traffic noise level reduction at 15 receivers. The \$41,572 cost per benefitted receiver is more than the maximum allowable \$30,000 per benefitted receiver and is not reasonable.

Area E

In Area E, along the east side of I-55, south of Savanna Street, a barrier 1,400 feet long and 12 feet high was considered to reduce the noise levels at 35 impacted residences near Pine Ridge Park (see Figure 5). Barrier E is estimated to cost \$605,000 for materials and labor, drainage, and barrier protection. The barrier would provide at least a five dBA traffic noise level reduction at 40 receivers, including 35 predicted impacts. The \$15,125 cost per benefit is less than the maximum allowable \$30,000 per benefit. The barrier is predicted to provide at least a seven dBA noise level reduction for ten percent of the impacted receivers and meets the criteria for being reasonable.

Area F

In Area F, along the west side of the southbound on-ramp from Savanna Street, a barrier 1,290 feet long and 9 to 10 feet high was considered to reduce the noise levels at 13 impacted receivers near Oneida Avenue (see Figure 6). Barrier F is estimated to cost \$395,000 for materials and labor, drainage, and barrier protection. The barrier would provide at least a

five dBA traffic noise level reduction at 12 receivers, including 11 predicted impacts. The \$32,917 cost per benefitted receiver is more than the maximum allowable \$30,000 per benefitted receiver and is not reasonable.

Area G

In Area G, along the west side of the southbound off-ramp for Savanna Street, a barrier 2,125 feet long and 12 to 16 feet high was considered to reduce the noise levels at 61 impacted receivers near Timber Ridge Drive (see Figure 7). Barrier G is estimated to cost \$895,000 for materials and labor, drainage, and barrier protection. The barrier would provide at least a five dBA traffic noise level reduction at 93 receivers, including 61 predicted impacts. The \$9,624 cost per benefit is less than the maximum allowable \$30,000 per benefit. The barrier is predicted to provide at least a seven dBA noise level reduction for ten percent of the impacted receivers and meets the criteria for being reasonable.

Noise abatement is likely feasible and reasonable to eliminate or reduce predicted noise impacts south of Savanna Street near Pine Ridge Park (Area E) and north of Savanna Street near Timber Ridge Drive (Area G). However, feasibility and reasonableness determinations may change due to changes in project design after approval of the environmental document. The final recommendation on the construction of abatement measures is determined during the completion of the project's final design and the public involvement process. During the design phase, after the exact location and design of the project have been determined, a public meeting will be held to provide detailed information on the design of the project and possible noise barriers. A survey will be conducted of the benefitted receivers to determine if they want a noise barrier.

CONSTRUCTION NOISE ABATEMENT

The following noise abatement measures will be included in the contract plans and specifications to prevent adverse construction noise impacts in the vicinity of the project:

1. The contractor shall comply with all state and local sound control and noise level rules, regulations and ordinances that apply to any work performed pursuant to the contract.
2. Each internal combustion engine used for any purpose on work related to the project shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without such muffler.

FHWA POLICY REGARDING LAND USE DEVELOPMENT AND FUTURE NOISE ABATEMENT

The FHWA will not normally participate in noise abatement measures unless there is construction or reconstruction of a highway section. However, the FHWA may participate in the noise abatement measures on an existing highway where land development or substantial construction predated the existence of any highway. The granting of a building permit, filing

of a plat plan or a similar action must have occurred prior to right of way acquisition or construction approval for the original highway.

Predicted build-condition traffic noise level contours are not a definitive means by which to assess traffic noise level impacts; however, they can aid in future land use planning efforts in undeveloped areas. The predicted distances to the 71 dBA and 66 dBA noise level contours were calculated for the project and measured from the center of I-55. These contours are shown in Exhibit 5.

Exhibit 5: Noise Contour Distances

Roadway Location	Noise Level Contour Distance From the Center of I-55 (feet)	
	66 dBA	71 dBA
Copiah Co. Line to Green Gable Rd. (Terry)	365	255
Green Gable Rd. (Terry) to Siwell Rd. (Byram)	320	185
Siwell Rd. (Byram) to Daniel Lake Blvd. (Jackson)	410	280
Daniel Lake Blvd. (Jackson) to McDowell Rd. (Jackson)	375	245

REFERENCES

Federal Highway Administration. Analysis of Highway Construction Noise. 1984.

Federal Highway Administration. CFR 23 Part 772 – Procedures for Abatement of Highway Traffic Noise and Construction Noise. [47 FR 29374, July 8, 1982; 47 FR 33956, August 5, 1982; 62 FR 42903, August 11, 1997].

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Federal Highway Administration. Highway Traffic Noise Analysis: Reasonableness and Feasibility of Abatement. U.S. Department of Transportation. Washington, D.C. 1992.

Federal Highway Administration. Highway Traffic Noise Barrier Construction Trends. Washington, D.C. April 2006.

Lee, Cynthia S.Y. and Fleming, Gregg G. Measurement of Highway-Related Noise. U.S. Department of Transportation Research and Special Programs Administration John A. Volpe National Transportation Systems Center Acoustics Facility, DTS-75. Cambridge, MA. May 1996.

Mississippi Department of Transportation. Highway Traffic Noise Policy. July 2011.

TABLES

**TABLE 1
EXTERIOR NOISE LEVELS
I-55 FROM COPIAH COUNTY LINE TO MCDOWELL ROAD
HINDS COUNTY, MISSISSIPPI**

RECEIVER INFORMATION					2011 EXISTING		2031 NO-BUILD ALTERNATIVE		2031 BUILD ALTERNATIVE	
ID #	LOCATION	LAND USE	CATEGORY	EQUIVALENT NO. OF RECEIVERS	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)
Siwell Road to McDowell Road										
R 1	551 E. McDowell Rd.	Restaurant/Bar/72	E	1	68	No	69	No	70	No
R 2	2812 Arbor Hill Dr.	Residential/67	B	1	63	No	64	No	65	No
R 3	2817 Kingswood Ave.	Residential/67	B	1	68	Yes	69	Yes	69	Yes
R 4	2816 Arbor Hill Dr.	Residential/67	B	1	63	No	64	No	65	No
R 5	2822 Kingswood Ave.	Residential/67	B	1	70	Yes	71	Yes	72	Yes
R 6	2821 Kingswood Ave.	Residential/67	B	1	67	Yes	68	Yes	68	Yes
R 7	2822 Arbor Hill Dr.	Residential/67	B	1	62	No	63	No	64	No
R 8	2827 Kingswood Ave.	Residential/67	B	1	66	Yes	67	Yes	67	Yes
R 9	2824 Arbor Hill Dr.	Residential/67	B	1	60	No	61	No	62	No
R 10	2831 Kingswood Ave.	Residential/67	B	1	65	No	66	Yes	67	Yes
R 11	2828 Arbor Hill Dr.	Residential/67	B	1	58	No	59	No	60	No
R 12	2833 Kingswood Ave.	Residential/67	B	1	65	No	66	Yes	66	Yes
R 13	2832 Arbor Hill Dr.	Residential/67	B	1	58	No	59	No	60	No
R 14	Crestwood Dr.	Residential/67	B	1	63	No	64	No	65	No
R 15	Crestwood Dr.	Residential/67	B	1	57	No	58	No	59	No
R 16	2931 Kingswood Ave.	Residential/67	B	1	62	No	63	No	63	No
R 17	452 Kingswood Ave.	Residential/67	B	1	66	Yes	67	Yes	67	Yes
R 18	436 Kingswood Ave.	Residential/67	B	1	63	No	64	No	64	No
R 19	467 Kingswood Ave.	Residential/67	B	1	72	Yes	73	Yes	73	Yes
R 20	451 Kingswood Ave.	Residential/67	B	1	68	Yes	69	Yes	69	Yes
R 21	427 Kingswood Ave.	Residential/67	B	1	65	No	66	Yes	66	Yes
R 22	2810 Englewood Blvd.	Residential/67	B	1	65	No	66	Yes	66	Yes
R 23	2816 Englewood Blvd.	Residential/67	B	1	64	No	65	No	65	No
R 24	2822 Englewood Blvd.	Residential/67	B	1	63	No	64	No	64	No
R 25	2828 Englewood Blvd.	Residential/67	B	1	63	No	64	No	64	No
R 26	2837 La Salle St.	Residential/67	B	1	67	Yes	68	Yes	68	Yes
R 27	2832 Englewood Blvd.	Residential/67	B	1	62	No	63	No	64	No
R 28	2832 La Salle St.	Residential/67	B	1	72	Yes	73	Yes	73	Yes
R 29	2838 Englewood Blvd.	Residential/67	B	1	61	No	62	No	63	No
R 30	2855 La Salle St.	Residential/67	B	1	61	No	62	No	62	No
R 31	2844 La Salle St.	Residential/67	B	1	64	No	65	No	66	Yes
R 32	2852 La Salle St.	Residential/67	B	1	62	No	63	No	63	No
R 33	2865 La Salle St.	Residential/67	B	1	58	No	59	No	59	No
R 34	2860 La Salle St.	Residential/67	B	1	60	No	61	No	61	No
R 35	2871 La Salle St.	Residential/67	B	1	57	No	58	No	58	No
R 36	2870 La Salle St.	Residential/67	B	1	59	No	61	No	61	No
R 37	2890 La Salle St.	Residential/67	B	1	61	No	62	No	62	No
R 38	2891 La Salle St.	Residential/67	B	1	57	No	58	No	58	No
R 39	2905 La Salle St.	Residential/67	B	1	62	No	63	No	63	No

TABLE 1
EXTERIOR NOISE LEVELS
I-55 FROM COPIAH COUNTY LINE TO MCDOWELL ROAD
HINDS COUNTY, MISSISSIPPI

RECEIVER INFORMATION					2011 EXISTING		2031 NO-BUILD ALTERNATIVE		2031 BUILD ALTERNATIVE	
ID #	LOCATION	LAND USE	CATEGORY	EQUIVALENT NO. OF RECEIVERS	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)
R 40	481 Arbor Hill Dr.	Residential/67	B	1	59	No	61	No	61	No
R 41	473 Arbor Hill Dr.	Residential/67	B	1	58	No	59	No	60	No
R 42	2910 La Salle St.	Residential/67	B	1	61	No	62	No	62	No
R 43	2922 La Salle St.	Residential/67	B	1	60	No	61	No	61	No
R 44	2928 La Salle St.	Residential/67	B	1	59	No	60	No	60	No
R 45	2925 La Salle St.	Residential/67	B	1	58	No	59	No	60	No
R 46	478 Dunlap Ave.	Residential/67	B	1	57	No	58	No	58	No
R 47	3077 I-55 Frontage Rd.	Nonprofit Institutional Structure/67	C	1	67	Yes	68	Yes	69	Yes
R 48	2938 La Salle St.	Residential/67	B	1	58	No	60	No	60	No
R 49	2944 La Salle St.	Residential/67	B	1	58	No	59	No	60	No
R 50	2950 La Salle St.	Residential/67	B	1	58	No	59	No	60	No
R 51	2958 La Salle St.	Residential/67	B	1	58	No	59	No	60	No
R 52	Shands St.	Institutional Structure/67	C	1	64	No	65	No	65	No
R 53	Shands St.	Community Pool/67	C	1	57	No	58	No	58	No
R 54	Shands St.	Picnic Area/67	C	1	57	No	58	No	58	No
R 55	Shands St.	Picnic Area/67	C	1	56	No	57	No	57	No
R 56	Shands St.	Playground/67	C	1	55	No	56	No	56	No
R 57	140 Shands St.	Place of Worship/67	C	1	65	No	66	Yes	66	Yes
R 58	100 Shands St.	Residential/67	B	1	58	No	58	No	59	No
R 59	468 Mason Blvd.	Residential/67	B	1	59	No	60	No	60	No
R 60	460 Mason Blvd.	Residential/67	B	1	57	No	57	No	57	No
R 61	454 Mason Blvd.	Residential/67	B	1	54	No	55	No	55	No
R 62	3624 Afton St.	Residential/67	B	1	66	Yes	67	Yes	67	Yes
R 63	467 Mason Blvd.	Residential/67	B	1	58	No	59	No	59	No
R 64	461 Mason Blvd.	Residential/67	B	1	55	No	56	No	56	No
R 65	3668 Afton St.	Residential/67	B	1	66	Yes	66	Yes	66	Yes
R 66	492 Creston Ave.	Residential/67	B	1	59	No	60	No	60	No
R 67	484 Creston Ave.	Residential/67	B	1	56	No	56	No	56	No
R 68	478 Creston Ave.	Residential/67	B	1	54	No	54	No	54	No
R 69	499 Creston Ave.	Residential/67	B	1	56	No	56	No	56	No
R 70	499 Creston Ave.	Residential/67	B	1	62	No	63	No	63	No
R 71	493 Creston Ave.	Residential/67	B	1	62	No	62	No	62	No
R 72	485 Creston Ave.	Residential/67	B	1	57	No	57	No	57	No
R 73	477 Creston Ave.	Residential/67	B	1	54	No	55	No	55	No
R 74	3875 I-55 South	Residential/Apartment/67	B	7	75	Yes	76	Yes	76	Yes
R 75	3875 I-55 South	Residential/Apartment/67	B	7	67	Yes	67	Yes	67	Yes
R 76	3875 I-55 South	Residential/Apartment/67	B	7	64	No	65	No	65	No
R 77	3875 I-55 South	Residential/Apartment/67	B	7	75	Yes	76	Yes	76	Yes
R 78	3875 I-55 South	Residential/Apartment/67	B	7	65	No	66	Yes	66	Yes
R 79	3875 I-55 South	Residential/Apartment/67	B	7	61	No	61	No	61	No

TABLE 1
EXTERIOR NOISE LEVELS
I-55 FROM COPIAH COUNTY LINE TO MCDOWELL ROAD
HINDS COUNTY, MISSISSIPPI

RECEIVER INFORMATION					2011 EXISTING		2031 NO-BUILD ALTERNATIVE		2031 BUILD ALTERNATIVE	
ID #	LOCATION	LAND USE	CATEGORY	EQUIVALENT NO. OF RECEIVERS	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)
R 80	3875 I-55 South	Residential/Apartment/67	B	7	71	Yes	71	Yes	71	Yes
R 81	3875 I-55 South	Residential/Apartment/67	B	7	67	Yes	67	Yes	67	Yes
R 82	3875 I-55 South	Residential/Apartment/67	B	7	58	No	58	No	58	No
R 83	3875 I-55 South	Institutional Structure/67	C	1	71	Yes	71	Yes	71	Yes
R 84	3875 I-55 South	Community Pool/67	C	1	69	Yes	69	Yes	70	Yes
R 85	3875 I-55 South	Playground/67	C	1	64	No	65	No	65	No
R 86	3875 I-55 South	Residential/Apartment/67	B	7	64	No	65	No	65	No
R 87	3875 I-55 South	Residential/Apartment/67	B	7	51	No	52	No	51	No
R 88	3875 I-55 South	Residential/Apartment/67	B	7	66	Yes	66	Yes	67	Yes
R 89	3875 I-55 South	Residential/Apartment/67	B	7	51	No	51	No	51	No
R 90	3875 I-55 South	Residential/Apartment/67	B	7	65	No	66	Yes	66	Yes
R 91	3568 I-55 South	Hotel/72	E	1	74	Yes	75	Yes	75	Yes
R 92	3572 I-55 South	Restaurant/Bar/72	E	1	76	Yes	77	Yes	77	Yes
R 93	3578 I-55 South	Nonprofit Institutional Structure/67	C	1	75	Yes	75	Yes	75	Yes
R 94	467 Savanna St.	Residential/67	B	1	65	No	65	No	66	Yes
R 95	451 Savanna St.	Residential/67	B	1	62	No	63	No	63	No
R 96	439 Savanna St.	Residential/67	B	1	60	No	60	No	60	No
R 97	423 Savanna St.	Residential/67	B	1	59	No	59	No	59	No
R 98	407 Savanna St.	Residential/67	B	1	59	No	59	No	60	No
R 99	3739 I-55 South	Residential/67	B	1	74	Yes	74	Yes	74	Yes
R 100	3757 I-55 South	Residential/67	B	1	76	Yes	76	Yes	76	Yes
R 101	3777 I-55 South	Residential/67	B	1	76	Yes	76	Yes	76	Yes
R 102	3793 I-55 South	Residential/67	B	1	75	Yes	75	Yes	75	Yes
R 103	3813 I-55 South	Residential/67	B	1	75	Yes	75	Yes	75	Yes
R 104	3831 I-55 South	Residential/67	B	1	75	Yes	76	Yes	76	Yes
R 105	478 Oneida Ave.	Residential/67	B	1	70	Yes	70	Yes	70	Yes
R 106	464 Oneida Ave.	Residential/67	B	1	66	Yes	66	Yes	66	Yes
R 107	452 Oneida Ave.	Residential/67	B	1	63	No	64	No	64	No
R 108	438 Oneida Ave.	Residential/67	B	1	63	No	63	No	64	No
R 109	416 Oneida Ave.	Residential/67	B	1	61	No	61	No	61	No
R 110	432 Edwina Cir.	Residential/67	B	1	56	No	57	No	57	No
R 111	466 Edwina Cir.	Residential/67	B	1	58	No	58	No	58	No
R 112	498 Edwina Cir.	Residential/67	B	1	62	No	62	No	63	No
R 113	498 Edwina Cir.	Residential/67	B	1	60	No	61	No	61	No
R 114	499 Edwina Cir.	Residential/67	B	1	60	No	60	No	60	No
R 115	467 Edwina Cir.	Residential/67	B	1	59	No	59	No	60	No
R 116	431 Edwina Cir.	Residential/67	B	1	58	No	58	No	58	No
R 117	463 Oneida Ave.	Residential/67	B	1	73	Yes	73	Yes	73	Yes
R 118	461 Oneida Ave.	Residential/67	B	1	68	Yes	68	Yes	68	Yes
R 119	445 Oneida Ave.	Residential/67	B	1	67	Yes	67	Yes	67	Yes

**TABLE 1
EXTERIOR NOISE LEVELS
I-55 FROM COPIAH COUNTY LINE TO MCDOWELL ROAD
HINDS COUNTY, MISSISSIPPI**

RECEIVER INFORMATION					2011 EXISTING		2031 NO-BUILD ALTERNATIVE		2031 BUILD ALTERNATIVE	
ID #	LOCATION	LAND USE	CATEGORY	EQUIVALENT NO. OF RECEIVERS	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)
R 120	433 Oneida Ave.	Residential/67	B	1	64	No	65	No	65	No
R 121	425 Oneida Ave.	Residential/67	B	1	63	No	63	No	63	No
R 122	413 Oneida Ave.	Residential/67	B	1	61	No	62	No	62	No
R 123	3871 I-55 South	Restaurant/Bar/72	E	1	70	Yes	71	Yes	71	Yes
R 124	3860 I-55 South	Hotel/72	E	1	73	Yes	73	Yes	73	Yes
R 125	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	76	Yes	76	Yes	76	Yes
R 126	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	75	Yes	76	Yes	76	Yes
R 127	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	75	Yes	75	Yes	75	Yes
R 128	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	75	Yes	75	Yes	75	Yes
R 129	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	70	Yes	71	Yes	71	Yes
R 130	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	69	Yes	69	Yes	70	Yes
R 131	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	68	Yes	69	Yes	69	Yes
R 132	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	67	Yes	68	Yes	68	Yes
R 133	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	65	No	65	No	66	Yes
R 134	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	66	Yes	67	Yes
R 135	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	65	No	65	No	65	No
R 136	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	65	No	65	No	66	Yes
R 137	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	65	No	65	No	66	Yes
R 138	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	65	No	65	No	66	Yes
R 139	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	63	No	63	No	64	No
R 140	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	66	Yes	66	Yes
R 141	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	66	Yes	66	Yes
R 142	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	66	Yes	67	Yes
R 143	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	67	Yes	67	Yes
R 144	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	67	Yes	67	Yes
R 145	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	67	Yes	67	Yes	67	Yes
R 146	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	67	Yes	67	Yes	68	Yes
R 147	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	69	Yes	70	Yes	70	Yes
R 148	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	67	Yes	68	Yes	68	Yes
R 149	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	67	Yes	67	Yes
R 150	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	75	Yes	76	Yes	75	Yes
R 151	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	75	Yes	76	Yes	75	Yes
R 152	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	75	Yes	75	Yes	75	Yes
R 153	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	75	Yes	76	Yes	75	Yes
R 154	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	66	Yes	66	Yes
R 155	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	67	Yes	67	Yes
R 156	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	66	Yes	67	Yes
R 157	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	66	Yes	66	Yes
R 158	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	66	Yes	66	Yes	66	Yes
R 159	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	65	No	66	Yes	66	Yes

**TABLE 1
EXTERIOR NOISE LEVELS
I-55 FROM COPIAH COUNTY LINE TO MCDOWELL ROAD
HINDS COUNTY, MISSISSIPPI**

RECEIVER INFORMATION					2011 EXISTING		2031 NO-BUILD ALTERNATIVE		2031 BUILD ALTERNATIVE	
ID #	LOCATION	LAND USE	CATEGORY	EQUIVALENT NO. OF RECEIVERS	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)
R 160	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	65	No	66	Yes	66	Yes
R 161	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	65	No	65	No	66	Yes
R 162	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	64	No	65	No	65	No
R 163	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	64	No	64	No	65	No
R 164	4388 I-55 S. Pine Ridge Park	Residential/67	B	1	63	No	64	No	64	No
R 165	Parham Bridge Park Dr.	Picnic Area/67	C	1	72	Yes	72	Yes	73	Yes
R 166	Parham Bridge Park Dr.	Playground/67	C	1	71	Yes	72	Yes	72	Yes
R 167	3935 I-55 South	Office/72	E	1	56	No	56	No	56	No
R 168	3935 I-55 South	Cemetery/67	C	3	63	No	63	No	64	No
R 169	4893 I-55 South	Nonprofit Institutional Structure/67	C	1	69	Yes	70	Yes	70	Yes
R 170A	Elton Park Dr.	Residential/Apartment/67	B	4	66	Yes	66	Yes	66	Yes
R 170B	Elton Park Dr.	Residential/Apartment/67	B	4	67	Yes	68	Yes	68	Yes
R 171A	Elton Park Dr.	Residential/Apartment/67	B	4	64	No	64	No	64	No
R 171B	Elton Park Dr.	Residential/Apartment/67	B	4	66	Yes	66	Yes	66	Yes
R 172A	Elton Park Dr.	Residential/Apartment/67	B	4	63	No	63	No	63	No
R 172B	Elton Park Dr.	Residential/Apartment/67	B	4	65	No	66	Yes	66	Yes
R 173A	Elton Park Dr.	Residential/Apartment/67	B	4	63	No	63	No	63	No
R 173B	Elton Park Dr.	Residential/Apartment/67	B	4	65	No	65	No	65	No
R 174A	Elton Park Dr.	Residential/Apartment/67	B	4	62	No	62	No	62	No
R 174B	Elton Park Dr.	Residential/Apartment/67	B	4	64	No	65	No	65	No
R 175	99 Rob Ln.	Residential/67	B	1	55	No	56	No	57	No
R 176	57 Rob Ln.	Residential/67	B	1	56	No	56	No	57	No
R 177	47 Rob Ln.	Residential/67	B	1	58	No	59	No	59	No
R 178	33 Rob Ln.	Residential/67	B	1	59	No	59	No	60	No
R 179	5316 I-55 South	Residential/67	B	1	73	Yes	73	Yes	73	Yes
R 180	5318 I-55 South	Residential/67	B	1	72	Yes	72	Yes	72	Yes
R 181	5271 Old Byram Rd.	Residential/67	B	1	64	No	65	No	65	No
R 182	5334 I-55 South	Residential/67	B	1	69	Yes	69	Yes	70	Yes
R 183	5305 Old Byram Rd.	Cemetery/67	C	3	64	No	64	No	65	No
R 184	5350 I-55 South	Place of Worship-Interior/52	D	2	39	No	39	No	40	No
R 185	5349 I-55 South	Residential/67	B	1	70	Yes	70	Yes	71	Yes
R 186	5351 I-55 South	Residential/67	B	1	74	Yes	75	Yes	74	Yes
R 187	140 Evans Dr.	Residential/67	B	1	69	Yes	70	Yes	70	Yes
R 188	126 Evans Dr.	Residential/67	B	1	65	No	66	Yes	66	Yes
R 189	118 Evans Dr.	Residential/67	B	1	63	No	63	No	64	No
R 190	175 Evans Dr.	Residential/67	B	1	74	Yes	74	Yes	75	Yes
R 191	109 Evans Dr.	Residential/67	B	1	65	No	65	No	65	No
R 192	5363 I-55 South	Residential/67	B	1	74	Yes	74	Yes	75	Yes
R 193	107 Evans Dr.	Residential/67	B	1	64	No	65	No	65	No
R 194	5354 I-55 South	Medical Facility/67	C	1	69	Yes	70	Yes	70	Yes

**TABLE 1
EXTERIOR NOISE LEVELS
I-55 FROM COPIAH COUNTY LINE TO MCDOWELL ROAD
HINDS COUNTY, MISSISSIPPI**

RECEIVER INFORMATION					2011 EXISTING		2031 NO-BUILD ALTERNATIVE		2031 BUILD ALTERNATIVE	
ID #	LOCATION	LAND USE	CATEGORY	EQUIVALENT NO. OF RECEIVERS	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)
R 195	5354 I-55 South	Medical Facility/67	C	1	73	Yes	73	Yes	74	Yes
R 196	122 Evangel St.	Residential/67	B	1	71	Yes	72	Yes	72	Yes
R 197	170 Evangel St.	Residential/67	B	1	60	No	61	No	61	No
R 198	5401 I-55 South	Place of Worship/67	C	2	71	Yes	72	Yes	72	Yes
R 199	5423 I-55 South	Residential/67	B	1	73	Yes	73	Yes	74	Yes
R 200	5371 I-55 South	Residential/67	B	1	74	Yes	75	Yes	75	Yes
R 201	5552 Terry Rd.	Residential/67	B	1	66	Yes	66	Yes	67	Yes
R 202	5560 Terry Rd.	Residential/67	B	1	65	No	66	Yes	66	Yes
R 203	5375 I-55 South	Residential/67	B	1	74	Yes	75	Yes	75	Yes
R 204	5568 Terry Rd.	Residential/67	B	1	66	Yes	66	Yes	67	Yes
R 205	5574 Terry Rd.	Residential/67	B	1	66	Yes	67	Yes	67	Yes
R 206	5582 Terry Rd.	Residential/67	B	1	67	Yes	68	Yes	68	Yes
R 207	5461 Terry Rd.	Residential/67	B	1	64	No	65	No	65	No
R 208	5408 I-55 South	Office/72	E	1	73	Yes	73	Yes	74	Yes
R 209	169 Evangel St.	Residential/67	B	1	59	No	60	No	60	No
R 210	508 Bounds Rd.	Residential/67	B	1	67	Yes	68	Yes	68	Yes
R 211	2001 Fox Hill Ln.	Residential/67	B	1	71	Yes	72	Yes	72	Yes
R 212	2002 Fox Hill Ln.	Residential/67	B	1	64	No	65	No	65	No
R 213	101 River Bend Dr.	Residential/67	B	1	63	No	64	No	64	No
R 214	2003 Fox Hill Ln.	Residential/67	B	1	70	Yes	71	Yes	71	Yes
R 215	2004 Fox Hill Ln.	Residential/67	B	1	63	No	64	No	64	No
R 216	105 Fox Hill Ln.	Residential/67	B	1	62	No	63	No	63	No
R 217	2005 Fox Hill Ln.	Residential/67	B	1	69	Yes	70	Yes	69	Yes
R 218	2006 Fox Hill Ln.	Residential/67	B	1	61	No	62	No	61	No
R 219	2007 Fox Hill Ln.	Residential/67	B	1	66	Yes	67	Yes	67	Yes
R 220	2008 Fox Hill Ln.	Residential/67	B	1	60	No	60	No	60	No
R 221	2013 Fox Cove West	Residential/67	B	1	70	Yes	70	Yes	70	Yes
R 222	2011 Fox Cove West	Residential/67	B	1	67	Yes	68	Yes	68	Yes
R 223	2009 Fox Hill Ln.	Residential/67	B	1	62	No	63	No	63	No
R 224	2010 Fox Hill Ln.	Residential/67	B	1	60	No	61	No	61	No
R 225	2012 Fox Hill Ln.	Residential/67	B	1	61	No	62	No	62	No
R 226	2014 Fox Hill Ln.	Residential/67	B	1	62	No	63	No	63	No
R 227	2015 Fox Cove West	Residential/67	B	1	70	Yes	71	Yes	71	Yes
R 228	2017 Fox Cove West	Residential/67	B	1	67	Yes	68	Yes	67	Yes
R 229	2019 Fox Cove West	Residential/67	B	1	66	Yes	67	Yes	67	Yes
R 230	2021 Fox Cove West	Residential/67	B	1	65	No	66	Yes	66	Yes
R 231	2023 Fox Hill Ln.	Residential/67	B	1	64	No	65	No	65	No
R 232	2025 Fox Hill Ln.	Residential/67	B	1	65	No	65	No	65	No
R 233	2027 Fox Hill Ln.	Residential/67	B	1	65	No	65	No	65	No
R 234	2029 Fox Hill Ln.	Residential/67	B	1	64	No	65	No	65	No

**TABLE 1
EXTERIOR NOISE LEVELS
I-55 FROM COPIAH COUNTY LINE TO MCDOWELL ROAD
HINDS COUNTY, MISSISSIPPI**

RECEIVER INFORMATION					2011 EXISTING		2031 NO-BUILD ALTERNATIVE		2031 BUILD ALTERNATIVE	
ID #	LOCATION	LAND USE	CATEGORY	EQUIVALENT NO. OF RECEIVERS	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)
R 235	5590 I-55 South	Hotel/72	E	1	70	No	71	Yes	71	Yes
R 236	5569 I-55 South	Hotel/72	E	1	64	No	65	No	66	No
R 237	5575 I-55 South	Restaurant/Bar/72	E	1	68	No	69	No	69	No
R 238	5579 I-55 South	Restaurant/Bar/72	E	1	65	No	66	No	66	No
R 239	4950 I-55 South	Restaurant/Bar/72	E	1	64	No	65	No	65	No
R 240	5583 I-55 South	Restaurant/Bar/72	E	1	66	No	66	No	66	No
R 241	5760 I-55 South	Restaurant/Bar/72	E	1	62	No	62	No	62	No
R 312	5362 I-55 South	Nonprofit Institutional Structure/67	C	1	71	Yes	72	Yes	72	Yes
Green Gable Road to Siwell Road										
R 242	Siwell Rd.	Place of Worship/67	C	2	69	Yes	69	Yes	69	Yes
R 243	1201 P Holmes Rd.	Residential/67	B	1	60	No	60	No	60	No
R 244	1229 P Holmes Rd.	Residential/67	B	1	64	No	64	No	64	No
R 245	1225 P Holmes Rd.	Residential/67	B	1	66	Yes	65	No	66	Yes
R 246	Cemetery Rd.	Residential/67	B	1	61	No	61	No	61	No
R 247	Cemetery Rd.	Residential/67	B	1	66	Yes	66	Yes	66	Yes
R 248	1223 P Holmes Rd.	Residential/67	B	1	62	No	62	No	62	No
R 249	Cemetery Rd.	Residential/67	B	1	68	Yes	67	Yes	68	Yes
R 250	Cemetery Rd.	Residential/67	B	1	63	No	62	No	63	No
R 251	1253 P Holmes Rd.	Residential/67	B	1	64	No	64	No	64	No
R 252	1257 P Holmes Rd.	Residential/67	B	1	63	No	63	No	63	No
R 253	1273 P Holmes Rd.	Residential/67	B	1	61	No	61	No	61	No
R 254	1293 P Holmes Rd.	Residential/67	B	1	69	Yes	69	Yes	69	Yes
R 255	Cemetery Rd.	Cemetery/67	C	2	67	Yes	67	Yes	67	Yes
R 256	1094 Prisock Rd.	Place of Worship-Interior/52	D	2	38	No	38	No	38	No
R 257	6685 I-55 South	Residential/67	B	1	63	No	64	No	64	No
R 258	6725 I-55 South	Place of Worship/67	C	2	73	Yes	73	Yes	73	Yes
R 259	6887 I-55 South	Residential/67	B	1	71	Yes	72	Yes	72	Yes
R 260	7001 I-55 South	Place of Worship/67	C	2	68	Yes	69	Yes	69	Yes
R 261	7013 I-55 South	Residential/67	B	1	68	Yes	69	Yes	67	Yes
R 262	7035 I-55 South	Residential/67	B	1	69	Yes	69	Yes	68	Yes
R 263	7039 I-55 South	Residential/67	B	1	69	Yes	70	Yes	69	Yes
R 264	33 Dearfield Rd.	Residential/67	B	1	62	No	62	No	62	No
R 265	7045 I-55 South	Residential/67	B	1	68	Yes	68	Yes	68	Yes
R 266	7065 I-55 South	Residential/67	B	1	70	Yes	70	Yes	70	Yes
R 267	7077 I-55 South	Residential/67	B	1	67	Yes	67	Yes	67	Yes
R 268	9385 I-55 South	Residential/67	B	1	74	Yes	74	Yes	74	Yes
R 269	692 I-55 South	Residential/67	B	1	70	Yes	70	Yes	69	Yes
R 270	690 I-55 South	Residential/67	B	1	70	Yes	70	Yes	69	Yes
R 271	11740 I-55 South	Residential/67	B	1	71	Yes	71	Yes	72	Yes
R 272	9186 Terry Rd.	Residential/67	B	1	66	Yes	67	Yes	66	Yes

**TABLE 1
EXTERIOR NOISE LEVELS
I-55 FROM COPIAH COUNTY LINE TO MCDOWELL ROAD
HINDS COUNTY, MISSISSIPPI**

RECEIVER INFORMATION					2011 EXISTING		2031 NO-BUILD ALTERNATIVE		2031 BUILD ALTERNATIVE	
ID #	LOCATION	LAND USE	CATEGORY	EQUIVALENT NO. OF RECEIVERS	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)	ESTIMATED Leq dBA	NOISE IMPACT (YES/NO)
R 273	Terry Rd.	Cemetery/67	C	3	67	Yes	67	Yes	66	Yes
R 274	Lester Stevens	Park/67	C	4	61	No	62	No	61	No
R 275	670 Morgan Dr.	Daycare Center/67	C	2	72	Yes	72	Yes	71	Yes
R 276	656 Morgan Dr.	Daycare Center/67	C	2	70	Yes	70	Yes	69	Yes
R 310	6310 I-55 South	Restaurant/Bar/72	E	1	72	Yes	73	Yes	72	Yes
Copiah County Line to Green Gable Road										
R 277	418 I-55 South	Cemetery/67	C	4	66	Yes	67	Yes	67	Yes
R 278	875 I-55 South	Place of Worship/67	C	2	68	Yes	68	Yes	68	Yes
R 279	Cunningham St.	Active Sports Area/67	C	4	60	No	61	No	61	No
R 280	Cunningham St.	Active Sports Area/67	C	4	61	No	61	No	61	No
R 281	235 W. Beasley St.	School/67	C	2	61	No	61	No	61	No
R 282	235 W. Beasley St.	School/67	C	2	62	No	62	No	62	No
R 283	12529 I-55 South	Residential/67	B	1	69	Yes	69	Yes	69	Yes
R 284	12575 I-55 South	Residential/67	B	1	69	Yes	70	Yes	70	Yes
R 285	12789 I-55 South	Residential/67	B	1	71	Yes	71	Yes	71	Yes
R 286	12842 I-55 South	Residential/67	B	1	71	Yes	72	Yes	72	Yes
R 287	12827 I-55 South	Residential/67	B	1	72	Yes	72	Yes	72	Yes
R 288	12860 I-55 South	Residential/67	B	1	71	Yes	71	Yes	71	Yes
R 289	12902 I-55 South	Residential/67	B	1	72	Yes	72	Yes	72	Yes
R 290	14049 I-55 South	Residential/67	B	1	73	Yes	73	Yes	73	Yes
R 291	14285 I-55 South	Residential/67	B	1	71	Yes	71	Yes	71	Yes
R 292	2361 Cherry Grove Rd.	Residential/67	B	1	65	No	65	No	65	No
R 293	2349 Cherry Grove Rd.	Residential/67	B	1	63	No	63	No	63	No
R 294	2349 Cherry Grove Rd.	Residential/67	B	1	62	No	62	No	62	No
R 295	2257 Cherry Grove Rd.	Residential/67	B	1	64	No	64	No	64	No
R 296	2219 Cherry Grove Rd.	Residential/67	B	1	65	No	65	No	65	No
R 297	14289 I-55 South	Residential/67	B	1	66	Yes	66	Yes	66	Yes
R 298	14345 I-55 South	Residential/67	B	1	67	Yes	67	Yes	67	Yes
R 299	14790 I-55 South	Residential/67	B	1	63	No	63	No	63	No
R 300	14838 I-55 South	Residential/67	B	1	62	No	62	No	62	No
R 301	14924 I-55 South	Residential/67	B	1	64	No	64	No	64	No
R 302	14950 I-55 South	Residential/67	B	1	62	No	62	No	62	No
R 303	150 Pecan Ridge Ln.	Residential/67	B	1	67	Yes	67	Yes	67	Yes
R 304	130 Pecan Ridge Ln.	Residential/67	B	1	60	No	60	No	60	No
R 305	120 Pecan Ridge Ln.	Residential/67	B	1	60	No	60	No	60	No
R 306	160 Pecan Ridge Ln.	Residential/67	B	1	69	Yes	69	Yes	69	Yes
R 307	1150 Sawmill Rd.	Residential/67	B	1	59	No	60	No	60	No
R 308	20544 Midway Rd.	Place of Worship/67	C	2	67	Yes	67	Yes	67	Yes
R 309	1053 Sawmill Rd.	Residential/67	B	1	57	No	58	No	58	No
R 311	US Hwy 51	Restaurant/Bar/72	E	1	73	Yes	73	Yes	73	Yes

**TABLE 2
TRAFFIC DATA
I-55 FROM THE COPIAH COUNTY LINE TO MCDOWELL ROAD
HINDS COUNTY, MISSISSIPPI**

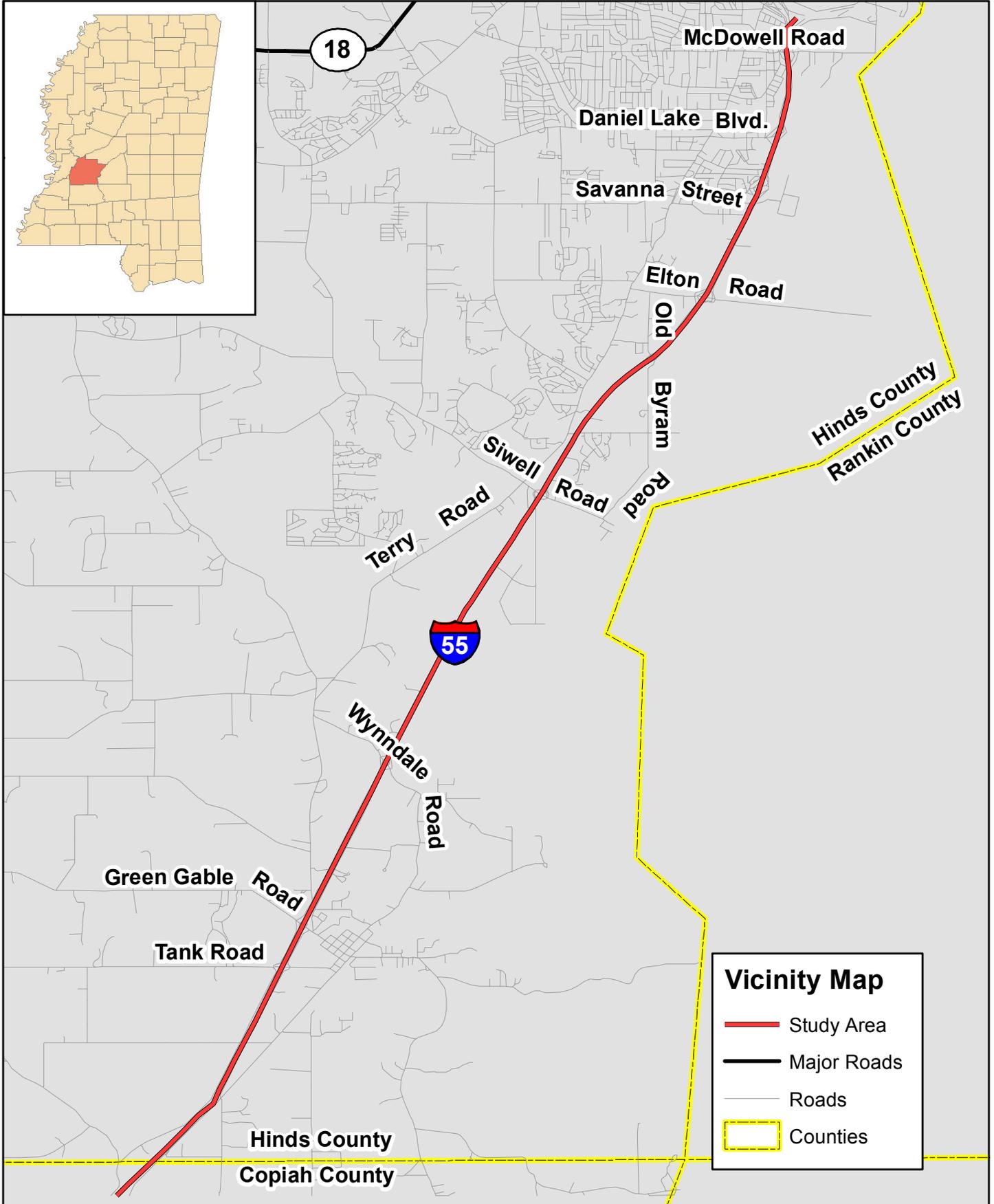
2010 Traffic Computations		Speed (mph)	Two Way Design Hourly Traffic	Medium Truck Percentage	Heavy Truck Percentage	One Way Hourly Traffic	Hourly Volume (Cars)	Hourly Volume (Medium Trucks)	Hourly Volume (Heavy Trucks)
I-55, McDowell Road to Daniel Lake Boulevard	NB	70	6,192	3.0	7.0	3,096	2,786	93	217
	SB	70	6,192	3.0	6.0	3,096	2,817	93	186
I-55, Savanna Street to Elton Road	NB	70	4,970	3.0	7.0	2,286	2,058	69	160
	SB	70	4,970	3.0	7.0	2,684	2,415	81	188
I-55, Elton Road to South Siwell Road	NB	70	4,844	3.0	11.0	2,325	1,999	70	256
	SB	70	4,844	3.0	9.0	2,519	2,216	76	227
I-55, South Siwell Road to Wyndale Road	NB	70	3,579	3.0	13.0	1,754	1,473	53	228
	SB	70	3,579	3.0	9.0	1,825	1,606	55	164
I-55, Wyndale Road to Green Gable Road /	NB	70	3,364	3.0	15.0	1,648	1,352	49	247
	SB	70	3,364	3.0	17.0	1,716	1,372	51	292
I-55, Tank Road to Copiah County Line	NB	70	2,784	3.0	18.0	1,364	1,078	41	246
	SB	70	2,784	3.0	18.0	1,420	1,122	43	256
2031 Traffic Computations		Speed (mph)	Two Way Design Hourly Traffic	Medium Truck Percentage	Heavy Truck Percentage	One Way Hourly Traffic	Hourly Volume (Cars)	Hourly Volume (Medium Trucks)	Hourly Volume (Heavy Trucks)
I-55, McDowell Road to Daniel Lake Boulevard	NB	70	7,556	3.0	7.0	3,703	3,332	111	259
	SB	70	7,556	3.0	6.0	3,854	3,507	116	231
I-55, Savanna Street to Elton Road	NB	70	5,358	3.0	7.0	2,465	2,218	74	173
	SB	70	5,358	3.0	7.0	2,893	2,604	87	203
I-55, Elton Road to South Siwell Road	NB	70	5,240	3.0	11.0	2,515	2,163	75	277
	SB	70	5,240	3.0	9.0	2,725	2,398	82	245
I-55, South Siwell Road to Wyndale Road	NB	70	3,858	3.0	13.0	1,890	1,588	57	246
	SB	70	3,858	3.0	9.0	1,968	1,731	59	177
I-55, Wyndale Road to Green Gable Road /	NB	70	3,626	3.0	15.0	1,777	1,457	53	267
	SB	70	3,626	3.0	17.0	1,849	1,480	55	314
I-55, Tank Road to Copiah County Line	NB	70	3,012	3.0	18.0	1,476	1,166	44	266
	SB	70	3,012	3.0	18.0	1,536	1,213	46	276

Design hourly traffic volumes were obtained using 10% of average daily traffic

FIGURES

Figure 1
Vicinity Map

I-55 from the Copiah County Line to McDowell Road
Hinds County, Mississippi



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 CONSULTING ENGINEERS

2550 IRVIN COBB DRIVE
 PADUCAH, KY 42003
 (270) 444-9691



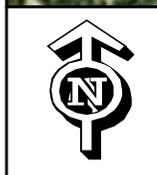
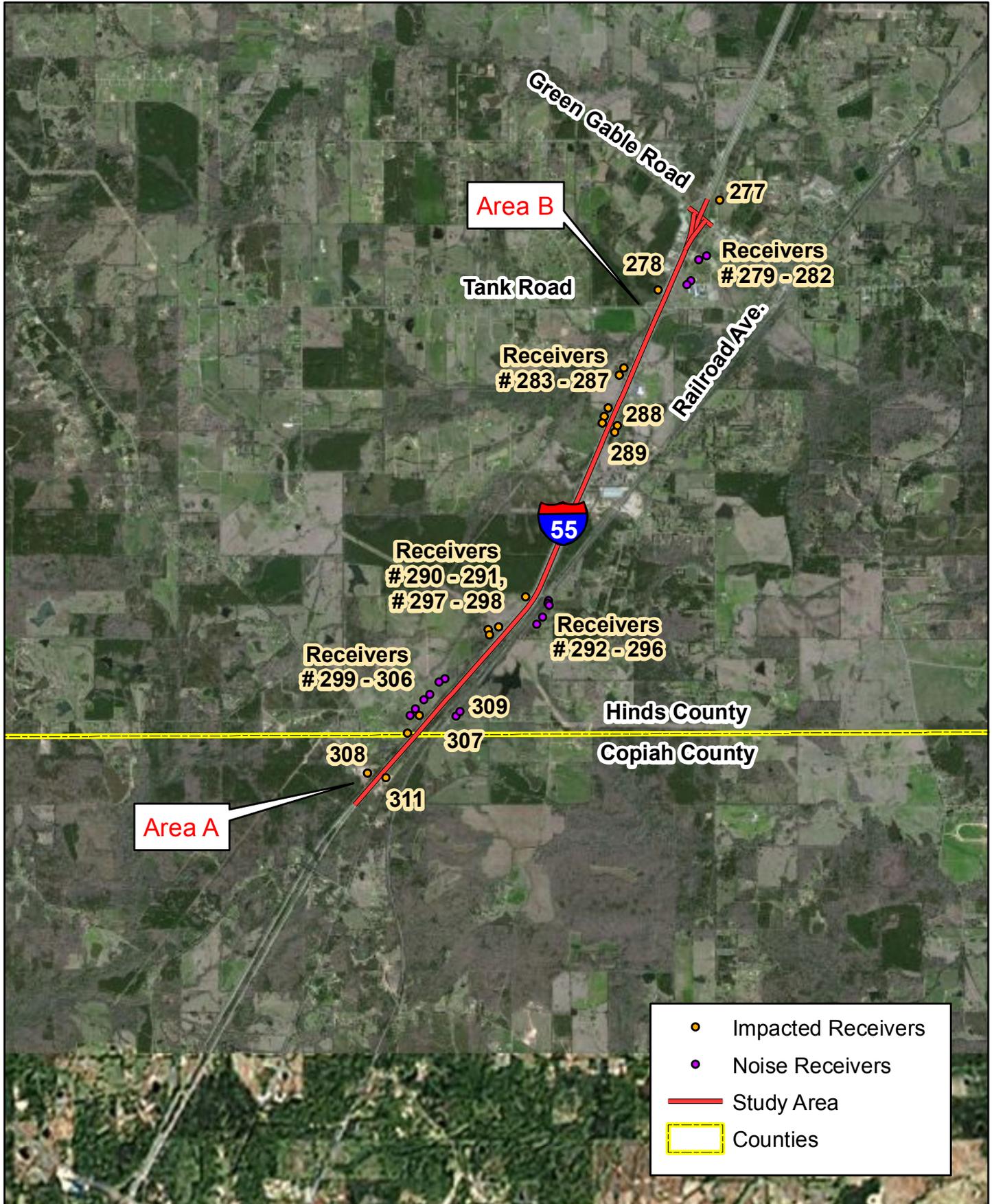
PROJECT:
I-55 NOISE STUDY

TITLE:
 STUDY AREA

FIGURE
1

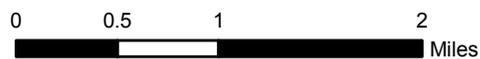
Figure 2
 Copiah County Line to Green Gable Road

I-55 from the Copiah County Line to McDowell Road
 Hinds County, Mississippi



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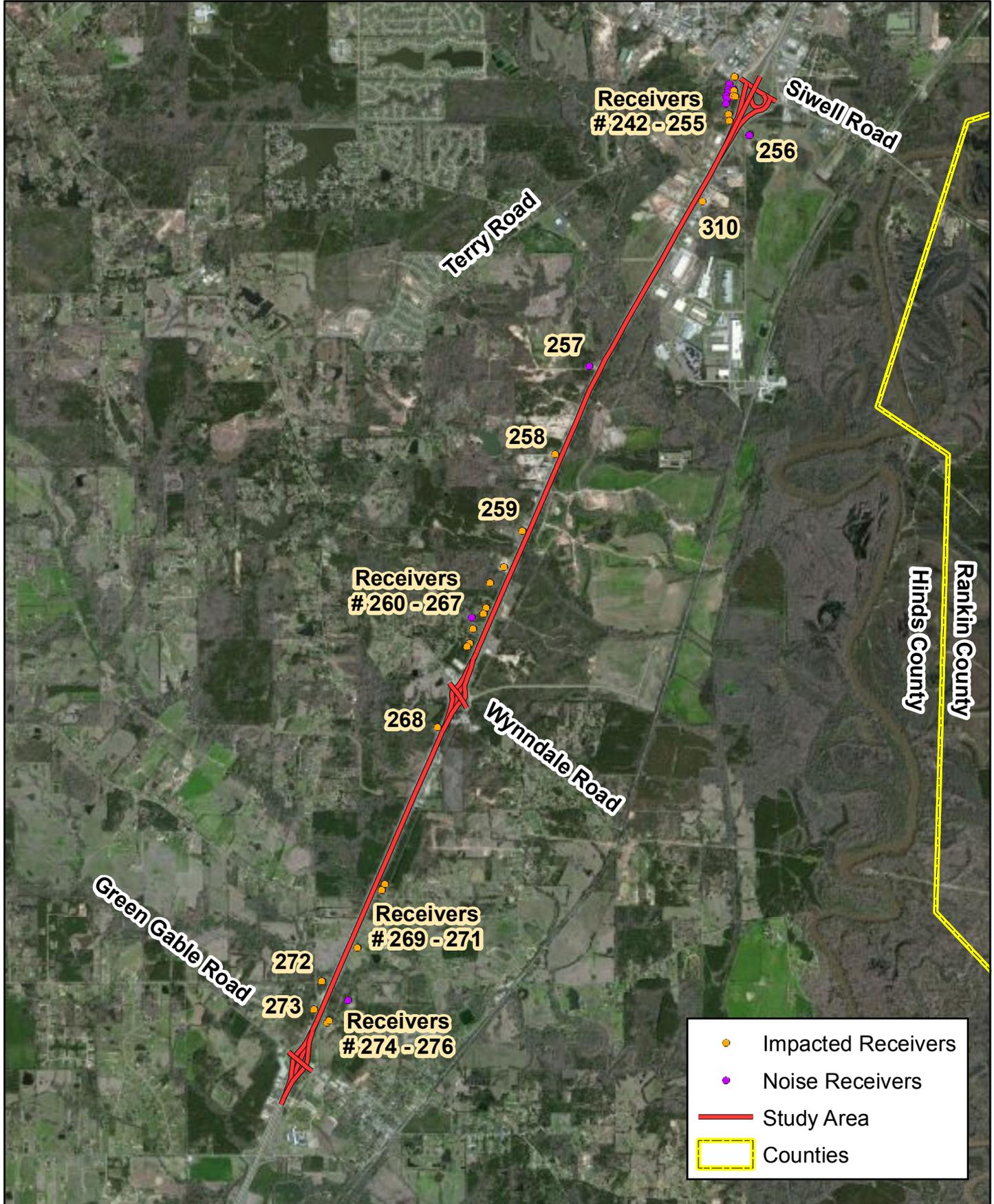
PROJECT:
I-55 NOISE STUDY

TITLE:
 STUDY AREA

FIGURE
2

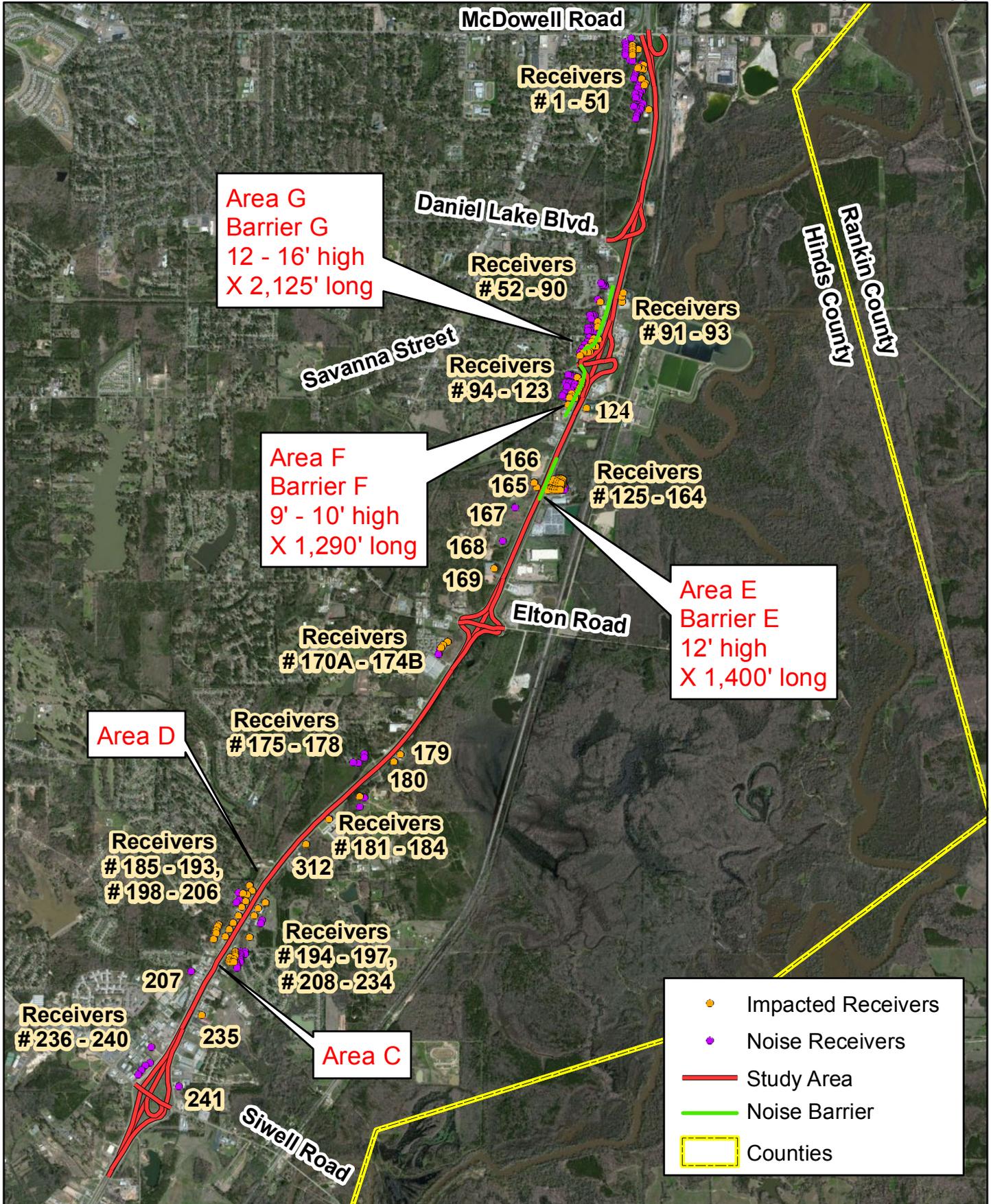
Figure 3
Green Gable Road to Siwell Road

I-55 from the Copiah County Line to McDowell Road
Hinds County, Mississippi



	Impacted Receivers
	Noise Receivers
	Study Area
	Counties

Figure 4
Siwell Road to McDowell Road



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PADUCAH, KY 42003
(270) 444-9691

PROJECT:

I-55 NOISE STUDY

TITLE:

STUDY AREA

FIGURE

4

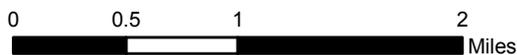


Figure 5
Barrier E



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(270) 444-9691

PROJECT:

I-55 NOISE STUDY

TITLE:

NOISE BARRIER LOCATION

FIGURE

5

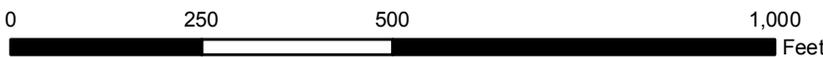


Figure 6
Barrier F



Area F
Barrier F
9' - 10' high
X 1,290' long

- Impacted Receivers
- Noise Receivers
- Barrier F

Figure 7
Barrier G



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PROJECT:

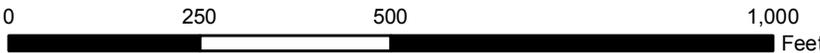
I-55 NOISE STUDY

TITLE:

NOISE BARRIER LOCATION

FIGURE

7



Appendix A

AMBIENT NOISE LEVEL MONITORING

The following ambient noise monitoring data was obtained on Tuesday, Wednesday and Thursday August 23 - 25, 2011 in conjunction with the assessment of traffic noise impacts and assessment of potential impact abatement measures for the noise-sensitive area adjacent to I-55 from Copiah County Line to McDowell Road.

Table A-1: Traffic Noise Hourly-Equivalent Sound Levels, $L_{eq(h)}$ ¹

Receptor	Land Use	Location ²	Start / Stop Time	$L_{eq(h)}$ (dB(A))
NR 1	Church	I-55 Frontage Rd. North of Tank Rd.	1:26pm – 1:41pm	62
NR 4	Residential	I-55 W. Frontage Rd. South of Tank Rd.	9:26am – 9:41 am	68
NR 5	School	I-55 E. Frontage Rd. @ W. Beasley St.	12:53pm – 1:08pm	57
NR 6	Daycare Center	I-55 E. Frontage Rd. @ Morgan Dr.	12:06pm – 12:21pm	66
NR 7	Cemetery	I-55 W. Frontage Rd. @ Terry Rd.	10:40am – 10:55am	67
NR 8	Residence	I-55 E. Frontage Rd. @ W. Levon Owens Dr.	11:26am – 11:41am	65
NR 10	Church	I-55 W. Frontage Rd @ 0.8 mi. North of Wynndale Rd.	6:32pm – 6:47pm	71
NR 14	Church	I-55 E. Frontage Rd. @ Prisock Rd.	4:27 pm – 4:42 pm	62
NR 15	Cemetery	I-55 W. Frontage Rd. @ P. Holmes Rd.	5:41pm – 5:56pm	63
NR 17	Residential	I-55 E. Frontage Rd. @ Fox Cove	7:31pm – 7:46pm	68
NR 18	Church	I-55 W. Frontage Rd. @ Byram Assembly of God	3:05pm – 3:20pm	70
NR 19	Church	I-55 E. Frontage Rd. South of Old Byram Rd.	8:10pm – 8:25pm	67
NR 22	Residential	I-55 E. Frontage Rd. South of Savanna Street	8:50pm – 9:05pm	68
NR 23	Res./Apt.	I-55 W. Frontage Rd. North of Savanna St.	11:45am – 12:00pm	67
NR 24	Nonprofit Institutional Structure	I-55 W. Frontage Rd. South of W. McDowell Rd.	10:43am – 10:58am	66
NR 25	Pool Club House	I-55 W. Frontage Rd. @ Shands St.	12:55pm – 1:10pm	67
NR 29	Church	I-55 W. Frontage Rd. @ Salem MB Church	11:31am – 11:46am	62
NR 30	Picnic Area	I-55 W. Frontage Rd. @ Parham Bridges Park	1:59pm – 2:14pm	69

1. In accordance with FHWA guidance and accepted industry standards, hourly equivalent sound levels, $L_{eq(h)}$, were extrapolated from short-term data collection monitoring sessions, and are expressed in units of A-weighted decibels (dB(A)) rounded to the nearest whole number. Data was obtained on Tuesday, Wednesday & Thursday, August 23 - 25, 2011.

2. For each Setup, noise meters were located at logical locations for the assessment of existing highway traffic noise or for the prediction of noise level increase(s) due to future highway traffic noise.

Table A-2: Field Traffic Data for I-55

Field Traffic Data		Traffic Counts ¹					% Trucks (Directional)			% Trucks (Total)		
		Autos	Medium Trucks	Heavy Trucks	Motorcycles	I-55 Speed Limit (mph)	Medium Trucks	Heavy Trucks	Total	Medium Trucks	Heavy Trucks	Total
NR 1	NB	143 (572)	6 (24)	41 (164)	1 (4)	70	3.2%	21.6%	24.7%	2.6%	21.3%	23.9%
	SB	121 (484)	3 (12)	33 (132)	1 (4)	70	1.9%	21.0%	22.9%			
NR 4	NB	195 (780)	2 (8)	36 (144)	0 (0)	70	0.9%	15.5%	16.3%	2.1%	17.4%	19.6%
	SB	142 (568)	7 (28)	37 (148)	1 (4)	70	3.8%	19.9%	23.7%			
NR 5	NB	116 (464)	6 (24)	39 (156)	0 (0)	70	3.7%	24.2%	28.0%	2.2%	21.2%	23.4%
	SB	130 (520)	1 (4)	29 (116)	1 (4)	70	0.6%	18.1%	18.8%			
NR 6	NB	162 (648)	6 (24)	43 (172)	0 (0)	70	2.8%	20.4%	23.2%	2.0%	20.2%	22.2%
	SB	115 (460)	1 (4)	29 (116)	0 (0)	70	0.7%	20.0%	20.7%			
NR 7	NB	177 (708)	2 (8)	27 (108)	0 (0)	70	1.0%	13.1%	14.1%	1.1%	14.3%	15.4%
	SB	130 (520)	2 (8)	25 (100)	1 (4)	70	1.3%	15.9%	17.2%			
NR 8	NB	166 (664)	6 (24)	29 (116)	0 (0)	70	3.0%	14.4%	17.4%	3.5%	16.4%	19.9%
	SB	131 (524)	7 (28)	32 (128)	0 (0)	70	4.1%	18.8%	22.9%			
NR 10	NB	250 (1,000)	7 (28)	34 (136)	0 (0)	70	2.4%	11.7%	14.1%	1.5%	7.9%	9.4%
	SB	470 (1,880)	5 (20)	29 (116)	0 (0)	70	1.0%	5.8%	6.7%			
NR 14	NB	151 (604)	7 (28)	36 (144)	0 (0)	70	3.6%	18.6%	22.2%	3.2%	13.0%	16.2%
	SB	274 (1,096)	9 (36)	30 (120)	0 (0)	70	2.9%	9.6%	12.5%			
NR 15	NB	190 (760)	7 (28)	48 (192)	0 (0)	70	2.9%	19.6%	22.4%	1.6%	10.1%	11.7%
	SB	404 (1,616)	4 (16)	20 (80)	0 (0)	70	0.9%	4.7%	5.6%			
NR 17	NB	182 (728)	6 (24)	32 (128)	0 (0)	70	2.7%	14.5%	17.3%	2.1%	10.1%	12.1%
	SB	281 (1,124)	5 (20)	21 (84)	2 (8)	70	1.6%	6.8%	8.5%			
NR 18	NB	169 (676)	14 (56)	36 (144)	0 (0)	70	6.4%	16.4%	22.8%	3.7%	14.7%	18.4%
	SB	320 (1,280)	8 (32)	52 (208)	1 (4)	70	2.1%	13.7%	15.8%			
NR 19	NB	124 (496)	4 (16)	18 (72)	0 (0)	70	2.7%	12.3%	15.1%	1.2%	8.4%	9.6%
	SB	320 (1,280)	2 (8)	23 (92)	2 (8)	70	0.6%	6.7%	7.2%			
NR 22	NB	167 (668)	2 (8)	20 (80)	0 (0)	70	1.1%	10.6%	11.6%	1.3%	8.7%	10.0%
	SB	237 (948)	4 (16)	19 (76)	0 (0)	70	1.5%	7.3%	8.8%			
NR 23	NB	275 (1,100)	8 (32)	30 (120)	0 (0)	70	2.6%	9.6%	12.1%	3.0%	10.7%	13.7%
	SB	279 (1,116)	11 (44)	39 (156)	0 (0)	70	3.3%	11.9%	15.2%			
NR 24	NB	398 (1,592)	8 (32)	32 (128)	0 (0)	70	1.8%	7.3%	9.1%	2.3%	11.3%	13.7%
	SB	228 (912)	9 (36)	50 (200)	2 (8)	70	3.1%	17.4%	20.6%			
NR 25	NB	269 (1,076)	14 (56)	40 (160)	2 (8)	70	4.3%	12.4%	16.7%	3.7%	10.8%	14.5%
	SB	292 (1,168)	10 (40)	31 (124)	1 (4)	70	3.0%	9.3%	12.3%			
NR 29	NB	125 (500)	1 (4)	36 (144)	1 (4)	70	0.6%	22.2%	22.8%	2.2%	21.2%	23.4%
	SB	88 (352)	5 (20)	23 (92)	0 (0)	70	4.3%	19.8%	24.1%			
NR 30	NB	262 (1,048)	13 (52)	35 (140)	1 (4)	70	4.2%	11.3%	15.5%	3.8%	7.9%	11.6%
	SB	322 (1,288)	12 (48)	17 (68)	8 (32)	70	3.4%	4.8%	8.3%			

1. Traffic counts are shown as determined in the field during an approximate 15 minute period followed by an equivalent hourly count in parenthesis (). The equivalent hourly count was found by multiplying the field data by four (ex: 92 x 4 = 368).

Table A-3: Noise Monitoring Sessions Weather Data

Receptor	Temp. (°F)	Dew Point (°F)	Pressure (inches)	Wind Direction	Wind Speed (mph)	Relative Humidity	Precipitation
NR 1	93.9	68.0	29.94	WNW	8.1	43%	N/A
NR 4	84.9	72.0	29.95	Calm	Calm	65%	N/A
NR 5	93.9	68.0	29.94	WNW	8.1	43%	N/A
NR 6	96.1	71.1	29.95	North	4.6	44%	N/A
NR 7	91.9	70.0	29.97	Calm	Calm	48%	N/A
NR 8	93.9	70.0	29.96	Variable	3.5	46%	N/A
NR 10	96.1	68.0	29.85	North	6.9	40%	N/A
NR 14	97.0	66.0	29.86	Variable	3.5	36%	N/A
NR 15	97.0	66.0	29.85	NNW	4.6	36%	N/A
NR17	93.9	68.0	29.85	North	3.5	43%	N/A
NR18	96.1	66.9	29.88	Variable	3.5	38%	N/A
NR19	88.0	70.0	29.86	Calm	Calm	55%	N/A
NR 22	84.9	71.1	29.87	NNW	3.5	63%	N/A
NR 23	90.0	68.0	29.97	Variable	6.9	48%	N/A
NR 24	86.0	69.1	29.96	ENE	4.6	5%	N/A
NR 25	93.0	68.0	29.93	NW	4.6	44%	N/A
NR 29	91.0	73.0	29.95	Calm	Calm	55%	N/A
NR 30	97.0	68.0	29.91	North	8.1	39%	N/A

Source: Weather Underground (<http://www.wunderground.com>).

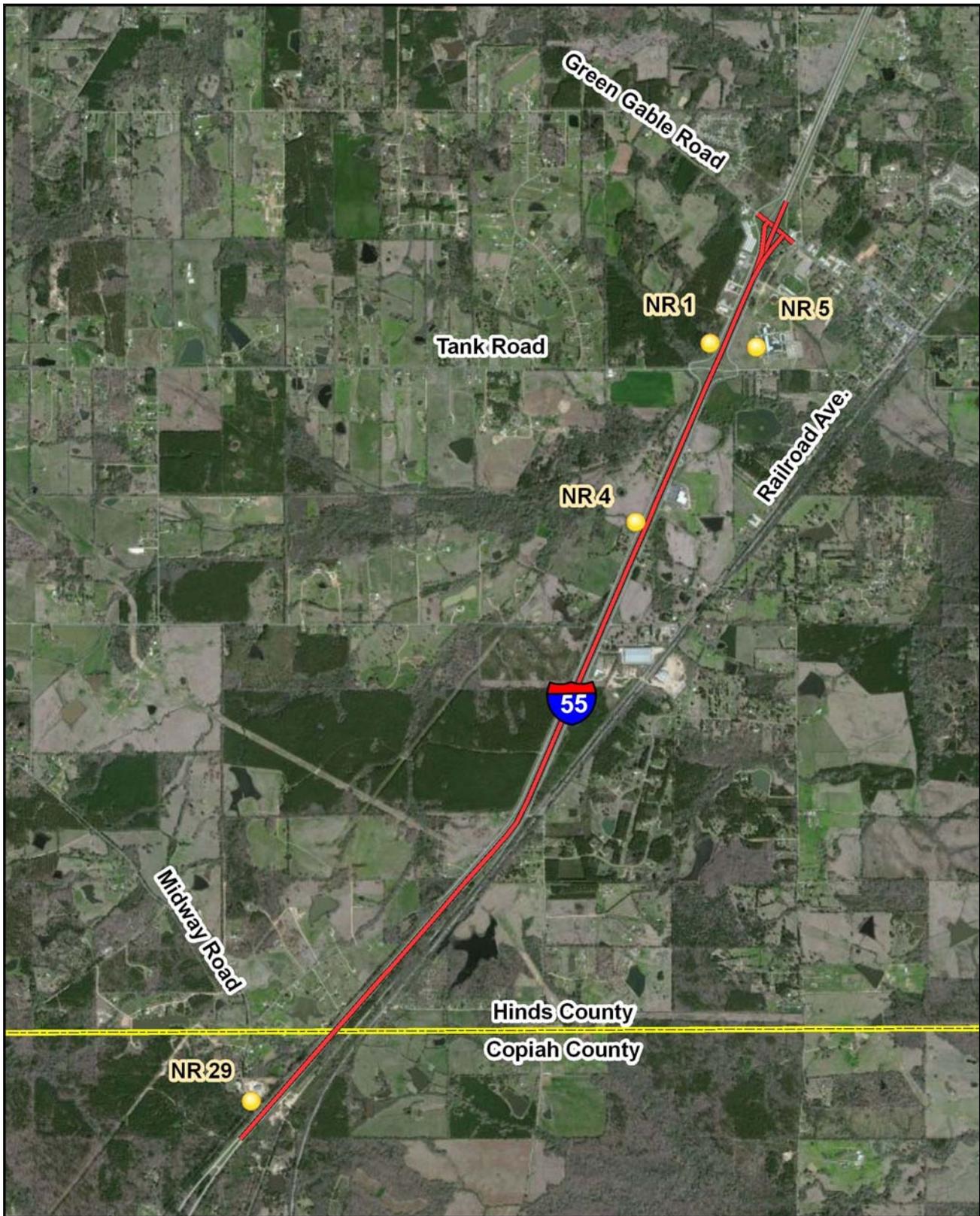


Figure A.1: I-55 from Copiah County Line to McDowell Road
Traffic Noise Measurement Sites

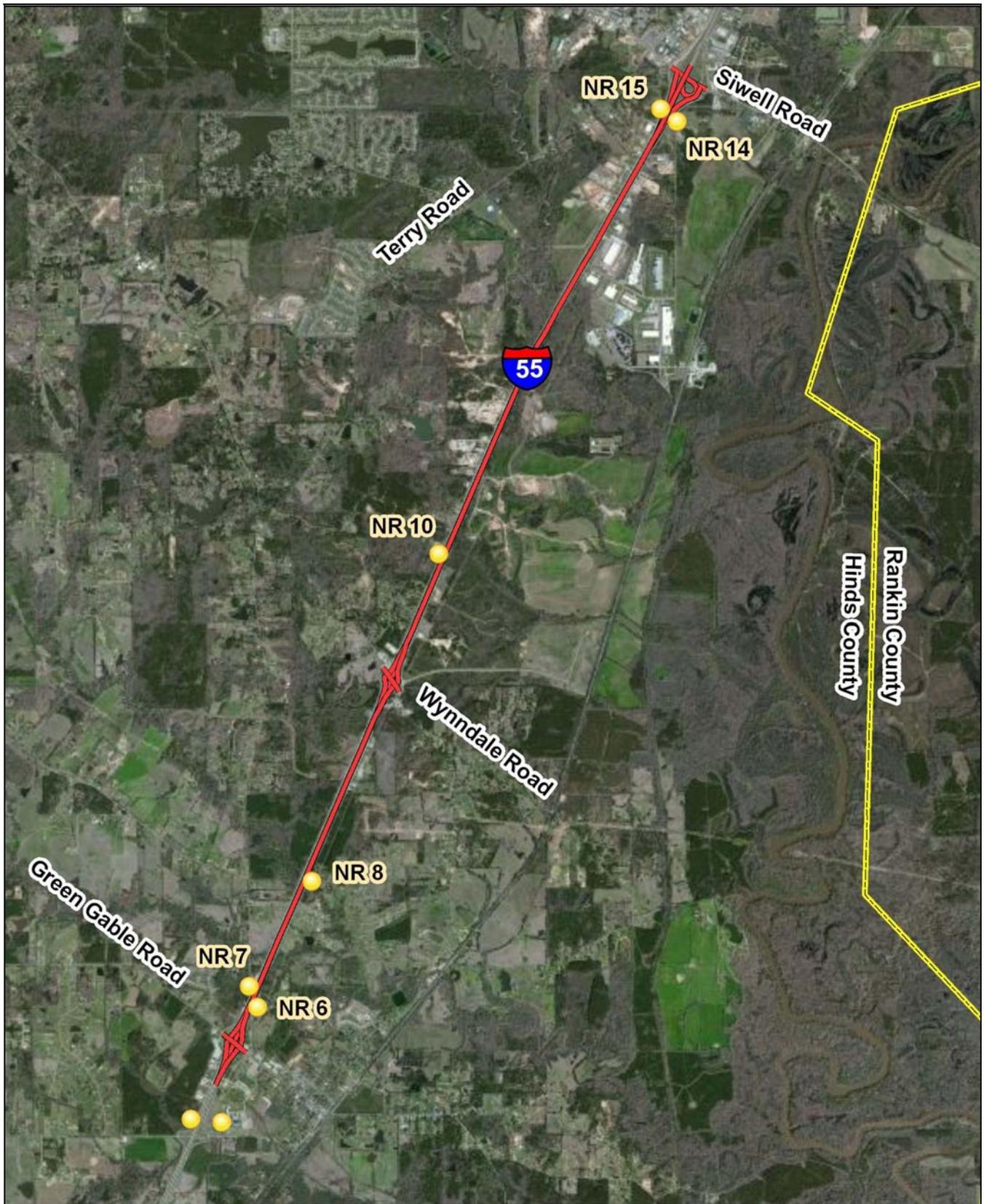


Figure A.2: I-55 from Copiah County Line to McDowell Road
Traffic Noise Measurement Sites

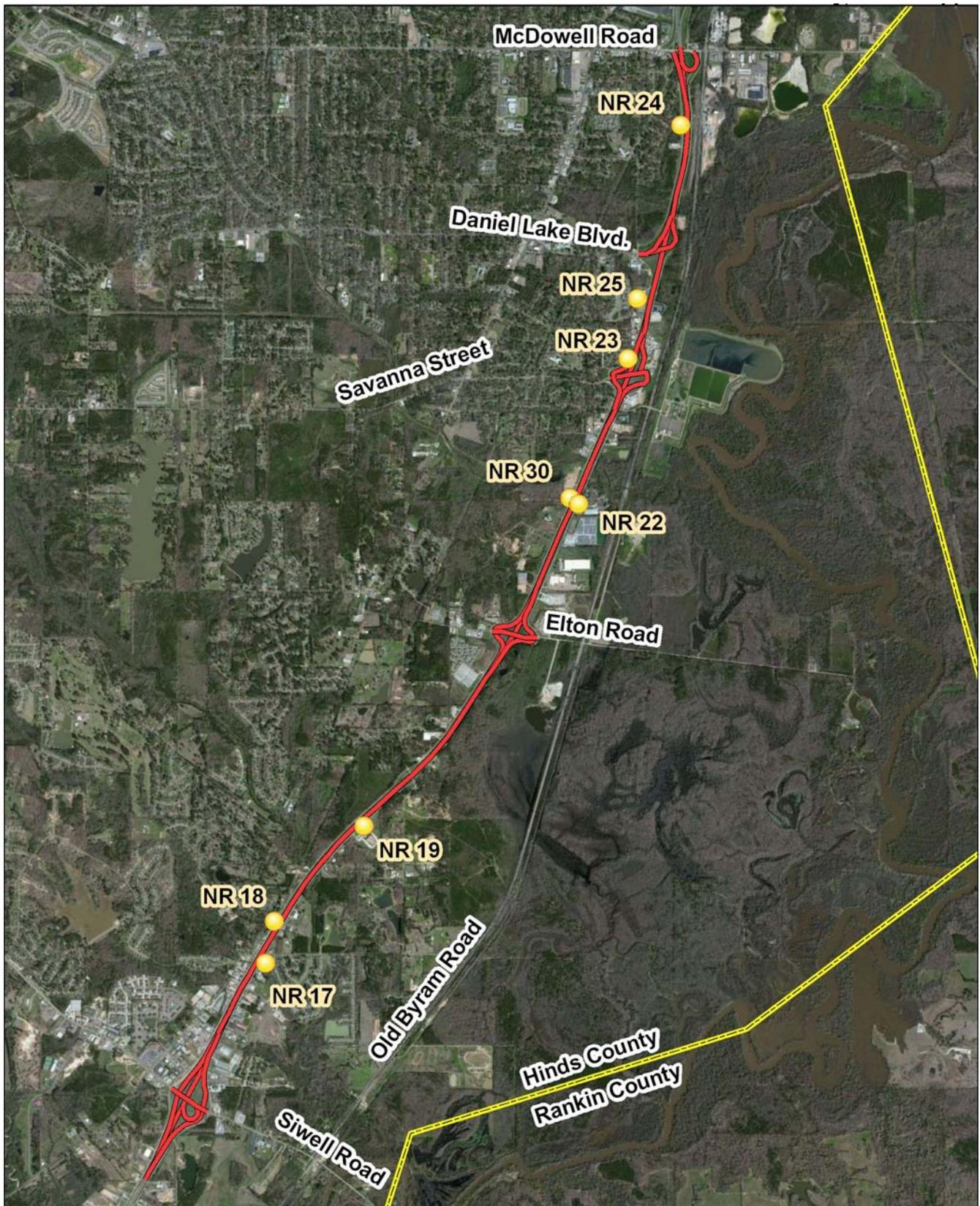


Figure A.3: I-55 from Copiah County Line to McDowell Road
Traffic Noise Measurement Sites

Appendix B

TRAFFIC NOISE MODELS

General

This appendix documents the TNM Model Input used in this traffic noise and abatement analysis. The TNM Models utilized five TNM object types to approximate the traffic segments assessed for the I-55 from the Copiah County Line to McDowell Road project Design Noise Report:

Roadways
Receptors (Receivers)
Barriers
Terrain Lines

Coordinate System

Each of the TNM Objects was modeled using the North American Datum 1983 (NAD83) Mississippi West State Plane coordinate system.

Modeling Procedure

Roadways:

TNM Roadway Element widths were selected based upon representation of one (1) or two (2) lanes of traffic per TNM roadway element. For the proposed highway facility, TNM Roadway vertices were selected to represent interval lengths that appropriately represent fluctuations in the horizontal and vertical roadway geometry. For highways in which more than one parallel TNM roadway element were modeled, the modeled roadway lane widths were set to ensure horizontal overlapping of adjacent modeled roadway elements. Overlapping TNM roadway elements is necessary to accurately represent the contiguous paved surface. TNM roadway elements of various widths were also modeled to represent the existing local roadways (refer to Figures B.1 – B.5).

Terrain Lines (Elevation Contours):

Elevations (vertical, “Z” coordinates) were input into TNM by hand (typing) the coordinate values of vertices that define significant changes in grades and/ or slopes throughout the study areas.

Receivers (Receptors):

TNM Receiver Elements were modeled by assigning a point location to the most sensitive likely ‘area of frequent human use’ for each residence, school, church, and noise-sensitive commercial land use within the Project limits. All receivers in the TNM models were assigned a height of 4.92 feet. Given the non-homogeneous terrain and resulting inconsistent intervening source-to-receptor topography throughout the project vicinity, noise levels at each discrete receptor were determined by means of modeling an individual TNM receiver at all representative locations for ‘loudest-condition’ existing, design year 2031 no-build, and design year 2031 build-condition predicted traffic.

Figure B.1: I-55 from the Copiah Co. Line to McDowell Road TNM Model

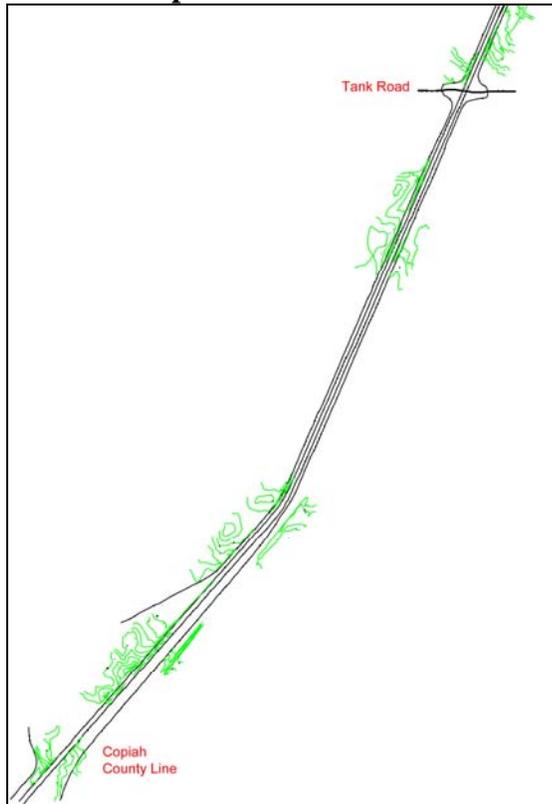


Figure B.2: I-55 from the Copiah Co. Line to McDowell Road TNM Model

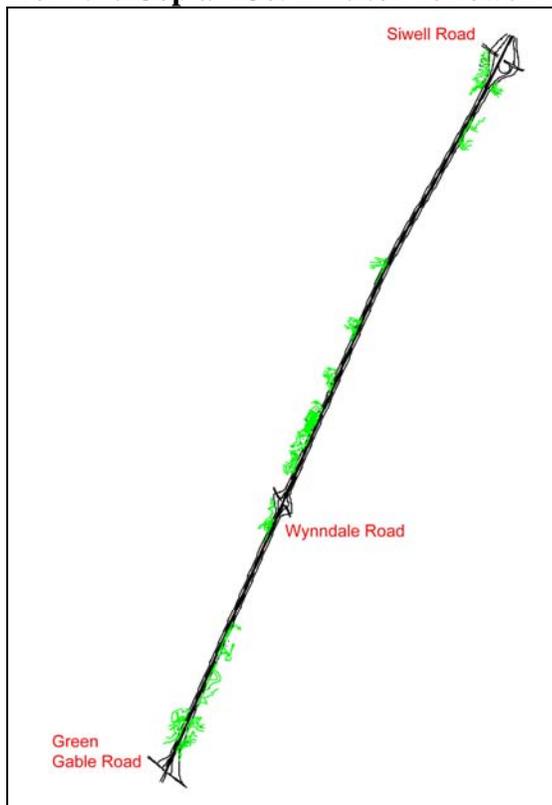


Figure B.3: I-55 from the Copiah Co. Line to McDowell Road TNM Model

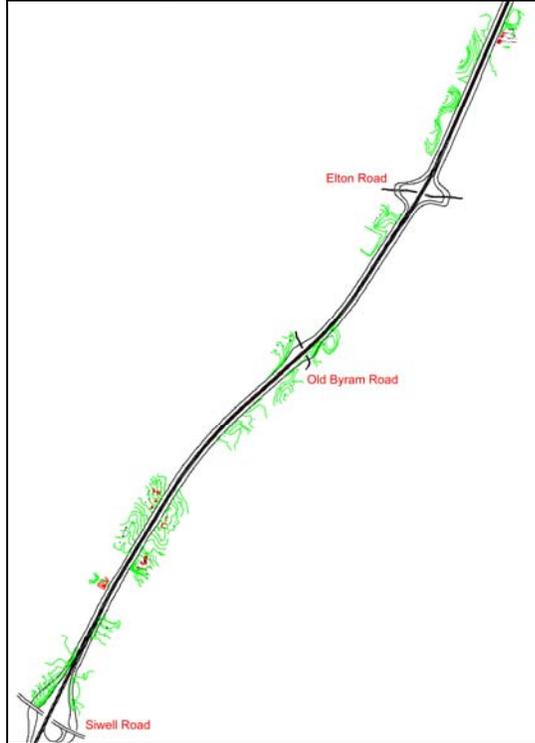


Figure B.4: I-55 from the Copiah Co. Line to McDowell Road TNM Model

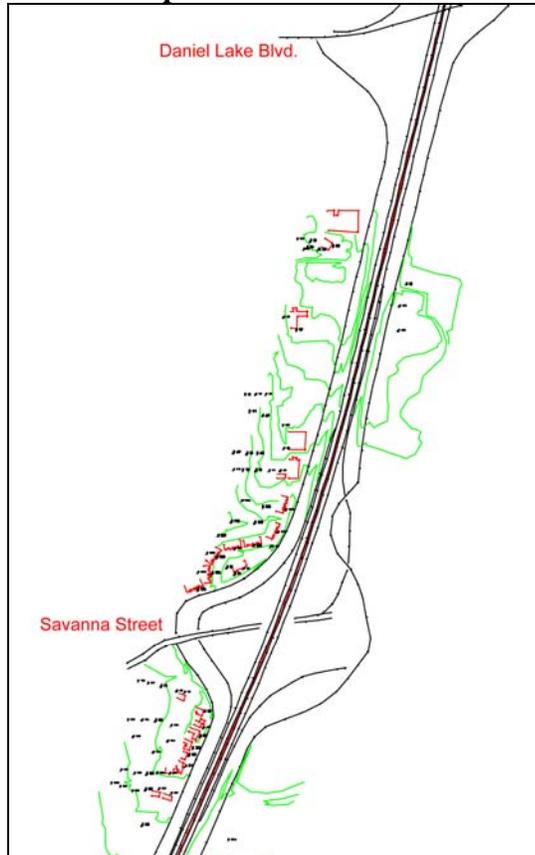
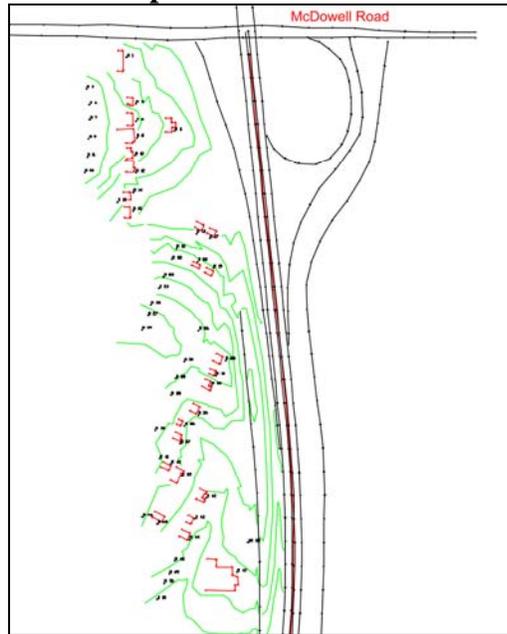


Figure B.5: I-55 from the Copiah Co. Line to McDowell Road TNM Model



Barriers:

Traffic noise abatement measures were studied in detail in three locations adjacent to the I-55 project. The first sound barrier (Barrier E) was modeled parallel to the proposed project alignment, south of Savanna Street (refer to Figure B.6). The second barrier (Barrier F) was modeled parallel to the I-55 on-ramp from Savanna Street (Figure B.7). The third sound barrier (Barrier G) was modeled parallel to I-55 southbound off-ramp to Savanna Street (Figure B.8).

Figure B.6: I-55 from the Copiah Co. Line to McDowell Road Barrier E TNM Model

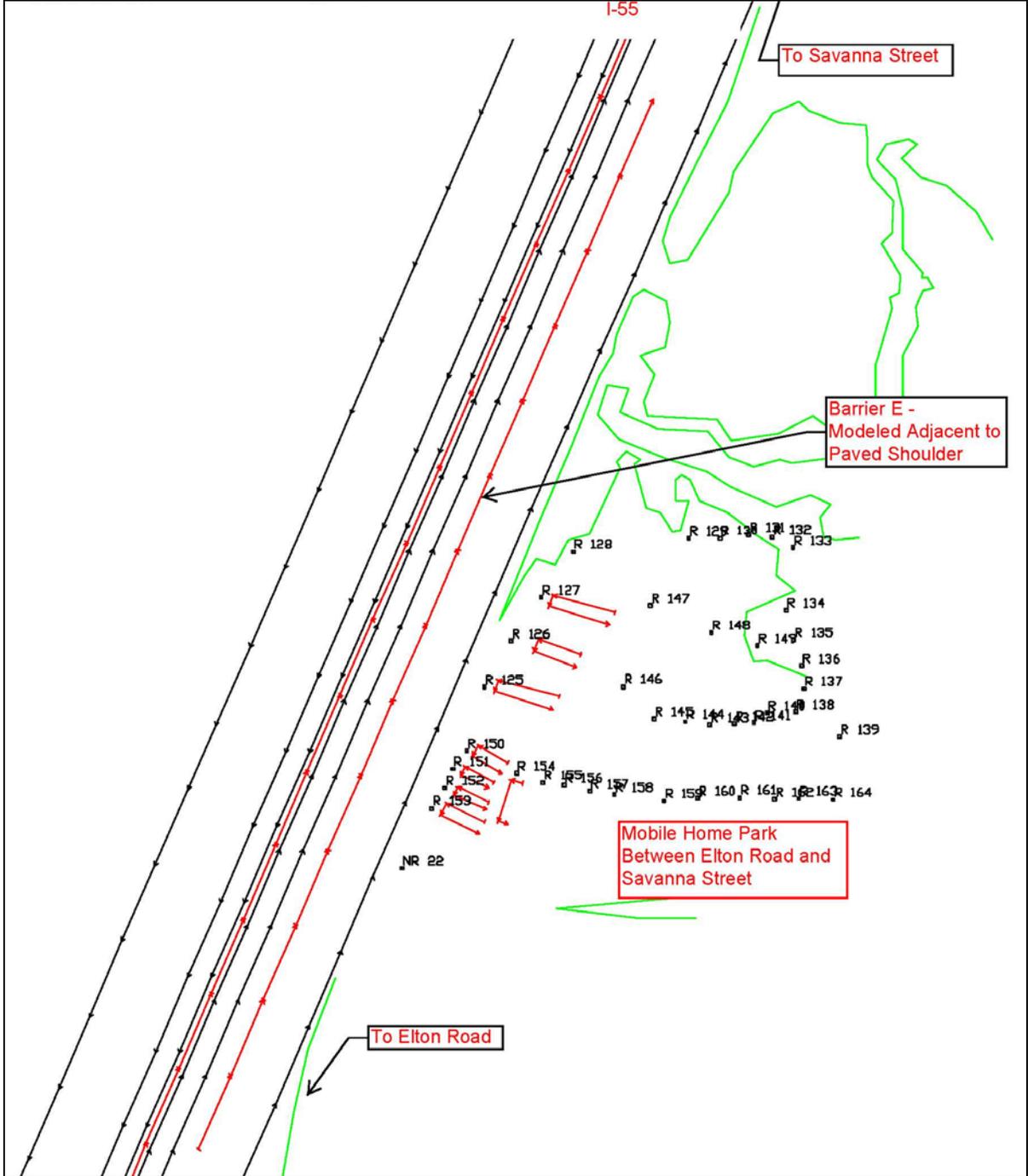


Figure B.7: I-55 from the Copiah Co. Line to McDowell Road Barrier F TNM Model

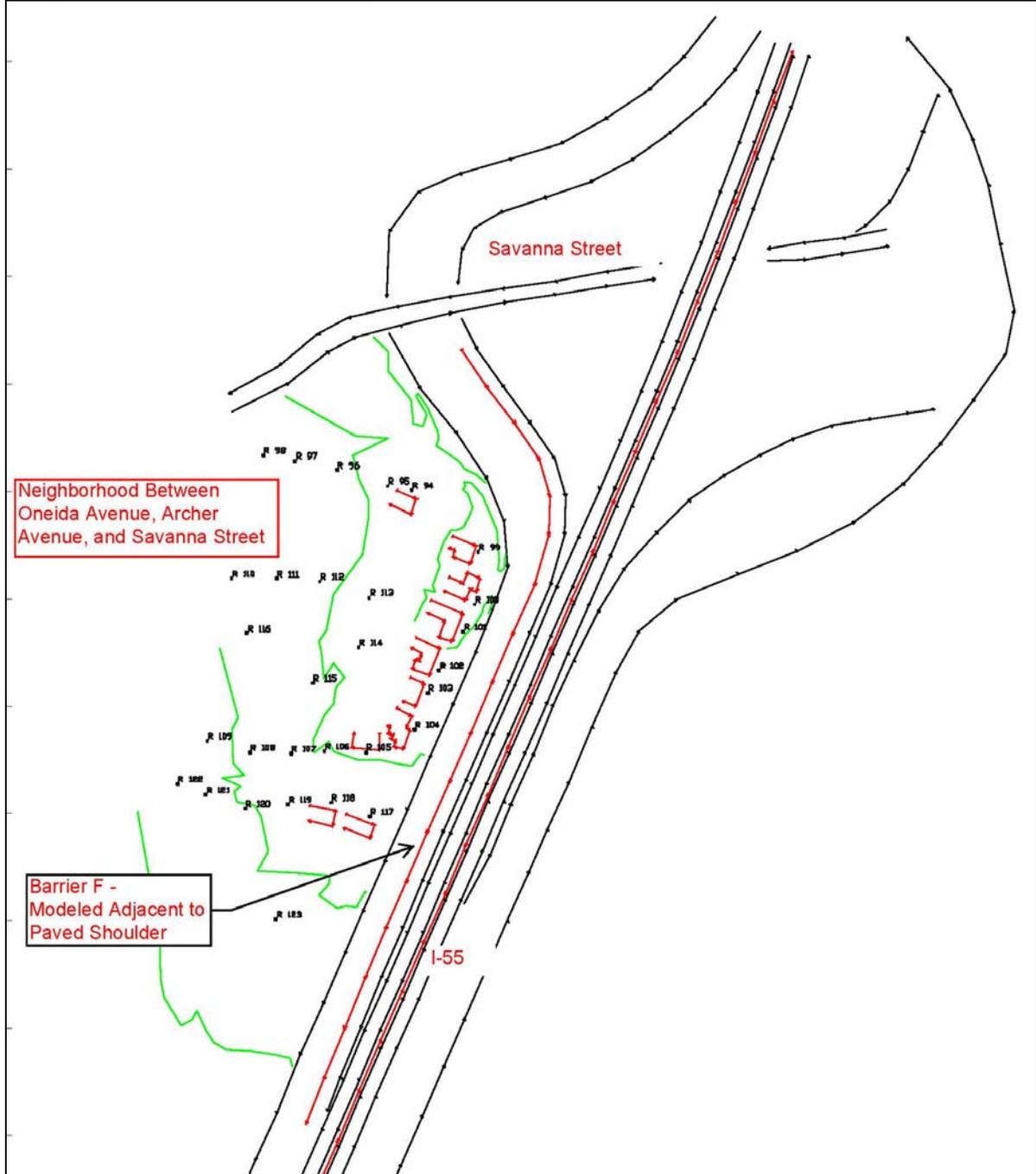
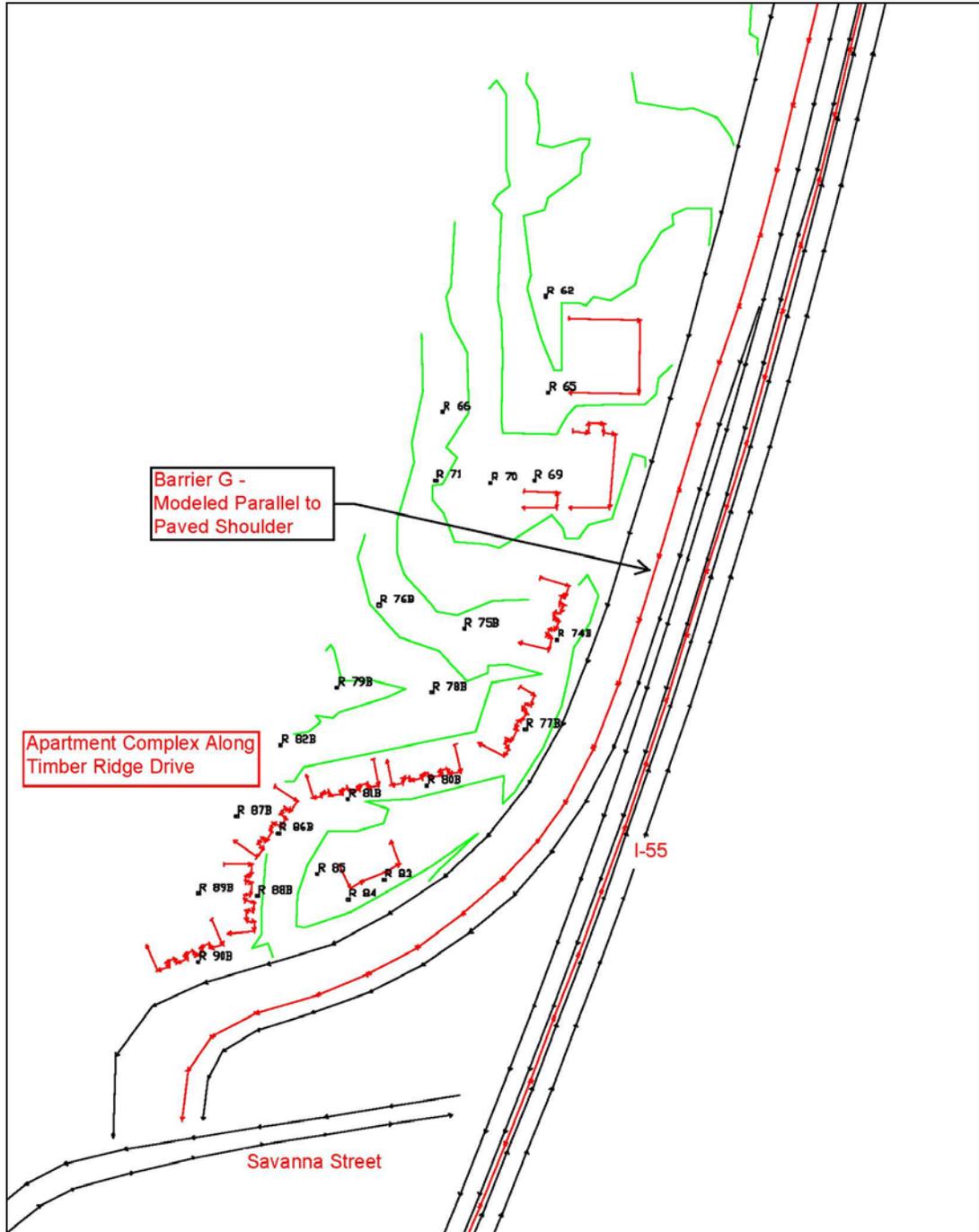


Figure B.8: I-55 from the Copiah Co. Line to McDowell Road Barrier G TNM Model



TNM Model Traffic Noise Level Assessment

The TNM model traffic noise level assessment is divided into three tasks:

1. Creation of Validated TNM Computer Model(s)
2. Assessment of Existing Loudest-Hour Traffic Noise Levels
3. Assessment of Predicted Loudest-Hour Build-Condition Without-Barrier Levels

TNM model validation was performed for the assessment of the noise walls using ambient monitoring and traffic data obtained at 18 receptor locations during four short-term (15-minute) noise monitoring sessions on Tuesday, Wednesday and Thursday, August 23 - 25, 2011.

Table B-1: TNM Validation Table

Receptor	Measured $L_{eq(h)}$ dBA ¹	TNM-Predicted $L_{eq(h)}$ dBA ¹	Validation Delta (Pred. – Meas.) ^{1,2}
NR 1	62.4	65.0	2.6
NR 4	67.8	69.6	1.8
NR 5	56.9	56.0	-0.9
NR 6	65.8	68.7	2.9
NR 7	66.6	63.7	-2.9
NR 8	65.4	64.9	-0.5
NR 10	71.4	71.6	0.2
NR 14	61.9	63.8	1.9
NR 15	62.9	65.2	2.3
NR 17	67.8	67.9	0.1
NR 18	70.3	72.0	1.7
NR 19	66.5	68.3	1.8
NR 22	68.1	70.0	1.9
NR 23	66.7	69.7	3.0
NR 24	65.7	67.8	2.1
NR 25	61.0	58.1	-2.9
NR 29	61.7	63.5	1.8
NR 30	69.0	72.0	3.0

1. Hourly equivalent noise levels, $L_{eq(h)}$, are expressed to the nearest one-tenth decibels to ensure that TNM-predicted noise levels validate to within ± 3.0 dBA of measured noise levels without the benefits of rounding.
2. TNM model validation tolerance at receptors 8, 10, and 17 is ≤ 0.5 dBA, indicating the TNM model predicts traffic noise levels very closely to existing conditions at these locations.

Appendix C

NOISE BARRIER ANALYSIS

FHWA and MDOT require that feasible and reasonable measures be considered to mitigate noise impacts at the impacted facilities. Noise abatement measures must be considered for all receptors that are predicted to experience a noise impact. The MDOT Highway Traffic Noise Policy outlines the criteria for determining if a noise abatement measure is feasible and reasonable. Feasibility deals with engineering considerations to assess whether a substantial noise reduction can be achieved given the site conditions. A noise barrier is not feasible if a noise reduction of at least 5 dBA cannot be achieved for at least one impacted receiver. A noise barrier is evaluated for its reasonableness based on the following factors:

1. a majority of benefitted residents and property owners want a noise barrier.
2. the cost does not exceed \$30,000 per benefitted receiver.
3. a barrier must reduce the noise level by at least 7 dBA at ten percent or more of the benefitted receivers.
4. the impacted receivers must have been constructed or had building permits issued before the date of public knowledge of the project.
5. more consideration will be given to impacted receivers that predated initial highway construction.
6. more consideration will be given to impacted receivers with larger increases over existing noise levels.
7. more consideration will be given to areas where larger changes in noise levels are expected to occur if the project is constructed.
8. more consideration will be given to benefitted receivers with future build noise levels at or above the NAC.

Noise barriers were modeled in seven noise sensitive areas (Areas A through G). These are shown on Figures 2 – 4 and described in Exhibit 4 of the Noise Study Report. Each noise barrier was assessed for feasibility and reasonableness. Barriers E, F, and G were modeled in greater detail. The estimated cost of barrier construction (materials and labor) was assumed to be \$25 per square foot. Additional costs for drainage and barrier protection were also considered for Barriers E, F, and G because of their close proximity to the shoulder of I-55 and the parallel frontage road. The drainage costs account for additional pipe (18-inch Class III pipe at \$28 per linear foot) and stormwater inlets (SS-2 inlet at \$4400 each at 300 foot intervals). The barrier protection costs account for a 42-inch Type 1 barrier wall at \$88 per linear foot.

The results of the sound barrier reasonableness assessment are estimated in Table C-1:

Table C-1: Sound Barrier Reasonableness Assessment

Noise Sensitive Area/	Barrier Dimensions (length x height)	Preliminary Construction Cost*	No. of Benefitted Receivers	Cost Per Benefitted Receiver	Allowable Cost Per Benefitted Receiver	Is Barrier Reasonable?
Area E	1,400ft x 12ft	\$605,000	40	\$15,125	\$30,000	Yes
Area F	1,290ft x 9-10ft	\$395,000	12	\$32,917	\$30,000	No
Area G	2,125ft x 12-16ft	\$895,000	93	\$9,624	\$30,000	Yes

*Note: The estimated cost of barrier construction (materials and labor) was assumed to be \$25 per square foot according to the MDOT Highway Traffic Noise Policy. Additional costs for drainage and barrier protection were also considered for Barriers E, F, and G.

Area E

In Area E, along the east side of I-55, south of Savanna Street, a barrier 1,400 feet long and 12 feet high was considered to reduce the noise levels at 35 impacted residences near Pine Ridge Park (see Figure 5 and Table C-2.1). Barrier E is estimated to cost \$605,000 for materials and labor, drainage, and barrier protection. This cost includes \$419,980 for the materials and labor, \$61,820 for drainage, and \$123,200 for barrier protection. The barrier would provide at least a five dBA traffic noise level reduction at 40 receivers, including 35 predicted impacts. The \$15,125 cost per benefit is less than the maximum allowable \$30,000 per benefit. The barrier is predicted to provide at least a seven dBA noise level reduction for ten percent of the impacted receivers and meets the criteria for being reasonable.

Area F

In Area F, along the west side of the southbound on-ramp from Savanna Street, a barrier 1,290 feet long and 9 to 10 feet high was considered to reduce the noise levels at 13 impacted receivers near Oneida Avenue (see Figure 6 and Table C-2.2). Barrier F is estimated to cost \$395,000 for materials and labor, drainage, and barrier protection. This cost includes \$309,560 for the materials and labor, \$54,640 for drainage, and \$30,800 for barrier protection. The barrier would provide at least a five dBA traffic noise level reduction at 12 receivers, including 11 predicted impacts. The \$32,917 cost per benefitted receiver is more than the maximum allowable \$30,000 per benefitted receiver and is not reasonable.

Area G

In Area G, along the west side of the southbound off-ramp for Savanna Street, a barrier 2,125 feet long and 12 to 16 feet high was considered to reduce the noise levels at 61 impacted receivers near Timber Ridge Drive (see Figure 7 and Table C-2.3). Barrier G is estimated to cost \$895,000 for materials and labor, drainage, and barrier protection. This cost includes \$706,910 for the materials and labor, \$95,690 for drainage, and \$92,400 for barrier protection. The barrier would provide at least a five dBA traffic noise level reduction at 93 receivers, including 61 predicted impacts. The \$9,624 cost per benefit is less than the maximum allowable \$30,000 per benefit. The barrier is predicted to provide at least a seven dBA noise level reduction for ten percent of the impacted receivers and meets the criteria for being reasonable.

Noise abatement is likely feasible and reasonable to eliminate or reduce predicted noise impacts south of Savanna Street near Pine Ridge Park (Area E) and north of Savanna Street near Timber Ridge Drive (Area G). However, feasibility and reasonableness determinations may change due to changes in project design after approval of the environmental document. The final recommendation on the construction of abatement measures is determined during the completion of the project's final design and the public involvement process. During the design phase, after the exact location and design of the project have been determined, a public meeting will be held to provide detailed information on the design of the project and possible noise barriers. A survey will be conducted of the benefitted receivers to determine if they want a noise barrier.

Table C-2.1: Noise Barrier E –Performance Without Barrier & With Barrier Noise Levels

Receivers					Predicted Noise Levels, L _{eq(h)} dBA		
ID # ¹	Land Use	NAC	DU ⁵	Address	Build ²	With NW	NLR
R-125	Res.	B	1	4388 I-55 S., Pine Ridge Park	76	63	13
R-126	Res.	B	1	4388 I-55 S., Pine Ridge Park	76	63	13
R-127	Res.	B	1	4388 I-55 S., Pine Ridge Park	75	63	12
R-128	Res.	B	1	4388 I-55 S., Pine Ridge Park	75	63	12
R-129	Res.	B	1	4388 I-55 S., Pine Ridge Park	71	62	9
R-130	Res.	B	1	4388 I-55 S., Pine Ridge Park	70	61	9
R-131	Res.	B	1	4388 I-55 S., Pine Ridge Park	69	61	8
R-132	Res.	B	1	4388 I-55 S., Pine Ridge Park	68	60	8
R-133	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	60	6
R-134	Res.	B	1	4388 I-55 S., Pine Ridge Park	67	59	8
R-135	Res.	B	1	4388 I-55 S., Pine Ridge Park	65	58	7
R-136	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	58	8
R-137	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	58	8
R-138	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	58	8
R-139	Res.	B	1	4388 I-55 S., Pine Ridge Park	64	57	7
R-140	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	59	7
R-141	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	59	7
R-142	Res.	B	1	4388 I-55 S., Pine Ridge Park	67	59	8
R-143	Res.	B	1	4388 I-55 S., Pine Ridge Park	67	59	8
R-144	Res.	B	1	4388 I-55 S., Pine Ridge Park	67	59	8
R-145	Res.	B	1	4388 I-55 S., Pine Ridge Park	67	59	8
R-146	Res.	B	1	4388 I-55 S., Pine Ridge Park	68	59	9
R-147	Res.	B	1	4388 I-55 S., Pine Ridge Park	70	61	9
R-148	Res.	B	1	4388 I-55 S., Pine Ridge Park	68	60	8
R-149	Res.	B	1	4388 I-55 S., Pine Ridge Park	67	59	8
R-150	Res.	B	1	4388 I-55 S., Pine Ridge Park	75	63	12
R-151	Res.	B	1	4388 I-55 S., Pine Ridge Park	75	63	12
R-152	Res.	B	1	4388 I-55 S., Pine Ridge Park	75	63	12
R-153	Res.	B	1	4388 I-55 S., Pine Ridge Park	75	63	12
R-154	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	56	10
R-155	Res.	B	1	4388 I-55 S., Pine Ridge Park	67	57	10
R-156	Res.	B	1	4388 I-55 S., Pine Ridge Park	67	57	10
R-157	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	58	8
R-158	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	59	7
R-159	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	59	7
R-160	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	58	8
R-161	Res.	B	1	4388 I-55 S., Pine Ridge Park	66	58	8
R-162	Res.	B	1	4388 I-55 S., Pine Ridge Park	65	57	8
R-163	Res.	B	1	4388 I-55 S., Pine Ridge Park	65	57	8

R-164	Res.	B	1	4388 I-55 S., Pine Ridge Park	64	57	7
Predicted "Build Condition" with Barrier Benefits ^{3,4}							40 ³

1. Receiver ID #s shown in bold text represents front line receivers.
2. Predicted traffic noise level impacts to 35 receivers due to approaching or exceeding NAC (refer to Exhibit 2).
3. The optimized I-55 noise barrier (Barrier E) is predicted to provide at least 5 decibels (5 dBA) in noise level reduction (NLR) to 40 receivers.
4. The optimized I-55 noise barrier (Barrier E) is predicted to provide at least 7 decibels (7 dBA) in noise level reduction (NLR) to 39 receivers.
5. DU represents the number of Dwelling Units or the equivalent number of receivers.

Table C-2.2: Noise Barrier F –Performance Without Barrier & With Barrier Noise Levels

Receivers					Predicted Noise Levels, L _{eq(h)} dBA		
ID # ¹	Land Use	NAC	DU ⁵	Address	Build ²	With NW	NLR
R-94	Res.	B	1	467 Savanna St.	66	60	6
R-95	Res.	B	1	451 Savanna St.	63	58	5
R-96	Res.	B	1	439 Savanna St.	60	58	2
R-97	Res.	B	1	423 Savanna St.	59	58	1
R-98	Res.	B	1	407 Savanna St.	60	58	2
R-99	Res.	B	1	3739 I-55 South	74	68	6
R-100	Res.	B	1	3757 I-55 South	76	69	7
R-101	Res.	B	1	3777 I-55 South	76	69	7
R-102	Res.	B	1	3793 I-55 South	75	69	6
R-103	Res.	B	1	3813 I-55 South	75	68	7
R-104	Res.	B	1	3831 I-55 South	76	69	7
R-105	Res.	B	1	478 Oneida Ave.	70	64	6
R-106	Res.	B	1	464 Oneida Ave.	66	61	5
R-107	Res.	B	1	452 Oneida Ave.	64	62	2
R-108	Res.	B	1	438 Oneida Ave.	64	62	2
R-109	Res.	B	1	416 Oneida Ave.	61	60	1
R-110	Res.	B	1	432 Edwina Cir.	57	56	1
R-111	Res.	B	1	466 Edwina Cir.	58	57	1
R-112	Res.	B	1	498 Edwina Cir.	63	60	3
R-113	Res.	B	1	498 Edwina Cir.	61	58	3
R-114	Res.	B	1	499 Edwina Cir.	60	57	3
R-115	Res.	B	1	467 Edwina Cir.	60	58	2
R-116	Res.	B	1	431 Edwina Cir.	58	57	1
R-117	Res.	B	1	463 Oneida Ave.	73	66	7
R-118	Res.	B	1	461 Oneida Ave.	68	62	6
R-119	Res.	B	1	445 Oneida Ave.	67	64	3
R-120	Res.	B	1	433 Oneida Ave.	65	63	2
R-121	Res.	B	1	425 Oneida Ave.	63	62	1
R-122	Res.	B	1	413 Oneida Ave.	62	60	2
R-123	Rest./Bar	E	1	3871 I-55 South	71	69	2
Predicted "Build Condition" with Barrier Benefits ^{3,4}							12 ³

- Receiver ID #s shown in bold text represents front line receivers.
- Predicted traffic noise level impacts to 13 receivers due to approaching or exceeding NAC (refer to Exhibit 2).
- The optimized I-55 noise barrier (Barrier F) is predicted to provide at least 5 decibels (5 dBA) in noise level reduction (NLR) to 12 receivers.
- The optimized I-55 noise barrier (Barrier F) is predicted to provide at least 7 decibels (7 dBA) in noise level reduction (NLR) to 5 receivers.
- DU represents the number of Dwelling Units or the equivalent number of receivers.

Table C-2.3: Noise Barrier G –Performance Without Barrier & With Barrier Noise Levels

Receivers					Predicted Noise Levels, L _{eq(h)} dBA		
ID # ¹	Land Use	NAC	DU ⁵	Address	Build ²	With NW	NLR
R-57	Church	C	1	140 Shands St.	66	60	6
R-62	Res.	B	1	3624 Afton St.	67	58	9
R-65	Res.	B	1	3668 Afton St.	66	58	8
R-66	Res.	B	1	492 Creston Ave.	60	54	6
R-69	Res.	B	1	499 Creston Ave.	56	53	3
R-70	Res.	B	1	499 Creston Ave.	63	56	7
R-71	Res.	B	1	493 Creston Ave.	62	55	7
R-74	Res.	B	7	3875 I-55 South	76	65	11
R-75	Res.	B	7	3875 I-55 South	67	58	9
R-76	Res.	B	7	3875 I-55 South	65	55	10
R-77	Res.	B	7	3875 I-55 South	76	64	12
R-78	Res.	B	7	3875 I-55 South	66	55	11
R-79	Res.	B	7	3875 I-55 South	61	53	8
R-80	Res.	B	7	3875 I-55 South	71	62	9
R-81	Res.	B	7	3875 I-55 South	67	58	9
R-82	Res.	B	7	3875 I-55 South	58	53	5
R-83	Non-Prof.	C	1	3875 I-55 South	71	62	9
R-84	Comm. Pool	C	1	3875 I-55 South	70	60	10
R-85	Playground	C	1	3875 I-55 South	65	56	9
R-86	Res.	B	7	3875 I-55 South	65	57	8
R-87	Res.	B	7	3875 I-55 South	51	48	3
R-88	Res.	B	7	3875 I-55 South	67	58	9
R-89	Res.	B	7	3875 I-55 South	51	48	3
R-90	Res.	B	7	3875 I-55 South	66	58	8
Predicted "Build Condition" with Barrier Benefits ^{3,4}							93 ³

1. Receiver ID #s shown in bold text represents front line receivers.
2. Predicted traffic noise level impacts to 61 receivers due to approaching or exceeding NAC (refer to Exhibit 2).
3. The optimized I-55 noise barrier (Barrier G) is predicted to provide at least 5 decibels (5 dBA) in noise level reduction (NLR) to 93 receivers.
4. The optimized I-55 noise barrier (Barrier G) is predicted to provide at least 7 decibels (7 dBA) in noise level reduction (NLR) to 84 receivers.
5. DU represents the number of Dwelling Units or the equivalent number of receivers.

NOISE BARRIER EVALUATION FORM

Proposed Project: **I-55 from the Copiah County Line to McDowell Road, Hinds County, MS**
 Location: **Area E – East Side of I-55, South of Savanna Street near Pine Ridge Park**

FEASIBILITY

Can a 5 dBA noise reduction be achieved at any impacted receptors? **Yes**

If yes complete the reasonableness section.

If no, a noise barrier should not be constructed. No additional analysis is required.

REASONABLENESS

	<u>Not Reasonable</u>	<u>Marginally Reasonable</u>	<u>Fully Reasonable</u>	<u>Highly Reasonable</u>
REQUIRED FACTORS: *				
1. % of benefited receptors wanting barrier	<u><50%</u>	<u>50-60%</u>	<u>61-75%</u>	<u>>75%</u>
2. cost/receptor	<u>>\$30K</u>	<u>\$26K-\$30K</u>	<u>\$20K-\$25K</u>	<u><\$20K</u>
3. % of benefited receptors with 7 dBA noise reduction	<u><10%</u>	<u>10%-20%</u>	<u>21%-40%</u>	<u>>40%</u>
OPTIONAL FACTORS: **				
4. % developed before public knowledge of proposed project	<u><20%</u>	<u>20%-30%</u>	<u>31%-40%</u>	<u>>40%</u>
5. % developed before highway constructed	<u><20%</u>	<u>20%-30%</u>	<u>31%-40%</u>	<u>>40%</u>
6. Build level <u>1</u> dBA Greater than existing	<u><3dBA</u>	<u>3-4</u>	<u>5-10</u>	<u>>10</u>
7. Build level <u>1</u> dBA Greater than no-build	<u><2dBA</u>	<u>2</u>	<u>3-5</u>	<u>>5</u>
8. Build level above Noise abatement criteria	<u>not applicable</u>	<u>not applicable</u>	<u>0-3 dBA above</u>	<u>> 3 dBA above</u>
9. ADDITIONAL CONSIDERATIONS: _____				

DECISION AND REASONS: Noise Barrier E meets required factors 1, 2, and 3 and optional factors 4, 5, and 8 for being highly reasonable. For environmental documentation purposes, it is assumed that more than 75% of benefitted receptors want the barrier. The final recommendation on the construction of abatement measures is determined during the completion of the project's final design and the public involvement process.

* 23 CFR 772.13(d)(2)(iv) requires that reasonableness factors 1-3 must each be achieved for a noise abatement measure to be considered reasonable.

** 23 CFR 772.13(d)(2)(iv) allows consideration of these optional abatement factors, which cannot singly eliminate an abatement measure that meets the requirements of 1-3 above.

NOISE BARRIER EVALUATION FORM

Proposed Project: **I-55 from the Copiah County Line to McDowell Road, Hinds County, MS**
 Location: **Area F – West Side of Southbound On-Ramp from Savanna Street near Oneida Avenue**

FEASIBILITY

Can a 5 dBA noise reduction be achieved at any impacted receptors? **Yes**

If yes complete the reasonableness section.

If no, a noise barrier should not be constructed. No additional analysis is required.

REASONABLENESS

	<u>Not Reasonable</u>	<u>Marginally Reasonable</u>	<u>Fully Reasonable</u>	<u>Highly Reasonable</u>
REQUIRED FACTORS: *				
1. % of benefited receptors wanting barrier	<u><50%</u>	<u>50-60%</u>	<u>61-75%</u>	<u>>75%</u>
2. cost/receptor	<u>>\$30K</u>	<u>\$26K-\$30K</u>	<u>\$20K-\$25K</u>	<u><\$20K</u>
3. % of benefited receptors with 7 dBA noise reduction	<u><10%</u>	<u>10%-20%</u>	<u>21%-40%</u>	<u>>40%</u>
OPTIONAL FACTORS: **				
4. % developed before public knowledge of proposed project	<u><20%</u>	<u>20%-30%</u>	<u>31%-40%</u>	<u>>40%</u>
5. % developed before highway constructed	<u><20%</u>	<u>20%-30%</u>	<u>31%-40%</u>	<u>>40%</u>
6. Build level <u>1</u> dBA Greater than existing	<u><3dBA</u>	<u>3-4</u>	<u>5-10</u>	<u>>10</u>
7. Build level <u>1</u> dBA Greater than no-build	<u><2dBA</u>	<u>2</u>	<u>3-5</u>	<u>>5</u>
8. Build level above Noise abatement criteria	<u>not applicable</u>	<u>not applicable</u>	<u>0-3 dBA above</u>	<u>> 3 dBA above</u>
9. ADDITIONAL CONSIDERATIONS: _____				

DECISION AND REASONS: Noise Barrier F meets required factors 1 and 3 but does not achieve required factor 2; therefore, it is not considered to be reasonable.

* 23 CFR 772.13(d)(2)(iv) requires that reasonableness factors 1-3 must each be achieved for a noise abatement measure to be considered reasonable.

** 23 CFR 772.13(d)(2)(iv) allows consideration of these optional abatement factors, which cannot singly eliminate an abatement measure that meets the requirements of 1-3 above.

NOISE BARRIER EVALUATION FORM

Proposed Project: **I-55 from the Copiah County Line to McDowell Road, Hinds County, MS**
 Location: **Area G – West Side of Southbound Off-Ramp for Savanna Street near Timber Ridge Drive**

FEASIBILITY

Can a 5 dBA noise reduction be achieved at any impacted receptors? **Yes**

If yes complete the reasonableness section.

If no, a noise barrier should not be constructed. No additional analysis is required.

REASONABLENESS

	<u>Not Reasonable</u>	<u>Marginally Reasonable</u>	<u>Fully Reasonable</u>	<u>Highly Reasonable</u>
REQUIRED FACTORS: *				
1. % of benefited receptors wanting barrier	<u><50%</u>	<u>50-60%</u>	<u>61-75%</u>	<u>>75%</u>
2. cost/receptor	<u>>\$30K</u>	<u>\$26K-\$30K</u>	<u>\$20K-\$25K</u>	<u><\$20K</u>
3. % of benefited receptors with 7 dBA noise reduction	<u><10%</u>	<u>10%-20%</u>	<u>21%-40%</u>	<u>>40%</u>
OPTIONAL FACTORS: **				
4. % developed before public knowledge of proposed project	<u><20%</u>	<u>20%-30%</u>	<u>31%-40%</u>	<u>>40%</u>
5. % developed before highway constructed	<u><20%</u>	<u>20%-30%</u>	<u>31%-40%</u>	<u>>40%</u>
6. Build level <u>1</u> dBA Greater than existing	<u><3dBA</u>	<u>3-4</u>	<u>5-10</u>	<u>>10</u>
7. Build level <u>1</u> dBA Greater than no-build	<u><2dBA</u>	<u>2</u>	<u>3-5</u>	<u>>5</u>
8. Build level above Noise abatement criteria	<u>not applicable</u>	<u>not applicable</u>	<u>0-3 dBA above</u>	<u>> 3 dBA above</u>
9. ADDITIONAL CONSIDERATIONS: _____				

DECISION AND REASONS: Noise Barrier G meets required factors 1, 2, and 3 and optional factors 4, 5, and 8 for being highly reasonable. For environmental documentation purposes, it is assumed that more than 75% of benefitted receptors want the barrier. The final recommendation on the construction of abatement measures is determined during the completion of the project's final design and the public involvement process.

* 23 CFR 772.13(d)(2)(iv) requires that reasonableness factors 1-3 must each be achieved for a noise abatement measure to be considered reasonable.

** 23 CFR 772.13(d)(2)(iv) allows consideration of these optional abatement factors, which cannot singly eliminate an abatement measure that meets the requirements of 1-3 above.