SCDOT

U.S. Department of Transportation
Federal Highway Administration

APPENDIX C

TRAFFIC NOISE STUDY

FIX
INTERSTATE
26

Noise Impact Assessment

Interstate 26 (I-26) Corridor Improvements
Project MM 145-172

Orangeburg and Dorchester
Counties, South Carolina
PROJECT ID: P041967 & P042454

September 2025

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EXECUTIVE SUMMARY

In compliance with Title 23 of the Code of Federal Regulations, Part 772 (23 CFR Part 772), the following noise assessment has been prepared and will be provided by South Carolina Department of Transportation (SCDOT) to local officials to prevent future impacts from traffic noise.

SCDOT proposes the following two phases to widen Interstate 26 (I-26) from an existing 4-lane section to a 6-lane section in Orangeburg and Dorchester Counties as shown in Figure 1. The Project Study Area begins at mile marker (MM) 145 north of the New Hope Road overpass and extends to MM 172 at the US Route 15 interchange.

Phase 1 (P041967): This phase includes widening I-26 from the eastern limits of the interchange with US Route 601 (US 601) at Exit 145 through the interchange with US 301 at Exit 154. This phase includes the following elements: adding a travel lane in each direction of I-26 toward the existing median, median clearing, barrier walls & cable guardrail installation, addressing all structures, improving the interchanges and ramps at Exits 149 and 154.

Phase 2 (P042454): This phase includes widening I-26 from the eastern limits of the interchange with US Route 301 (US 301) at Exit 154 to the western limits of the interchange with US Route 15 (US 15) at Exit 172. This phase includes the following elements: adding a travel lane in each direction of I-26 toward the existing median, median clearing, barrier walls & cable guardrail installation, addressing all structures, improving the interchanges and ramps at Exit 159 & 165. Improving the Interchange with I-26 & Interstate 95 (I-95) is excluded from Phase 2 and will be completed via a separate project (SCDOT Project No. P038677).

This is a Type I noise analysis level project. There are three types of analysis levels according to SCDOT policy: Type I, II, and III. A Type I Noise Project is identified when there is a proposed new alignment roadway, additional through lane capacity, a new interchange connection and/or a proposed significant horizontal or vertical change. A Type II analysis describes a retrofit program where there is no planned roadway improvement, but the sound levels have increased meaningfully as a result of highway traffic volume growth over time. SCDOT does not have a Type II program at this time. All other roadway projects, such as in-kind bridge replacements, rehabilitation, or safety improvements are considered Type III noise projects and are not subject to detailed noise analyses. This project is a Type I noise analysis level because the roadway will be widened from four lanes to six lanes, thereby increasing its through lane capacity.

The TNM 2.5 Noise Model was used analyze the 2024 existing condition, 2050 design year No-build Alternative, and the 2050 design year Build Alternatives based on traffic data and preliminary design provided by SCDOT. The modeling results indicated that 104 receivers (103 residential, 1 hotel pool) would approach or exceed the Noise Abatement Criteria (NAC) for the 2050 design year Build Alternatives. There were zero substantial increase impacts. Noise abatement was therefore considered for the proposed project in the form of noise barriers. None of the analyzed barriers met both the feasible and reasonable SCDOT Noise Policy criteria. Therefore, no abatement is proposed to be carried forward into final design.

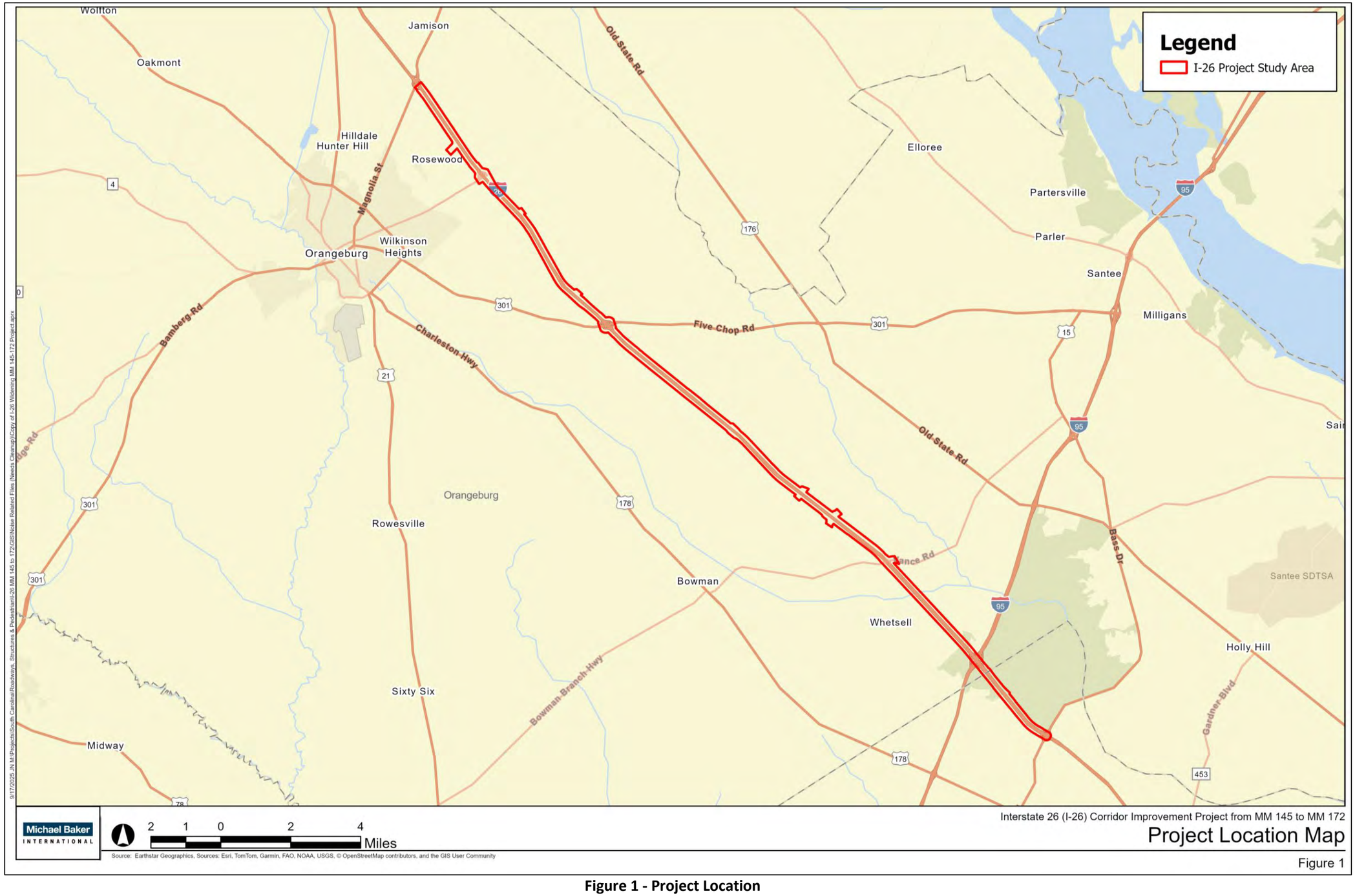


Figure 1 - Project Location

1 INTRODUCTION AND PROJECT DESCRIPTION

In compliance with Title 23 of the Code of Federal Regulations, Part 772 (23 CFR Part 772), the following noise assessment has been prepared and will be provided by South Carolina Department of Transportation (SCDOT) to local officials to prevent future impacts from traffic noise.

The current SCDOT Traffic Noise Abatement Policy, Feb 24, 2023, (Policy) was followed to analyze the potential noise impacts and mitigation as necessary. It has been consolidated, where appropriate and/or applicable, to reduce the number of pages.

1.1 Proposed Project Description, Existing Facility and Purpose and Need

SCDOT proposes the following two phases to widen Interstate 26 (I-26) from an existing 4-lane section to a 6-lane section in Orangeburg and Dorchester Counties (refer to Figure 1).

Phase 1 (P041967): This phase includes widening I-26 from the eastern limits of the interchange with US Route 601 (US 601) at Exit 145 through the interchange with US 301 at Exit 154. This phase includes the following elements: adding a travel lane in each direction of I-26 toward the existing median, median clearing, barrier walls & cable guardrail installation, addressing all structures, improving the interchanges and ramps at Exits 149 and 154.

Phase 2 (P042454): This phase includes widening I-26 from the eastern limits of the interchange with US Route 301 (US 301) at Exit 154 to the western limits of the interchange with US Route 15 (US 15) at Exit 172. This phase includes the following elements: adding a travel lane in each direction of I-26 toward the existing median, median clearing, barrier walls & cable guardrail installation, addressing all structures, improving the interchanges and ramps at Exit 159 & 165. Improving the Interchange with I-26 & Interstate 95 (I-95) is excluded from Phase 2 and will be completed via a separate project (SCDOT Project No. P038677).

This is a Type I noise analysis level project. There are three types of analysis levels according to SCDOT policy: Type I, II, and III. A Type I Noise Project is identified when there is a proposed new alignment roadway, additional through lane capacity, a new interchange connection and/or a proposed significant horizontal or vertical change. A Type II analysis describes a retrofit program where there is no planned roadway improvement, but the sound levels have increased meaningfully as a result of highway traffic volume growth over time. (Please note that SCDOT does not have a Type II program at this time.) All other roadway projects, such as in-kind bridge replacements, rehabilitation, or safety improvements are considered Type III noise projects and are not subject to detailed noise analyses. This project is a Type I noise analysis level because the roadway will be widening from a four-lane to a six-lane roadway, thereby increasing its through lane capacity.

1.2 Date of Public Knowledge

The project date of public knowledge will be the date of the final NEPA decision approval. The criterion for determining when undeveloped land is permitted for development is the approval date of a building permit for an individual lot. After the date of public knowledge for the project, federal and state governments are no longer responsible for providing noise abatement measures for new development within the project's noise impact area. 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.

The state and federal policy applies only to developed land and undeveloped land for which development is permitted before the project date of public knowledge. Mitigation measures in this traffic noise study are evaluated for developed locations and undeveloped land permitted prior to the date of public knowledge.

1.3 Fundamentals and Characteristics of Noise

Sound is the vibration of air molecules in waves similar to water ripples. When these waves reach our ears, we hear what we call sound. These waves are produced by objects which move back and forth rapidly. The rate at which these objects move is called their frequency. The frequency of the moving objects determines the pitch of the sound. Human ears can only hear sound waves with a frequency between approximately 20 and 15,000 cycles per second.

The intensity or loudness of sound is measured in units called 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 made to approximate average human perception. When such adjustments are made to the sound levels, they are called “A-weighted levels” and are labeled as “dBA”.

Noise is often defined as unwanted sound. Since this traffic sound is typically unwanted, it is usually referred to as highway traffic noise. The level of highway traffic noise is never constant; therefore, it is necessary to use a statistical descriptor to describe the varying traffic noise levels. The equivalent continuous sound level (Leq) is the statistical descriptor used in this report. The Leq sound level is the steady A-weighted sound energy, which would produce the same A-weighted sound energy over a stated period of time as a specified time-varying sound, such as an hour. Therefore, the "hourly" Leq (Leq(h)) is used in the report.

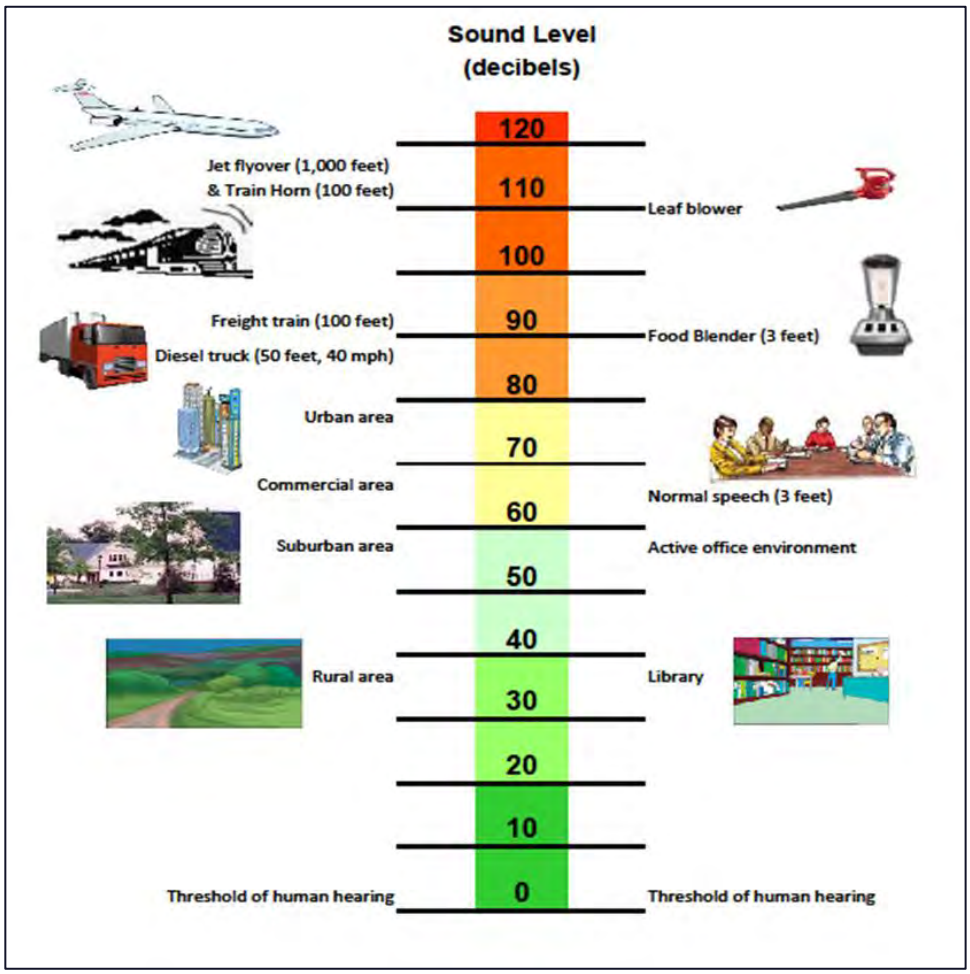
The dBA scale for measuring the intensity of sound is based on the logarithm or sound level pressure relative to a reference sound level pressure. Logarithmic scales are based on powers of ten and are not linear. As a result, sound level changes are hard to define. For example, if 60 dBA is added to another 60 dBA sound, the result is 63 dBA and not 120 dBA. It has also been found through testing that a 10 dBA increase in the sound level is equivalent to a doubling of the sound level as heard by the human ear. This means that a sound level of 60 dBA sounds twice as loud as a sound level of 50 dBA. Common Indoor and Outdoor Sound Levels are shown in Figure 2 and Figure 3 shows sound level changes that the typical human perceives.

Sound waves propagate in different ways and are affected by ground effects, or the nature of the surface they pass over. Figure 4 shows how sound waves are affected by hard and soft ground surfaces and how barriers influence sound waves.

1.4 Existing Land Uses

Land use adjacent to the roadway is predominantly comprised of single-family residential homes with some retail, office and institutional land uses located throughout the project area. There are also large tracts of agricultural and undeveloped wooded land.

Figure 2. Common Indoor and Outdoor Sound Levels



Source: Michael Baker, various DOT's

Figure 3. Human Perception of Sound Level Changes

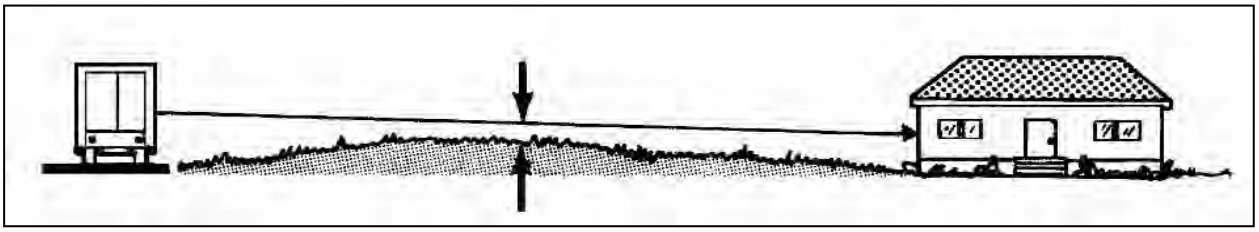
Sound Level Change	Acoustic Energy Loss	Relative Loudness Change
±1-2 dB	-	Not readily noticeable
-3 dB	50%	Barely perceptible change
-5 dB	70%	Readily perceptible change
-10 dB	90%	Half as loud
-20 dB	99%	¼ as loud
+3 dB	100% gain	Barely louder
+10 dB	900% gain	Twice as loud

SOUND WAVES ARE INFLUENCED BY SEVERAL THINGS:

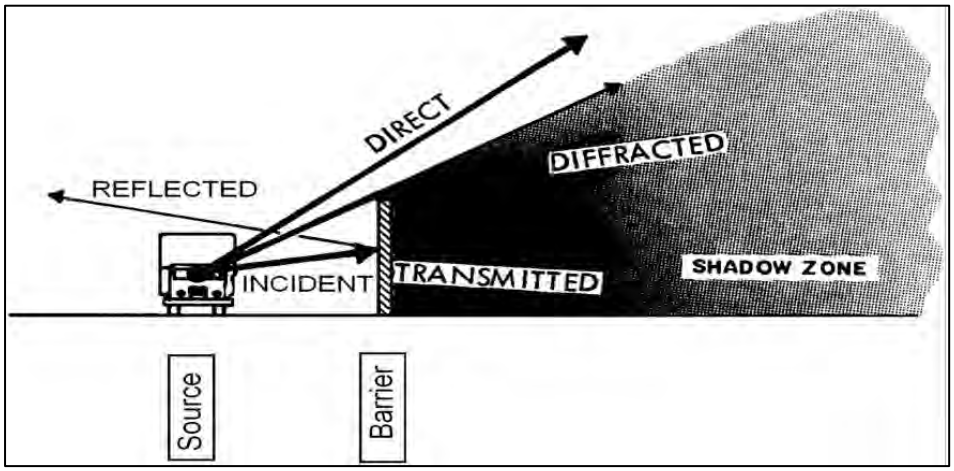
Ground Effects, generally identified as Hard (e.g., pavement) of Soft (e.g., Grass)

A grass surface absorbs more sound than a hard surface like pavement or a lake, for example, which are both reflective

Figures 4a/4b. Sound Wave Influence Characteristics



Barrier Effects, such as Diffraction, Transmission, Reflection, Absorption and Insertion Loss



2 ANALYSIS METHODOLOGY

2.1 Model Used and Assumptions

The Federal Highway Administration (FHWA) Traffic Noise Model (TNM 2.5) was used to derive existing and future noise levels. The environmental traffic data used was obtained directly from SCDOT or from the SCDOT Traffic Analysis and Data Application website, *Traffic Counts in South Carolina.*[1] Applicable model features, such as building structure inputs, terrain lines and large parking lots were added to the analysis to provide accurate sound level results.

2.2 Traffic Data

The peak hour volumes and fleet mix percentages for the existing year 2024 and design year 2050 are shown in **Appendix B**. Traffic volumes were developed by JMT. Vehicle classifications were derived from SCDOT traffic counter sites. For the Build Alternative, 77 percent of the peak period was automobiles, pickup trucks and SUV's. The percent of medium duty trucks of the peak period was 4 and the percent of heavy-duty trucks was 19. A speed limit of 45 miles per hour (mph) was used for all analysis conditions for all roads, with the exception of 70 mph used for I-26.

2.3 Receiver Locations

Sensitive receivers and/or land use types were first identified using aerial photography and street level views from http://maps.google.com, then field verified. Receiver land use categories that are potentially impacted by the proposed project include residential, which fall under the FHWA-developed Noise Abatement Criteria (NAC) category B, a place of worship which falls under NAC D for interior use and three hotels with exterior activity areas which fall under NAC E. Category F land uses such as retail, commercial, industrial, garages, outbuildings and/or storage building land uses have no impact criteria and are not analyzed.

2.4 Field Measurements

Ambient noise field measurements were taken at twelve locations along I-26. These were performed in accordance with the FHWA publication "Measurement of Highway-related Noise." Noise measurements were taken on October 16, 2024. Vehicles were counted and the type of vehicle was noted during the field measurements. In addition, the meteorological conditions, local features (trees, nearby buildings, etc.) were noted for each site. Table 1 summarizes the information for the ambient noise field measurements. Figures 2A-P (**Appendix A**) shows the measurement sites and **Appendix C** contains the field measurement data sheets with traffic data and meteorological conditions.

[1]Traffic Counts in South Carolina. https://scdottrafficdata.drakewell.com/publicmultinodemap.asp. (accessed September 1, 2025)

TABLE 1: Ambient Noise Field Measurements

Site	Time Period	Hourly Traffic Based on Concurrent Traffic Counts										Measured Leq
		Westbound Lanes					*Eastbound Lanes*					
		Autos	MT	HT	MC	B	Autos	MT	HT	MC	B	
M1	9:17 – 9:42	1160	64	421	0	0	1104	56	304	8	0	69.5
M2	9:55 – 10:10	920	44	416	0	3	1172	76	432	16	12	73.7
M3	10:30 – 10:45	N/A	N/A	N/A	0	0	N/A	N/A	N/A	0	0	62.9
M4	11:05 – 11:20	1204	88	396	0	0	1160	20	496	16	3	65.9
M5	11:35 – 11:50	1488	52	580	9	0	1076	32	416	3	3	74.5
M6	12:06 – 12:21	1232	96	356	0	0	1280	24	420	3	0	72.4
M7	1:10 – 1:25	1304	136	416	0	0	1260	40	456	0	9	74.8
M8	1:55 – 2:10	1412	112	452	0	3	1704	40	432	0	3	75.2
M9	2:49 – 3:04	1312	132	440	0	3	1896	36	440	0	6	73.1
M10	3:15 – 3:30	1406	118	436	0	0	1904	28	324	9	6	76.0
M11	3:54 – 4:08	1506	108	436	0	0	1784	24	324	0	0	68.7
M12	4:45 – 5:00	1160	76	324	0	0	1524	36	232	0	0	66.8

SOURCE: Michael Baker International
N/A – Traffic Not visible
MT = Medium Trucks
HT = Heavy Trucks
MC = Motorcycles
B = Buses

2.5 Model Validation

The TNM2.5 model was validated per the requirements in 23 CFR §772.11(d)(2). Table 2 compares the measured Leq versus modeled Leq for the thirteen sites during the measurement period. Based on SCDOT Policy, if the measured and modeled Leq are within 3 dBA, the model is validated. Table 2 shows that the difference between the modeled and measured Leq was ≤3.0 dBA at the sites; therefore, the model is validated.

TABLE 2: Comparison of Measured Leq to Modeled Leq for TNM2.5 Model Validation				
Site	**Time Period**	**Measured Leq**	**Modeled Leq**	**Difference**
M1	9:17 – 9:42	69.5	71.8	+2.3
M2	9:55 – 10:10	73.7	76.6	+2.9
M3	10:30 – 10:45	62.9	N/A	N/A
M4	11:05 – 11:20	65.9	68.8	+2.9
M5	11:35 – 11:50	74.5	72.9	-1.6
M6	12:06 – 12:21	72.4	74.8	+2.4
M7	1:10 – 1:25	74.8	74.9	+0.1
M8	1:55 – 2:10	75.2	75.7	+0.5
M9	2:49 – 3:04	73.1	75.0	+1.9
M10	3:15 – 3:30	76.0	73.8	-2.2
M11	3:54 – 4:08	68.7	71.0	+2.3
M12	4:45 – 5:00	66.8	69.5	+2.7

SOURCE: Michael Baker International
Measured Leq includes no train horns and/or helicopter noise (if applicable)
Difference = Measured Leq minus Modeled Leq

3 TRAFFIC NOISE IMPACTS

The FHWA has developed noise abatement criteria and procedures in 23 CFR Part 772, as shown in Table 3, that states that traffic noise impacts occur when either:

1) the predicted traffic noise levels approach or exceed the FHWA Noise Abatement Criteria (NAC) for the applicable activity category shown below; or,
2) the predicted traffic noise levels substantially exceed the existing noise levels by ≥15 dBA.

TABLE 3: 23 CFR 772 (Table 1) Noise Abatement Criteria (NAC)				
Activity Category	L_{eq} (h)\1,2\	L_{10} (h) \1,2\	Evaluation Location	Description of Activity Category
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.
C\3\	67	70	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care 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	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.

SOURCE: SCDOT Traffic Noise Abatement Policy, February 24, 2023

\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 abtement measures.

\3\ Includes undeveloped lands permitted for this activity category.

3.1 Noise Sensitive Area (NSA) Impact Results

The modeling results for the 2024 existing condition, the 2050 design year No-build and Build Alternatives can be found in **Table 4**. Digital media with the TNM input and output files (as indicated in **Appendix E**) has been submitted to SCDOT for their review and records.

3.1.1 Modeled Existing Year (2024) Noise Levels

In 2024, the following NSAs have noise levels that approach or exceed the NAC Category B, D or E criteria (80 total receivers):

NSA 1: 10 residences
NSA 2: 13 residences
NSA 3A: 12 residences
NSA 3B: 8 residences
NSA 3C: 21 residences
NSA 4A: 3 residences
NSA 4B: 3 residences
NSA 5: 1 residence
NSA 6: 2 residences
NSA 7: 0 residences
NSA 8A: 2 residences
NSA 8B: 5 residences

3.1.2 Modeled Design Year (Future 2050) No-Build Alternative Noise Levels

In the 2050 for the No-Build Alternative, the following NSAs have noise levels that approach or exceed the NAC Category B, D or E NAC criteria (103 total receivers):

NSA 1: 19 residences
NSA 2: 16 residences
NSA 3A: 15 residences
NSA 3B: 8 residences
NSA 3C: 23 residences
NSA 4A: 3 residences
NSA 4B: 5 residences
NSA 5: 1 residence, 1 hotel pool
NSA 6: 2 residences
NSA 7: 1 residence
NSA 8A: 2 residences
NSA 8B: 6 residences

3.1.3 Modeled Design Year (Future 2050) Build Alternative Noise Levels

For the 2050 Build Alternative, the noise levels are predicted to approach or exceed the NAC criteria for a total of 104 receivers (103 residential, 1 hotel pool) as divided by the project NSAs:

NSA 1: 19 residential impacts
NSA 2: 17 residential impacts
NSA 3A: 15 residential impacts
NSA 3B: 8 residential impacts
NSA 3C: 23 residential impacts
NSA 4A: 3 residential impacts
NSA 4B: 5 residential impacts
NSA 5: 1 residential impact, 1 hotel pool impact

NSA 6: 2 residential impacts
NSA 7: 1 residential impact
NSA 8A: 3 residential impacts
NSA 8B: 6 residential impacts

The noise levels for the 2050 Build Alternative are predicted to increase by approximately 3.4 dBA on average over the 2024 existing condition. As a result, there are no predicted substantial increase impacts (See Table 4).

TABLE 4: I-26 MM 145 to MM 172 –Existing and Design Year Results

Receptor Number	NSA	Land Use	NAC	Criteria*	2024 Existing	2050 No-Build	2050 Design Build	Impact (Yes/No)
R-5	1	Country Inn & Suites, Ext Activity Area	E	71	63.3	66.4	66.4	NO
R-7	1	Fairfield Inn - Hotel Pool	E	71	66.6	70.0	70.2	NO
R-8	1	SF Residence	B	66	75.9	79.2	**79.2**	YES
R-9	1	SF Residence	B	66	70.0	73.4	**73.8**	YES
R-9A	1	SF Residence	B	66	62.7	66.0	**66.3**	YES
R-10	1	SF Residence	B	66	59.1	62.4	62.9	NO
R-11	1	SF Residence	B	66	58.4	61.7	61.9	NO
R-12	1	SF Residence	B	66	55.5	58.8	59.0	NO
R-14	1	SF Residence	B	66	57.9	61.2	61.4	NO
R-15	1	SF Residence	B	66	55.0	58.4	58.5	NO
R-18	1	SF Residence	B	66	58.3	61.6	61.6	NO
R-19	1	SF Residence	B	66	55.2	58.5	58.7	NO
R-157	1	SF Residence	B	66	63.7	67.0	**67.3**	YES
R-158	1	SF Residence	B	66	68.4	71.7	**71.7**	YES
R-159	1	SF Residence	B	66	67.8	71.1	**71.1**	YES
R-160	1	SF Residence	B	66	62.0	65.3	65.3	NO
R-161	1	SF Residence	B	66	64.8	68.1	**68.1**	YES
R-162	1	SF Residence	B	66	63.2	66.4	**66.4**	YES

TABLE 4: I-26 MM 145 to MM 172 –Existing and Design Year Results								
Receptor Number	NSA	Land Use	NAC	Criteria*	2024 Existing	2050 No-Build	2050 Design Build	Impact (Yes/No)
R-163	1	SF Residence	B	66	70.2	73.5	73.5	YES
R-164	1	SF Residence	B	66	62.8	66.1	66.1	YES
R-165	1	SF Residence	B	66	64.2	67.4	67.4	YES
R-166	1	SF Residence	B	66	71.2	74.5	74.5	YES
R-167	1	SF Residence	B	66	62.5	65.7	65.7	NO
R-168	1	SF Residence	B	66	65.4	68.7	68.7	YES
R-169	1	SF Residence	B	66	72.9	76.2	76.2	YES
R-170	1	SF Residence	B	66	63.4	69.1	66.7	YES
R-171	1	SF Residence	B	66	65.9	71.0	69.1	YES
R-172	1	SF Residence	B	66	67.8	76.7	71.0	YES
R-173	1	SF Residence	B	66	73.7	77.7	76.7	YES
R-174	1	SF Residence	B	66	74.6	69.1	77.7	YES
R-21	2	SF Residence	B	66	66.5	69.8	70.1	YES
R-22	2	SF Residence	B	66	75.4	78.7	79.4	YES
R-23	2	SF Residence	B	66	65.8	69.1	69.5	YES
R-24	2	SF Residence	B	66	70.3	73.6	75.6	YES
R-25	2	SF Residence	B	66	77.1	80.4	81.0	YES
R-26	2	SF Residence	B	66	72.1	75.8	76.7	YES
R-27	2	SF Residence	B	66	69.1	72.5	73.2	YES
R-28	2	SF Residence	B	66	66.7	70.0	70.8	YES
R-29	2	SF Residence	B	66	64.3	67.6	69.4	YES
R-30	2	SF Residence	B	66	63.9	67.2	67.9	YES
R-31	2	SF Residence	B	66	78.3	81.6	82.0	YES
R-32	2	SF Residence	B	66	74.7	77.1	78.0	YES
R-33	2	SF Residence	B	66	70.5	73.9	75.1	YES

TABLE 4: I-26 MM 145 to MM 172 –Existing and Design Year Results								
Receptor Number	NSA	Land Use	NAC	Criteria*	2024 Existing	2050 No-Build	2050 Design Build	Impact (Yes/No)
R-34	2	SF Residence	B	66	67.8	71.1	72.4	YES
R-35	2	SF Residence	B	66	66.1	69.4	70.5	YES
R-36	2	SF Residence	B	66	62.6	65.9	66.3	YES
R-155	2	SF Residence	B	66	66.4	69.6	70.0	YES
R-156	2	Assembly Hall of Jehovah's Witnesses	D	51	44.1	47.4	47.8	NO
R-37	3A	SF Residence	B	66	70.0	73.1	73.1	YES
R-38	3A	SF Residence	B	66	74.6	77.5	77.5	YES
R-39	3A	SF Residence	B	66	77.7	80.4	80.4	YES
R-40	3A	SF Residence	B	66	78.0	80.7	80.7	YES
R-41	3A	SF Residence	B	66	73.2	76.2	76.2	YES
R-42	3A	SF Residence	B	66	68.3	72.0	72.0	YES
R-43	3A	SF Residence	B	66	75.8	78.7	78.7	YES
R-44	3A	SF Residence	B	66	73.1	76.0	76.0	YES
R-45	3A	SF Residence	B	66	70.8	73.8	73.8	YES
R-46	3A	SF Residence	B	66	69.4	72.3	72.3	YES
R-47	3A	SF Residence	B	66	67.4	70.4	70.4	YES
R-48	3A	SF Residence	B	66	67.3	70.0	70.0	YES
R-49	3A	SF Residence	B	66	65.8	68.4	68.4	YES
R-50	3A	SF Residence	B	66	65.8	67.3	67.3	YES
R-61	3A	SF Residence	B	66	65.9	67.9	67.9	YES
R-62	3B	SF Residence	B	66	74.5	77.6	77.6	YES
R-63	3B	SF Residence	B	66	75.2	78.2	78.2	YES
R-65	3B	SF Residence	B	66	68.2	70.3	70.3	YES
R-66	3B	SF Residence	B	66	69.7	72.6	72.6	YES

TABLE 4: I-26 MM 145 to MM 172 –Existing and Design Year Results								
Receptor Number	NSA	Land Use	NAC	Criteria*	2024 Existing	2050 No-Build	2050 Design Build	Impact (Yes/No)
R-70	3B	SF Residence	B	66	68.9	71.4	71.4	YES
R-72	3B	SF Residence	B	66	68.1	70.6	70.6	YES
R-73	3B	SF Residence	B	66	67.1	69.4	69.4	YES
R-74	3B	SF Residence	B	66	75.4	77.7	77.7	YES
R-75A	3C	SF Residence	B	66	77.0	79.5	79.5	YES
R-126	3C	SF Residence	B	66	74.3	77.1	77.1	YES
R-127	3C	SF Residence	B	66	69.4	71.6	71.6	YES
R-129	3C	SF Residence	B	66	60.9	63.8	63.8	NO
R-130	3C	SF Residence	B	66	64.3	67.2	67.2	YES
R-132	3C	Bethany Full Gospel Church	D	51	35.7	37.6	37.6	NO
R-133	3C	SF Residence	B	66	67.5	70.8	71.3	YES
R-135	3C	SF Residence	B	66	61.9	64.3	64.3	NO
R-136	3C	SF Residence	B	66	68.1	71.5	72.0	YES
R-137	3C	SF Residence	B	66	67.8	71.1	71.6	YES
R-138	3C	SF Residence	B	66	70.6	74.0	74.3	YES
R-139	3C	SF Residence	B	66	77.8	80.3	80.3	YES
R-140	3C	SF Residence	B	66	66.8	70.2	70.2	YES
R-141	3C	SF Residence	B	66	74.5	77.7	77.7	YES
R-142	3C	SF Residence	B	66	66.9	70.5	70.5	YES
R-143	3C	SF Residence	B	66	73.8	77.3	77.3	YES
R-144	3C	SF Residence	B	66	66.4	69.7	69.7	YES
R-145	3C	SF Residence	B	66	73.8	77.4	77.4	YES
R-146	3C	SF Residence	B	66	66.6	70.0	70.0	YES
R-147	3C	SF Residence	B	66	74.4	77.7	77.7	YES

TABLE 4: I-26 MM 145 to MM 172 –Existing and Design Year Results								
Receptor Number	NSA	Land Use	NAC	Criteria*	2024 Existing	2050 No-Build	2050 Design Build	Impact (Yes/No)
R-148	3C	SF Residence	B	66	65.7	68.7	68.7	YES
R-149	3C	SF Residence	B	66	73.7	77.1	77.1	YES
R-150	3C	SF Residence	B	66	66.2	69.5	69.7	YES
R-151	3C	SF Residence	B	66	68.2	71.6	72.1	YES
R-152	3C	SF Residence	B	66	71.1	74.4	74.7	YES
R-153	3C	SF Residence	B	66	77.0	79.9	79.9	YES
R-80	4A	SF Residence	B	66	70.2	73.5	73.5	YES
R-81	4A	SF Residence	B	66	73.1	76.5	79.2	YES
R-82	4A	SF Residence	B	66	70.2	73.5	74.4	YES
R-116	4B	SF Residence	B	66	71.3	74.7	75.4	YES
R-117	4B	SF Residence	B	66	66.0	69.3	69.3	YES
R-122	4B	SF Residence	B	66	64.3	67.6	67.8	YES
R-123	4B	SF Residence	B	66	64.6	67.9	68.3	YES
R-124	4B	SF Residence	B	66	76.8	79.7	79.7	YES
R-112	5	SF Residence	B	66	71.0	74.4	75.0	YES
R-113	5	Days Inn Hotel Pool	E	71	69.4	72.5	72.5	YES
R-90	6	SF Residence	B	66	67.3	70.7	71.4	YES
R-96	6	SF Residence	B	66	67.6	70.9	71.0	YES
R-102	7	SF Residence	B	66	65.6	68.9	68.9	YES
R-103	7	SF Residence	B	66	58.7	61.9	62.7	NO
R-83	8A	SF Residence	B	66	66.7	70.0	70.7	YES
R-84	8A	SF Residence	B	66	68.5	71.8	72.4	YES
R-85	8A	SF Residence	B	66	61.7	65.1	66.2	YES
R-105	8B	SF Residence	B	66	61.3	64.5	64.5	NO
R-106	8B	SF Residence	B	66	73.3	76.6	77.0	YES

TABLE 4: I-26 MM 145 to MM 172 –Existing and Design Year Results								
Receptor Number	NSA	Land Use	NAC	Criteria*	2024 Existing	2050 No-Build	2050 Design Build	Impact (Yes/No)
R-107	8B	SF Residence	B	66	73.4	76.7	77.0	YES
R-108	8B	SF Residence	B	66	64.3	67.6	67.8	YES
R-109	8B	SF Residence	B	66	67.2	70.5	70.8	YES
R-110	8B	SF Residence	B	66	72.6	76.0	76.4	YES
R-111	8B	SF Residence	B	66	73.9	77.2	77.7	YES

4 ANALYSIS OF NOISE ABATEMENT MEASURES

Since there are impacted noise receivers from the 2050 Build Alternative, abatement measures were considered for the proposed project. When considering noise abatement measures, primary consideration shall be given to exterior areas where frequent human use occurs. Since South Carolina is not part of the FHWA-approved Quiet Pavement Pilot Program, the use of quieter pavements was not considered as an abatement measure for the proposed project. In addition, the planting of vegetation or landscaping was also not considered as a potential abatement measure, since it is not an acceptable Federal-aid noise abatement measure due to the fact that only dense stands of evergreen vegetation planted 200 feet deep will reduce noise levels.[2]

In accordance with 23 CFR §772.13(c), the following measures were considered and evaluated as a means to reduce or eliminate the traffic noise impacts:

1. Traffic management measures
   i. Traffic control devices (refer to current NCHRP guidance)
   ii. Signing for prohibition of certain vehicle types
   iii. Time-use restrictions for certain vehicle types
   iv. Modified speed limits
   v. Exclusive lane designations
2. Alteration of horizontal and vertical alignments.
3. Acquisition of property rights (either in fee or lesser interest) for construction of noise barriers.
4. Construction of noise barriers (including landscaping for esthetic purposes) whether within or outside the highway right-of-way. Interstate construction funds may not participate in landscaping.

[2] FHWA Highway Traffic Noise: Analysis and Abatement Guidance, Page 62. https://www.fhwa.dot.gov/environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/revguidance.pdf (Accessed September 12, 2025)

5. Acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise.
6. Noise insulation of public use or nonprofit institutional structures.

When considering noise abatement measures, the following feasibility and reasonableness factors must be evaluated relative to each alternative abatement measure.

4.1 Feasibility

Acoustic Feasibility. It is SCDOT's policy that a noise reduction of at least 5 dB(A) must be achieved for at least three (3) receptors determined to be impacted for the noise abatement measure to be acoustically feasible.

Engineering Feasibility. Feasibility deals with engineering considerations. The ability to achieve noise reduction may be limited by:

1. Topography – Determine if the abatement measure could be constructed given the topography of the location.
2. Safety - Maintaining a clear recovery zone, sight distance and accommodation of disabled vehicles.
3. Drainage – Issues created by directing water along, under, or away from an abatement measure.
4. Utilities - Large overhead power lines, underground water, sewer, gas, oil, etc., can have a significant impact on costs and design options.
5. Maintenance – Potential issues from location of abatement measure and construction materials.
6. Access - Refers to the ingress and egress to properties that would be affected by the noise abatement measure.
7. The exposed height of the noise abatement measure cannot exceed 25 feet based on constructability constraints.

Constructability Review - A constructability review should be conducted prior to any proposed noise abatement measure/barrier being shown to the public during the NEPA analysis. This review will determine whether any project-specific engineering or construction considerations may affect the abatement/barrier cost in such a way that make abatement unreasonable, which would thereby preclude any exhibition of the abatement measure to the public. Factors to consider but are not limited to site distance, barrier height, topography, drainage, utilities, and maintenance of the abatement measure, maintenance access to adjacent properties, and access to adjacent properties. This would be factored into the cost-effectiveness and reasonableness criterion discussed below.

4.2 Reasonableness

There are Three Mandatory Reasonable Factors that must be met for a noise abatement measure to be considered reasonable. The Three Mandatory Reasonable Factors must collectively be achieved in order for a noise abatement measure to be deemed reasonable.

Failure to achieve any one of the reasonable factors will result in the noise abatement measure being deemed not reasonable. Completion of a "Feasibility and Reasonableness Worksheet" (refer to example in **Appendix D**) is required for inclusion in the noise analysis technical report.

1. ***Noise reduction design goal.*** It is SCDOT's policy that a noise reduction of at least 7 dB(A) must be achieved for at least one (1) benefited receptor.
2. ***Cost effectiveness.*** The allowable cost of the abatement will be 1,500 square feet for each benefitted receptor. The square footage per benefitted receptor will be reanalyzed at most every 5 years.
3. ***Viewpoints of the property owners and residents of the benefited receptors.*** SCDOT shall solicit the viewpoints of all of the benefited receptors and document a decision on either desiring or not desiring the noise abatement measure. The viewpoints will be solicited as part of the public involvement process through a voting procedure during NEPA. The method of obtaining the votes shall be determined on a project-by-project basis, but may include flyers, door-to-door surveys, a public meeting, or a mailing. The voting ballot will explain that the noise abatement shall be constructed unless a majority (greater than 50% of the benefited receptors) of votes not desiring noise abatement is received.

NOTE: For non-owner-occupied benefited receptors, both the property owner and the renter may vote on whether the noise abatement is desired. One owner ballot and one resident ballot shall be solicited for each benefited receptor.

NOTE: Homeowner associations or local governments cannot be given authority over the desirability for abatement. The viewpoints of the abatement must be solicited from the property owners and tenants.

4.3 Noise Barriers

Among the most common noise barriers are earthen berms and freestanding walls. The optimum situation for the use of free-standing noise barriers is when a dense concentration of impacted receivers lies directly adjacent to and parallel with the highway right-of-way. In these instances, one barrier can protect many people at a relatively low cost per impacted site. For this study, an earthen berm was ruled out since there is not enough right-of-way for proper sloping. Drainage and safety line-of-sight may also be an issue.

As mentioned, barriers are not considered feasible if they do not provide a benefit of at least 5 dBA for a minimum of 3 receivers according to the SCDOT Noise Policy. Therefore, areas where there were less than 3 impacted receivers were dismissed and were not analyzed for abatement.

Tables 5 through 22 show the insertion losses and predicted benefits for all the analyzed barriers that did not meet both the feasible and reasonable criteria.

Tables 5, 6, 7 and 8 show results of Barrier Northbound (NB) 1 MAX and NB 1 MIN. This preliminary barrier analysis was slightly more complex than the other barrier analyses so a maximum number of benefits was calculated as well as the minimum needed to meet

the feasible and reasonable criteria. The remaining preliminary barrier analyses were fairly easy to optimize (OPT) to balance the number of benefited receivers versus the 1,500 square footage criteria.

Furthermore, there were no analyzed barriers that met both the feasible and reasonable criteria. None of analyzed barriers were determined to be cost-effective. As a result, there are no barriers proposed to be carried forward to final design.

TABLE 5. Barrier Northbound (NB) 1 MAX (NSA 1) Predicted Sound Level Reductions/Insertion Losses

Receptor	Design Year Build dBA	Design Year Build dBA with Optimized Barrier	Insertion Loss	Equivalent Receptor Units	# of Benefited Receptors
R-158	72	65	6	1	1
R-157	67	62	5	1	1
R-160	65	60	5	1	1
R-161	68	62	6	1	1
R-159	71	65	7	1	1
R-163	73	66	8	1	1
R-166	74	66	8	1	1
R-165	67	61	6	1	1
R-162	66	61	5	1	1
R-164	66	60	6	1	1
R-167	66	60	5	1	1
R-168	69	62	7	1	1
R-169	76	66	10	1	1
R-174	78	67	10	1	1
R-173	77	66	10	1	1
R-172	71	64	8	1	1
R-171	69	63	6	1	1
R-170	67	62	5	1	1

TABLE 6. Barrier NB1 MAX (NSA 1) Statement of Likelihood Data								
Barrier	Barrier Length (ft)	Barrier Height* (ft)			Square Footage	Benefited Receptors	Sq. ft / Benefited Receptor	Reasonable?
		Low	High	Avg.				
NB 1 MAX	4,545	16	16	16	72,722	18	4,040	NO

TABLE 7. Barrier NB 1 MIN (NSA 1) Predicted Sound Level Reductions/Insertion Losses					
Receptor	Design Year Build dBA	Design Year Build dBA with Optimized Barrier	Insertion Loss	Equivalent Receptor Units	# of Benefited Receptors
R-158	72	68	4	1	0
R-157	67	65	2	1	0
R-160	65	63	2	1	0
R-161	68	64	4	1	0
R-159	71	67	4	1	0
R-163	73	68	5	1	1
R-166	74	69	6	1	1
R-165	67	64	4	1	0
R-162	66	63	3	1	0
R-164	66	63	3	1	0
R-167	66	62	3	1	0
R-168	69	64	4	1	0
R-169	76	69	7	1	1
R-174	78	73	5	1	1
R-173	77	70	6	1	1
R-172	71	67	5	1	1
R-171	69	67	3	1	0
R-170	67	65	2	1	0

TABLE 8. Barrier NB 1 MIN (NSA 1) Statement of Likelihood Data								
Barrier	Barrier Length (ft)	Barrier Height* (ft)			Square Footage	Benefited Receptors	Sq. ft / Benefited Receptor	Reasonable?
		Low	High	Avg.				
NB 1 MIN	2,203	12	12	12	26,436	6	4,406	NO

TABLE 9. Barrier NB 2 OPT (NSA 2) Predicted Sound Level Reductions/Insertion Losses					
Receptor	Design Year Build dBA	Design Year Build dBA with Optimized Barrier	Insertion Loss	Equivalent Receptor Units	# of Benefited Receptors
R-35	71	68	3	1	0
R-33	75	70	5	1	1
R-34	72	69	3	1	0
R-32	78	71	7	1	1
R-31	82	72	10	1	1
R-22	79	74	6	1	1
R-24	76	71	4	1	0
R-25	81	71	10	1	1
R-26	77	70	6	1	1
R-27	73	70	4	1	0
R-28	71	68	3	1	0
R-29	69	67	2	1	0
R-30	68	66	2	1	0
R-36	66	65	2	1	0
R-23	70	68	2	1	0
R-21	70	70	0	1	0

TABLE 10. Barrier NB 2 OPT (NSA 2) Statement of Likelihood Data								
Barrier	Barrier Length (ft)	Barrier Height* (ft)			Square Footage	Benefited Receptors	Sq. ft / Benefited Receptor	Reasonable?
		Low	High	Avg.				
NB 2 OPT	1,445	10	12	11	14,451	6	2,408	NO

TABLE 11. Barrier NB 3 OPT (NSA 3C) Predicted Sound Level Reductions/Insertion Losses					
Receptor	Design Year Build dBA	Design Year Build dBA with Optimized Barrier	Insertion Loss	Equivalent Receptor Units	# of Benefited Receptors
R-153	80	72	8	1	1
R-152	75	69	6	1	1
R-151	72	67	5	1	1
R-150	70	65	5	1	1
R-148	69	64	5	1	1
R-149	77	69	9	1	1
R-147	78	69	9	1	1
R-146	70	64	6	1	1
R-145	77	68	9	1	1
R-144	70	64	6	1	1
R-143	77	71	7	1	1
R-142	70	64	7	1	1
R-140	70	64	7	1	1
R-141	78	68	10	1	1
R-139	80	70	11	1	1
R-138	74	66	8	1	1
R-137	72	64	7	1	1
R-136	72	65	7	1	1
R-133	71	64	7	1	1
R-130	67	62	6	1	1
R-126	77	68	9	1	1
R-127	72	65	7	1	1
R-129	64	59	5	1	1
R-135	64	60	5	1	1
R-132	70	59	4	1	0

TABLE 12. Barrier NB 3 OPT (NSA 3C) Statement of Likelihood Data								
Barrier	Barrier Length (ft)	Barrier Height* (ft)			Square Footage	Benefited Receptors	Sq. ft / Benefited Receptor	Reasonable?
		Low	High	Avg.				
NB 3 OPT	3,918	10	12	11	43,698	24	1,821	NO

TABLE 13: Barrier NB 4 OPT (NSA 3A) Predicted Sound Level Reductions/Insertion Losses					
Receptor	Design Year Build dBA	Design Year Build dBA with Optimized Barrier	Insertion Loss	ERUs	# of Benefited Receptors
R-61	68	67	1	1	0
R-50	67	65	2	1	0
R-48	70	68	3	1	0
R-46	72	69	3	1	0
R-44	76	72	4	1	0
R-49	68	66	2	1	0
R-47	70	68	3	1	0
R-45	74	70	4	1	0
R-43	79	72	7	1	1
R-37	73	70	3	1	0
R-38	78	72	5	1	1
R-39	80	73	8	1	1
R-40	81	73	8	1	1
R-41	76	71	5	1	1
R-42	72	69	4	1	0

TABLE 14. Barrier NB 4 OPT (NSA 3A) Statement of Likelihood Data								
Barrier	Barrier Length (ft)	Barrier Height* (ft)			Square Footage	Benefited Receptors	Sq. ft / Benefited Receptor	Reasonable?
		Low	High	Avg.				
NB 4 OPT	2,055	10	10	10	20,548	5	4,110	NO

TABLE 15. Barrier NB 5 OPT (NSA 3B) Predicted Sound Level Reductions/Insertion Losses					
Receptor	Design Year Build dBA	Design Year Build dBA with Optimized Barrier	Insertion Loss	ERUs	# of Benefited Receptors
R-74	77	71	7	1	1
R-73	69	65	5	1	1
R-72	71	65	6	1	1
R-70	71	63	8	1	1
R-66	72	61	11	1	1
R-65	70	62	9	1	1
R-63	78	72	7	1	1
R-62	78	72	7	1	1

TABLE 16. Barrier NB 5 OPT (NSA 3B) Statement of Likelihood Data								
Barrier	Barrier Length (ft)	Barrier Height* (ft)			Square Footage	Benefited Receptors	Sq. ft / Benefited Receptor	Reasonable?
		Low	High	Avg.				
NB 5 OPT	4,605	10	12	11	53,684	8	6,711	NO

TABLE 17. Barrier SB 1 OPT (NSA 4B) Predicted Sound Level Reductions/Insertion Losses					
Receptor	Design Year Build dBA	Design Year Build dBA with Optimized Barrier	Insertion Loss	ERUs	# of Benefited Receptors
R-124	80	69	10	1	1
R-123	68	63	5	1	1
R-122	68	64	4	1	0
R-117	69	65	5	1	1
R-116	75	68	7	1	1

TABLE 18. Barrier SB 1 OPT (NSA 4B) Statement of Likelihood Data								
Barrier	Barrier Length (ft)	Barrier Height* (ft)			Square Footage	Benefited Receptors	Sq. ft / Benefited Receptor	Reasonable?
		Low	High	Avg.				
SB 1 OPT	3,466	10	12	11	40,241	4	10,060	NO

TABLE 19. Barrier SB 2 OPT (NSA 4A) Predicted Sound Level Reductions/Insertion Losses					
Receptor	Design Year Build dBA	Design Year Build dBA with Optimized Barrier	Insertion Loss	ERUs	# of Benefited Receptors
R-80	73	68	5	1	1
R-81	79	68	11	1	1
R-82	74	69	5	1	1

TABLE 20. Barrier SB 2 OPT (NSA 4A) Statement of Likelihood Data								
Barrier	Barrier Length (ft)	Barrier Height* (ft)			Square Footage	Benefited Receptors	Sq. ft / Benefited Receptor	Reasonable?
		Low	High	Avg.				
SB 2 OPT	2,465	10	12	11	28,160	3	9,387	NO

TABLE 21. Barrier SB 3 OPT (NSA 8B) Predicted Sound Level Reductions/Insertion Losses					
Receptor	Design Year Build dBA	Design Year Build dBA with Optimized Barrier	Insertion Loss	ERUs	# of Benefited Receptors
R-106	77	68	9	1	1
R-107	77	68	9	1	1
R-108	68	63	5	1	1
R-109	71	65	6	1	1
R-110	76	68	8	1	1
R-111	78	73	5	1	1

TABLE 22. Barrier SB 3 OPT (NSA 8B) Statement of Likelihood Data								
Barrier	Barrier Length (ft)	Barrier Height* (ft)			Square Footage	Benefited Receptors	Sq. ft / Benefited Receptor	Reasonable?
		Low	High	Avg.				
SB 3 OPT	3,322	10	12	11	38,630	6	6,438	NO

5 FINDING AND RECOMMENDATIONS

Overall, there were 104 receivers impacted in the project study area for the 2050 Design Year Build Alternative. As a result, mitigation analysis was warranted according to the SCDOT Traffic Noise Abatement Policy. Furthermore, there were no analyzed barriers that met both the feasible and reasonable criteria. Therefore, there are no barriers proposed to be carried forward to final design.

Overall, subsequent project design changes and/or revised data may require a reevaluation of the assessment or parts thereof. If this condition were to occur, the modified Build Alternative would be analyzed for noise impacts and mitigation as reasonable, i.e., if the proposed action were to be significantly modified in such a way as to change the predicted sound level environment and/or clearly indicate a possibility for reasonable and feasible mitigation.

6 CONSTRUCTION NOISE

If the Build Alternative is constructed, temporary increases in noise levels would occur during the time period that construction takes place. Noise levels due to construction, although temporary, can impact areas adjacent to the project. The major noise sources from construction would be the heavy equipment operated at the site. However, other construction site noise sources would include hand tools and trucks supplying and removing materials.

Typical noise levels generated by different types of construction equipment are presented in Table 5. Construction operations are typically broken down into several phases including clearing and grubbing, earthwork, erection, paving and finishing. Although these phases can overlap, each has their own noise characteristics and objective.

SCDOT's "2007 Standard Specifications for Highway Construction" includes various references to construction noise, including Sections 107.6-paragraph 3, 606.3.1.6.3-paragraph 1, 607.3.1.6.3-paragraph 1, 607.3.2.6.3-paragraph 1, and 702.4.15-paragraph 3. The SCDOT specifications cited above are generalized for nuisance noise avoidance. Detailed specifications suggested for consideration for inclusion in the proposed project's construction documents may consist of the following:

- Construction equipment powered by an internal combustion engine shall be equipped with a properly maintained muffler.
- Air compressors shall meet current USEPA noise emission exhaust standards.
- Air powered equipment shall be fitted with pneumatic exhaust silencers.
- Stationary equipment powered by an internal combustion engine shall not be operated within 150 feet of noise sensitive areas without portable noise barriers placed between the

equipment and noise sensitive sites. Noise sensitive sites include residential buildings, motels, hotels, schools, churches, hospitals, nursing homes, libraries and public recreation areas.

- Portable noise barriers shall be constructed of plywood or tongue and groove boards with a noise absorbent treatment on the interior surface (facing the equipment).
- Powered construction equipment shall not be operated during the traditional evening and/or sleeping hours within 150 feet of a noise sensitive site, to be decided either by local ordinances and/or agreement with the SCDOT.

TABLE 23. Leq Noise Level (dBA) at 50 Feet for Construction Equipment

Equipment	dBA Leq @ 50 feet
Earth Moving:	
Front Loader	79
Back Hoe	85
Dozer	80
Tractor	80
Scraper	88
Grader	85
Truck	91
Paver	89
Materials Handling:	
Concrete Mixer	85
Concrete Pump	82
Crane	83
Derrick	88
Stationary:	
Pump	76
Generator	78
Compressor	81
Impact:	
Pile Driver	100
Jackhammer	88
Rock Drill	98
Other:	
Saw	78
Vibrator	76

SOURCE: Grant, Charles A. and Reagan, Jerry, A., *Highway Construction Noise: Measurement, Prediction and Mitigation.*

7 COORDINATION WITH LOCAL OFFICIALS

SCDOT has no authority over local land use planning and development. SCDOT can only encourage local officials and developers to consider highway traffic noise in the planning, zoning and development of property near existing and proposed highway corridors. The lack of consideration of highway traffic noise in land use planning at the local level has added to the highway traffic noise problem which will continue to grow as development continues adjacent to major highways long after these highways were proposed and/or constructed.

To help local officials and developers consider highway traffic noise in the vicinity of proposed Type I project, SCDOT will inform them of the predicted future noise levels and the required distance from such projects needed to ensure that noise levels remain below the NAC for each type of land use. For this project, it is suggested that the Orangeburg and Dorchester County officials would be likely recipients at a minimum. The contour distances to the 66 and 71 dBA sound levels are shown below. Please note that the values in the table do not represent predicted levels at every location at a particular distance back from the roadway. Sound levels will vary with changes in terrain and will be affected by the shielding of objects such as buildings and tree zones.

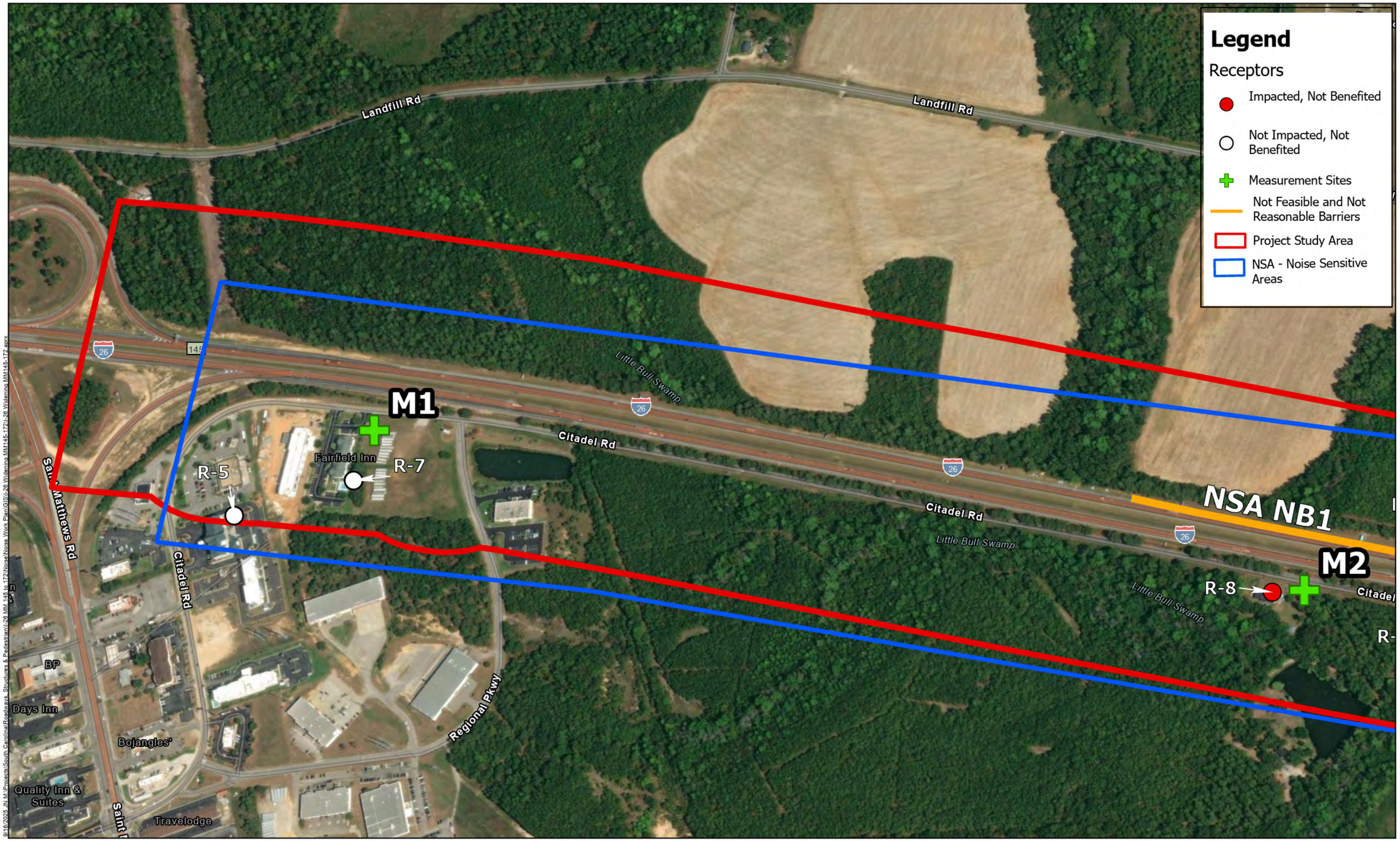
TABLE 24. Contour Distances (dBA) for I-26 Widening

NAC Land Use	Impact Contour	Approximate Distances from Nearest Travel Lane Centerline (I-26 Widening)
Category B & C (residential, outdoor recreation facilities, churches, schools, hospitals, etc.)	66 dBA	640 feet
Category E (Hotels, motels, offices, restaurants/bars, and other developments/activities not included in the other NAC's.)	71 dBA	365 feet

SOURCE: Michael Baker International

APPENDIX A

FIGURES



Michael Baker INTERNATIONAL

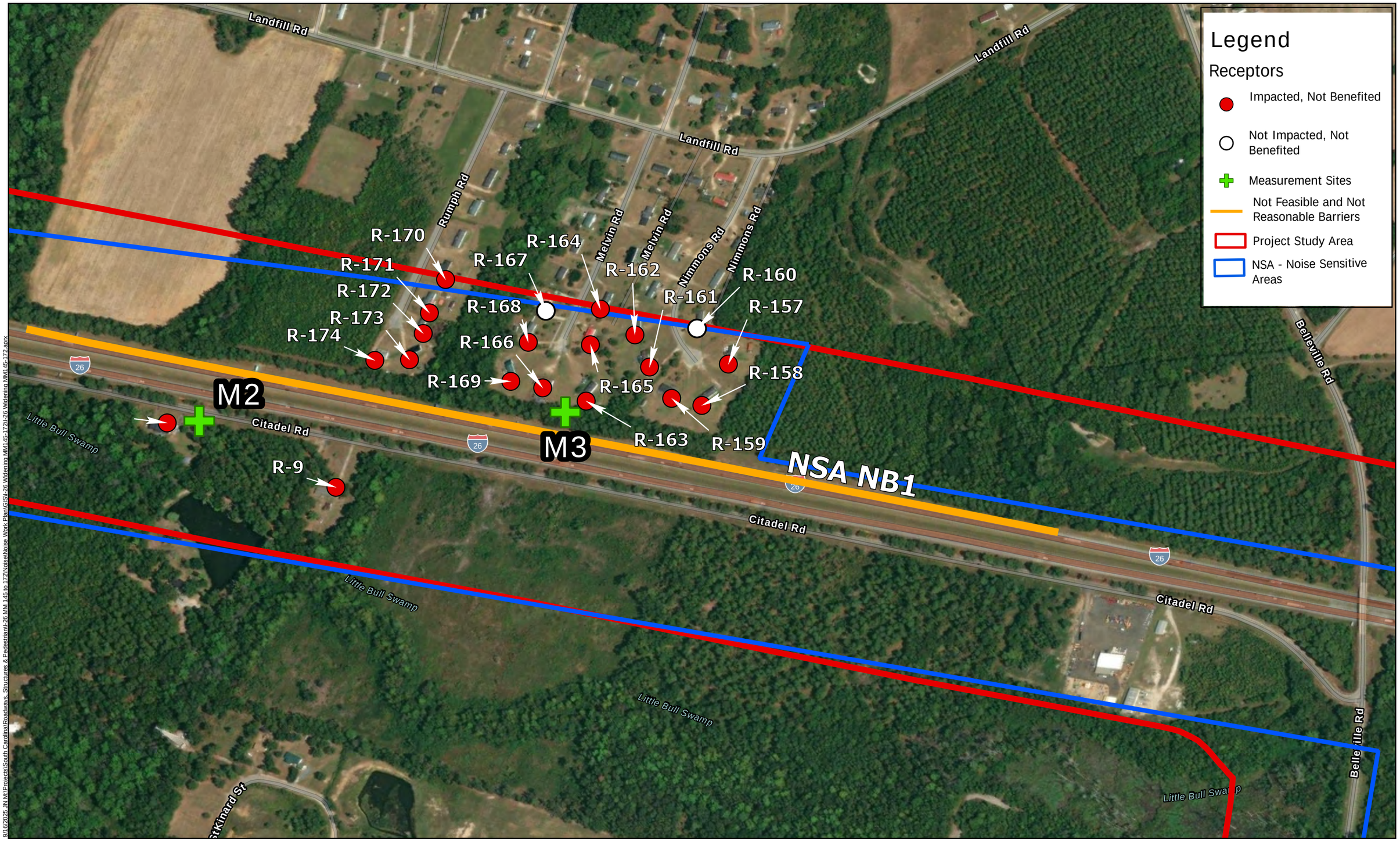
0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 A



0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

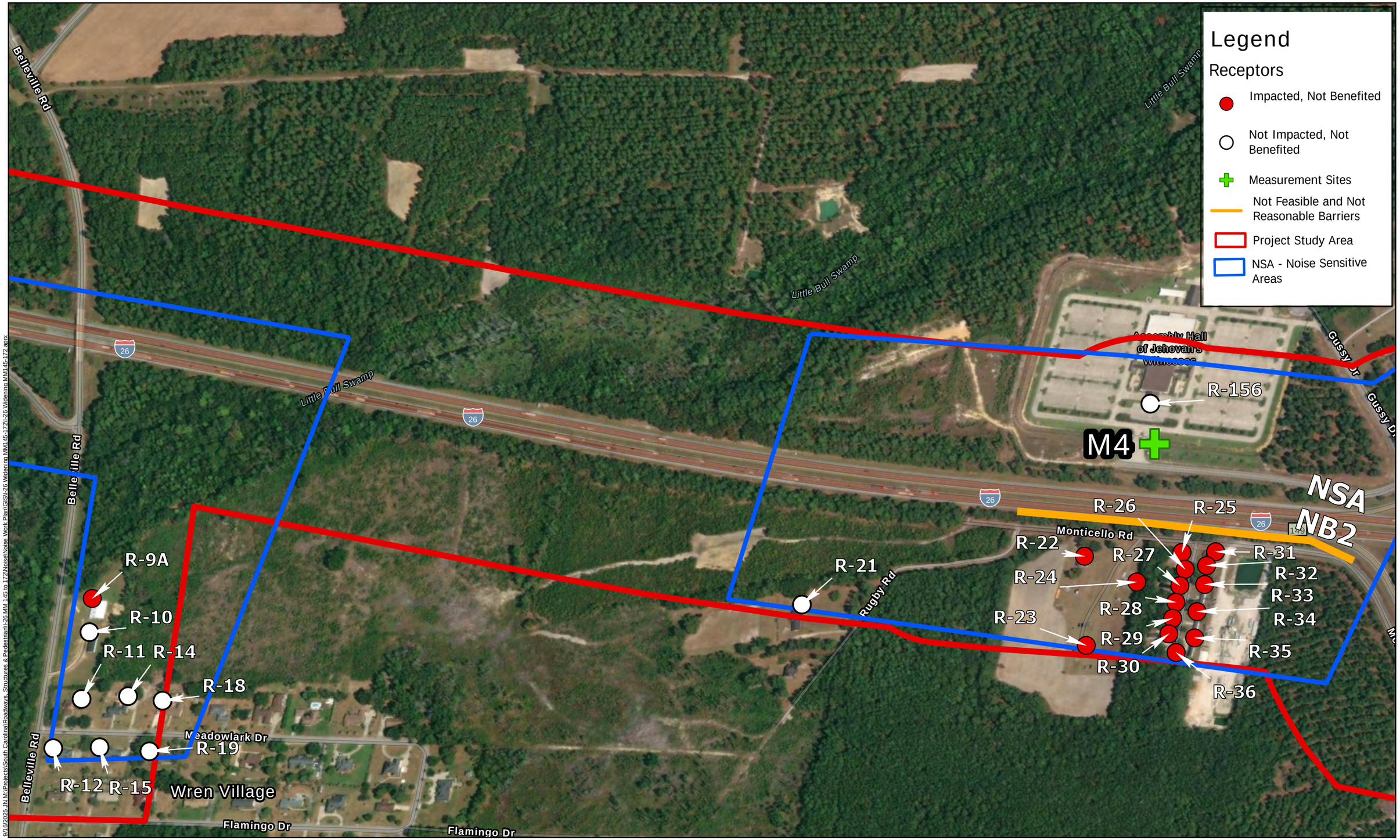
Michael Baker INTERNATIONAL

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 B

9/16/2025 J:\NA\Projects\South Carolina\Roadways, Structures, & Pedestrian\I-26 MM 145 to 172\Noise\Noise Work Plan\GIS\I-26 Widening MM 145-172\I-26 Widening MM 145-172.aprx



9/16/2025 J:\MM\Projects\South Carolina\Roadways\Structures & Pedestrian\I-26 MM 145 to 172\Noise\Noise Work Plan\GIS\I-26 Widening MM 145-172.aprx

Michael Baker INTERNATIONAL

0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 C

0 500 1,000 2,000 Feet

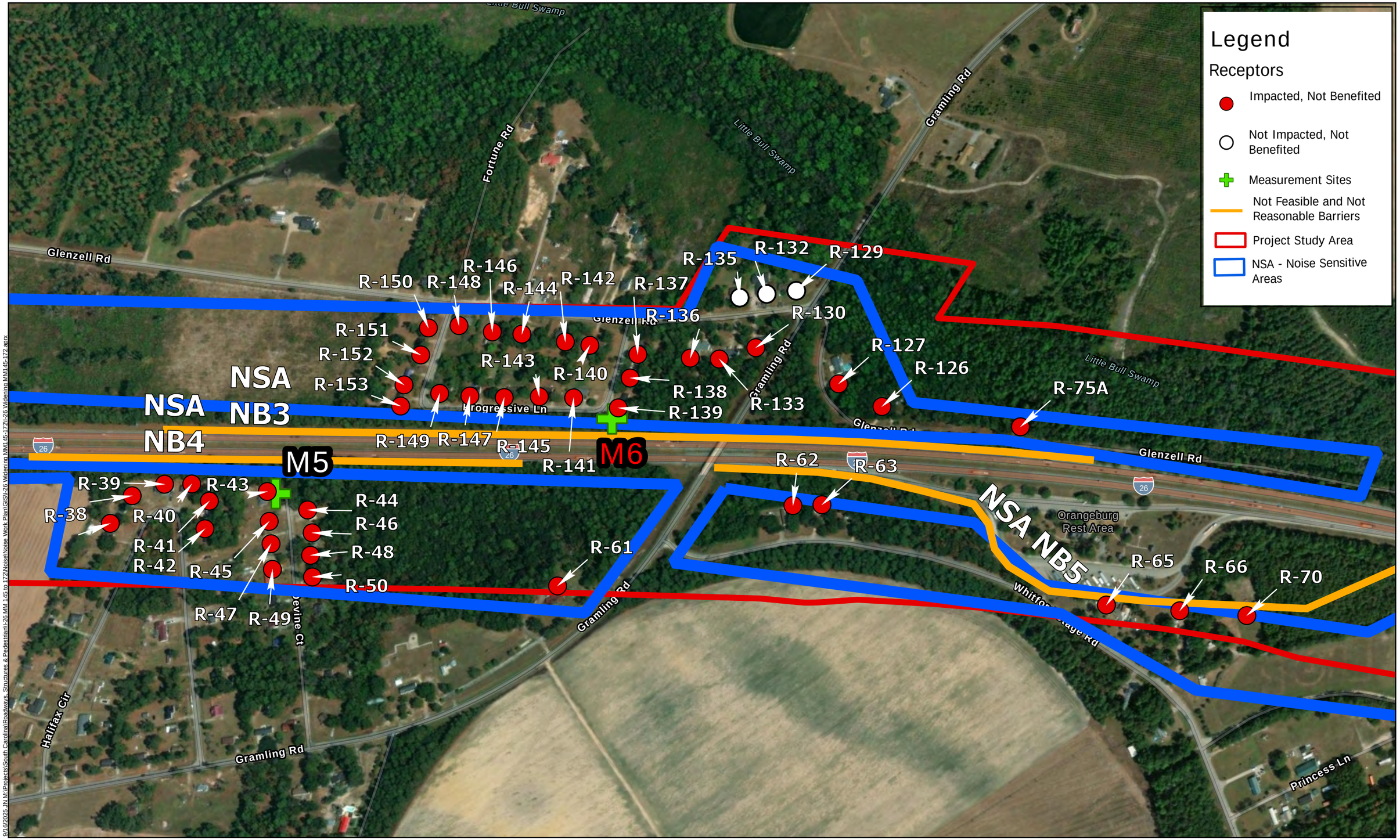
Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Michael Baker INTERNATIONAL

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 D



0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

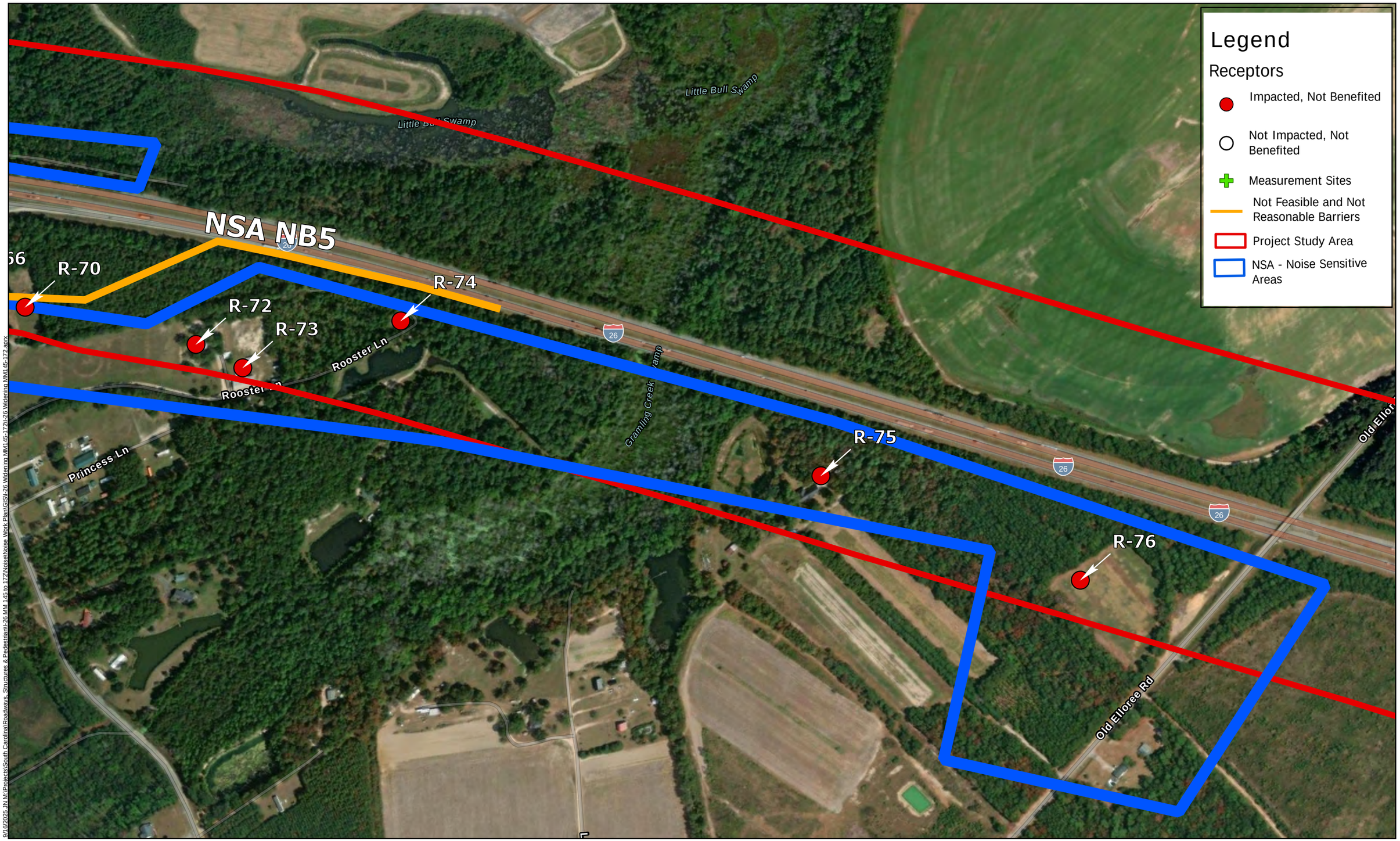
Michael Baker INTERNATIONAL

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 E

9/16/2025 J:\NA\Projects\South Carolina\Roadways, Structures, & Pedestrian\I-26 MM 145 to 172\NoiseNoise Work Plan\GIS\I-26 Vicinity MM145-172.mxd



9/16/2025 J:\MM\Projects\South Carolina\Roadways_Structures & Pedestrian\I-26 MM 145 to 172\NoiseNoise Work Plan\GIS\I-26 Widening MM145-172\I-26 Widening MM145-172.aprx

Michael Baker INTERNATIONAL

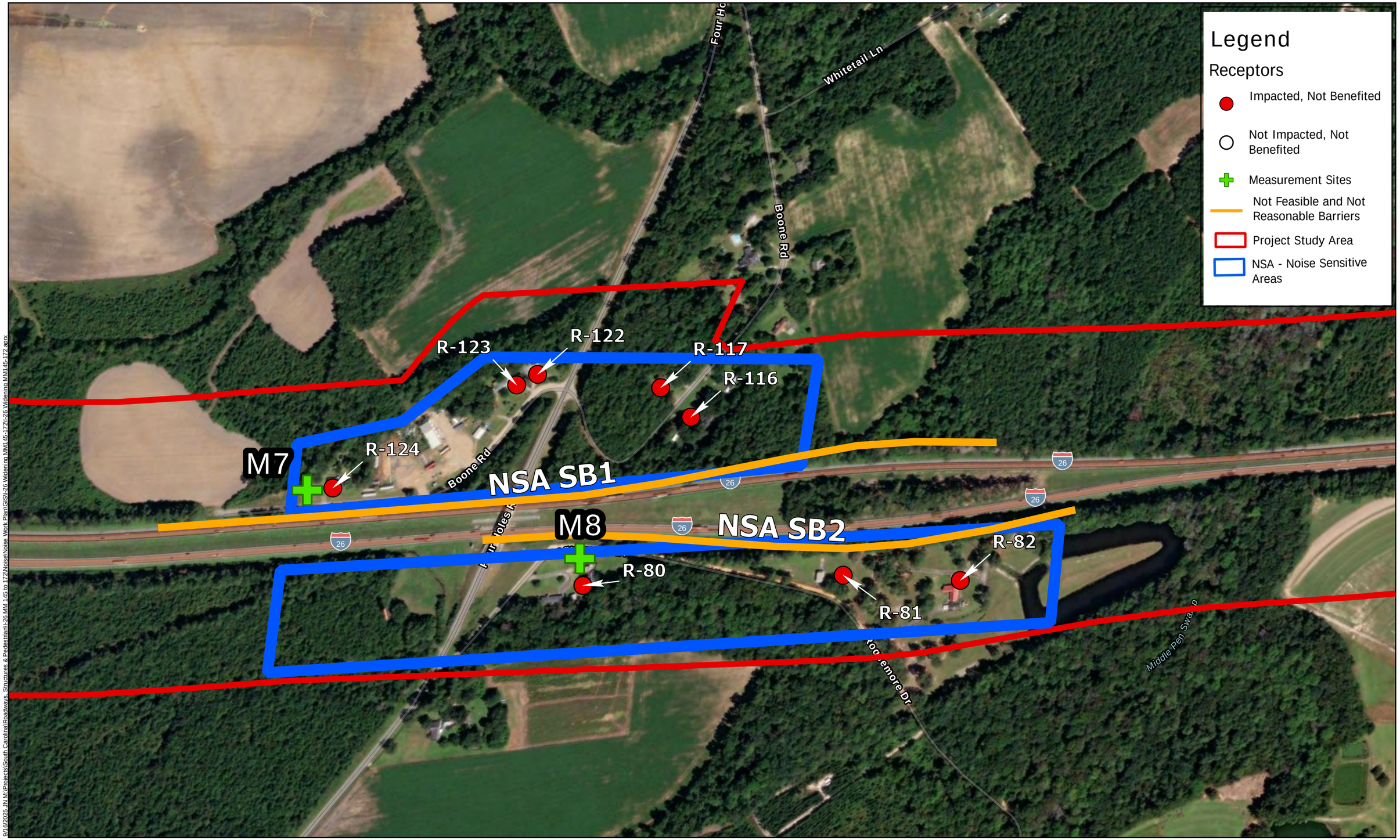
0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 F



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Michael Baker INTERNATIONAL

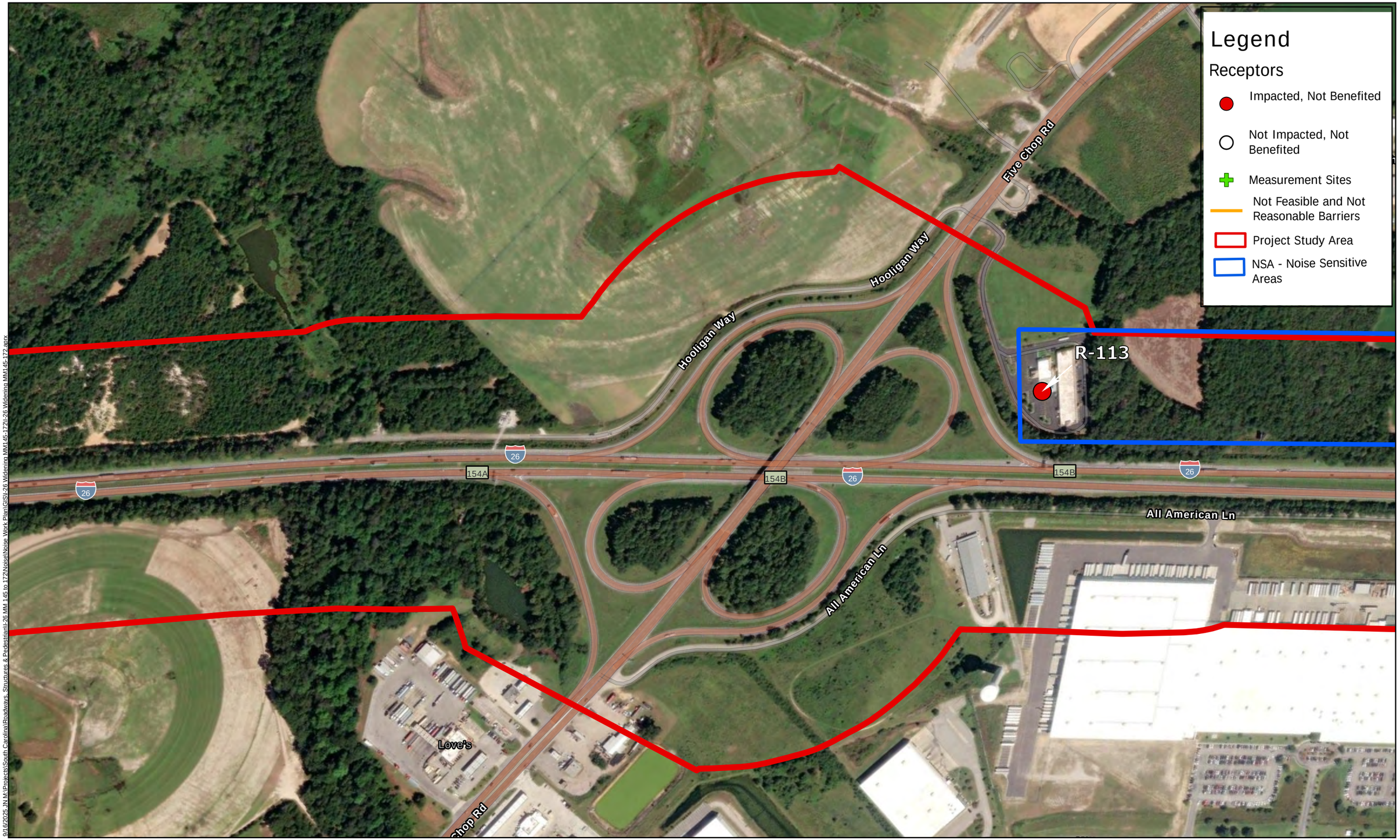
0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 G



9/16/2025 J:\M Projects\South Carolina\Roadways, Structures & Pedestrian\I-26 MM 145 to 172\Noise\Noise Work Plan\GIS\I-26 Widening MM 145-172\I-26 Widening MM 145-172.aprx

Michael Baker INTERNATIONAL

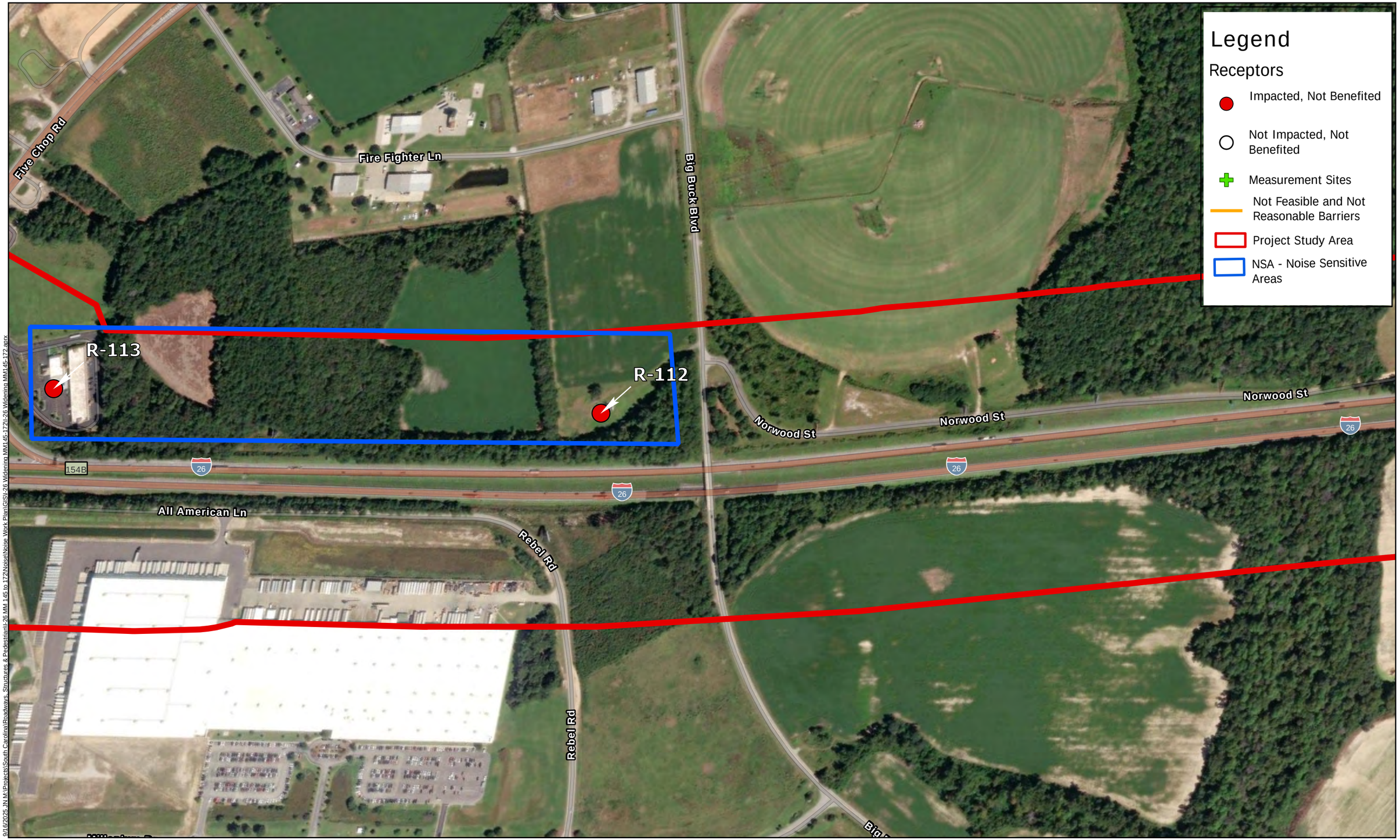
0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 H



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Michael Baker INTERNATIONAL

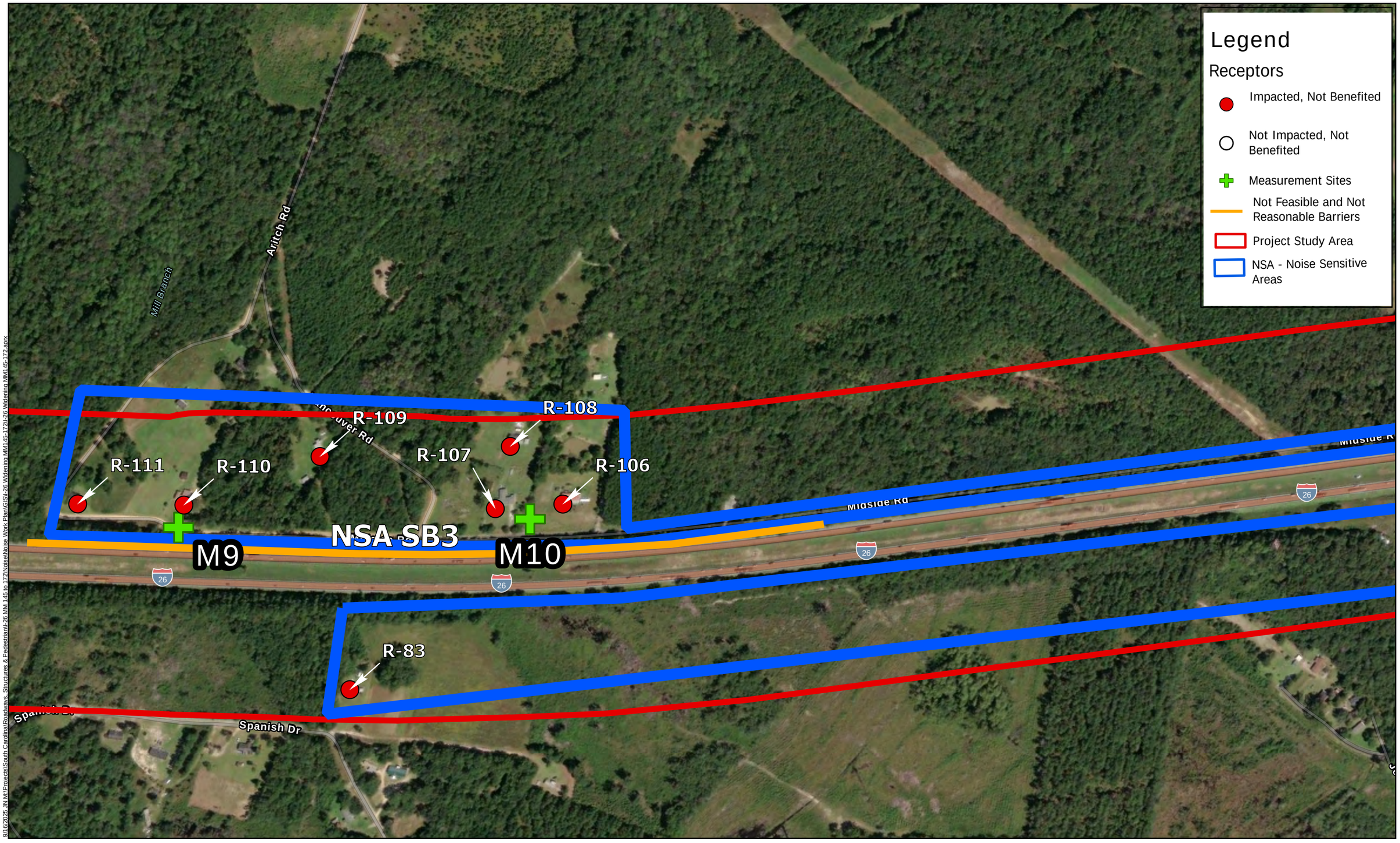
0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 I



9/16/2025 JN:MA:Projects\South Carolina\Roadways, Structures, & Pedestrian\I-26 MM 145 to 172\NoiseNoise Work Plan\GIS\I-26 Widening MM 145-172\I-26 Widening MM 145-172.aprx

Michael Baker INTERNATIONAL

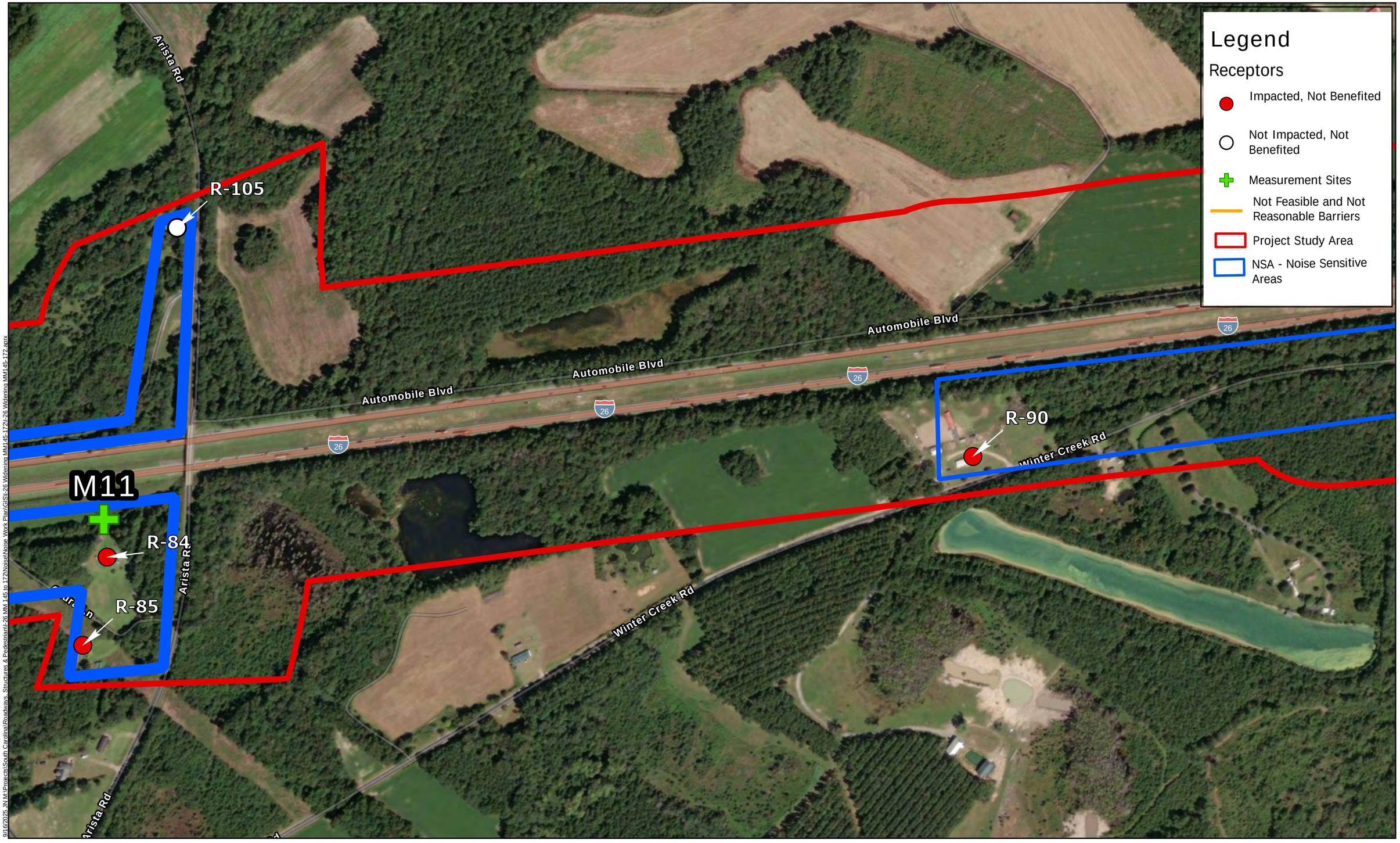
0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 J



9/16/2025 JN:\MAProjects\South Carolina\Roadways, Structures & Pedestrian\I-26 MM 145 to 172\Noise\Noise Work Plan\GIS\I-26 Widening MM 145-172.aprx

Michael Baker INTERNATIONAL

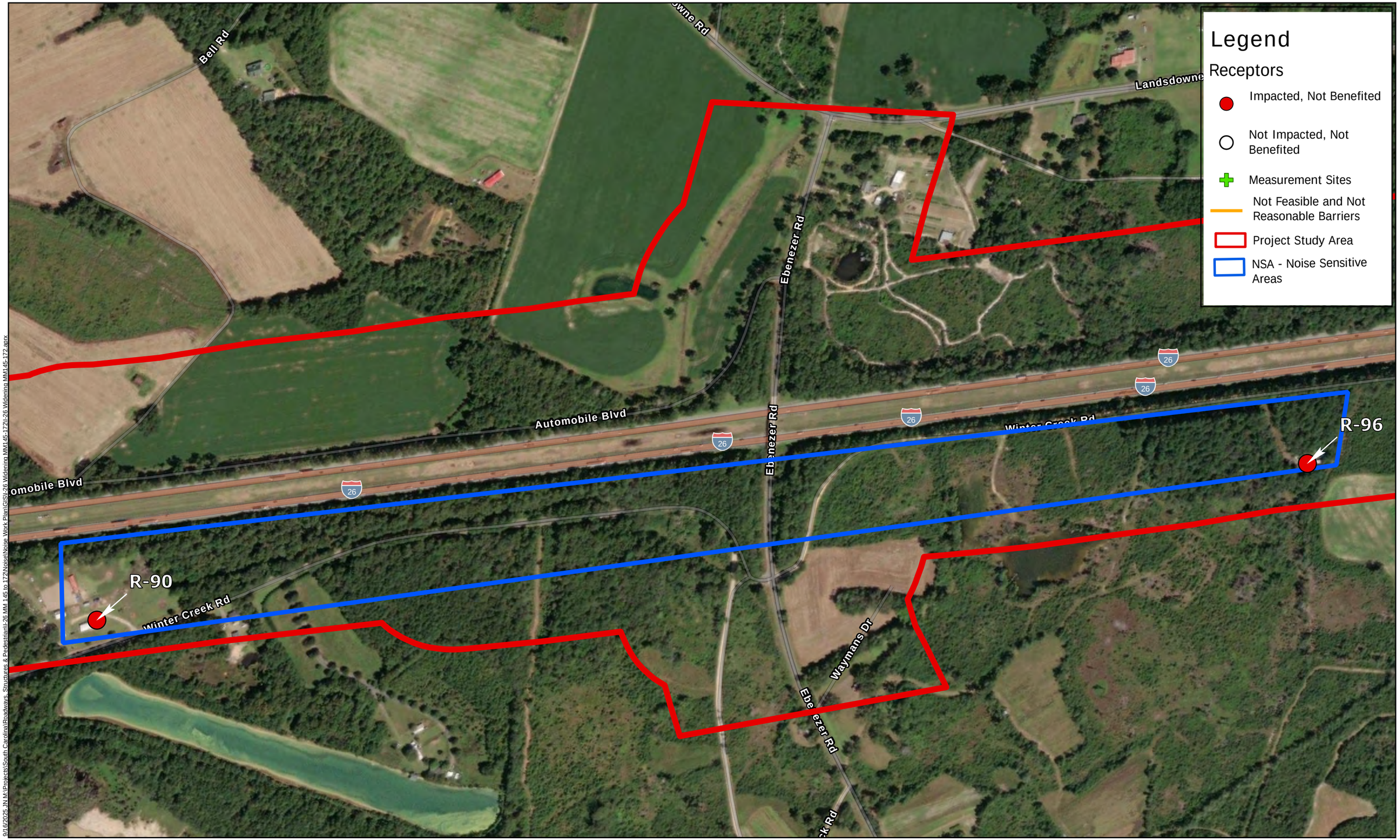
0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 K



9/16/2025 J:\MJ\Projects\South Carolina\Roadways\Structures & Pedestrian\I-26 MM 145 to 172\Noise\Noise Work Plan\GIS\I-26 Widening MM 145-172\I-26 Widening MM 145-172.aprx

Michael Baker INTERNATIONAL

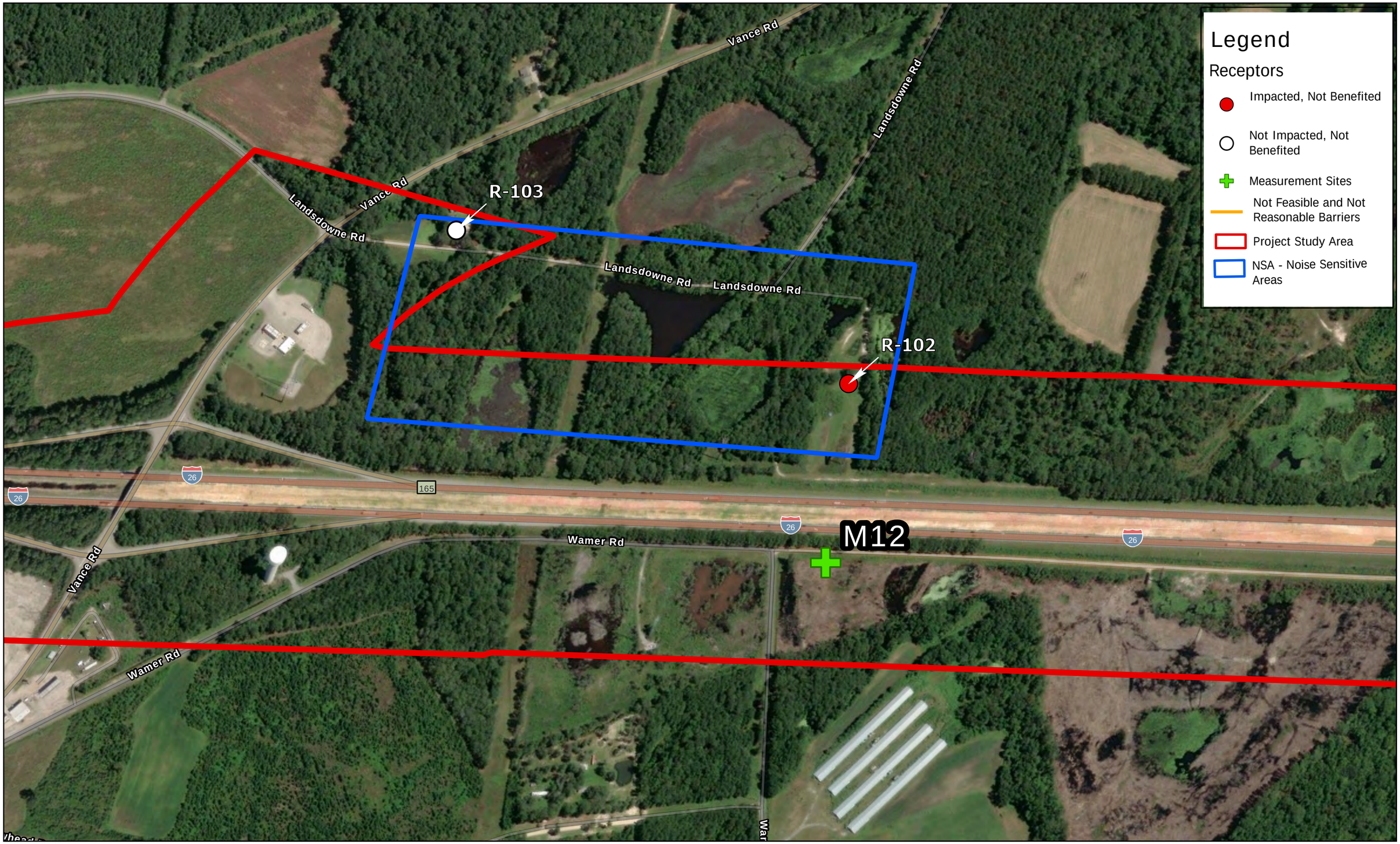
0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 L



Michael Baker INTERNATIONAL

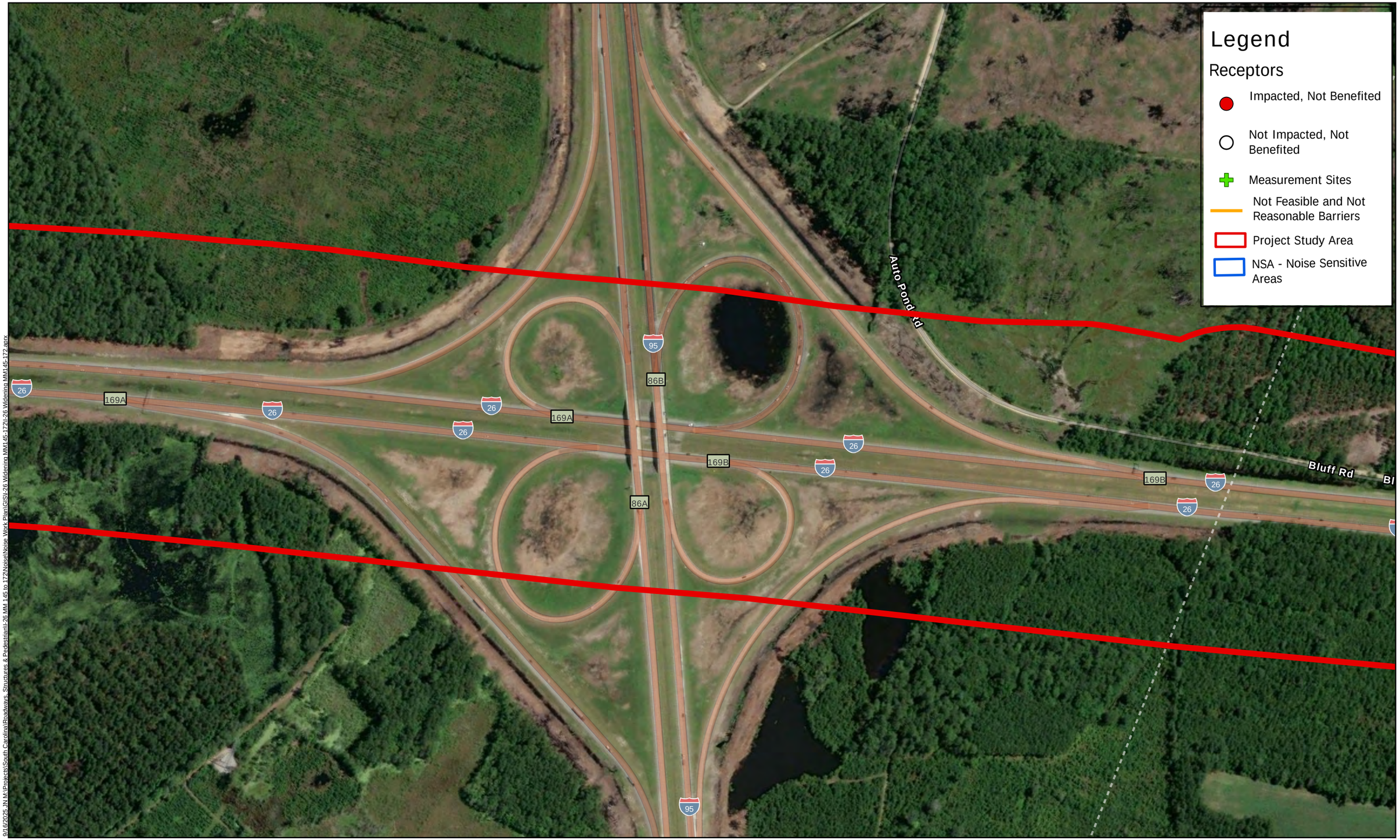
0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 M



0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

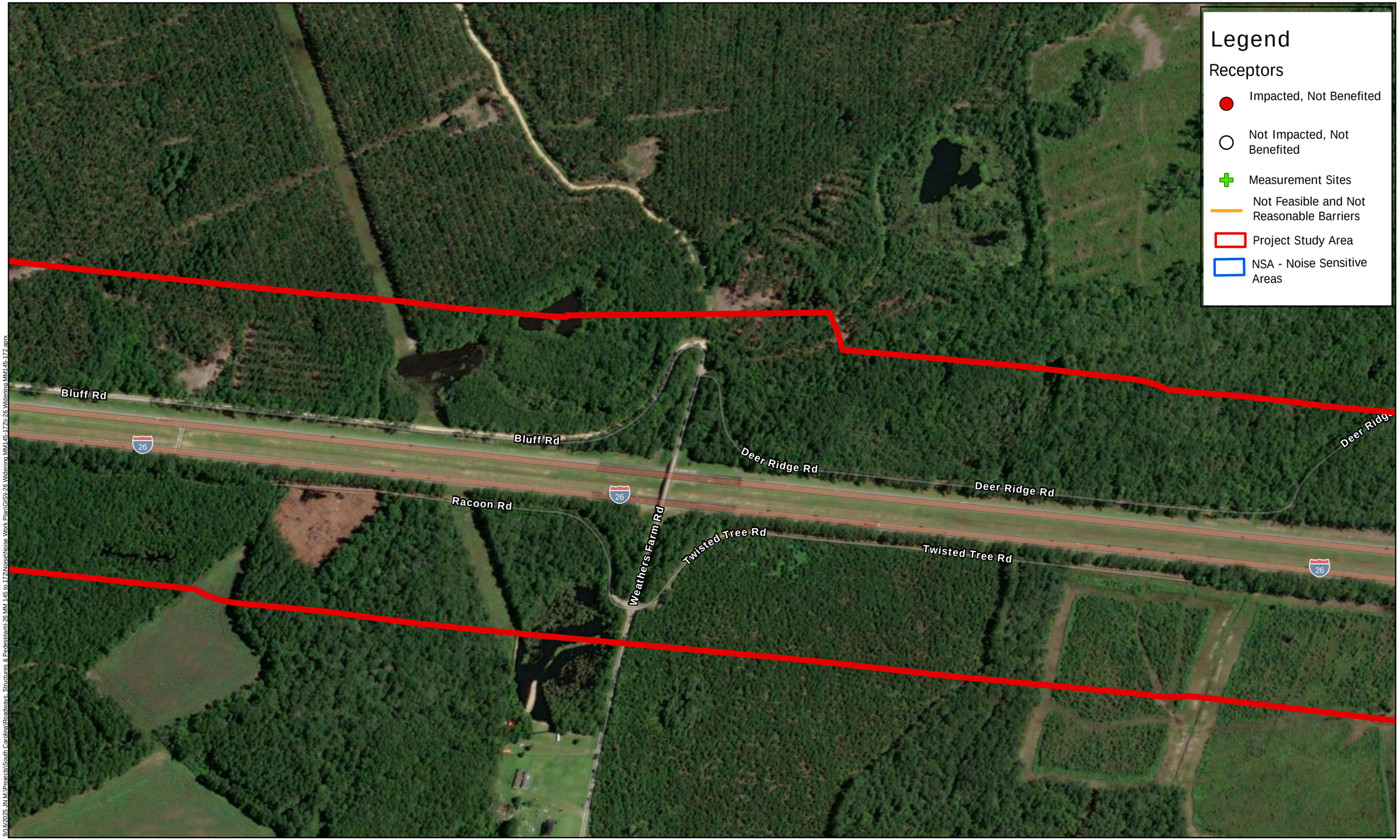
Michael Baker INTERNATIONAL

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 N

9/16/2025 J:\NA\Projects\South Carolina\Roadways, Structures, & Pedestrian\I-26 MM 145 to 172\Noise\Noise Work Plan\GIS\I-26 Widening MM145-172.aprx



9/16/2025 J:\M\Projects\South Carolina\Roadways, Structures & Pedestrian\I-26 MM 145 to 172\NoiseNoise Work Plan\GIS\I-26 Widening MM 145-172\I-26 Widening MM 145-172.aprx

Michael Baker INTERNATIONAL

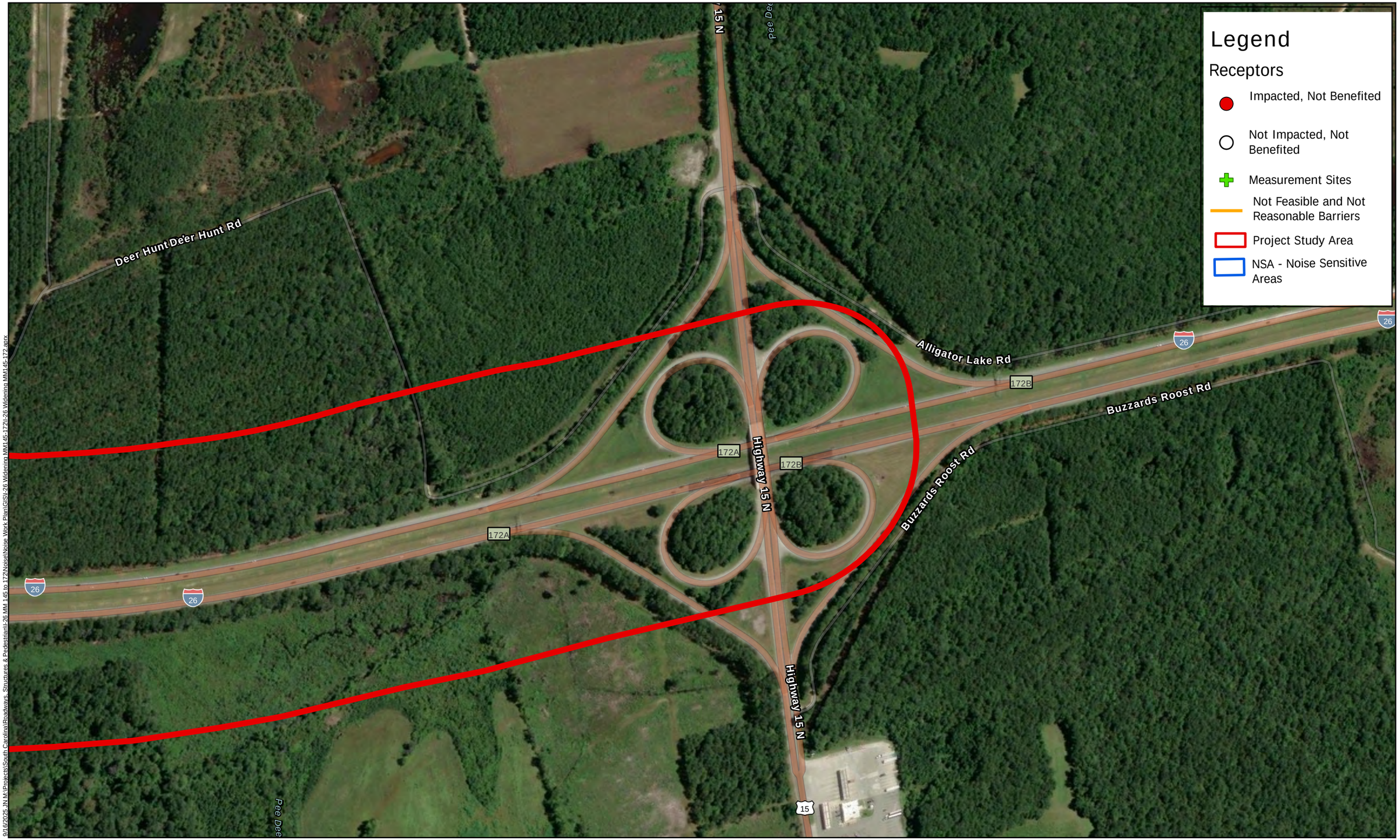
0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

Figure 2 O



9/16/2025 JN M:\Projects\South Carolina\Roadways_Structures & Pedestrian\I-26 MM 145 to 172\NoiseNoise_Work Plan\GIS\I-26 Widening MM 145-172.aprx

Michael Baker INTERNATIONAL

0 500 1,000 2,000 Feet

Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

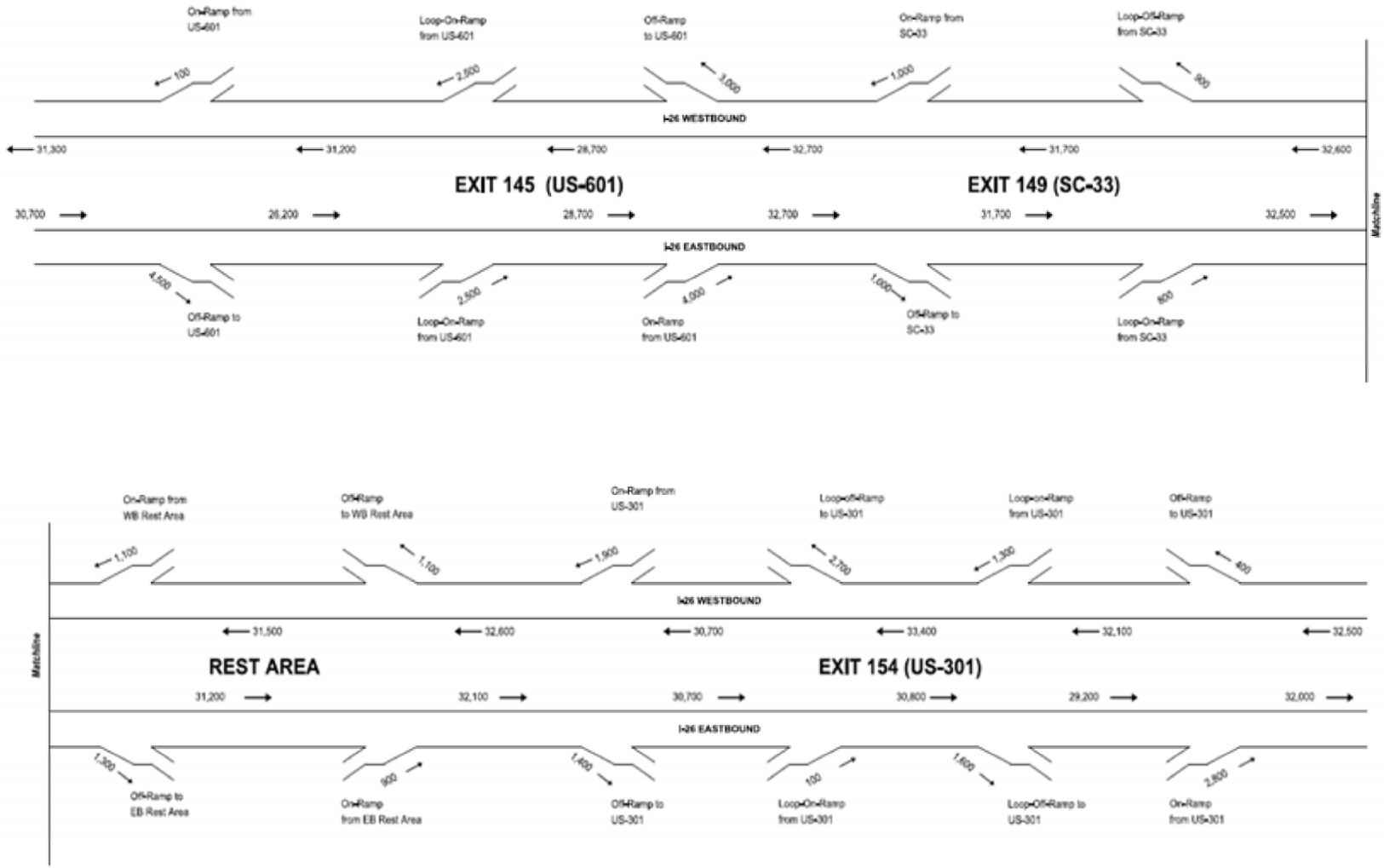
Interstate 26 (I-26) Corridor Improvement Project from MM 145 to MM 172

Noise Receptors

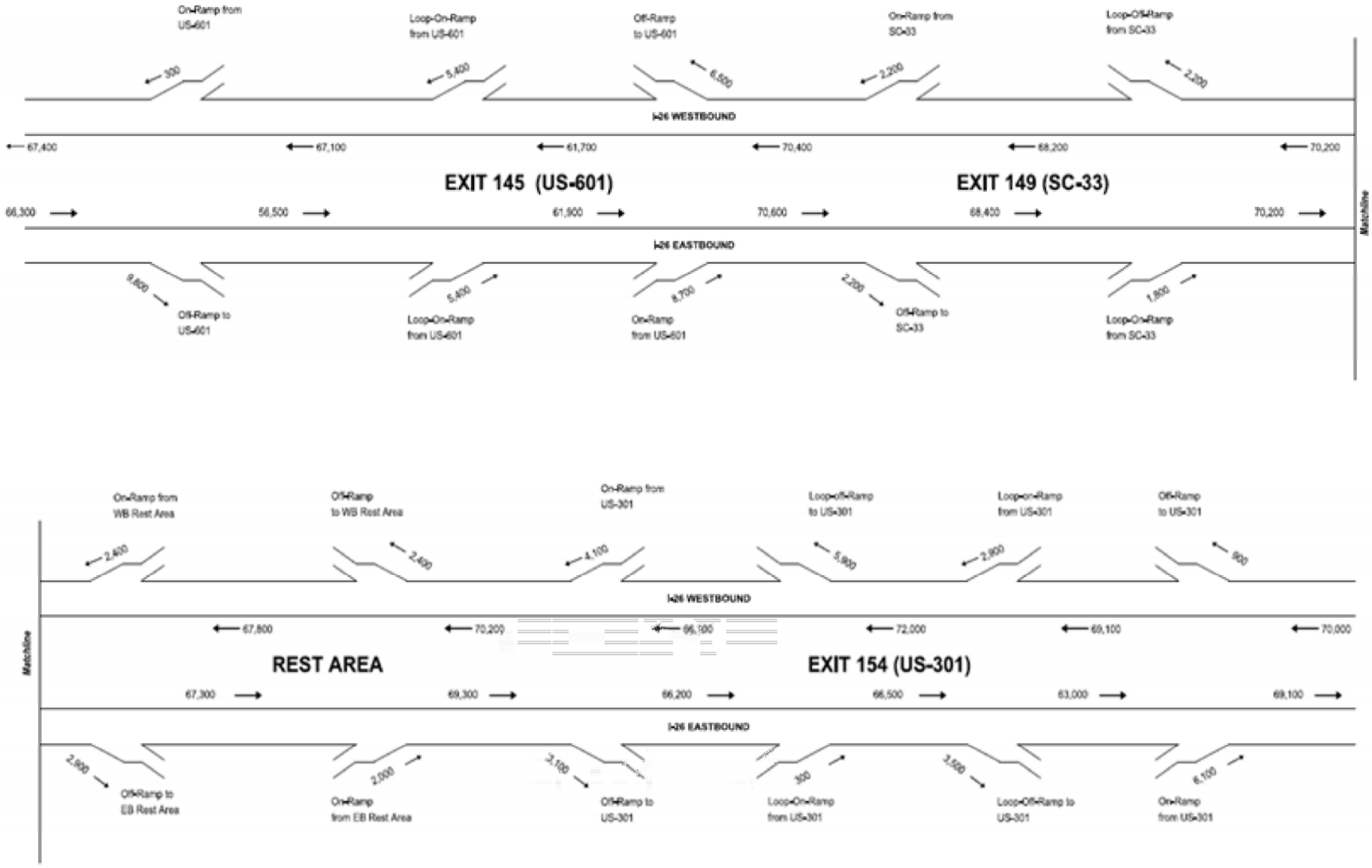
Figure 2 P

APPENDIX B

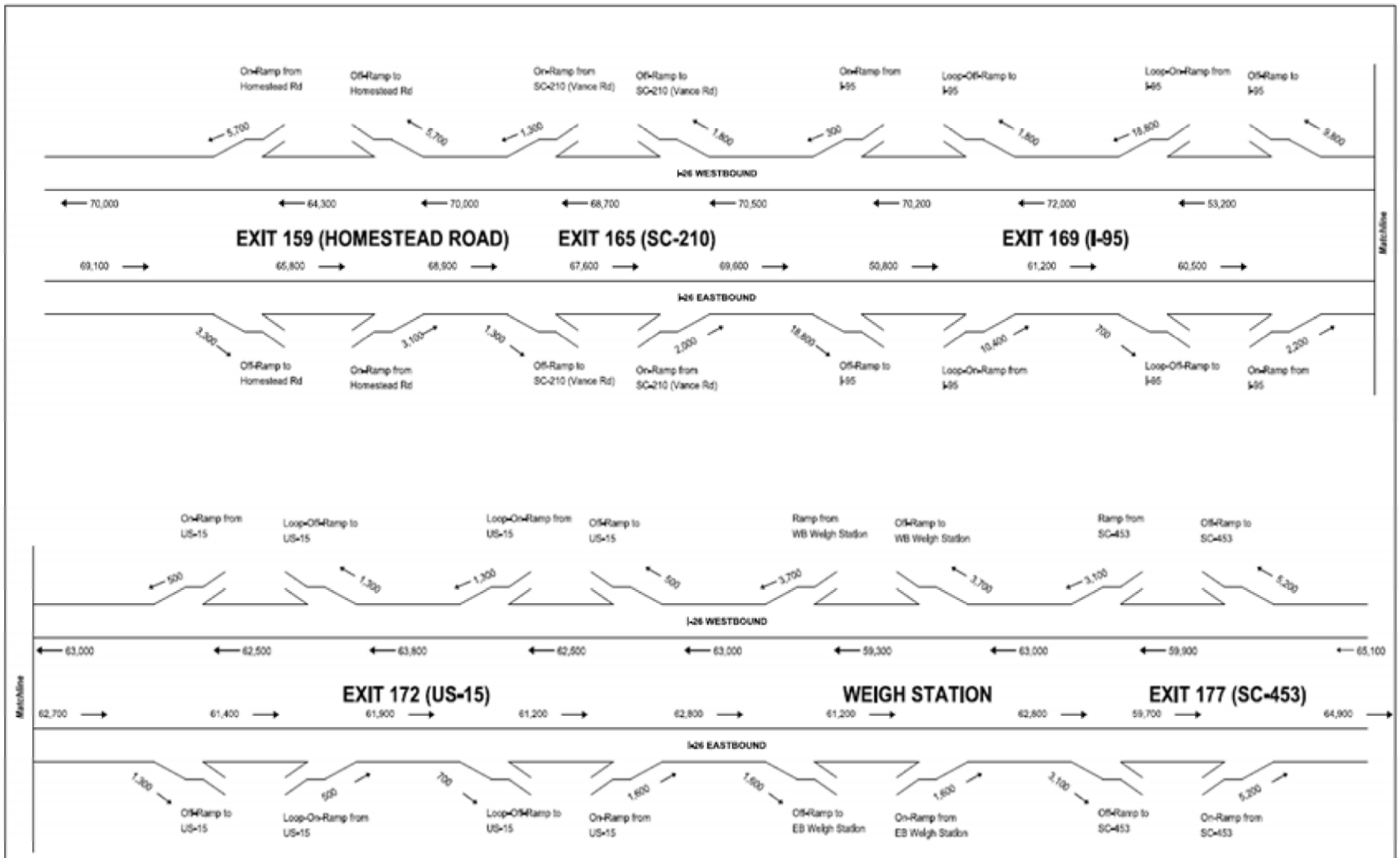
Traffic Data Maps



JMT	**2024 EXISTING AADT - PROJECT 1 (MM 145-154)** **I-26 MAINLINE, RAMPS**	**EXHIBIT A** **MARCH 2025**



JMT	**2050 NB AADT - PROJECT 1 (MM 145-154)** **I-26 MAINLINE, RAMPS**	**EXHIBIT E** **MARCH 2025**



JMT	**2050 NB AADT - PROJECT 2 (MM 154-177)** **I-26 MAINLINE, RAMPS**	**EXHIBIT F** **MARCH 2025**

APPENDIX C

Field Data Measurement Sheets

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2017, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC MRA signatory)

NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.47757

Instrument: **Sound Level Meter**
Model: **132**
Manufacturer: **Norsonic**
Serial number: **1322870**
Tested with: **Microphone 1229 s/n 00529**
Preamplifier
Type (class): **2**
Customer: **Michael Baker Jr., Inc.**
Tel/Fax: **412-269-4644 / 412-375-3988**

Date Calibrated: **3/23/2022** *Cal Due:*

Status:	Received	Sent
In tolerance:	X	X
Out of tolerance:		
See comments:		

Contains non-accredited tests: __Yes X No
Calibration service: __ Basic X Standard
Address: **Airside Business Park, 100 Airside Drive, Moon Township, PA 15108**

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., Rev. 6/26/2015
SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31052	Nov 8, 2021	Scantek, Inc./ NVLAP	Nov 8, 2022
DS-360-SRS	Function Generator	88077	Dec 3, 2020	ACR Env./ A2LA	Dec 3, 2022
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	Mar 10, 2022	ACR Env. / A2LA	Mar 10, 2023
PTU300-Vaisala	EnvironmentalMonitor	PS011262	Sept 10, 2021	ACR Env./ A2LA	Sept 10, 2022
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	30878	Oct 27, 2021	Scantek, Inc./ NVLAP	Oct 27, 2022
4226-Brüel&Kjær	Multifunction calibrator	2305103	Oct 8, 2021	B&K / DANAK	Oct 8, 2022

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
22.6	100.71	40.0

Calibrated by:	Bailey Partoza	**Authorized signatory:**	William Gallagher
Signature		Signature	
Date	3/23/22	Date	3/23/2022

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2017, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC MRA signatory)

NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.47758

Instrument:	**Acoustical Calibrator**
Model:	**407744**
Manufacturer:	**Extech**
Serial number:	**Z206457**
Class (IEC 60942):	**2**
Barometer type:	
Barometer s/n:	

Date Calibrated: **3/23/2022** *Cal Due:*

Status:	Received	Sent
In tolerance:	X	X
Out of tolerance:		
See comments:		

Contains non-accredited tests: __Yes _X_ No

Customer:	**Michael Baker Jr., Inc.**	*Address:*	**Airside Business Park, 100 Airside Drive, Moon Township, PA 15108**
Tel/Fax:	**412-269-4644 / 412-375-3988**		

Tested in accordance with the following procedures and standards:
Calibration of Acoustical Calibrators, Scantek Inc., Rev. 10/1/2010

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
4838-Norsonic	SME Cal Unit	31052	Nov 8, 2021	Scantek, Inc./ NVLAP	Nov 8, 2022
DS-360-SRS	Function Generator	88077	Dec 3, 2020	ACR Env./ A2LA	Dec 3, 2022
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	Mar 10, 2022	ACR Env. / A2LA	Mar 10, 2023
PTU300-Vaisala	EnvironmentalMonitor	P5011262	Sept 10, 2021	ACR Env./ A2LA	Sept 10, 2022
140-Norsonic	Real Time Analyzer	1406423	Nov 8, 2021	Scantek / NVLAP	Nov 8, 2022
PC Program 1018 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
4134-Brüel&Kjær	Microphone	173368	Nov 8, 2021	Scantek, Inc. / NVLAP	Nov 8, 2022
1203-Norsonic	Preamplifier	14059	Mar 7, 2022	Scantek, Inc./ NVLAP	Mar 7, 2023

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by:	Bailey Partoza	Authorized signatory:	William Gallagher
Signature		Signature	
Date	3/23/22	Date	3/23/2022

Document stored as: Y:\Calibration Lab\Cal 2022\Ex407744_Z206457_M1.doc

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly sunny, temp mid 50's, wind >5mph but < 12mph

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 WB	I-26 EB
AUTOS	290	276
MED TRKS	16	14
HVY TRKS	107	76
BUSES	0	0
MOTORCYC	0	2
DURATION	15	15

DATE: 10/16/2024

SITE #: 1

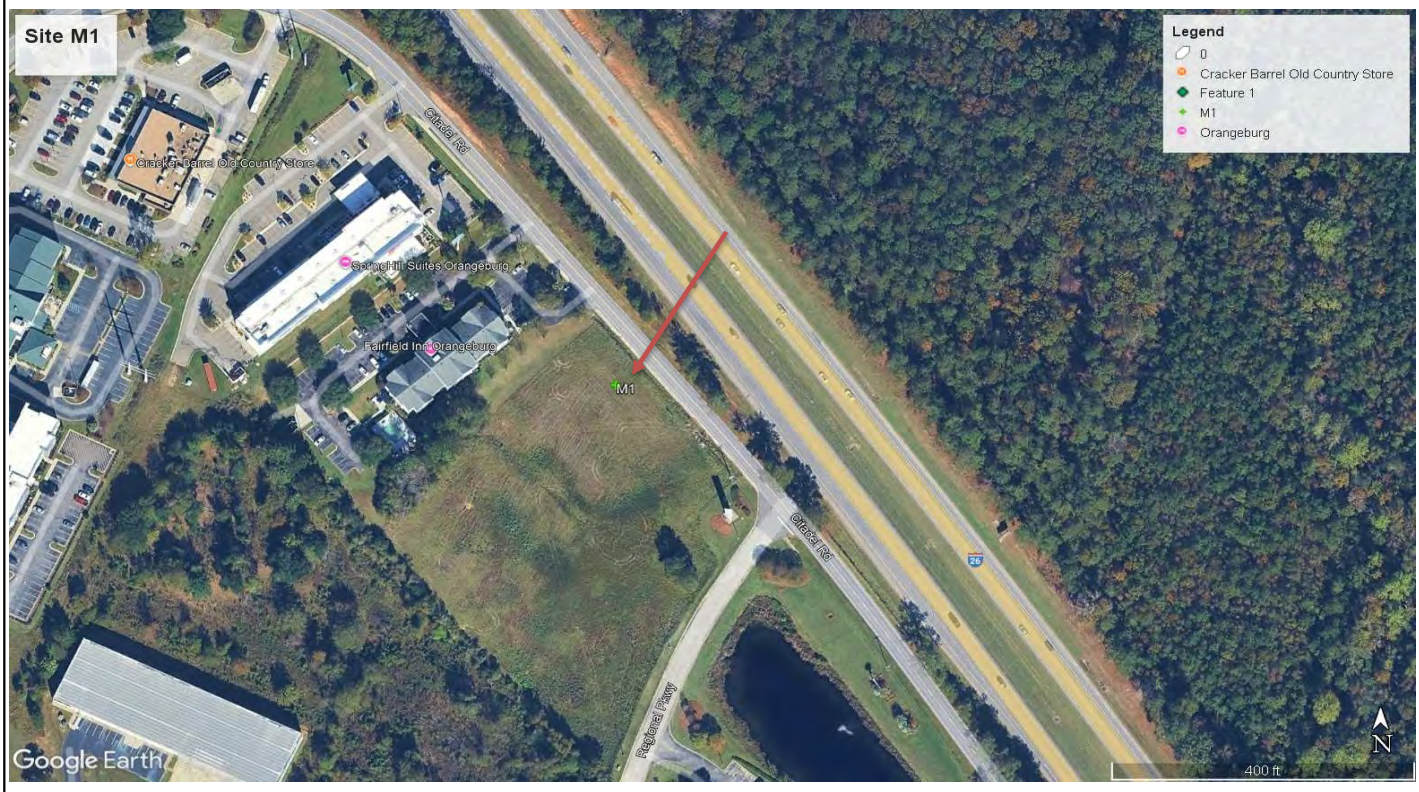
START: 9:17

END: 9:42

LEQ: 69.5

SPEED: 70

SITE SKETCH



BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS _____

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and Mid 50's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 WB	I-26 EB
AUTOS	230	293
MED TRKS	11	19
HVY TRKS	104	108
BUSES	1	3
MOTORCYC	0	4
DURATION	15	15

DATE: 10/16/2024

SITE #: 2

START: 9:55

END: 10:10

LEQ: 73.7

SPEED: 70

SITE SKETCH

BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS _____

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and Mid 50's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 WB	I-26 EB
AUTOS		
MED TRKS		
HVY TRKS		
BUSES		
MOTORCYC	No view of roadway	
DURATION	15	15

DATE: 10/16/2024

SITE #: 3

START: 10:30

END: 10:45

LEQ: 62.9

SPEED: 70

SITE SKETCH

BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS _____

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and Mid 50's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 WB	I-26 EB
AUTOS	301	290
MED TRKS	22	5
HVY TRKS	99	124
BUSES	1	0
MOTORCYC	0	4
DURATION	15	15

DATE: 10/16/2024

SITE #: 4

START: 11:05

END: 11:20

LEQ: 65.9

SPEED: 70

SITE SKETCH

BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS Train horn (0.37)

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and Mid 50's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 WB	I-26 EB
AUTOS	372	269
MED TRKS	13	8
HVY TRKS	145	104
BUSES	0	1
MOTORCYC	3	1
DURATION	15	15

DATE: 10/16/2024

SITE #: 5

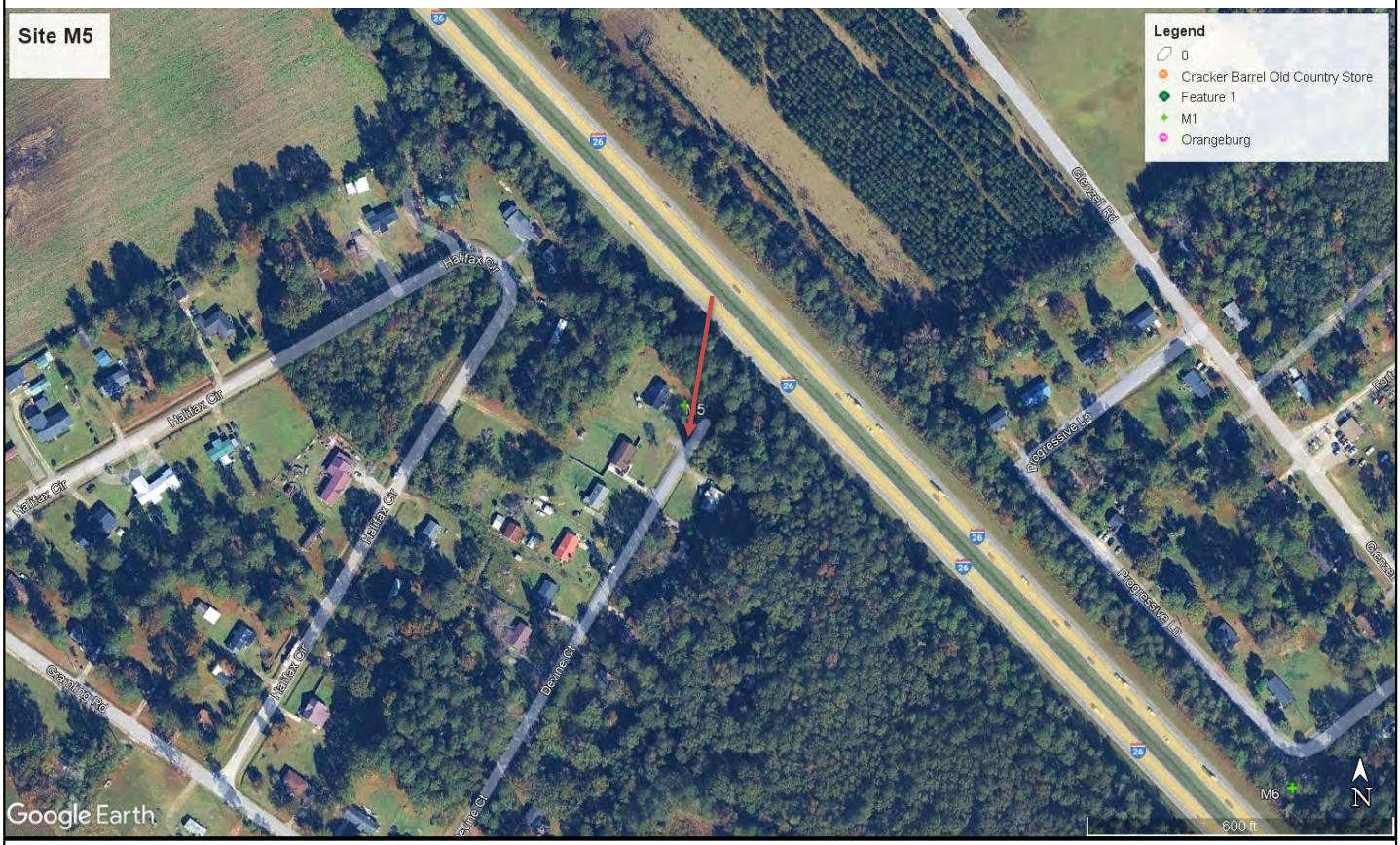
START: 11:35

END: 11:50

LEQ: 74.5

SPEED: 70

SITE SKETCH



BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS Train horn (0.37)

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and Low 60's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 WB	I-26 EB
AUTOS	308	320
MED TRKS	24	6
HVY TRKS	89	105
BUSES	0	0
MOTORCYC	0	1
DURATION	15	15

DATE: 10/16/2024

SITE #: 6

START: 12:06

END: 12:21

LEQ: 72.4

SPEED: 70

SITE SKETCH

BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS Train horn (0.37)

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and Low 60's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 EB	I-26 WB
AUTOS	415	326
MED TRKS	10	34
HVY TRKS	114	104
BUSES	3	0
MOTORCYC	0	0
DURATION	15	15

DATE: 10/16/2024

SITE #: 7

START: 1:10

END: 1:25

LEQ: 74.8

SPEED: 70

SITE SKETCH

BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS _____

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and mid- 60's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 WB	I-26 EB
AUTOS	353	426
MED TRKS	28	10
HVY TRKS	113	108
BUSES	1	1
MOTORCYC	0	0
DURATION	15	15

DATE: 10/16/2024

SITE #: 8

START: 1:55

END: 2:10

LEQ: 75.2

SPEED: 70

SITE SKETCH

BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS Ambulance siren at 7:34

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and mid- 60's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 EB	I-26 WB
AUTOS	474	328
MED TRKS	9	33
HVY TRKS	110	110
BUSES	2	1
MOTORCYC	0	0
DURATION	15	15

DATE: 10/16/2024

SITE #: 9

START: 2:49

END: 3:04

LEQ: 73.1

SPEED: 70

SITE SKETCH

BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS _____

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and mid- 60's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 EB	I-26 WB
AUTOS	446	351
MED TRKS	6	27
HVY TRKS	81	109
BUSES	2	0
MOTORCYC	3	0
DURATION	15	15

DATE: 10/16/2024

SITE #: 10

START: 3:15

END: 3:30

LEQ: 76

SPEED: 70

SITE SKETCH

BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26 and Midside Road

UNUSUAL EVENTS _____

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and mid- 60's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 WB	I-26 EB
AUTOS	280	410
MED TRKS	13	17
HVY TRKS	99	65
BUSES	0	0
MOTORCYC	0	0
DURATION	15	15

DATE: 10/16/2024

SITE #: 11

START: 3:54

END: 4:08

LEQ: 68.7

SPEED: 70

SITE SKETCH

BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS _____

OTHER NOTES _____

NOISE SURVEY SHEET

EQUIPMENT: METER Norsonics 132 CALIBRATOR EXTECH 407744

CALIBRATION: START 94.7 dB END 95.1 dB

RESPONSE: FAST _____ SLOW X A-WEIGHTING X BATTERY CHECK X

WEATHER DATA: Partly cloudy, windy (> 5 mph) and mid- 60's

1-clear, partly sunny, or cloudy 2-the estimated temperature range (low, mid or upper 60's, for example) at the time and 3-calm, <5 mph winds or <12 mph winds

TRAFFIC DATA		
ROAD	I-26 WB	I-26 EB
AUTOS	290	381
MED TRKS	19	9
HVY TRKS	81	58
BUSES	1	0
MOTORCYC	0	1
DURATION	15	15

DATE: 10/16/2024

SITE #: 12

START: 4:45

END: 5:00

LEQ: 66.8

SPEED: 70

SITE SKETCH

BACKGROUND NOISE Wind

MAJOR SOURCES Traffic on I-26

UNUSUAL EVENTS _____

OTHER NOTES _____

APPENDIX D

Feasible and Reasonable Worksheets

SCDOT Feasibility and Reasonableness Worksheet

Date: 09/11/2025

Project Name I-26 MM 145 to 172 Widening

Highway Traffic Noise Abatement Measure Barrier NB1Max

Feasibility

Number of Impacted Receivers: 13

Number of Benefited Receivers: 18

Number of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 13

Is the proposed noise abatement measure acoustically feasible?
NOTE: SCDOT Policy indicates that 3 impacted receptors must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☑ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☐ No
Safety	☐ Yes	☐ No
Drainage	☐ Yes	☐ No
Utilities	☐ Yes	☐ No
Maintenance	☐ Yes	☐ No
Access	☐ Yes	☐ No
Exposed Height of Wall	☐ Yes	☐ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 18

Number of Benefited Receivers that achieve at least an 7 dBA reduction: 8

Number of benefited receptors that would achieve at least a 7 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT noise policy states that at least one (1) benefited receptor must achieve a 7dBA reduction from the noise abatement measure.: 8

Does the proposed noise abatement measure meet the noise reduction design goal? ☑ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated area of noise abatement measure.: 72,722

Number of Benefited Receivers: 18

Estimated area per Benefited Receiver: 4040

Based on the SCDOT policy of 1,500 sq. ft. per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☑ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Final Determination for Noise Abatement Measure

This barrier is not proposed for construction.

SCDOT Feasibility and Reasonableness Worksheet

Date: 09/11/2025

Project Name I-26 MM 145 to 172 Widening

Highway Traffic Noise Abatement Measure Barrier NB1Min

Feasibility

Number of Impacted Receivers: 17

Number of Benefited Receivers: 6

Number of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 6

Is the proposed noise abatement measure acoustically feasible?
NOTE: SCDOT Policy indicates that 3 impacted receptors must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☑ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☐ No
Safety	☐ Yes	☐ No
Drainage	☐ Yes	☐ No
Utilities	☐ Yes	☐ No
Maintenance	☐ Yes	☐ No
Access	☐ Yes	☐ No
Exposed Height of Wall	☐ Yes	☐ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 6

Number of Benefited Receivers that achieve at least an 7 dBA reduction: 1

Number of benefited receptors that would achieve at least a 7 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT noise policy states that at least one (1) benefited receptor must achieve a 7dBA reduction from the noise abatement measure.: 1

Does the proposed noise abatement measure meet the noise reduction design goal? ☑ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated area of noise abatement measure.: 26,436

Number of Benefited Receivers: 6

Estimated area per Benefited Receiver: 4406

Based on the SCDOT policy of 1,500 sq. ft. per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☑ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Final Determination for Noise Abatement Measure

This barrier is not proposed for construction.

SCDOT Feasibility and Reasonableness Worksheet

Date: 09/11/2025

Project Name I-26 MM 145 to 172 Widening

Highway Traffic Noise Abatement Measure Barrier NB2Opt

Feasibility

Number of Impacted Receivers: 16

Number of Benefited Receivers: 6

Number of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 6

Is the proposed noise abatement measure acoustically feasible?
NOTE: SCDOT Policy indicates that 3 impacted receptors must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☑ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☐ No
Safety	☐ Yes	☐ No
Drainage	☐ Yes	☐ No
Utilities	☐ Yes	☐ No
Maintenance	☐ Yes	☐ No
Access	☐ Yes	☐ No
Exposed Height of Wall	☐ Yes	☐ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 6

Number of Benefited Receivers that achieve at least an 7 dBA reduction: 3

Number of benefited receptors that would achieve at least a 7 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT noise policy states that at least one (1) benefited receptor must achieve a 7dBA reduction from the noise abatement measure.: 3

Does the proposed noise abatement measure meet the noise reduction design goal? ☑ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated area of noise abatement measure.: 14,451

Number of Benefited Receivers: 6

Estimated area per Benefited Receiver: 2,408

Based on the SCDOT policy of 1,500 sq. ft. per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☑ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Final Determination for Noise Abatement Measure

This barrier is not proposed for construction.

SCDOT Feasibility and Reasonableness Worksheet

Date: 09/11/2025

Project Name I-26 MM 145 to 172 Widening

Highway Traffic Noise Abatement Measure Barrier NB3 Opt

Feasibility

Number of Impacted Receivers: 23

Number of Benefited Receivers: 24

Number of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 24

Is the proposed noise abatement measure acoustically feasible?
NOTE: SCDOT Policy indicates that 3 impacted receptors must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☑ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☐ No
Safety	☐ Yes	☐ No
Drainage	☐ Yes	☐ No
Utilities	☐ Yes	☐ No
Maintenance	☐ Yes	☐ No
Access	☐ Yes	☐ No
Exposed Height of Wall	☐ Yes	☐ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 24

Number of Benefited Receivers that achieve at least an 7 dBA reduction: 15

Number of benefited receptors that would achieve at least a 7 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT noise policy states that at least one (1) benefited receptor must achieve a 7dBA reduction from the noise abatement measure.: 15

Does the proposed noise abatement measure meet the noise reduction design goal? ☑ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated area of noise abatement measure.: 43,698

Number of Benefited Receivers: 24

Estimated area per Benefited Receiver: 1,821

Based on the SCDOT policy of 1,500 sq. ft. per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☑ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Final Determination for Noise Abatement Measure

This barrier is not proposed for construction.

SCDOT Feasibility and Reasonableness Worksheet

Date: 09/11/2025

Project Name I-26 MM 145 to 172 Widening

Highway Traffic Noise Abatement Measure Barrier NB4 Opt

Feasibility

Number of Impacted Receivers: 15

Number of Benefited Receivers: 5

Number of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 5

Is the proposed noise abatement measure acoustically feasible?
NOTE: SCDOT Policy indicates that 3 impacted receptors must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☑ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☐ No
Safety	☐ Yes	☐ No
Drainage	☐ Yes	☐ No
Utilities	☐ Yes	☐ No
Maintenance	☐ Yes	☐ No
Access	☐ Yes	☐ No
Exposed Height of Wall	☐ Yes	☐ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 5

Number of Benefited Receivers that achieve at least an 7 dBA reduction: 3

Number of benefited receptors that would achieve at least a 7 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT noise policy states that at least one (1) benefited receptor must achieve a 7dBA reduction from the noise abatement measure.: 3

Does the proposed noise abatement measure meet the noise reduction design goal? ☑ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated area of noise abatement measure.: 20,548

Number of Benefited Receivers: 5

Estimated area per Benefited Receiver: 4,110

Based on the SCDOT policy of 1,500 sq. ft. per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☑ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Final Determination for Noise Abatement Measure

This barrier is not proposed for construction.

SCDOT Feasibility and Reasonableness Worksheet

Date: 09/11/2025

Project Name I-26 MM 145 to 172 Widening

Highway Traffic Noise Abatement Measure Barrier NB5 Opt

Feasibility

Number of Impacted Receivers: 8

Number of Benefited Receivers: 8

Number of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 8

Is the proposed noise abatement measure acoustically feasible?
NOTE: SCDOT Policy indicates that 3 impacted receptors must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☑ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☐ No
Safety	☐ Yes	☐ No
Drainage	☐ Yes	☐ No
Utilities	☐ Yes	☐ No
Maintenance	☐ Yes	☐ No
Access	☐ Yes	☐ No
Exposed Height of Wall	☐ Yes	☐ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 8

Number of Benefited Receivers that achieve at least an 7 dBA reduction: 6

Number of benefited receptors that would achieve at least a 7 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT noise policy states that at least one (1) benefited receptor must achieve a 7dBA reduction from the noise abatement measure.: 6

Does the proposed noise abatement measure meet the noise reduction design goal? ☑ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated area of noise abatement measure.: 53,684

Number of Benefited Receivers: 8

Estimated area per Benefited Receiver: 6,711

Based on the SCDOT policy of 1,500 sq. ft. per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☑ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Final Determination for Noise Abatement Measure

This barrier is not proposed for construction.

SCDOT Feasibility and Reasonableness Worksheet

Date: 09/11/2025

Project Name I-26 MM 145 to 172 Widening

Highway Traffic Noise Abatement Measure Barrier SB1 Opt

Feasibility

Number of Impacted Receivers: 5

Number of Benefited Receivers: 4

Number of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 4

Is the proposed noise abatement measure acoustically feasible?
NOTE: SCDOT Policy indicates that 3 impacted receptors must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☑ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☐ No
Safety	☐ Yes	☐ No
Drainage	☐ Yes	☐ No
Utilities	☐ Yes	☐ No
Maintenance	☐ Yes	☐ No
Access	☐ Yes	☐ No
Exposed Height of Wall	☐ Yes	☐ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 4

Number of Benefited Receivers that achieve at least an 7 dBA reduction: 2

Number of benefited receptors that would achieve at least a 7 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT noise policy states that at least one (1) benefited receptor must achieve a 7dBA reduction from the noise abatement measure.: 2

Does the proposed noise abatement measure meet the noise reduction design goal? ☑ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated area of noise abatement measure.: 40,241

Number of Benefited Receivers: 4

Estimated area per Benefited Receiver: 10,060

Based on the SCDOT policy of 1,500 sq. ft. per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☑ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Final Determination for Noise Abatement Measure

This barrier is not proposed for construction.

SCDOT Feasibility and Reasonableness Worksheet

Date: 09/11/2025

Project Name I-26 MM 145 to 172 Widening

Highway Traffic Noise Abatement Measure Barrier SB2 Opt

Feasibility

Number of Impacted Receivers: 3

Number of Benefited Receivers: 3

Number of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 3

Is the proposed noise abatement measure acoustically feasible?
NOTE: SCDOT Policy indicates that 3 impacted receptors must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☑ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☐ No
Safety	☐ Yes	☐ No
Drainage	☐ Yes	☐ No
Utilities	☐ Yes	☐ No
Maintenance	☐ Yes	☐ No
Access	☐ Yes	☐ No
Exposed Height of Wall	☐ Yes	☐ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 3

Number of Benefited Receivers that achieve at least an 7 dBA reduction: 1

Number of benefited receptors that would achieve at least a 7 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT noise policy states that at least one (1) benefited receptor must achieve a 7dBA reduction from the noise abatement measure.: 1

Does the proposed noise abatement measure meet the noise reduction design goal? ☑ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated area of noise abatement measure.: 28,160

Number of Benefited Receivers: 3

Estimated area per Benefited Receiver: 9,387

Based on the SCDOT policy of 1,500 sq. ft. per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☑ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Final Determination for Noise Abatement Measure

This barrier is not proposed for construction.

SCDOT Feasibility and Reasonableness Worksheet

Date: 09/11/2025

Project Name I-26 MM 145 to 172 Widening

Highway Traffic Noise Abatement Measure Barrier SB3 Opt

Feasibility

Number of Impacted Receivers: 6

Number of Benefited Receivers: 6

Number of Impacted Receivers that would achieve a 5 dBA reduction from the proposed noise abatement measure: 6

Is the proposed noise abatement measure acoustically feasible?
NOTE: SCDOT Policy indicates that 3 impacted receptors must achieve at least a 5 dBA reduction for it to be acoustically feasible.

☑ Yes ☐ No

Would any of the following issues limit the ability of the abatement measure to achieve the noise reduction goal?

Topography	☐ Yes	☐ No
Safety	☐ Yes	☐ No
Drainage	☐ Yes	☐ No
Utilities	☐ Yes	☐ No
Maintenance	☐ Yes	☐ No
Access	☐ Yes	☐ No
Exposed Height of Wall	☐ Yes	☐ No

If "Yes" was marked for any of the questions above, please explain below.

Detailed Description

Reasonableness

According to 23 CFR 772.13(d)(2)(iv) the abatement measure must collectively achieve each of these criteria to be reasonable. Therefore if any of the three mandatory reasonable factors are not achieved, then the abatement measure is determined NOT to be reasonable. When completing the form it is not necessary to detail each of the criteria if one was determined not to be reasonable.

#1: Noise Reduction Design Goal

Number of Benefited Receivers: 6

Number of Benefited Receivers that achieve at least an 7 dBA reduction: 3

Number of benefited receptors that would achieve at least a 7 dBA reduction from the proposed noise abatement measure. NOTE: SCDOT noise policy states that at least one (1) benefited receptor must achieve a 7dBA reduction from the noise abatement measure.: 3

Does the proposed noise abatement measure meet the noise reduction design goal? ☑ Yes ☐ No

If "Yes" is marked, continue to #2. If "No" is marked, then abatement is determined NOT to be reasonable.

#2: Cost Effectiveness

Estimated area of noise abatement measure.: 38,630

Number of Benefited Receivers: 6

Estimated area per Benefited Receiver: 6,438

Based on the SCDOT policy of 1,500 sq. ft. per Benefited Receiver, would the abatement measure be reasonable? ☐ Yes ☑ No

If "Yes" is marked, continue to #3. If "No" is marked, then abatement is determined NOT to be reasonable.

#3: Viewpoints of the property owners and residents of the benefitted receivers

Number of Benefited Receivers (same as above):

Number of Benefited Receivers in **support** of noise abatement measure:

Percentage of Benefited Receivers in **support** of noise abatement measure:

Number of Benefited Receivers **opposed** to noise abatement measure:

Percentage of Benefited Receivers **opposed** to noise abatement measure:

Number of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Percentage of Benefited Receivers **that did not respond** to solicitation on noise abatement measure:

Based on the viewpoints of the property owners and residents of the Benefited Receivers, would the abatement measure be reasonable? NOTE: SCDOT Policy indicates that the noise abatement shall be constructed unless greater than 50% of the benefited receptors are opposed to noise abatement. ☐ Yes ☐ No

Final Determination for Noise Abatement Measure

This barrier is not proposed for construction.

APPENDIX E

TNM Inputs/Outputs (provided on digital media to SCDOT)