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TECHNICAL REPORT COVERSHEET

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ENVIRONMENTAL
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NOISE STUDY REPORT

Florida Department of Transportation District 1

County Road (CR) 887 (Old US 41) PD&E

Limits of Project: US 41 to Lee County Line and Collier County Line to Bonita Beach Road

Lee and Collier Counties, Florida

Financial Management Number: 435110-1-22-01 & 435347-1-22-01

Federal Aid Project Number: D119-028-B

ETDM Number: 14339

Date: October 2025

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022, and executed by the Federal Highway Administration and FDOT.

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) District 1 is preparing a Project Development and Environment (PD&E) Study evaluating proposed improvements to CR 887 (Old US 41) from US 41 to Bonita Beach Road, in Lee and Collier Counties, a distance of approximately 2.73 miles. The proposed improvements consist of widening CR 887 (Old US 41) up to four lanes from US 41 in Collier County to Bonita Beach Road in Lee County in order to address existing congestion and projected travel demand as a result of area-wide growth. The roadway project has been divided into two segments and is approximately 2.73 miles in length. Segment 1 (1.55 miles in length) extends from US 41 to the Lee County Line in the northwestern corner of unincorporated Collier County. Segment 2 (1.18 miles in length) extends from the Collier County Line to Bonita Beach Road within the City of Bonita Springs in southern Lee County.

This PD&E Noise Study Report (NSR) presents the methodology and results of the highway traffic noise evaluation for CR 887 (Old US 41) (Financial Management Numbers 435110-1 & 435347-1). The purpose of this noise study is to identify noise sensitive sites that would be impacted by the preferred alternative, evaluate abatement measures at impacted noise sensitive sites, and determine where noise abatement (i.e., noise barriers) should be included with the project and re-evaluated in the Design phase.

The Federal Highway Administration (FHWA) Traffic Noise Model (TNM), version 2.5, was utilized to predict noise levels at 344 receptor points representing 327 residences and 7 special land uses (SLUs). For the year 2045 Build condition, noise levels are predicted to approach, meet, or exceed the Noise Abatement Criteria (NAC) at 16 residences and 1 SLU within the project limits. These impacted noise sensitive sites were evaluated to determine the feasibility and reasonableness of providing a barrier to reduce traffic noise. Additionally, a substantial increase of 15 dB(A) is not predicted to occur at any residence or SLU.

The noise barrier evaluation process identified that a noise barrier is a feasible and reasonable form of abatement and could potentially provide at least a 5 dB(A) reduction at impacted residences at a cost below the reasonable limit. Additionally, the noise barrier achieves the Noise Reduction Design Goal (NRDG). The following noise barriers were found to be potentially feasible and reasonable, and therefore recommended for further consideration at the following Noise Study Areas:

- NSA 2: This NSA is located on the northbound side of Old US 41 and represents the Landmark Naples housing community of densely populated single-family homes. A solid 8-foot noise barrier between CR 887 and the community can meet both FDOT feasibility and reasonable requirements.
- NSA 16: This NSA is located on the southbound side of US 41 and represents the Tarpon Cove housing community of apartments. A solid 10 to 14-foot noise barrier between US 41 and the community can meet both FDOT feasibility and reasonable requirements.

Construction of the proposed roadway improvements of CSR 887 may cause temporary noise and/or vibration impacts to nearby developed land uses. Should anticipated noise or vibration issues arise during the construction process, the Project Manager, in coordination with the District Noise Specialist and the Contractor, will investigate additional methods of controlling these impacts.

The 71 dB(A), 66 dB(A), and 56 dB(A) noise level contour information should assist local authorities in exercising land use control over the remaining undeveloped lands, to avoid development of lands for use by incompatible activities adjacent to the roadways within the local jurisdictions.

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SECTION 1

INTRODUCTION

The Florida Department of Transportation (FDOT) District 1 is preparing a Project Development and Environment (PD&E) Study evaluating proposed improvements to CR 887 (Old US 41), from US 41 to Bonita Beach Road, in Lee and Collier Counties, a distance of about 2.73 miles. The project limits are shown in **Figure 1-1** and **Figure 1-2**.

This PD&E Noise Study Report (NSR) presents the methodology and results of the highway traffic noise evaluation for CR 887 (Old US 41), (Financial Management Nos. 435110-1 & 435347-1).

The purpose of this noise study is to identify noise sensitive sites that would be impacted by the preferred alternative, evaluate abatement measures at impacted noise sensitive sites, and determine where noise abatement (i.e., noise barriers) should be included with the project and re-evaluated in the Design Phase.

Secondary objectives of this study include the consideration of construction noise and vibration impacts as well as the development of noise contours, which can be used in the future by local municipal and county government agencies to identify compatible land uses along the project roadways.

This report also provides technical documentation for the findings described in the project's Preliminary Engineering Report (PER) and the anticipated Type 2 Categorical Exclusion.

1.1 PROJECT DESCRIPTION

The roadway project has been divided into two segments. Segment 1 (1.55 miles in length) extends from US 41 to the Lee County Line in the northwestern corner of unincorporated Collier County; Segment 2 (1.18 miles in length) extends from the Collier County Line to Bonita Beach Road within the City of Bonita Springs in southern Lee County.

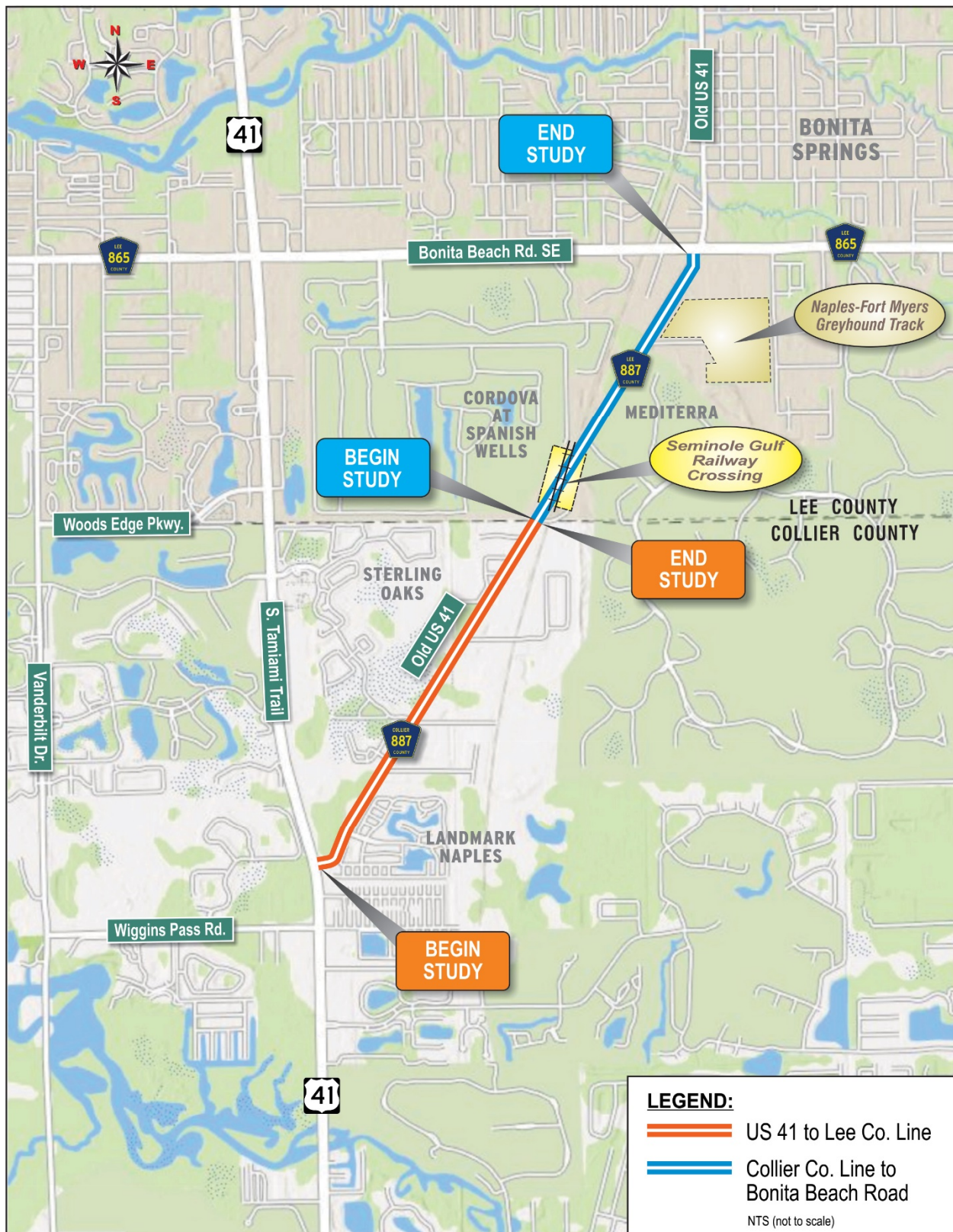
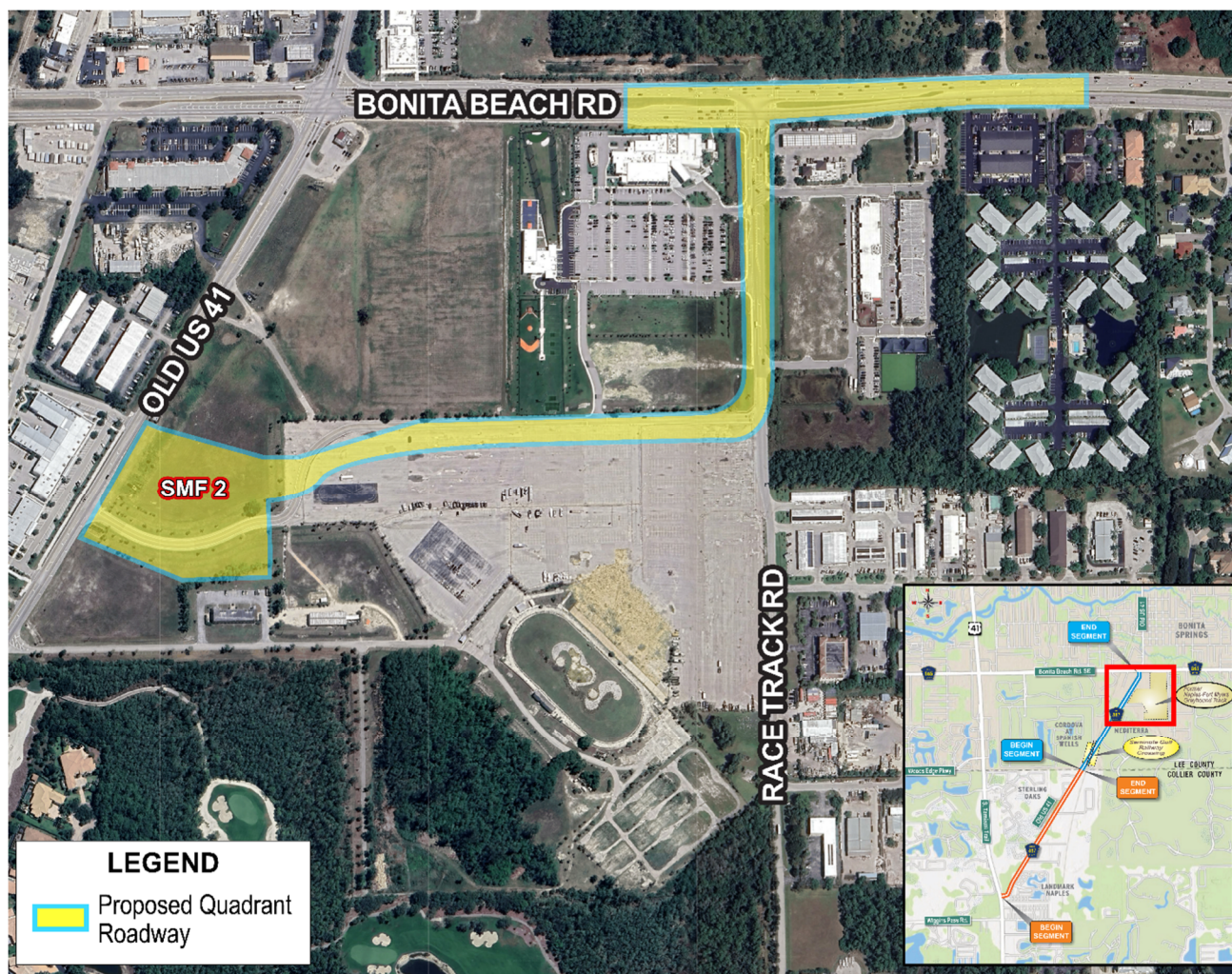


Figure 1-1: Project Location Map



1.2 EXISTING FACILITY

As shown in the existing typical sections in **Figure 1-3**, the existing facility consists of a two-lane, undivided major collector with a posted speed limit of 45 mph. The roadway features two 12-foot travel lanes with alternating left and right turn lanes throughout the length of the corridor as well as an open drainage system. In general, the existing right-of-way (ROW) is 150 feet along Segment 1 and 105 feet along Segment 2. Although the roadway lacks bicycle and transit facilities, there are four non-continuous sidewalk sections along Segment 1 [three occur on the east side of the road and one occurs on the west side] and one section of path on the west side within Segment 2. Bicycle and pedestrian activity have been observed within the corridor.

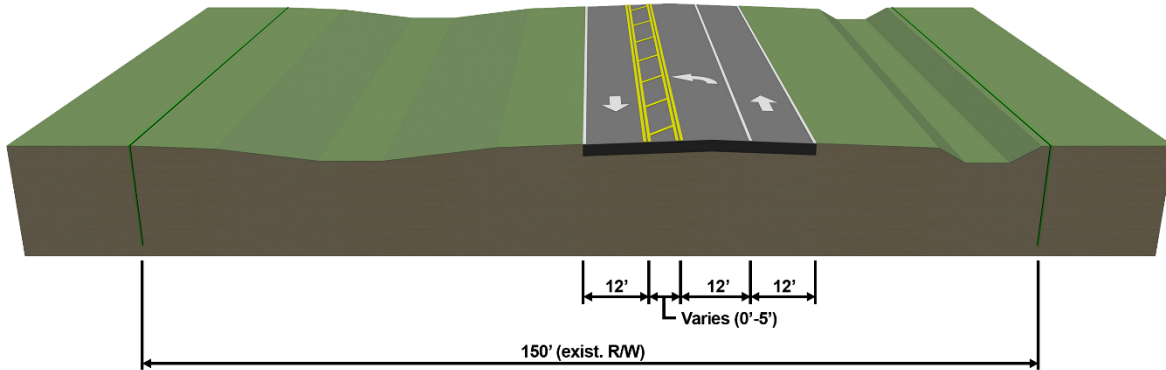
FDOT Noise Policy requires evaluation of existing noise levels as the worst noise hour resulting from the combination of natural and mechanical sources and human activity usually present in a particular area. The CSX Railroad Line intersects CR 887 at an acute angle just north of the Collier and Lee County line and would have the potential to affect noise levels throughout the study area.

However, current U.S. DOT crossing inventory reports (623508Y, 626410F, 623504W, and 912654C) indicate that the rail line has zero operations south of Bonita Beach Road, as the track is currently inoperable (the track is undercut in sections and not safe for use).

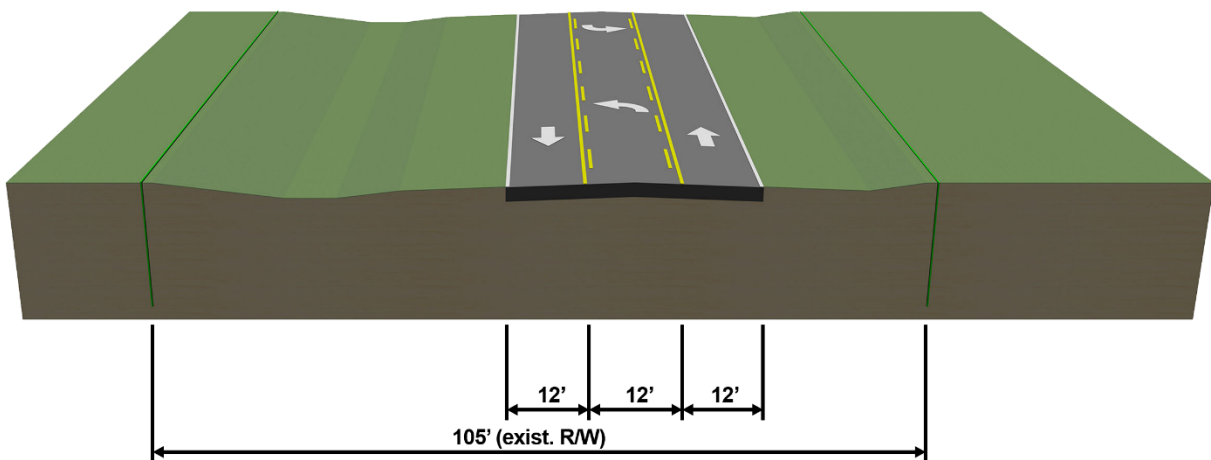
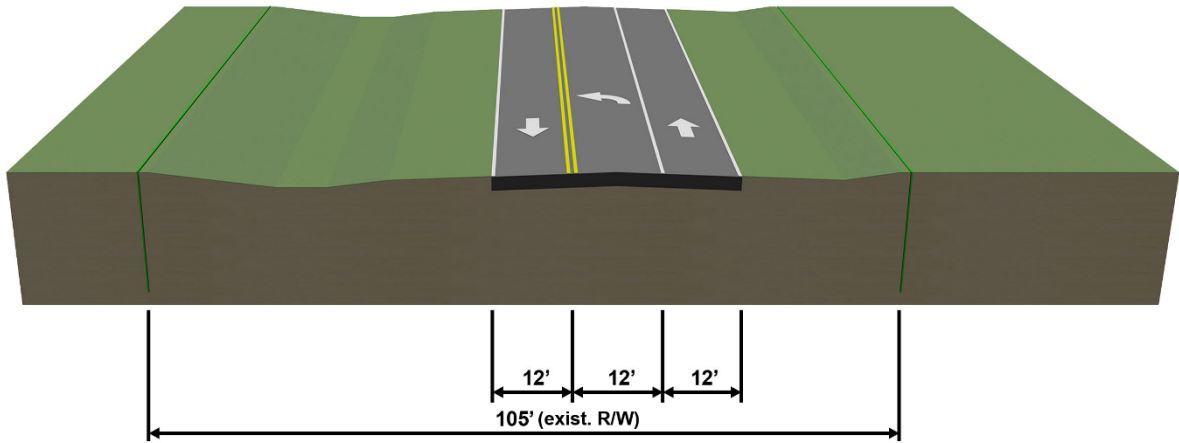
Therefore, the railway noise is not included in the analysis.

Figure 1-3: Existing Typical Sections

Collier County



Bonita Springs / Lee County



1.3 PROPOSED IMPROVEMENTS

The proposed improvements consist of widening Old 41 to a four-lane divided roadway with 11-foot travel lanes both eastbound and westbound. The alternative includes a 5-foot bicycle lane in both directions, a 6-foot sidewalk and a 10-foot shared-use path throughout Old 41 in the Collier County portion. The preferred alternative includes a 7-foot bicycle lane in both directions and a 12-foot shared-use path south of the new Quadrant Roadway in Bonita Springs (Lee County).

The project also includes a new Quadrant Roadway that will connect Old 41 with Race Track Road, with 11-foot travel lanes, a 12-foot shared-use path on the north/west side, and an 8-foot sidewalk on the south/east side within 70' of ROW. The Design speed is 30 mph. This new Quadrant Roadway will allow traffic traveling between the southern end of the study and Interstate 75 to bypass the intersection at Old 41 and Bonita Beach Rd. The Preferred Alternative includes improvements to Bonita Beach Road east of Race Track Road. The intersection of Race Track Road /Bonita Beach Road would remain as a conventional traffic signal with an additional southbound receiving lane and westbound left turn lane. To accommodate the addition westbound left turn lane length the median opening at Bonita Beach Road/Pine Haven Way would be modified to a directional median opening allowing only westbound left turns and northbound left turns. Eastbound U-Turns would no longer be permitted.

New traffic signals are proposed along Old 41 at Veterans Memorial Boulevard, Rail Head Boulevard, Via Palacio Avenue, Mediterra Drive, and the new Quadrant Roadway to balance safety, access management, and operational needs. Several intersections throughout the study corridor include pavement bulb outs to allow single unit trucks to safely make U-turns.

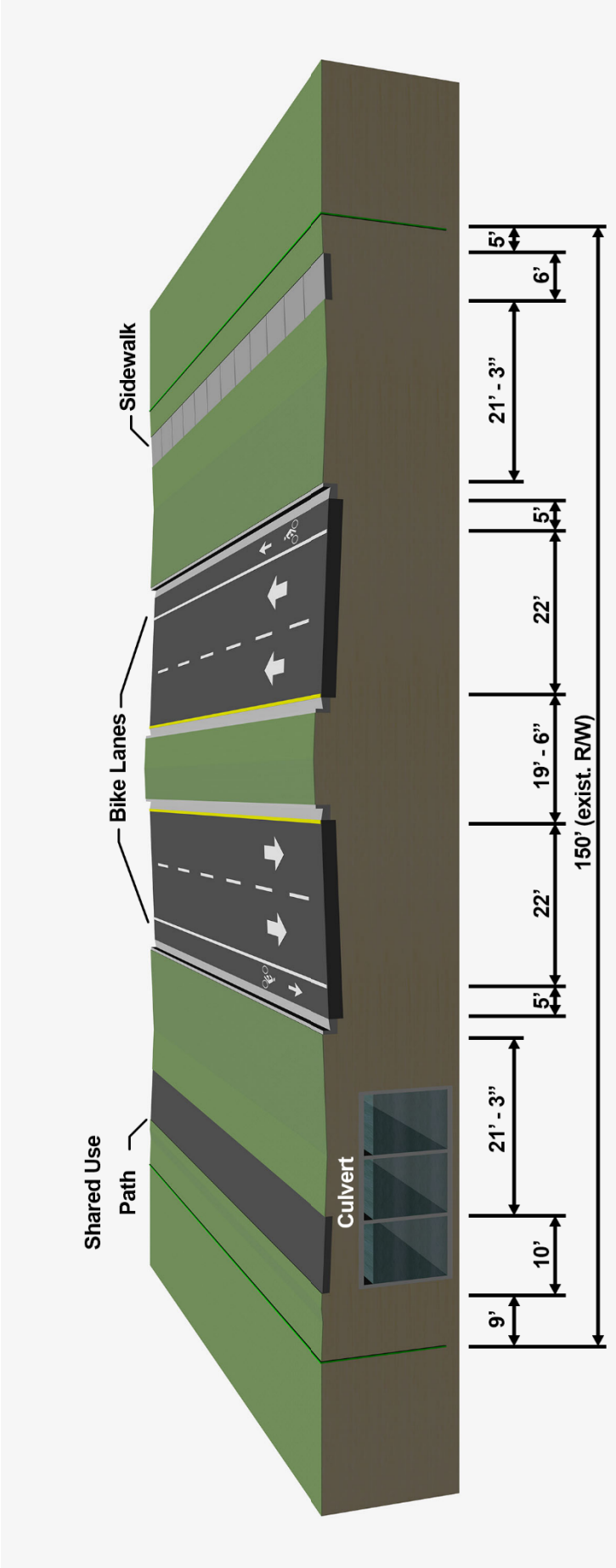
The existing traffic signal at the US 41/Old 41 intersection would be modified into a Partial Median U-Turn (PMUT) intersection. The PMUT configuration prohibits left turns from northbound/southbound US 41 at Old 41 - these movements would be accomplished via U-Turns at new signalized intersections located north/south of the main US 41/Old 41 intersection. Direct left turns from Old 41 onto SB US 41 would be allowed.

The proposed roadway typically stays within the existing right-of-way throughout the project area, with the exception of a few intersections, including the Seminole Gulf Railroad crossing and the New Quadrant Roadway. Stormwater management and floodplain compensation sites will be located throughout the study area and will require ROW.

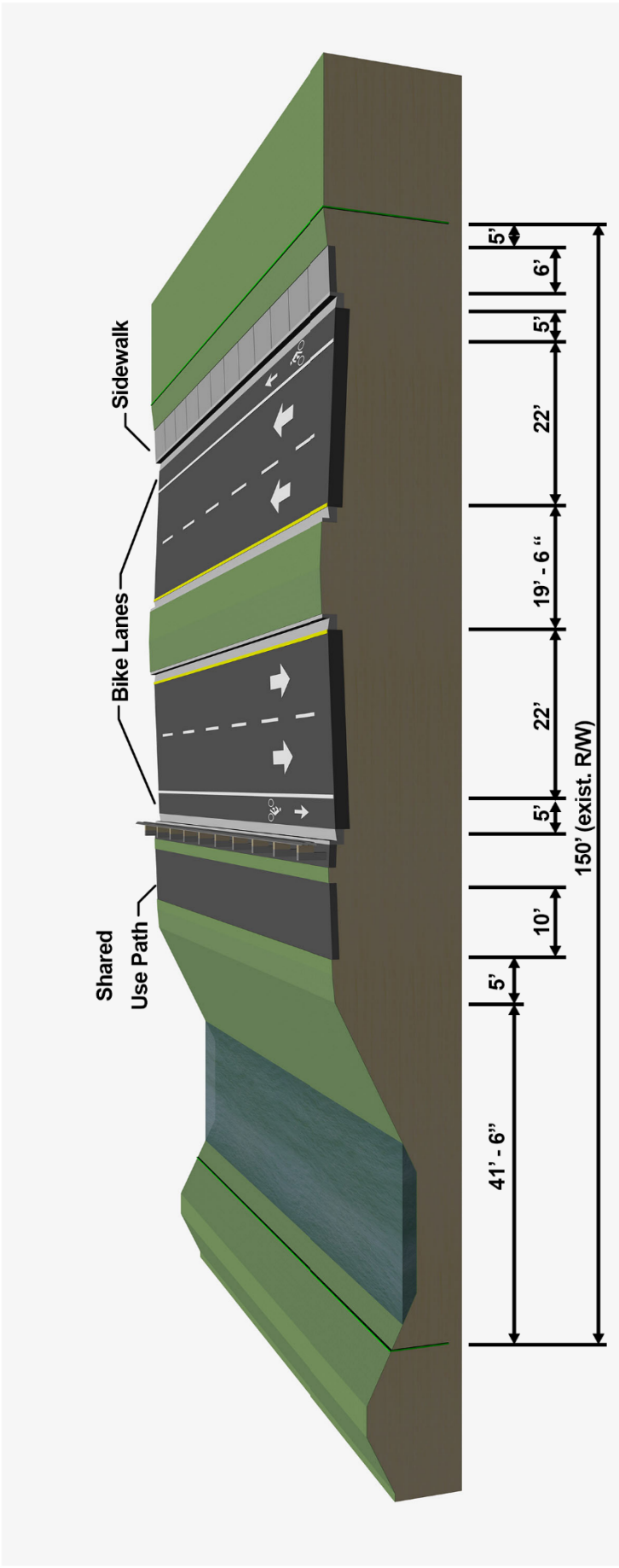
As shown in **Figure 1-4**, the typical section consists of a four-lane divided roadway with 11-foot travel lanes with 5 to 7-foot bike lanes, sidewalks, and shared-use paths. The concept plans for the preferred Build Alternative are included in the PER.

Figure 1-4: Proposed Typical Sections

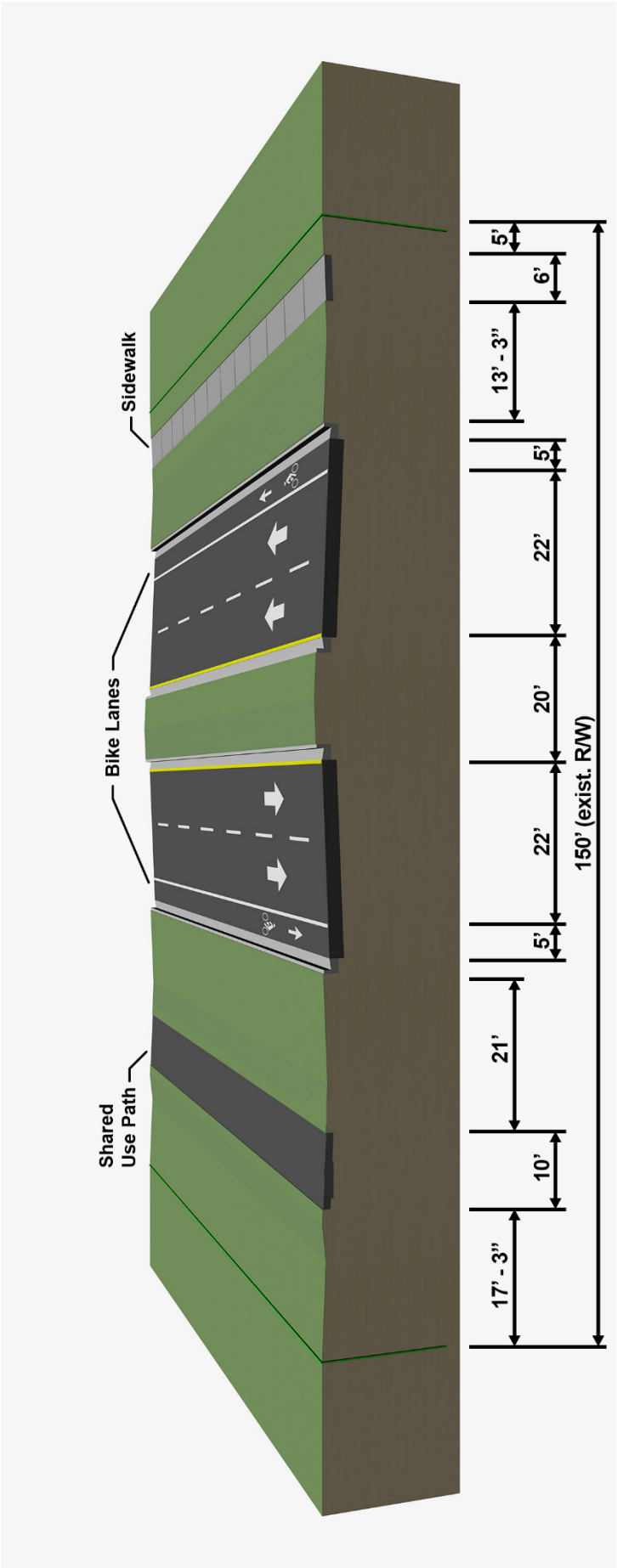
US 41 to 300' North of
Sterling Oaks Drive



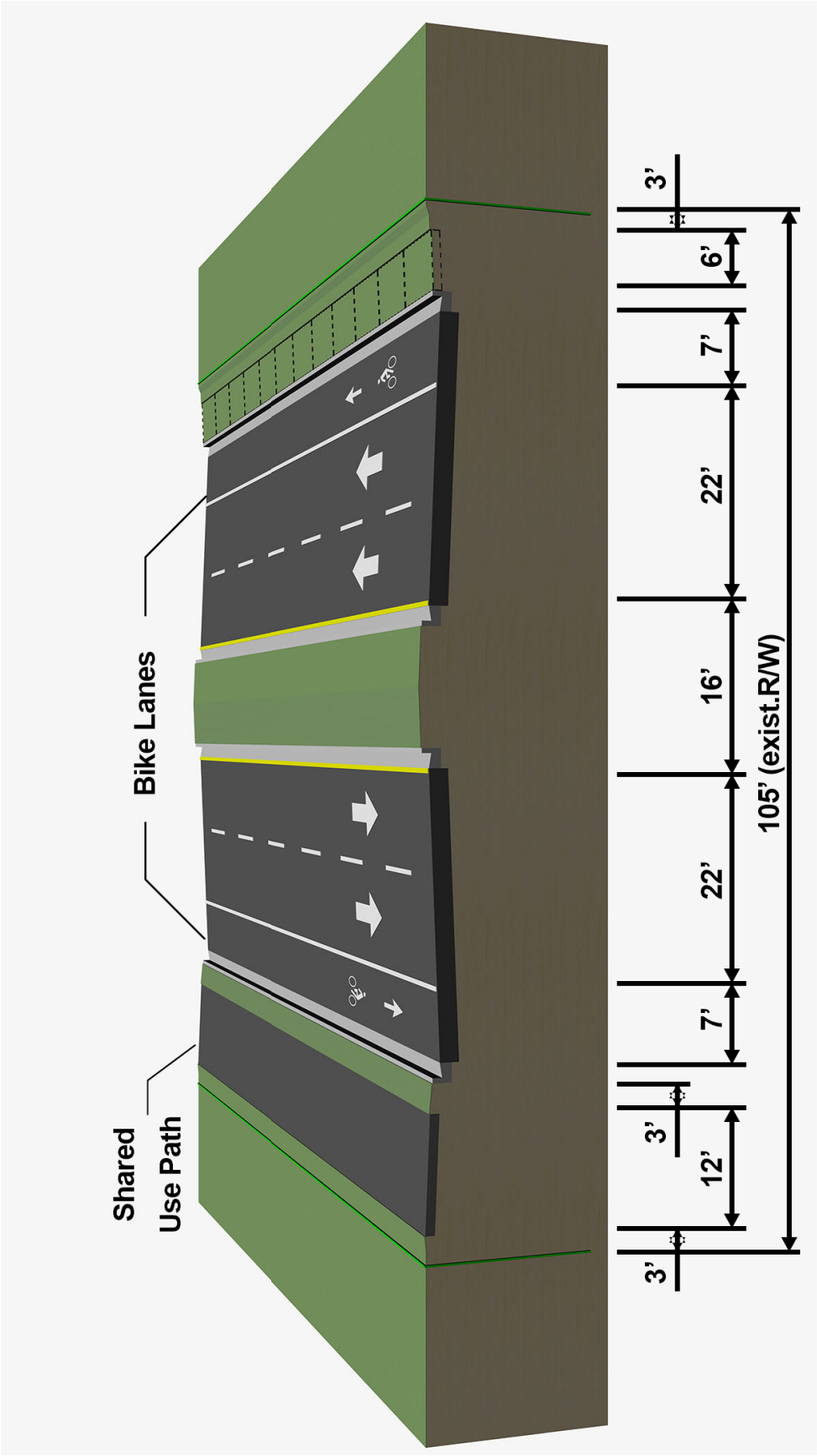
300' North of Sterling Oaks Drive to
1,000' North of Sterling Oaks Drive



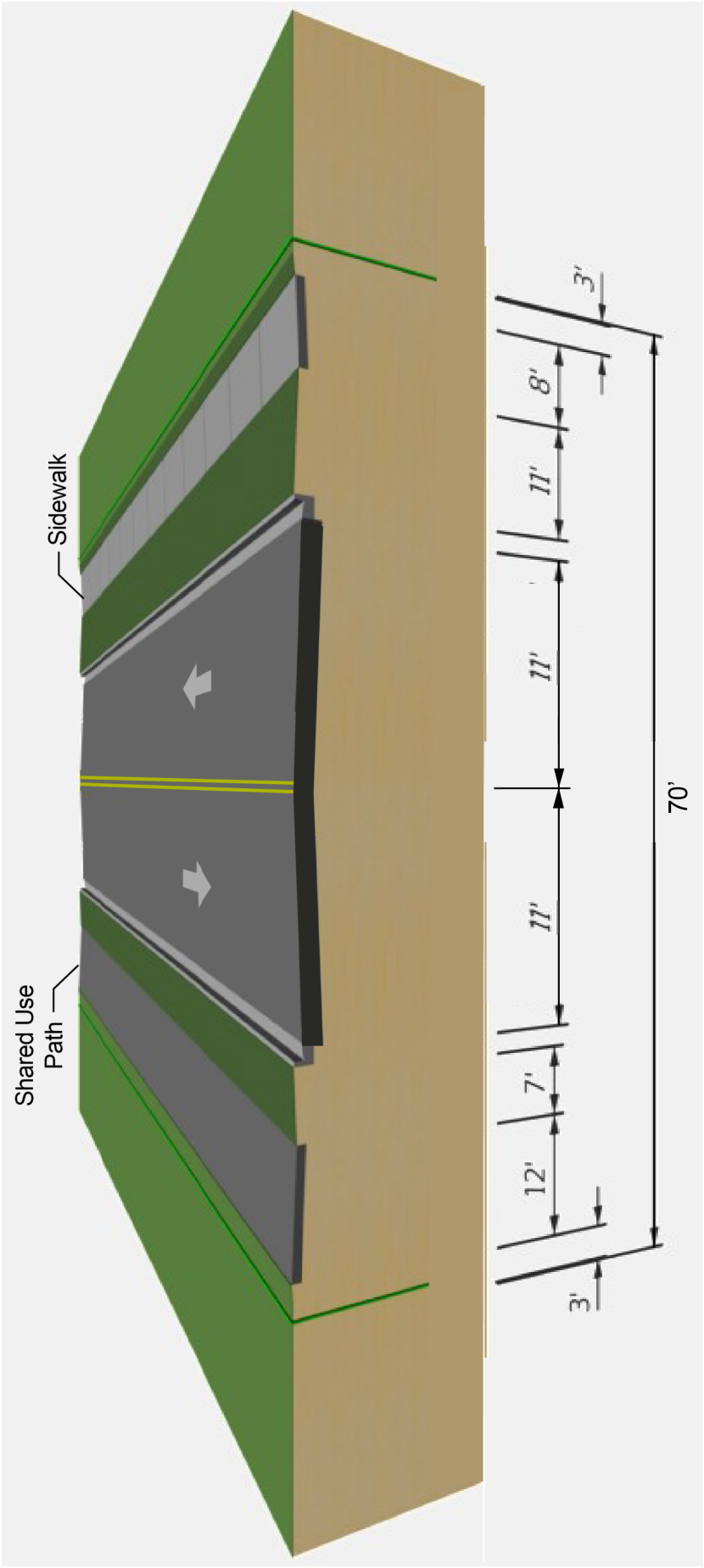
1,000' North of Sterling Oaks
Drive to Lee County Line



Collier/Lee County Line to
New Quadrant Roadway



New Quadrant Roadway



SECTION 2

METHODOLOGY

This highway traffic noise study was completed in accordance with Title 23, Code of Federal Regulations, Part 772 (23 CFR 772), *Procedures for Abatement of Highway Traffic Noise and Construction Noise* following methodology and procedures established by the FDOT in the PD&E Manual, *Highway Traffic Noise*, and the FDOT *Traffic Noise Modeling and Analysis Practitioners Handbook*.

The FHWA's Traffic Noise Model (TNM), version 2.5, was used to predict existing and future traffic noise levels and to analyze the effectiveness of noise barriers, where warranted. This model estimates the acoustic intensity at noise sensitive receptor sites from a series of roadway segments (the source). Model-predicted noise levels are influenced by several factors, such as vehicle speed and distribution of vehicle types. Noise levels are also affected by characteristics of the source-to-receptor site path, including the effects of intervening barriers, structures (houses, etc.), ground surface type (hard or soft), and topography.

Representative receptor sites were used as inputs to TNM to estimate noise levels associated with existing and future conditions within the project limits. These sites were chosen based on noise sensitivity, roadway proximity, anticipated impacts from the proposed project, and homogeneity (i.e., the site is representative of other nearby sites). For single-family residences, traffic noise levels were predicted at the edge of the dwelling unit closest to the nearest primary roadway. For other noise sensitive sites that may be impacted, traffic noise levels were predicted where the exterior activity occurs.

2.1 NOISE METRICS

Noise levels developed for this traffic noise study are expressed in decibels (dB) using an "A"-scale [dB(A)] weighting. This scale most closely approximates the response characteristics of the human ear to typical traffic noise levels. All reported noise levels are hourly equivalent noise levels [Leq(h)], unless otherwise specified. The Leq(h) is defined as the equivalent steady-state sound level that, in an hourly period, contains the same acoustic energy as the time-varying sound level for the same hourly period. Use of these metrics is consistent with the requirements of 23 CFR 772.

2.2 TRAFFIC DATA

Traffic data is of primary importance in a traffic noise prediction model. FDOT traffic data for the existing 2019, No-Build 2045, and Build 2045 Alternatives were obtained from the CR 887 (Old US 41 Road) Future Volumes Technical Memorandum, dated March 2021.

Following requirements of the FDOT's *PD&E Manual* for roadway segments, where the predicted peak hour Design year traffic volumes equal or exceed Level of Service (LOS) C, LOS C hourly traffic was utilized. For roadway segments where the predicted peak hour traffic demand is less than LOS C traffic volumes, the predicted hourly demand volumes were utilized.

Demand traffic volumes for the 2019 Existing condition were modeled for all roadways except for US 41 between Old US 41 Road and the north end of the project.

LOS C volumes were modeled for all 2045 No Build conditions except for Old US 41 between US 41 and Veterans Memorial Boulevard and Veterans Memorial Boulevard, which were modeled using demand traffic volumes.

LOS C volumes were modeled for all 2045 Build conditions except Veterans Memorial Boulevard, which was modeled using demand traffic volumes.

The total vehicle volume was divided between five classifications: automobiles, medium trucks, heavy trucks, buses, and motorcycles. The percentages of each vehicle type were obtained from the Future

Volumes Technical Memorandum and are summarized in **Appendix A** along with the traffic data (including volume of traffic per vehicle type category and associated speeds) utilized during the roadway modeling in this traffic noise study report.

The traffic data was reviewed to identify forecasted traffic volumes that would yield the highest traffic noise impact. Two models, for each peak and off-peak direction (northbound lanes or southbound lanes) are modeled for existing, no build, and build models. The higher noise level result of the two models is shown in **Appendix C** and used in the analysis.

2.3 NOISE ABATEMENT CRITERIA

Noise sensitive land uses are areas where there is frequent human use that may be impacted by traffic noise levels that approach, meet, or exceed the Noise Abatement Criteria (NAC) – levels established by the Federal Highway Administration (FHWA) at which abatement must be considered. Typical noise sensitive land uses include residences, schools, places of worship, commercial properties with outdoor areas of use, and recreational areas. As shown in **Table 2-1**, the NAC varies by activity category.

The FDOT criteria are defined as being within one dB(A) of the FHWA's NAC to reflect values that “approach” the FHWA criteria. For perspective on the decibel values listed in **Table 2-1** and **Table 2-2** provides typical noise levels of common indoor and outdoor activities. Per the *PD&E Manual* Section 18.2.1.2, a level of 65.9 dB(A) is not considered to approach or exceed the abatement criterion, and abatement consideration is not required.

Noise abatement measures must also be considered when a substantial increase in traffic noise is predicted to occur as a direct result of a transportation project. FDOT defines a substantial increase as 15 dB(A) or more above existing conditions. A substantial increase typically occurs in areas where traffic noise is a minor component of the existing noise environment but would become a major component after the project is constructed (e.g., a new alignment project).

**Table 2-1:
Noise Abatement Criteria**

Activity Category	Activity Leq(h)		Evaluation Location	Description of Land Use Activity Category
	FHWA	FDOT		
A	57	56	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 ²	67	66	Exterior	Residential.
C ²	67	66	Exterior	Active sports 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	51	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 ²	72	71	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.
(Based on Table 1 of 23 CFR 772 and FDOT PD&E Manual Chapter 18) ¹ The Leq(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures. ² Includes undeveloped lands permitted for this activity category. <i>Note: FDOT defines that a substantial noise increase occurs when the existing noise level is predicted to be exceeded by 15 decibels or more as a result of the transportation improvement project. When this occurs, the requirement for abatement consideration will be followed.</i>				

**Table 2-2:
Typical Noise Levels**

Common Outdoor Activities	Noise Level dB(A)	Common Indoor Activities
Jet Fly-over at 1000 ft.	---110---	Rock Band
Gas Lawn Mower at 3 ft.	---100---	
Diesel Truck at 50 ft., at 50 mph	---90---	Food Blender at 3 ft.
Noise Urban Area (Daytime)	---80---	Garbage Disposal at 3 ft.
Gas Lawn Mower at 100 ft.	---70---	Vacuum Cleaner at 10 ft.
Commercial Area	---60---	Normal Speech at 3 ft.
Heavy Traffic at 300 ft.	---50---	Large Business Office
Quiet Urban Daytime	---40---	Dishwasher Next Room
Quiet Urban Nighttime	---30---	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	---20---	Library
Quiet Rural Nighttime	---10---	Bedroom at Night, Concert Hall (Background)
Lowest Threshold of Human Hearing	---0---	Lowest Threshold of Human Hearing

Source: California Dept. of Transportation Technical Noise Supplement, September 2013, Page 2-20.

2.4 NOISE ABATEMENT MEASURES

Noise abatement is considered at all noise sensitive sites predicted to approach, meet, or exceed the NAC or which have a substantial increase in noise, as stipulated by 23 CFR 772. Abatement measures considered include traffic management, alignment modifications, noise buffer zones through application of land use controls, and noise barriers. Each of these abatement measures are discussed further in the following sections.

2.4.1 TRAFFIC MANAGEMENT

Traffic management techniques can be used to abate traffic noise. For example, the timing of traffic lights could be altered to eliminate frequent stopping, heavy trucks could be limited to certain hours of the day on specific roads, and speed limits could be reduced. Old US 41 serves as a north/south route for the movement of freight. Limiting heavy truck operations would affect the movement of materials and goods over an extensive area. Therefore, prohibiting or limiting heavy truck traffic on Old US 41 is not considered a reasonable abatement measure for this project. A substantial speed reduction on Old US 41 would lower traffic noise levels. However, the capacity of the roadway to service traffic would also be reduced with a reduction of speed. Therefore, speed reduction is not a reasonable abatement measure for this project.

2.4.2 ALIGNMENT MODIFICATIONS

Modifying the horizontal alignment and/or vertical profile of a roadway can influence highway traffic noise levels and can therefore be an effective abatement measure. However, the existing alignment of Old US 41 has already established the proposed horizontal and vertical alignment. Project costs and detrimental effects on land use are minimized by making use of the existing corridor. The cost of acquiring additional property for the sole purpose of abating highway traffic noise may exceed the cost reasonable limit of \$64,000 per benefited receptor (defined as a noise sensitive site receiving at least a 5 dB(A) noise reduction from the abatement measure). Therefore, an alignment modification that could provide a substantial noise reduction is not a feasible or reasonable abatement measure.

2.4.3 BUFFER ZONES

Providing a buffer space (i.e., an area of undeveloped land) between a highway and future noise sensitive development can minimize or eliminate noise impacts.

Buffer zones can be implemented through local land use planning. The distances between the proposed highway and noise sensitive sites (where predicted traffic noise levels approach, meet or exceed the NAC for Activity Categories A, B, C and E) are determined to facilitate future land use planning that is compatible with the traffic noise environment. For the proposed conceptual Design, the distance between the nearest edge of pavement of Old US 41 and the location where traffic noise levels would approach a particular NAC is provided in **SECTION 6, Table 6-1**. Local officials can use this information to establish buffer zones for future projects, thereby minimizing or avoiding noise impacts at sensitive land uses. The distances do not account for any reduction in noise levels that may be provided by berms, privacy walls or intervening structures in the noise propagation path. These buffer zone contours also do not account for any increase in noise resulting from increased highway elevation (e.g., overpasses) or elevated noise sensitive sites (e.g., second floor patios).

2.4.4 NOISE BARRIERS

Noise barriers reduce noise levels by interrupting the sound path between a highway and noise sensitive site. Barriers can cause sound waves to bend around and over the barrier (diffraction) which produces a “shadow zone” behind the barrier itself. To effectively reduce traffic noise, a barrier must be relatively long, continuous (with no intermittent gaps), and of sufficient height. A noise barrier must be considered a feasible and reasonable noise abatement measure to be suggested for inclusion into the project. Feasibility factors are related to the acoustical and engineering properties of an abatement measure. Reasonableness factors are related to the economic, environmental, and social properties. For a noise barrier to be considered feasible and cost reasonable, the following minimum conditions should be met (**Table 2-3**):

**Table 2-3:
Feasible and Reasonable Requirements for a Noise Barrier**

Feasible	Reasonable
At least two impacted receptors must be provided with a noise reduction of 5 dB(A).	A noise barrier must also attain the Noise Reduction Design Goal (NRDG), which states that a minimum noise reduction of 7 dB(A)* for at least one benefited receptor must be achieved. This receptor may also have been previously identified as meeting the feasibility requirement of receiving a 5 dB(A)* reduction.
Engineering factors (design/construction, safety, access, ROW, maintenance, drainage, and utility) must be considered, and all conflicts must be resolved.	The cost of the noise barriers should not exceed \$64,000 per benefited receptor. This is the upper cost limit established by FDOT. A benefited receptor is defined as a recipient of an abatement measure that experiences at least a 5 dB(A)* reduction as a result of providing a noise barrier. The current unit cost used to evaluate cost reasonableness is \$40 per square foot (sq. ft.).
--	The viewpoint of benefited receptors must be considered.

*Whole number requirements are assumed to be 5.0 dB(A) and 7.0(A), where 4.9 and 6.9 do not meet requirements.

Within the project limits, noise barrier locations are evaluated as follows:

- ROW noise barriers located outside the clear zone, which is defined in the *FDOT Design Manual* as ‘the amount of recoverable area beyond the traveled way’ but within the ROW, are initially considered at heights ranging from 8 ft. to 22 ft. in 2 ft. increments. According to the *FDOT Design Manual*, noise barriers outside the clear zone shall not exceed a maximum height of 22 ft.
- If a ROW barrier cannot provide at least a 5 dB(A) reduction to an impacted receptor or the barrier is not feasible due to construction limitations, then a shoulder barrier is evaluated. According to the *FDOT Design Manual*, shoulder barriers shall not exceed 14 ft. in height when on embankment and 8 ft. in height when on structure or Mechanically Stabilized Earth (MSE).

The length and height of the noise barriers are optimized based on the benefit provided to noise sensitive sites with predicted noise levels that approach, meet, or exceed the NAC.

Barriers were extended for entire neighborhoods, but optimized barriers are meant to only mitigate impacted receptors, while meeting feasibility and reasonableness requirements. Therefore, the recommended barriers represent the minimum height and area needed for mitigation.

2.5 NOISE MODEL

Noise level predictions were produced using the FHWA’s TNM. This model calculates estimated noise levels at noise sensitive receptor sites based upon highway traffic parameters that are input to the model. Model-predicted noise levels are influenced by several factors including vehicle speed and types, the distance between the noise source and receptor, the effects of intervening structures (buildings, masonry privacy walls, etc.), ground surface type, and topography.

2.5.1 MODEL VALIDATION

To validate the accuracy of the computer noise model for the project area, field measurements were taken following procedures documented in FHWA’s Noise Measurement Handbook. All monitoring events were a minimum of 30 minutes (3 repetitions of 10 minutes each) in duration, consistent with FDOT procedures. Noise monitoring was performed on Tuesday, January 28, 2020, using a Rion NL-42 Type II sound level meter (SLM). Prior to taking noise measurements, the SLM was calibrated using a Rion NC-74 calibrator. TNM model validation was performed at three sites along the project corridor. The validation sites were

located along the ROW of the existing highway. Traffic volumes by vehicle classification were noted during each monitoring event. A Bushnell 5830A radar gun was used to obtain average operating speeds. Field notes for each monitoring event are provided in **Appendix D**. Locations of monitoring sites are depicted in aerials provided in **Appendix B**.

2.5.1.1 Model Validation Results

The results for each monitoring event are provided in **Table 2-4**. The FDOT PD&E manual states that the model is validated if the existing field measured highway traffic noise levels and predicted highway traffic noise levels for the existing condition are within +/- 3.0 dB(A). The variance between measured and predicted noise levels is less than 3.0 dB(A). Therefore, the noise model prediction is within the level of accuracy specified in FDOT's PD&E Manual.

**Table 2-4:
Noise Model Validation**

Location	Run #	Date	Time	Field Measured Level dB(A)	Computer Predicted Level dB(A)	Decibel Difference dB(A)
Validation Site #1 ~45' from Edge of Pavement	1	1/28/2020	10:05am-10:14 am	58.7	60.8	2.1
	2		10:21am-10:30am	59.3	61.1	1.8
	3		10:31am-10:40am	58.2	60.3	2.1
Validation Site #2 ~100' from Edge of Pavement	1	1/28/2020	11:10am-11:19am	63.8	65.7	1.9
	2		11:20am-11:29am	62.8	64.7	1.9
	3		11:30am-11:39am	63.8	65.7	1.9
Validation Site #3 ~60' from Edge of Pavement	1	1/28/2020	11:55am-12:04pm	59.0	61.9	2.9
	2		12:05pm-12:14pm	59.5	61.8	2.3
	3		12:15pm-12:24pm	59.8	61.9	2.1

2.6 NOISE SENSITIVE SITES

Highway traffic noise levels were predicted at 344 receptors representing 327 residences and 7 special land uses (SLUs, i.e., non-residential areas) potentially affected by highway traffic noise. Receptors representing noise sensitive land uses were established by a field review performed on January 28, 2020, and verified using data from the County Property Appraiser¹. Within the project limits, the noise sensitive land uses along Old US 41 for which there is a NAC include:

- Activity Category B
 - Residences: 327
- Activity Category C
 - Golf Course: 1 (represented by 11 receptors)
 - Tennis Court : 1
 - Dog Park : 1
 - Pool: 2
- Activity Category E
 - Retail: 2

¹Collier Co. Property Appraiser website: collierappraiser.com; Lee Co. Property Appraiser website: leepa.org

The receptors representing noise sensitive sites are located in accordance with 23 CFR 772, FDOT's PD&E Manual and the FDOT *Traffic Noise Modeling & Analysis Practitioners Handbook* as follows:

- Activity Category B and D receptors were located at the edge of the dwellings/buildings that is closest to Old US 41.
- Activity Category E receptors were located in exterior areas where frequent human use may occur.
- Ground-floor receptor points were modeled at five ft. above the ground elevation. Each additional floor was modeled at an additional 10 ft. For example, second-story receptors were modeled at 15 ft., and third story receptors were modeled at 25 ft.

The locations of the receptors are depicted on aerials in **Appendix B**. The alphanumeric identification for each receptor point was formulated as follows:

- Receptor points are labeled with the convention XX-Y-ZZ, where XX represents the NSA, Y represents the NAC, and XX represents the receptor number.
- Multi-story receptors are appended with suffices "a" to represent ground-floor units; "b" to represent 2nd floor units; "c" to represent 3rd floor units, etc.

2.6.1 COMMON NOISE ENVIRONMENTS AND NOISE SENSITIVE AREAS

Common Noise Environments (CNEs) are defined as a group of receptors representing noise sensitive sites within the same activity category that are exposed to similar noise sources and levels; traffic volumes, traffic mix, and speed; and topographic features, according to 23 CFR Part 772. Generally, CNEs occur between two secondary noise sources, such as interchanges, intersections, cross-roads.

Noise Sensitive Areas (NSA) are groups of CNEs that are geographically near one another and therefore influenced by the same noise sources. CNEs should be grouped into NSAs based on if a single noise barrier (or continuous noise barrier system) could be designed for all CNEs in the NSA based on reasonable assumptions. Each NSA is discussed separately in this report.

A map of these NSAs can be found in **Appendix B**.

2.7 SPECIAL LAND USES

SLUs (non-residential land uses) were evaluated according to FDOT's *Methodology to Evaluate Highway Traffic Noise at Special Land Uses* December 2024. In this methodology, SLUs are assigned an Equivalent Residence (ER) based on the person-hours of use at the SLU in order to evaluate the reasonableness and feasibility of a noise barrier.

SECTION 3

TRAFFIC NOISE ANALYSIS RESULTS

The following section provides the results of the traffic noise analysis, including the identification of impacted noise sensitive sites and the evaluation of abatement measures.

3.1 SUBSTANTIAL INCREASE IN NOISE

An evaluation of substantial increases was performed for this PD&E phase analysis. Each noise sensitive site was assigned an existing noise level based on TNM predicted existing noise levels and is provided in **Appendix C**. As shown in **Appendix C**, no residence or SLU is predicted to have a substantial increase of 15 dB(A) over existing conditions. Therefore, traffic noise impact will be determined by NAC criteria, only.

3.2 NOISE ABATEMENT CRITERIA EVALUATION

An evaluation of noise sensitive sites that may be impacted by traffic noise levels that approach, meet, or exceed the NAC was performed. Each noise sensitive site was modeled in TNM and a future noise level was predicted. Noise abatement was considered at all noise sensitive sites found to be impacted. Each NSA is discussed separately.

3.2.1 NSA #01

NSA 1 is located south of Old US 41 (**Appendix B**, Figure B-1) and is composed of 1 SLU. The SLU is discussed in the section below.

3.2.1.1 NOISE SENSITIVE SITE

KERR PLAZA SHOPPING CENTER

Kerr Plaza Shopping Center is located along Old US 41 and was evaluated as an exterior use area. The restaurant Limoncello Naples was evaluated for traffic noise impact as Activity Category E and is represented by receptor 01-E-01. The predicted exterior highway traffic noise level is 68.3 dB(A) for the year 2045. Build condition highway traffic noise levels do not approach, meet, or exceed the NAC at the restaurant exterior use area. Therefore, the consideration of noise abatement measures is not warranted.

3.2.2 NSA #02

NSA 2 is located east of Old US 41 (**Appendix B**, Figures B-1 and B-2) and is composed of 63 residences. The residential area is discussed in the sections below.

3.2.2.1 NOISE SENSITIVE SITE

LANDMARK NAPLES

Residences from Plymouth Rock Drive to the proposed Veterans Memorial Boulevard in Landmark Naples housing community are represented by 63 receptor points representing 63 residences (02-B-01 to 02-B-63). Exterior traffic noise levels are predicted to range from 54.2 to 70.1 dB(A) for the Design year and approaches, meets or exceeds the NAC at 5 of the residences. Therefore, a noise barrier for these 5 residences (and adjacent residences) was evaluated further.

3.2.2.2 NOISE BARRIER EVALUATION

A ROW noise barrier was evaluated at a maximum height of 22 ft., stepping down in 2 ft. increments. The results from the ROW noise barrier can be seen in **Table 3-1**.

The noise barrier evaluation, shown in **Table 3-2**, found that a ROW noise barrier at 8 ft. in height would provide a benefit to at least two impacted residences, would meet the NRDG, and it is cost reasonable. Therefore, a noise barrier for the residences is recommended for further evaluation in the Design phase.

Table 3-1:
Noise Barrier Results – NSA #02

Rec. No.	Use	NAC	Address	2045 Predicted Build-Condition Noise Levels (dB(A)) ¹	With-Barrier (dB(A))	IL	Benefit ²
02-B-47	Residence	B	1815 Monticello Dr	64.7	64.2	0.5	No
02-B-48	Residence	B	1813 Monticello Dr	70.1	63.2	6.9	Yes
02-B-49	Residence	B	1811 Monticello Dr	69.2	60.8	8.4	Yes
02-B-50	Residence	B	1809 Monticello Dr	68.0	59.8	8.2	Yes
02-B-51	Residence	B	1807 Monticello Dr	67.0	58.8	8.2	Yes
02-B-52	Residence	B	1805 Monticello Dr	66.1	59.1	7.0	Yes
02-B-62	Residence	B	2308 Niagara Ln	61.0	58.6	2.4	No
02-B-63	Residence	B	1812 Monticello Dr	62.1	59.1	3.0	No

¹ Receptors with a predicted noise level at or above the FDOT NAC are highlighted in red.

² IL = “Insertion Loss” = the difference between the Predicted Build-condition noise level and the With-Barrier noise level. “Benefit” = a receptor that receives at least a 5 dB(A) IL.

Table 3-2:
Noise Barrier Analysis – NSA #02

Barrier ID	Barrier Location	Approximate Barrier XY/Extent (Stationing)	Barrier Height ¹ (ft.)	Barrier Length ² (ft.)	Number of Impacted Residences	Number of Impacted Residences Within a Noise Reduction Range			Number of Benefited Residences				Maximum Reduction dB(A)	Total Estimated Cost ⁵ (\$)	Cost Per Benefited Residence (\$)	Cost Reasonable?
						5-5.9 dB(A)	6-6.9 dB(A)	≥ 7 dB(A)	Impacted ³	Other ⁴	Total	Average Reduction dB(A)				
2	Southeast Corner of Old US 41 and Veterans Memorial Boulevard	Sta. 10+00.00 to Sta. 11+60.06	8’	278’	5	0	1	4	5	0	5	7.7	8.4	\$88,800	\$17,760	Yes

¹ Full height is for the length indicated. If a shoulder noise barrier location is indicated, the length of vertical height tapers at the shoulder barrier’s terminus (See FDOT Standard Plans) would be in addition to the length indicated.

² Variation in the barrier length is a result of optimizing the length for a particular height.

³ Benefited residences with a predicted noise level at or above the FDOT NAC .

⁴ Benefited residences with a predicted noise level below the FDOT NAC.

⁵ Unit cost of \$40 per square foot of noise barrier.

3.2.3 NSA #03

NSA 3 is located east of Old US 41 (**Appendix B**, Figures B-4 and B-5) and is composed of 6 residences. The residential area is discussed in the section below.

3.2.3.1 NOISE SENSITIVE SITE

16170 OLD US 41

The 16170 residences on Old US 41 across from Performance Way are represented by 6 receptor points representing 6 residences (03-B-01 to 03-B-06). Exterior traffic noise levels are predicted to range from 49.4 to 54.1 dB(A) for the Design year and do not approach, meet or exceed the NAC at the residences. Therefore, the consideration of noise abatement measures is not warranted.

3.2.4 NSA #04

NSA 4 is located east of Old US 41 (**Appendix B**, Figures B-4 through B-6) and is composed of 1 SLU. The SLU is discussed in the section below.

3.2.4.1 NOISE SENSITIVE SITE

MEDITERRA GOLF COURSE

Mediterra Golf Course is located along Old US 41 and was evaluated as an exterior use area. This recreational area has a golf course that was evaluated for traffic noise impacts as Activity Category C and was represented by 11 receptors (04-C-01 to 04-C-11). Predicted exterior highway traffic noise levels range from 53.2 to 63.5 dB(A) for the year 2045. Build condition highway traffic noise levels do not approach, meet, or exceed the NAC at the recreational area exterior use area. Therefore, the consideration of noise abatement measures is not warranted.

3.2.5 NSA #05

NSA 5 is located east of Old US 41 (**Appendix B**, Figure B-6) and is composed of 5 residences. The residential area is discussed in the section below.

3.2.5.1 NOISE SENSITIVE SITE

MEDITERRA

Residences from Celle Way to Marcello Way in the Mediterra Community are represented by 5 receptor points representing 5 residences (05-B-01 to 05-B-05). Exterior traffic noise levels are predicted to range from 50.4 to 53.9 dB(A) for the Design year and do not approach, meet or exceed the NAC at the residences. Therefore, the consideration of noise abatement measures is not warranted.

3.2.6 NSA #06

NSA 6 is located east of Old US 41 (**Appendix B**, Figure B-7) and is composed of a building with 12 residential units. The residential area is discussed in the section below.

3.2.6.1 NOISE SENSITIVE SITE

COMPOUND ROAD APARTMENTS

The 12-unit building at 28341 Old 41 Rd on Compound Road is represented by a single receptor at the building corner closest to the improvements (06-B-01). The exterior traffic noise level is predicted to be 55.4 dB(A) for the Design year and does not approach, meet or exceed the NAC at the residences. Therefore, the consideration of noise abatement measures is not warranted.

3.2.7 NSA #07

NSA 7 is located east of Old US 41 (**Appendix B**, Figure B-7) and is composed of 1 SLU. The SLU is discussed in the section below.

3.2.7.1 NOISE SENSITIVE SITE

JOHNNY MALLOY'S SPORTS PUB

Johnny Malloy's Sports Pub is located along Old US 41 and was evaluated as an exterior use area. This restaurant has an outdoor seating area that was evaluated for traffic noise impacts as Activity Category E and was represented by 1 receptor (07-E-01). The predicted exterior highway traffic noise level is 69.2 dB(A) for the year 2045. Build condition highway traffic noise levels do not approach, meet, or exceed the NAC at the restaurant exterior use area. Therefore, the consideration of noise abatement measures is not warranted.

3.2.8 NSA #08

NSA 8 is located west of Old US 41 (**Appendix B**, Figure B-7) and is composed of 1 SLU. The SLU is discussed in the section below.

3.2.8.1 NOISE SENSITIVE SITE

MONTERRA AT BONITA SPRINGS TENNIS COURT

Monterra at Bonita Springs Tennis Court is located along Old US 41 and was evaluated as an exterior use area. This park has a tennis court that was evaluated for traffic noise impacts as Activity Category C and was represented by 1 receptor (08-C-01). The predicted exterior highway traffic noise level is 65.1 dB(A) for the year 2045. Build condition highway traffic noise levels do not approach, meet, or exceed the NAC at the recreational area exterior use area. Therefore, the consideration of noise abatement measures is not warranted.

3.2.9 NSA #09

NSA 9 is located west of Old US 41 (**Appendix B**, Figures B-6 and B-7) and is composed of 4 residences. The residential area is discussed in the section below.

3.2.9.1 NOISE SENSITIVE SITE

MONTERRA AT BONITA SPRINGS

Residences on Dovewood Court in Monterra at Bonita Springs are represented by 4 receptor points representing 4 residences (09-B-01 to 09-B-04). Exterior traffic noise levels are

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predicted to range from 49.2 to 57.8 dB(A) for the Design year and do not approach, meet or exceed the NAC at the residences. Therefore, the consideration of noise abatement measures is not warranted.

3.2.10 NSA #10

NSA 10 is located west of Old US 41 (**Appendix B**, Figures B-4 through B-6) and is composed of 40 residences. The residential area is discussed in the section below.

3.2.10.1 NOISE SENSITIVE SITE

CORDOVA AT SPANISH WELLS

Residences from Alhambra Lane to La Playa Court in Cordova at Spanish Wells are represented by 40 receptor points representing 40 residences (10-B-01 to 10-B-40). Exterior traffic noise levels are predicted to range from 46.3 to 59.1 dB(A) for the Design year and do not approach, meet or exceed the NAC at the residences. Therefore, the consideration of noise abatement measures is not warranted.

3.2.11 NSA #11

NSA 11 is located west of Old US 41 (**Appendix B**, Figures B-3, B-4, B-4A, and B-4B) and is composed of 96 residences. The residential area is discussed in the section below.

3.2.11.1 NOISE SENSITIVE SITE

SOMERSET PALMS

Residences on Arbor View Parkway in Somerset Palms are represented by 96 receptor points representing 96 residences (11-B-01a to 11-B-32c). Exterior traffic noise levels are predicted to range from 50.9 to 66.1 dB(A) for the Design year and do approach, meet or exceed the NAC at 1 of the residences. Therefore, a noise barrier for the 1 residence was evaluated further.

3.2.11.2 NOISE BARRIER EVALUATION

In order to meet feasibility requirements, a barrier must provide a noise reduction of 5 dB(A) for at least two impacted receptors. There is only 1 impacted receptor. Therefore, a noise barrier is not considered feasible and is not recommended for further evaluation in the Design phase.

3.2.12 NSA #12

NSA 12 is located west of Old US 41 (**Appendix B**, Figure B-4) and is composed of 1 SLU. The residential area is discussed in the section below.

3.2.12.1 NOISE SENSITIVE SITE

SOMERSET PALMS DOG PARK

Somerset Palms dog park is located along Arbor View Parkway and was evaluated as an exterior use area. This park has a dog park that was evaluated for traffic noise impacts as Activity Category C and was represented by 1 receptor (12-C-01). The Predicted exterior highway traffic noise level is 66.7 dB(A) for the year 2045. Build condition highway traffic

noise levels do approach, meet, or exceed the NAC at the park exterior use area. Therefore, the consideration of noise abatement measures is warranted.

3.2.12.2 NOISE BARRIER EVALUATION

A noise barrier was evaluated following the FDOT SLU procedures outlined in **Section 2.7**. Following the FDOT SLU procedures, a preliminary screening was performed to identify if the person-hour usage of the Dog Park was high enough to proceed with a noise barrier analysis. The property management, Aspen Square Management, stated that the exact utilization was unknown, but well under the requisite 122 people for 1 hour per day for 365 days required to achieve an ER of 2. These preliminary screening results in **Appendix F** identified that the park does not have enough person-hours of use for a noise barrier to be considered a cost reasonable form of abatement with an ER of 0.08. Therefore, the consideration of noise abatement measures is not warranted for the SLU.

3.2.13 NSA #13

NSA 13 is located west of Old US 41 (**Appendix B**, Figures B-4 and B-4A) and is composed of 1 SLU. The SLU is discussed in the section below.

3.2.13.1 NOISE SENSITIVE SITE

SOMERSET PALMS POOL

Somerset Palms pool is located along Arbor View Parkway and was evaluated as an exterior use area. This recreational area has a pool that was evaluated for traffic noise impacts as Activity Category C and was represented by 1 receptor (13-C-01). The Predicted exterior highway traffic noise level is 64.7 dB(A) for the year 2045. Build condition highway traffic noise levels do not approach, meet, or exceed the NAC at the recreational area exterior use area. Therefore, the consideration of noise abatement measures is not warranted.

3.2.14 NSA #14

NSA 14 is located west of Old US 41 (**Appendix B**, Figures B-2, B-2B and B-3) and is composed of 12 residences. The residential area is discussed in the section below.

3.2.14.1 NOISE SENSITIVE SITE

STERLING OAKS

Residences from Sanctuary Pointe Court to Sterling Oaks Drive in Sterling Oaks are represented by 12 receptor points representing 12 residences (14-B-01a to 14-B-05d). Exterior traffic noise levels are predicted to range from 54.6 to 66.6 dB(A) for the Design year and do approach, meet or exceed the NAC at 2 of the residences. Therefore, a noise barrier for these 2 residences was evaluated further.

3.2.14.2 NOISE BARRIER EVALUATION

A ROW noise barrier was evaluated at a maximum height of 22 ft., stepping down in 2 ft. increments. The noise barrier evaluation, shown in **Table 3-3** and **Table 3-4**, found that ROW noise barriers at any height would not provide the required 5 dB(A) reduction for two or more residences. Therefore, a noise barrier is not feasible for the Sterling Oaks community.

Table 3-3:
Noise Barrier Results – NSA #14

Rec. No.	Use	NAC	Address	2045 Predicted Build- Condition Noise Levels (dB(A)) ¹	With-Barrier dB(A))	IL	Benefit ²
14-B-01a	Residence	B	14468 Sterling Oaks Dr Front	66.6	64.8	1.8	No
14-B-01b	Residence	B	14468 Sterling Oaks Dr Rear	66.2	61.7	4.5	No
14-B-02a	Residence	B	14472 Sterling Oaks Dr Front	62.0	60.1	1.9	No
14-B-02b	Residence	B	14472 Sterling Oaks Dr Rear	62.3	58.7	3.6	No
14-B-03a	Residence	B	14478 Sterling Oaks Dr Front	58.3	60.7	-2.4	No
14-B-03b	Residence	B	14478 Sterling Oaks Dr Rear	58.4	59.3	-0.9	No
14-B-04a	Residence	B	14484 Sterling Oaks Dr Front	54.6	56.9	-2.3	No
14-B-04b	Residence	B	14484 Sterling Oaks Dr Rear	55.6	54.6	1.0	No

¹ Receptors with a predicted noise level at or above the FDOT NAC are highlighted in red.

² IL = “Insertion Loss” = the difference between the Predicted Build-condition noise level and the With-Barrier noise level. “Benefit” = a receptor that receives at least a 5 dB(A) IL.

Table 3-4:
Noise Barrier Analysis – NSA #14

Barrier ID	Barrier Location	Approximate Barrier XY/ Extent (Stationing)	Barrier Height ¹ (ft.)	Barrier Length ² (ft.)	Number of Impacted Residences	Number of Impacted Residences Within a Noise Reduction Range			Number of Benefited Residences				Maximum Reduction dB(A)	Total Estimated Cost ⁵ (\$)	Cost Per Benefited Residence (\$)	Cost Reasonable?
						5-5.9 dB(A)	6-6.9 dB(A)	≥ 7 dB(A)	Impacted ³	Other ⁴	Total	Average Reduction dB(A)				
14	West of Old US 41, North of Sterling Oaks Drive	Sta. 10+00.00 to Sta. 11+20.06	22’	140’	2	0	0	0	0	0	0	4.5	4.5	N/A	N/A	N/A

¹ Full height is for the length indicated. If a shoulder noise barrier location is indicated, the length of vertical height tapers at the shoulder barrier’s terminus (See FDOT Standard Plans) would be in addition to the length indicated.

² Variation in the barrier length is a result of optimizing the length for a particular height.

³ Benefited residences with a predicted noise level that approaches or exceeds the NAC.

⁴ Benefited residences with a predicted noise level that does not approach the NAC.

⁵ Unit cost of \$40 per square foot of noise barrier.

3.2.15 NSA #15

NSA 15 is located west of Old US 41 (**Appendix B**, Figures B-2, B-2A and B-2B) and is composed of 80 residences. The residential area is discussed in the section below.

3.2.15.1 NOISE SENSITIVE SITE

MEADOW BROOK PRESERVE APARTMENTS

Residences on Turtle Creek Drive in Meadow Brook Preserve Apartments are represented by 80 receptor points representing 80 residences (15-B-01a to 15-B-39b). Exterior traffic noise levels are predicted to range from 56.1 to 66.0 dB(A) for the Design year and do not approach, meet or exceed the NAC for at least 2 of the residences. Therefore, the consideration of noise abatement measures is not warranted.

3.2.15.2 NOISE BARRIER EVALUATION

In order to meet feasibility requirements, a barrier must provide a noise reduction of 5 dB(A) for at least two impacted receptors. There is only 1 impacted receptor. Therefore, a noise barrier is not considered feasible and is not recommended for further evaluation in the Design phase.

3.2.16 NSA #16

NSA 16 is located west of US 41 (**Appendix B**, Figure B-1) and is composed of 18 residences and 1 SLU at the community pool. The residential area is discussed in the section below.

3.2.16.1 NOISE SENSITIVE SITE

TARPON COVE APARTMENTS

Residences on Tarpon Cove in Tarpon Cove Apartments are represented by 18 receptor points representing 18 residences (16-B-01a to 16-B-09b). Exterior traffic noise levels are predicted to range from 56.3 to 67.6 dB(A) for the Design year and do approach, meet or exceed the NAC at 5 of the residences. Therefore, a noise barrier for these 5 residences (and adjacent residences) was evaluated further.

3.2.16.2 NOISE BARRIER EVALUATION

A ROW noise barrier was evaluated at a maximum height of 22 ft., stepping down in 2 ft. increments. The noise barrier evaluation, shown in **Table 3-5** and **Table 3-6**, found that a ROW noise barrier ranging from 10 to 14 ft. in height would provide a benefit to at least two impacted residences, would meet the NRDG, and it is cost reasonable. Noise barrier NW16 also benefits the Tarpon Cove pool; and while the pool usage does not warrant a barrier analysis independently with an ER of 0.82, the pool is assessed as having a benefit value of 0.82 (as discussed below in **Section 3.2.16.4**). NW16 was originally analyzed at a longer length in order to provide benefit to all impacted residences, but the longer barrier was determined to be not cost reasonable.

Table 3-5:
Noise Barrier Results – NSA #16

Rec. No.	Use	NAC	Address	2045 Predicted Build-Condition Noise Levels (dB(A)) ¹	With-Barrier (dB(A))	IL	Benefit ²
16-B-01a	Residence	B	965 Tarpon Cove Dr 1st Floor	58.8	57.7	1.1	No
16-B-01b	Residence	B	965 Tarpon Cove Dr 2nd Floor	60.7	59.4	1.3	No
16-B-02a	Residence	B	975 Tarpon Cove Dr 1st Floor	65.3	58.3	7.0	Yes
16-B-02b	Residence	B	975 Tarpon Cove Dr 2nd Floor	66.8	61.8	5.0	Yes
16-B-03a	Residence	B	985 Tarpon Cove Dr 1st Floor	65.9	59.0	6.9	Yes
16-B-03b	Residence	B	985 Tarpon Cove Dr 2nd Floor	67.6	62.6	5.0	Yes
16-B-04a	Residence	B	970 Tarpon Cove Dr 1st Floor	65.5	60.3	5.2	Yes
16-B-04b	Residence	B	970 Tarpon Cove Dr 2nd Floor	67.5	64.3	3.2	No
16-B-05a	Residence	B	1005 Tarpon Cove Dr 1st Floor	64.3	62.3	2.0	No
16-B-05b	Residence	B	1005 Tarpon Cove Dr 2nd Floor	66.6	65.0	1.6	No
16-B-06a	Residence	B	1015 Tarpon Cove Dr 1st Floor	64.1	63.8	0.3	No
16-B-06b	Residence	B	1015 Tarpon Cove Dr 2nd Floor	66.5	66.1	0.4	No
16-B-07a	Residence	B	1025 Tarpon Cove Dr 1st Floor	63.0	62.9	0.1	No
16-B-07b	Residence	B	1025 Tarpon Cove Dr 2nd Floor	65.7	65.3	0.4	No
16-B-08a	Residence	B	1035 Tarpon Cove Dr 1st Floor	59.7	59.7	0.0	No
16-B-08b	Residence	B	1035 Tarpon Cove Dr 2nd Floor	63.0	62.9	0.1	No
16-B-09a	Residence	B	1045 Tarpon Cove Dr 1st Floor	56.3	56.1	0.2	No
16-B-09b	Residence	B	1045 Tarpon Cove Dr 2nd Floor	59.5	59.5	0.0	No
16-C-01	Pool (SLU)	C	1045 Tarpon Cove Dr Pool	67.2	58.4	8.8	Yes

¹ Receptors with a predicted noise level at or above the FDOT NAC are highlighted in red.

² IL = “Insertion Loss” = the difference between the Predicted Build-condition noise level and the With-Barrier noise level. “Benefit” = a receptor that receives at least a 5 dB(A) IL.

Table 3-6:
Noise Barrier Analysis – NSA #16

Barrier ID	Barrier Location	Approximate Barrier XY/ Extent (Stationing)	Barrier Height ¹ (ft.)	Barrier Length ² (ft.)	Number of Impacted Residences	Number of Impacted Residences Within a Noise Reduction Range			Number of Benefited Residences				Maximum Reduction dB(A)	Total Estimated Cost ⁵ (\$)	Cost Per Benefited Residence (\$)	Cost Reasonable?
						5-5.9 dB(A)	6-6.9 dB(A)	≥ 7 dB(A)	Impacted ³	Other ⁴	Total	Average Reduction dB(A)				
16	West of US 41 and North of Old US 41	Sta. 10+00.00 to Sta. 17+59.45	10-14’	760’	5.82	2	0	0.82	2.82	3	5.82	6.3	8.8	\$348,440	\$59,869	Yes

¹ Full height is for the length indicated. If a shoulder noise barrier location is indicated, the length of vertical height tapers at the shoulder barrier’s terminus (See FDOT Standard Plans) would be in addition to the length indicated.

² Variation in the barrier length is a result of optimizing the length for a particular height.

³ Benefited residences with a predicted noise level at or above the FDOT NAC .

⁴ Benefited residences with a predicted noise level below the FDOT NAC.

⁵ Unit cost of \$40 per square foot of noise barrier..

3.2.16.3 NOISE SENSITIVE SITE

TARPON COVE APARTMENTS POOL

The pool in Tarpon Cove Apartments is represented by 1 receptor point (16-C-01). Exterior traffic noise levels are predicted to be 67.2 dB(A) for the Design year and do approach, meet or exceed the NAC at the residences. Therefore, a noise barrier for this area was evaluated further.

3.2.16.4 NOISE BARRIER EVALUATION

A noise barrier was evaluated following the FDOT SLU procedures outlined in **Section 2.7**. Following the FDOT SLU procedures, a preliminary screening was performed to identify if the person-hour usage of the Pool was high enough to proceed with a noise barrier analysis. The property management, DB Community Resources Inc., stated that the pool receives 40 to 50 users per day throughout the year, below the requisite 122 people for 1 hour per day for 365 days required to achieve an ER of 2. At 50 people for 1 hour a day for 365 days, the ER is 0.82, as shown in **Appendix F**. These preliminary screening results identified that the pool does not have enough person-hours of use for a noise barrier to be considered a cost reasonable form of abatement. Therefore, a noise barrier was not evaluated specifically for the SLU. However, the pool is benefited by noise barrier NW16 as discussed in previous **Section 3.2.16.2**.

3.2.17 NSA #17

NSA 17 is located north of Bonita Beach Rd SE (**Appendix B**, Figure B-10) and is composed of 2 residences. The residential area is discussed in the section below.

3.2.17.1 NOISE SENSITIVE SITE

HAROLD STREET SINGLE FAMILY HOUSES

Residences on Harold Street are represented by 2 receptor points representing 2 residences (17-B-01 to 17-B-02). Exterior traffic noise levels are predicted to range from 60.7 to 64.3 dB(A) for the Design year and do not approach, meet or exceed the NAC at the residences. Therefore, the consideration of noise abatement measures is not warranted.

SECTION 4

CONCLUSIONS

4.1 IMPACTED NOISE SENSITIVE SITES

Noise levels were predicted at 344 receptor points representing 327 residences and 7 SLUs. For the year 2045 Build condition, noise levels are predicted to approach, meet, or exceed the NAC at 16 residences and 1 SLU within the project limits. Additionally, a substantial increase of 15 dB(A) or greater is not predicted to occur at any residence or SLU (shown in **Appendix C**). The impacted noise sensitive sites were evaluated to determine the feasibility and cost reasonableness of providing barriers to reduce traffic noise.

4.2 RECOMMENDED NOISE BARRIERS

The noise barrier evaluation identified that noise barriers are a feasible and reasonable form of abatement and could potentially provide at least a 5 dB(A) reduction at 5 of 5 impacted residences (NSA 2) and 3 of 5 impacted residences and one impacted SLU (NSA 16), at a cost below the reasonable limit. Noise barriers were found to be potentially feasible and reasonable at the NSAs listed in **Table 4-1**. A utilities inventory for each recommended noise barrier is provided in **Appendix E**. A determination of utilities conflict is not analyzed at this time; rather, the utilities data is presented to assist such determination during the final design phase of the project.

4.3 STATEMENT OF LIKELIHOOD

The Florida Department of Transportation is committed to the construction of feasible and reasonable noise abatement measures at the noise impacted locations identified in **Section 4.2** and listed in **Table 4-1** contingent upon the following conditions:

- 1 Final recommendations on the construction of abatement measures are determined during the project's final design and through the public involvement process;
- 2 Detailed noise analyses during the final design process support the need, feasibility and reasonableness of providing abatement;
- 3 Cost analysis indicates that the cost of the noise barrier(s) will not exceed the cost reasonable criterion;
- 4 Community input supporting types, heights, and locations of the noise barrier(s) is provided to the District Office;
- 5 Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed and any conflicts or issues are resolved.

Table 4-1:
Potentially Feasible and Reasonable Noise Barriers

Barrier ID	Common Noise Environments	Barrier Location	Barrier Height (ft.)	Barrier Length ¹ (ft.)	Barrier Total Cost ² (\$)	Approximate Barrier XY Extent (Stationing)	Residences		Cost per Benefited Residence/ Equivalent Residence (\$)	Cost Reasonable?
							Impacted & Benefited Residences	Benefited Residences		
2	NSA 2, NAC B	Southeast Corner of Old US 41 and Veterans Memorial Boulevard (SHOULDER)	8'	278'	\$88,800	Sta. 10+00.00 to Sta. 11+60.06	5	5	\$17,760	Yes
16	NSA 16, NAC B/C	West of US 41 and North of Old US 41 (SHOULDER)	10-14'	760'	\$348,440	Sta. 10+00.00 to Sta. 17+59.45	2.82	5.82	\$59,869	Yes

¹ Barrier length refers to the total length at the ROW, Shoulder, or on Structure.

² Assumes \$40 per square foot.

SECTION 5

CONSTRUCTION NOISE AND VIBRATION

Based on the existing land use within the limits of this project, construction of the proposed roadway improvements will not have any noise or vibration impact. If noise sensitive land uses develop adjacent to the roadway prior to construction, additional impacts could result. It is anticipated that the application of the FDOT Standard Specifications for Road and Bridge Construction will minimize or eliminate most of the potential construction noise and vibration impacts. However, should unanticipated noise or vibration issues arise during the construction process, the Project Manager, in concert with the District Noise Specialist and the Contractor, will investigate additional methods of controlling these impacts.

A variety of sites can be sensitive to construction noise and vibration. Such sites within the project study limits would primarily include nearby residences and their associated outdoor uses such as various community swimming pools and the Somerset Palms dog park. Below is a general list of sensitive sites.

Construction Noise and Vibration Sensitive Sites

Noise	Vibration
Eye Centers/Clinics Medical Centers Hospitals Geriatric Centers Sound Recording Studios TV/Radio Stations Residences Technical Laboratories Hearing Testing Centers Theaters Schools Motels/Hotels Funeral Homes Libraries Meditation Centers Churches/Shrines Parks Day Care Centers Outdoor Theaters	Eye Centers/Clinics Medical Centers Hospitals Geriatric Centers Sound Recording Studios TV/Radio Stations Residences Technical Laboratories Antiques Shops Museums Historic Buildings
Note: This list is not meant to be all inclusive or exclusive, but rather an indication of the type of sites likely to be sensitive to construction noise and/or vibration.	
Source: FDOT Noise and Vibration Task Team; August 17, 1999.	

SECTION 6

COMMUNITY COORDINATION

Coordination with local agencies, officials and the general public is ongoing. The public has had the opportunity to comment on the proposed project at public meetings and other outreach efforts. The following outreach efforts have occurred:

- Public Workshop, Live in-person, April 14, 2022
 - Public comments: no comments are yet published.
- Public Workshop, online, April 19, 2022
 - Public comments: no comments are yet published.

A copy of the final NSR will be circulated to the appropriate local planning/zoning officials for their use upon approval of the Environmental Document. Planning/zoning officials should reference **Table 6-1 below** to plan appropriate noise buffer zones.

**Table 6-1:
Noise Abatement Criteria Contours**

Roadway Segment	Distance (ft.) ¹		
	Activity Category A [56 dB(A)]	Activity Category B & C [66 dB(A)]	Activity Category E [71 dB(A)]
CR 887 from US 41 to Bonita Beach Road	420	130	70
New Quadrant Road from CR 887 to Bonita Beach Road	200	60	30

¹Distance references to the edge of pavement. Distance does not account for any reduction in noise levels that may be provided by berms, privacy walls or intervening structures.

REFERENCES

- 23 CFR Part 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise", Federal Register, Vol. 75, No. 133, Tuesday, July 13, 2010; pages 39834-39839.
- Florida Department of Transportation. "Highway Traffic Noise", Project Development and Environment Manual, Florida Department of Transportation, Tallahassee, July 31, 2024.
- Florida Department of Transportation Design Manual Volume 1, Chapter 264, "Noise Walls and Perimeter Walls", January, 1 2025.
- Florida Department of Transportation "FY 2025-26 Standard Specifications for Road and Bridge Construction", November 4, 2024.
- Florida Department of Transportation, "2020 FDOT Quality/Level of Service Handbook"; Tallahassee, Florida; January 2020.
- Federal Highway Administration Report FHWA-HEP-10-025, "Highway Traffic Noise: Analysis and Abatement Guidance", June 2010 (revised December 2010); 76 pages.
- Federal Highway Administration Report FHWA-PD-96-009, "FHWA Traffic Noise Model, Version 1.0 User's Guide", January 1998; 192 pages + supplements.
- Federal Highway Administration Report FHWA-HEP-06-015, "FHWA Highway Construction Noise Handbook: Final Report". August 2006; 185 pages.
- Federal Highway Administration Report FHWA-HEP-18-065, "Noise Measurement Handbook". June 1, 2018; 205 pages.
- Federal Highway Administration. "Consideration of Existing Noise Barrier in a Type I Noise Analysis FHWA-HEP-12-051."
https://www.fhwa.dot.gov/ENVIRONMENT/noise/noise_barriers/abatement/existing.cfm

APPENDICES

APPENDIX A Traffic Data

APPENDIX B Project Aerials

APPENDIX C Predicted Noise Levels

APPENDIX D Model Validation Field Sheet

APPENDIX E Utilities Data

APPENDIX F Special Land Use Worksheets

APPENDIX A Traffic Data

**Highway Traffic Noise: Traffic Data - CR 887 (Old US 41) Project Development and Environment Study
EXISTING 2019**

Arterials													
Arterial Traffic Segment	Number of Lanes	Two-Way AADT	Two-Way LOS C AADT	Peak Hour Peak Direction	LOS C Peak Hour Peak Direction	Design Hr. % T	Design Hr. % MT	Design Hr. % HT	Design Hr. % Buses	Design Hr. % Motorcycles	Standard K-factor	D-factor	Posted Speed (mph)
Old US 41 Road from US 41 to Golf Coast Drive	2	15900	19600	869	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Golf Coast Drive to Collier Center Way	2	15600	19600	843	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Collier Center Way to Sun Century Road	2	15600	19600	880	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Sun Century Road to Rail Head Boulevard	2	15000	19600	829	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Rail Head Boulevard to Via Palacio Avenue	2	15700	19600	888	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Via Palacio Avenue to Mediterra Drive	2	15300	19600	828	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Mediterra Drive to Bonita Beach Road	2	15800	19600	828	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
US 41 from Wiggins Pass Road to Old US 41 Road	6	47700	47700	2725	2360	1.54	0.92	0.62	0.06	0.08	0.09	60	50
US 41 from Old US 41 Road to North	6	39000	47700	2106	2360	1.54	0.92	0.62	0.06	0.08	0.09	60	50
Bonita Beach Road from Racetrack Road to East	6	35600	47700	1997	2360	2.74	1.36	1.38	0.07	0.27	0.09	60	45
Bonita Beach Road from Old 41 Road to West	4	26500	30700	1432	1520	2.74	1.36	1.38	0.07	0.27	0.09	60	45

Notes:

I certify that the above information is accurate and appropriate for use with the traffic noise analysis.

Prepared By:

Renato Coletti

Print Name

Renato Coletti

Signature

Digitally signed by Renato Coletti
DN: E=rcoletti@rkk.com,
CN=Renato Coletti, OU=Internal,
OU=UserAccounts, DC=ad,
DC=rkk, DC=com
Date: 2025.09.23 10:51:21-04'00'

Date: 9/23/2025

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer:

kyle Purvis

Print Name

DocuSigned by:

Kyle Purvis

Signature

Date: 9/23/2025

**Highway Traffic Noise: Traffic Data - CR 887 (Old US 41) Project Development and Environment Study
No-Build 2045**

Arterials													
Arterial Traffic Segment	Number of Lanes	Two-Way AADT	Two-Way LOS C AADT	Peak Hour Peak Direction	LOS C Peak Hour Peak Direction	Design Hr. % T	Design Hr. % MT	Design Hr. % HT	Design Hr. % Buses	Design Hr. % Motorcycles	Standard K-factor	D-factor	Posted Speed (mph)
Old US 41 Road from US 41 to Golf Coast Drive	2	17500	19600	943	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Golf Coast Drive to Veterans Memorial Parkway	2	17100	19600	923	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Veterans Memorial Parkway to Collier Center Way	2	18400	19600	992	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Collier Center Way to Sun Century Road	2	19700	19600	1062	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Sun Century Road to Rail Head Boulevard	2	19500	19600	1054	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Rail Head Boulevard to Via Palacio Avenue	2	20600	19600	1113	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Via Palacio Avenue to Mediterra Drive	2	20000	19600	1082	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Mediterra Drive to Bonita Beach Road	2	20700	19600	1117	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
US 41 from Wiggins Pass Road to Old US 41 Road	6	64200	47700	3469	2360	1.54	0.92	0.62	0.06	0.08	0.09	60	50
US 41 from Old US 41 Road to Veterans Memorial Parkway	6	52400	47700	2831	2360	1.54	0.92	0.62	0.06	0.08	0.09	60	50
US 41 from Veterans Memorial Parkway to North	6	61900	47700	3345	2360	1.54	0.92	0.62	0.06	0.08	0.09	60	50
Veterans Memorial Parkway from US 41 to Old US 41 Road	4	20000	30700	1080	1700	1.87	1.11	0.76	0.08	0.12	0.09	60	35
Veterans Memorial Parkway from Old US 41 Road to East	4	26400	30700	1424	1700	1.87	1.11	0.76	0.08	0.12	0.09	60	35
Bonita Beach Road from Racetrack Road to East	6	47800	47700	2579	2360	2.74	1.36	1.38	0.07	0.27	0.09	60	45
Bonita Beach Road from Old 41 Road to West	4	34400	30700	1898	1520	2.74	1.36	1.38	0.07	0.27	0.09	60	45

Notes:

I certify that the above information is accurate and appropriate for use with the traffic noise analysis.

Renato Coletti

Digitally signed by Renato Coletti
DN: E=rcoletti@rkk.com,
CN=Renato Coletti, OU=Internal,
OU=UserAccounts, DC=ad,
DC=rkk, DC=com
Date: 2025.09.23 10:55:20-04'00'

Prepared By:

Renato Coletti

Print Name

Signature

Date: 9/23/2025

I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.

FDOT Reviewer:

Kyle Purvis

Print Name

DocuSigned by:

Kyle Purvis

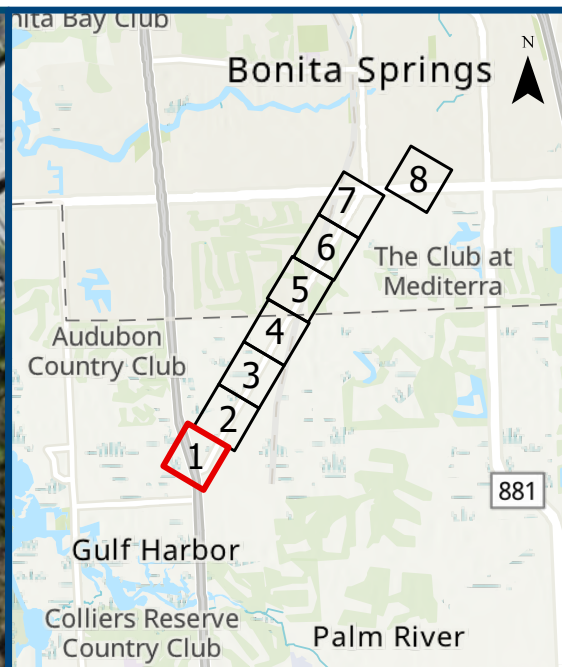
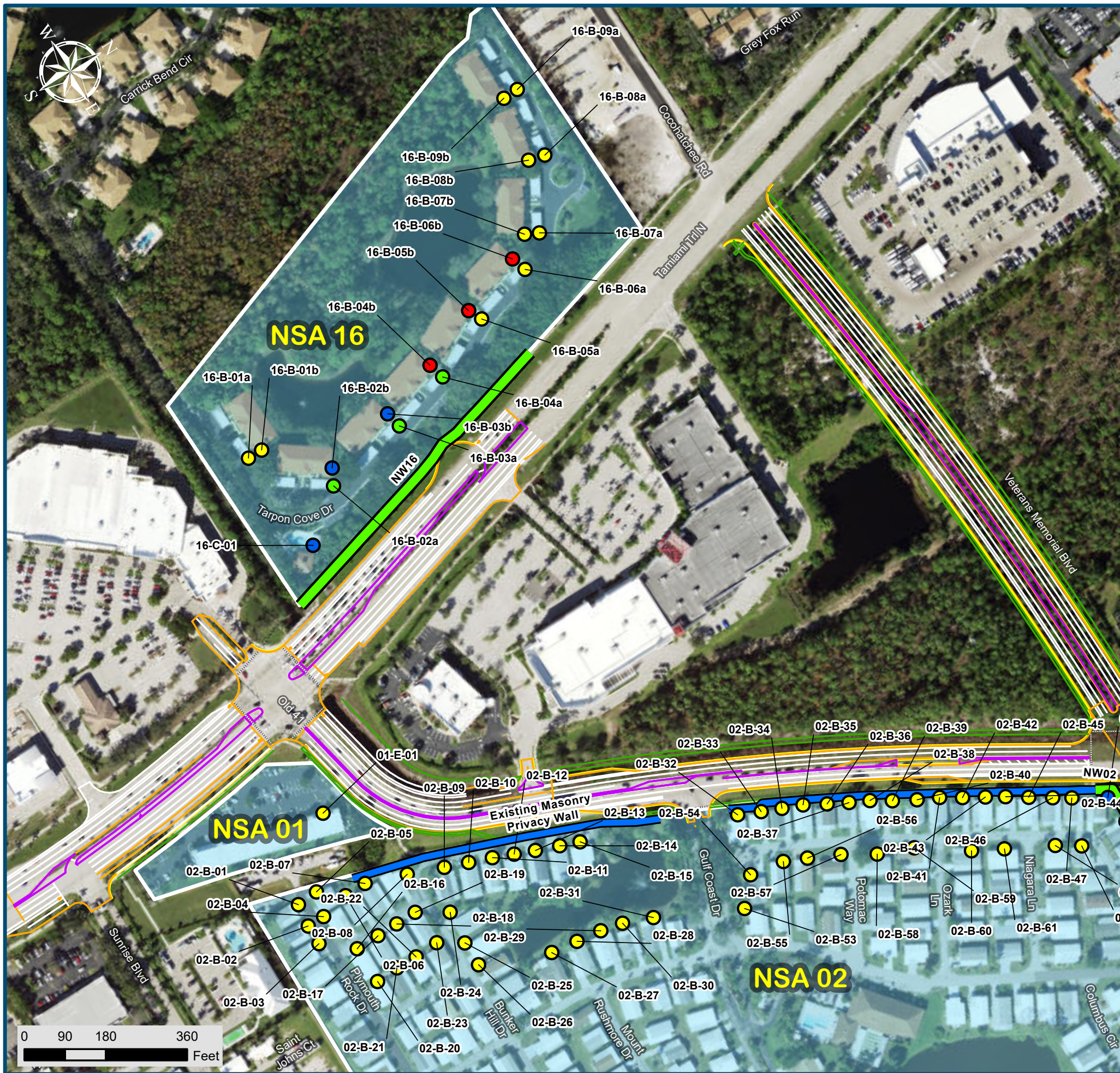
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Date: 9/23/2025

Highway Traffic Noise: Traffic Data - CR 887 (Old US 41) Project Development and Environment Study
Build 2045

Arterials													
Arterial Traffic Segment	Number of Lanes	Two-Way AADT	Two-Way LOS C AADT	Peak Hour Peak Direction	LOS C Peak Hour Peak Direction	Design Hr. % T	Design Hr. % MT	Design Hr. % HT	Design Hr. % Buses	Design Hr. % Motorcycles	Standard K-factor	D-factor	Posted Speed (mph)
Old US 41 Road from US 41 to Golf Coast Drive	4	34000	30700	1835	1700	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Golf Coast Drive to Veterans Memorial Parkway	4	33100	30700	1790	1700	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Veterans Memorial Parkway to Collier Center Way	4	38600	30700	2083	1700	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Collier Center Way to Sun Century Road	4	39500	30700	2133	1700	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Sun Century Road to Rail Head Boulevard	4	38600	30700	2087	1700	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Rail Head Boulevard to Via Palacio Avenue	4	38200	30700	2066	1700	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Via Palacio Avenue to Mediterra Drive	4	37200	30700	2007	1700	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from Mediterra Drive to New Quadrant Roadway	4	37600	30700	2038	1700	2.19	1.24	0.95	0.12	0.16	0.09	60	45
Old US 41 Road from New Quadrant Roadway to Bonita Beach Road	2	21600	19600	1166	970	2.19	1.24	0.95	0.12	0.16	0.09	60	45
New Quadrant Roadway from Old US 41 to East	2	18100	19600	977	760	2.45	1.34	1.11	0.11	0.2	0.06	60	30
US 41 from Wiggins Pass Road to Old US 41 Road	6	71000	47700	3833	2360	1.54	0.92	0.62	0.06	0.08	0.09	60	50
US 41 from Old US 41 Road to Veterans Memorial Parkway	6	44000	47700	2378	2360	1.54	0.92	0.62	0.06	0.08	0.09	60	50
US 41 from Veterans Memorial Parkway to North	6	58200	47700	3141	2360	1.54	0.92	0.62	0.06	0.08	0.09	60	50
Veterans Memorial Parkway from US 41 to Old US 41 Road	4	20600	30700	1113	1700	1.87	1.11	0.76	0.08	0.12	0.09	60	35
Veterans Memorial Parkway from Old US 41 Road to East	4	21600	30700	1167	1700	1.87	1.11	0.76	0.08	0.12	0.09	60	35
Bonita Beach Road from Racetrack Road to East	6	51600	47700	2785	2360	2.74	1.36	1.38	0.07	0.27	0.09	60	45
Bonita Beach Road from Old 41 Road to West	4	32600	30700	1761	1520	2.74	1.36	1.38	0.07	0.27	0.09	60	45
Notes:													
I certify that the above information is accurate and appropriate for use with the traffic noise analysis.													
Prepared By:	Renato Coletti					Signature		Date: 9/23/2025					
I have reviewed and concur that the above information is appropriate for use with the traffic noise analysis.													
FDOT Reviewer:	kyle Purvis					Signature		Date: 9/23/2025					

APPENDIX B Project Aerials



LEGEND

Noise Study Area

Receptor Types

- Impacted and Benefited
- Not Impacted or Benefited
- Impacted but Not Benefited
- Not Impacted but Benefited
- Validation Measurement Location

Proposed Design	Analyzed Abatement
Roadway	Barrier
Lane Striping	Recommended
Sidewalk	Existing
Curb	Masonry
Traffic Separator	Privacy Wall
Crosswalk	

NOISE STUDY ANALYSIS MAP

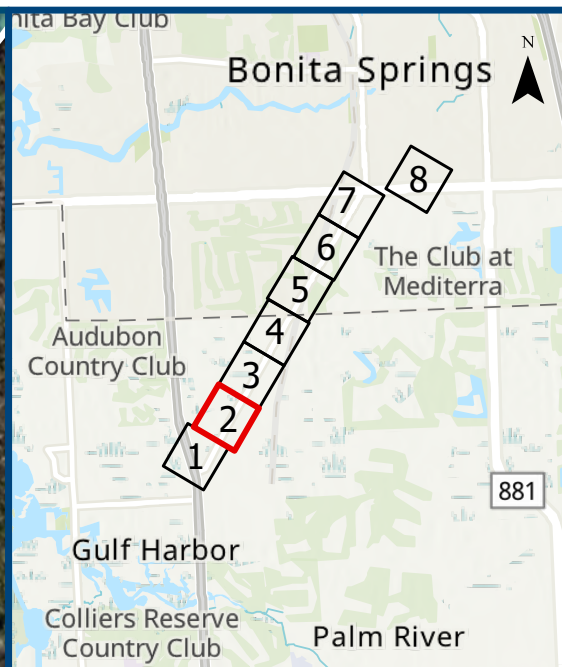
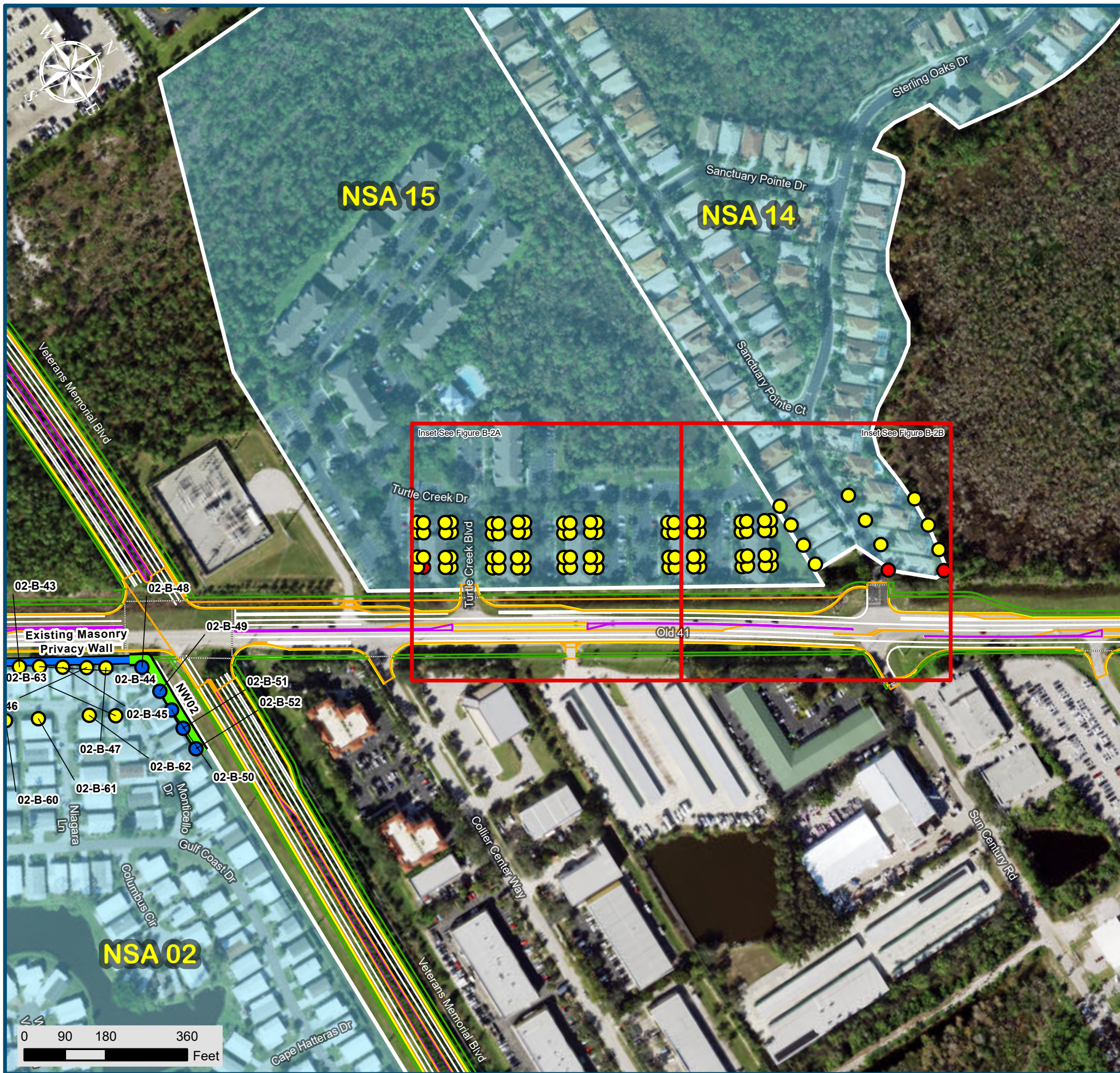
CR 887 (Old US 41)
From US 41 To Lee County Line
Collier County Line to Bonita Beach Road
Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

Lee and Collier Counties, Florida

FDOT Florida Department of Transportation
Project Development and Environment
District 1

October 2025

Figure B - 1



LEGEND

Noise Study Area

Receptor Types

- Impacted and Benefited
- Not Impacted or Benefited
- Impacted but Not Benefited
- Not Impacted but Benefited
- Validation Measurement Location

Proposed Design	Analyzed Abatement
— Roadway	— Barrier
— Lane Striping	— Recommended
— Sidewalk	— Existing
— Curb	— Masonry
— Traffic Separator	— Privacy Wall
— Crosswalk	

NOISE STUDY ANALYSIS MAP

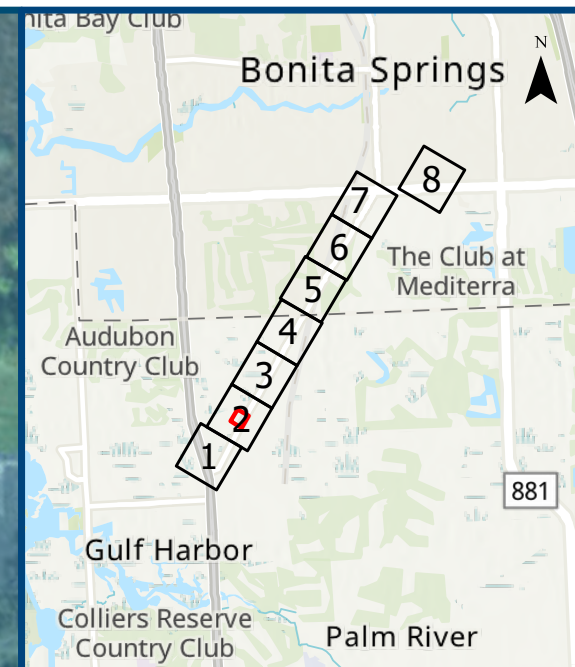
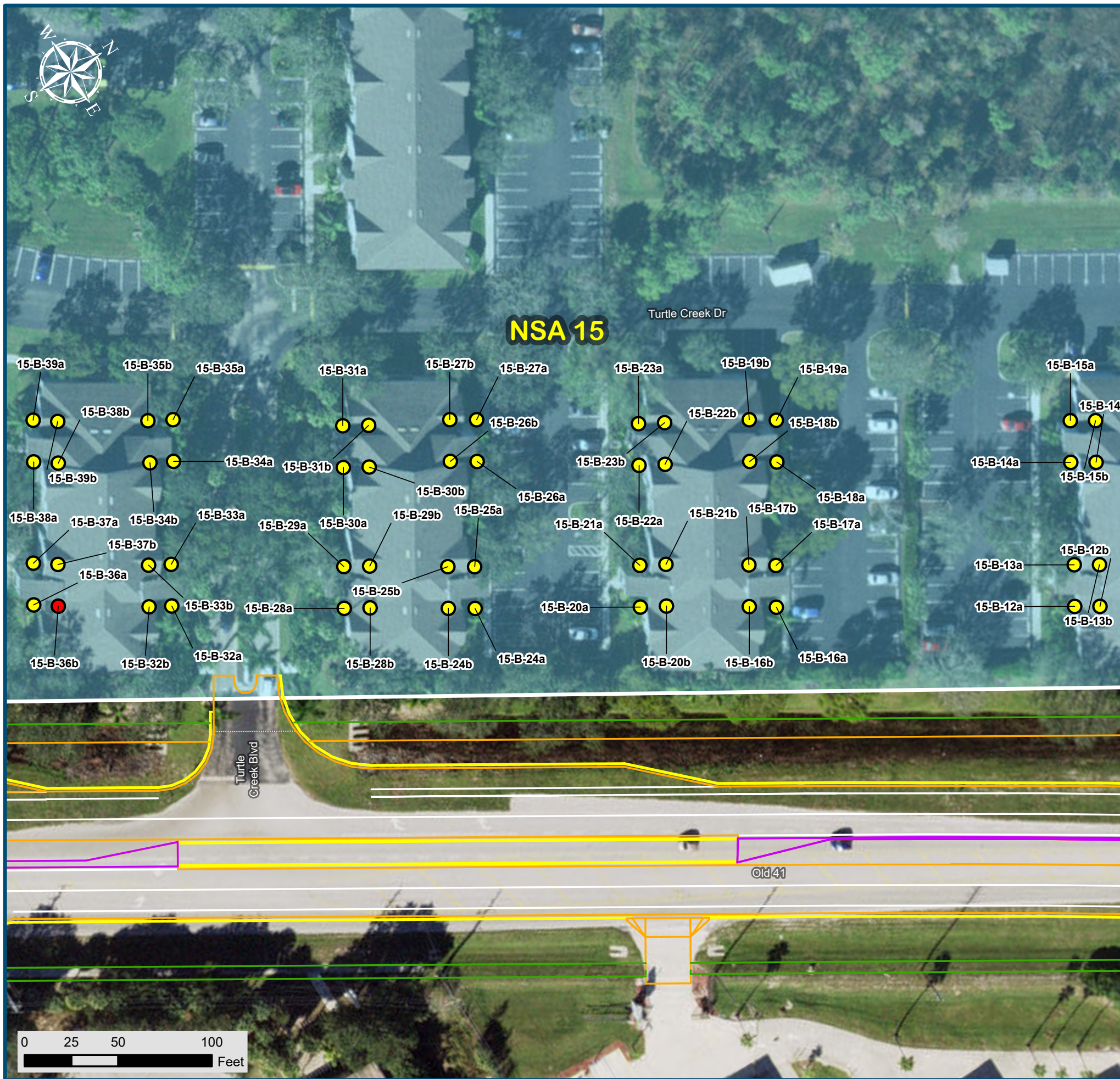
CR 887 (Old US 41)
From US 41 To Lee County Line
Collier County Line to Bonita Beach Road
Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

Lee and Collier Counties, Florida

FDOT Florida Department of Transportation
Project Development and Environment
District 1

October 2025

Figure B - 2



LEGEND

Noise Study Area

Receptor Types

- Impacted and Benefited
- Not Impacted or Benefited
- Impacted but Not Benefited
- Not Impacted but Benefited
- Validation Measurement Location

Proposed Design

- Roadway
- Lane Striping
- Sidewalk
- Curb
- Traffic Separator
- Crosswalk

Analyzed Abatement

- Barrier
- Recommended
- Existing
- Masonry
- Privacy Wall

NOISE STUDY ANALYSIS MAP

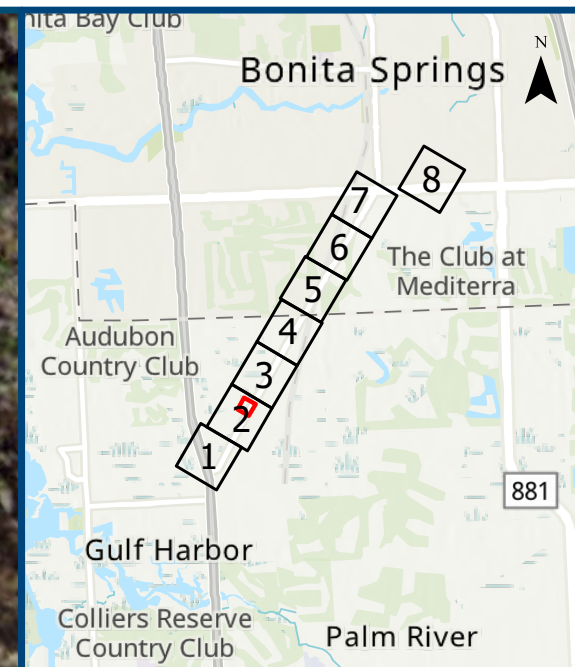
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Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

Lee and Collier Counties, Florida

FDOT Florida Department of Transportation
Project Development and Environment
District 1

October 2025

Figure B - 2A



LEGEND

Noise Study Area

Receptor Types

- Impacted and Benefited
- Not Impacted or Benefited
- Impacted but Not Benefited
- Not Impacted but Benefited
- Validation Measurement Location

Proposed Design

- Roadway
- Lane Striping
- Sidewalk
- Curb
- Traffic Separator
- Crosswalk

Analyzed Abatement

- Barrier
- Recommended
- Existing
- Masonry
- Privacy Wall

NOISE STUDY ANALYSIS MAP

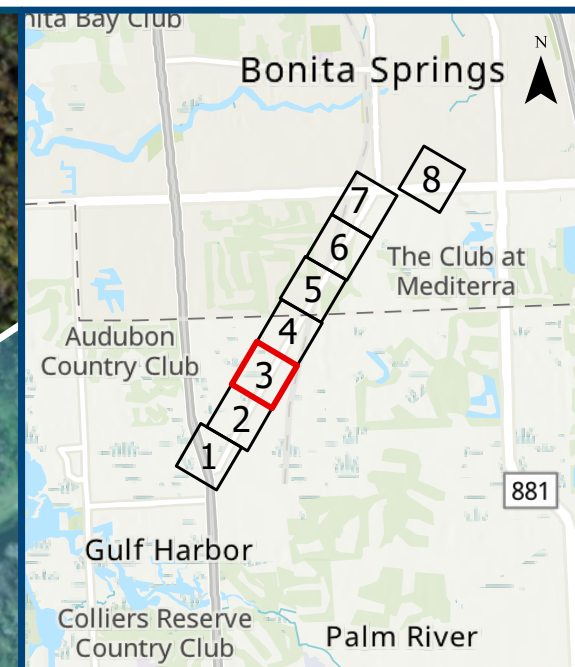
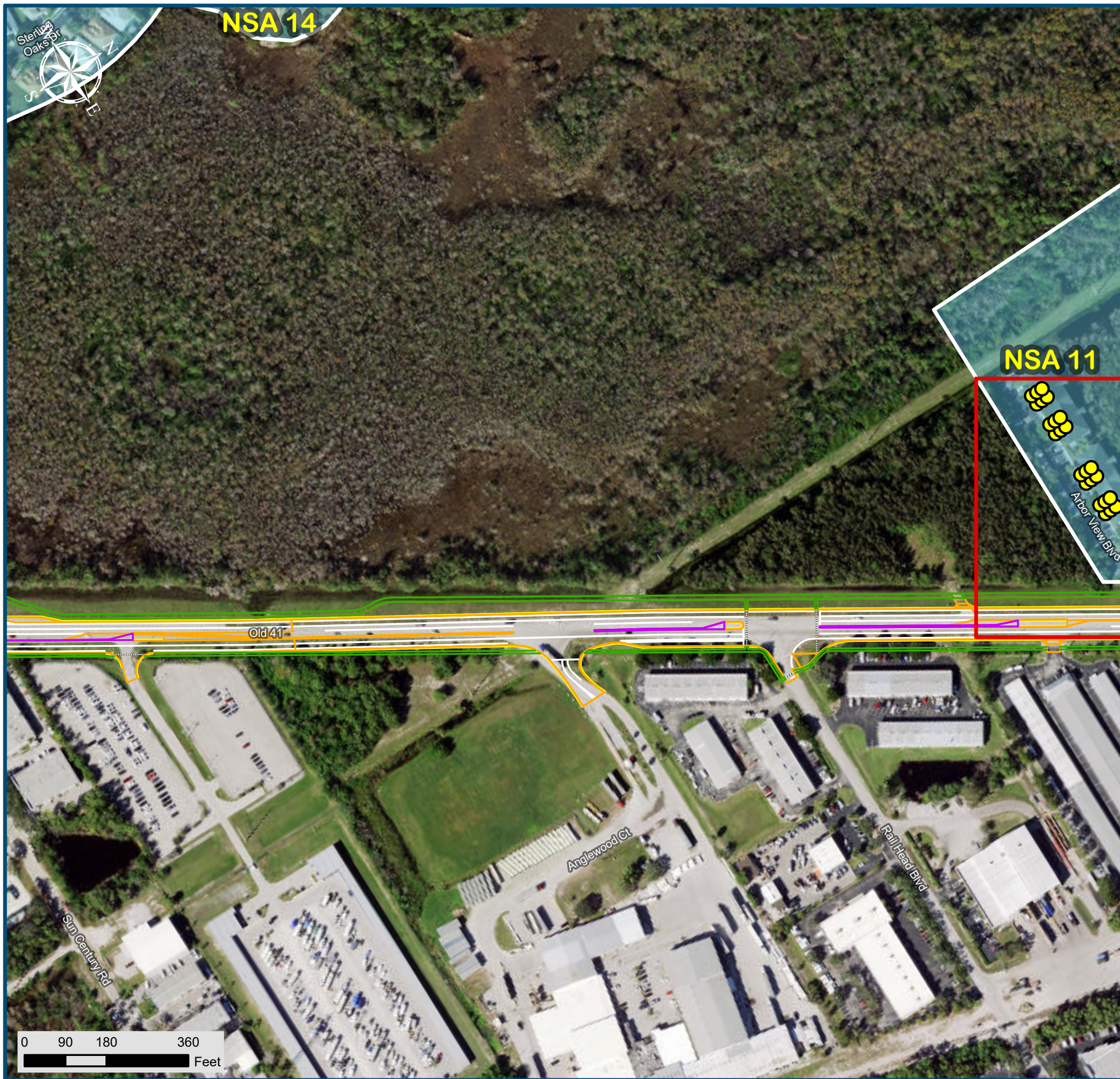
CR 887 (Old US 41)
From US 41 To Lee County Line
Collier County Line to Bonita Beach Road
Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

Lee and Collier Counties, Florida

 Florida Department of Transportation
Project Development and Environment
District 1

October 2025

Figure B - 2B



LEGEND

Noise Study Area

Receptor Types

● Impacted and Benefited

● Not Impacted or Benefited

● Impacted but Not Benefited

● Not Impacted but Benefited

○ Validation Measurement Location

Proposed Design

— Roadway

— Lane Striping

— Sidewalk

— Curb

— Traffic Separator

— Crosswalk

Analyzed Abatement

— Barrier Recommended

— Existing Masonry Privacy Wall

NOISE STUDY ANALYSIS MAP

CR 887 (Old US 41)
From US 41 To Lee County Line
Collier County Line to Bonita Beach Road
Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

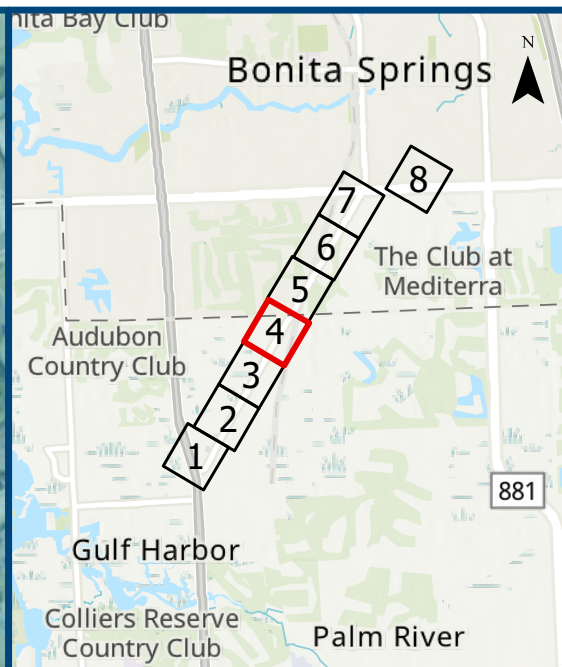
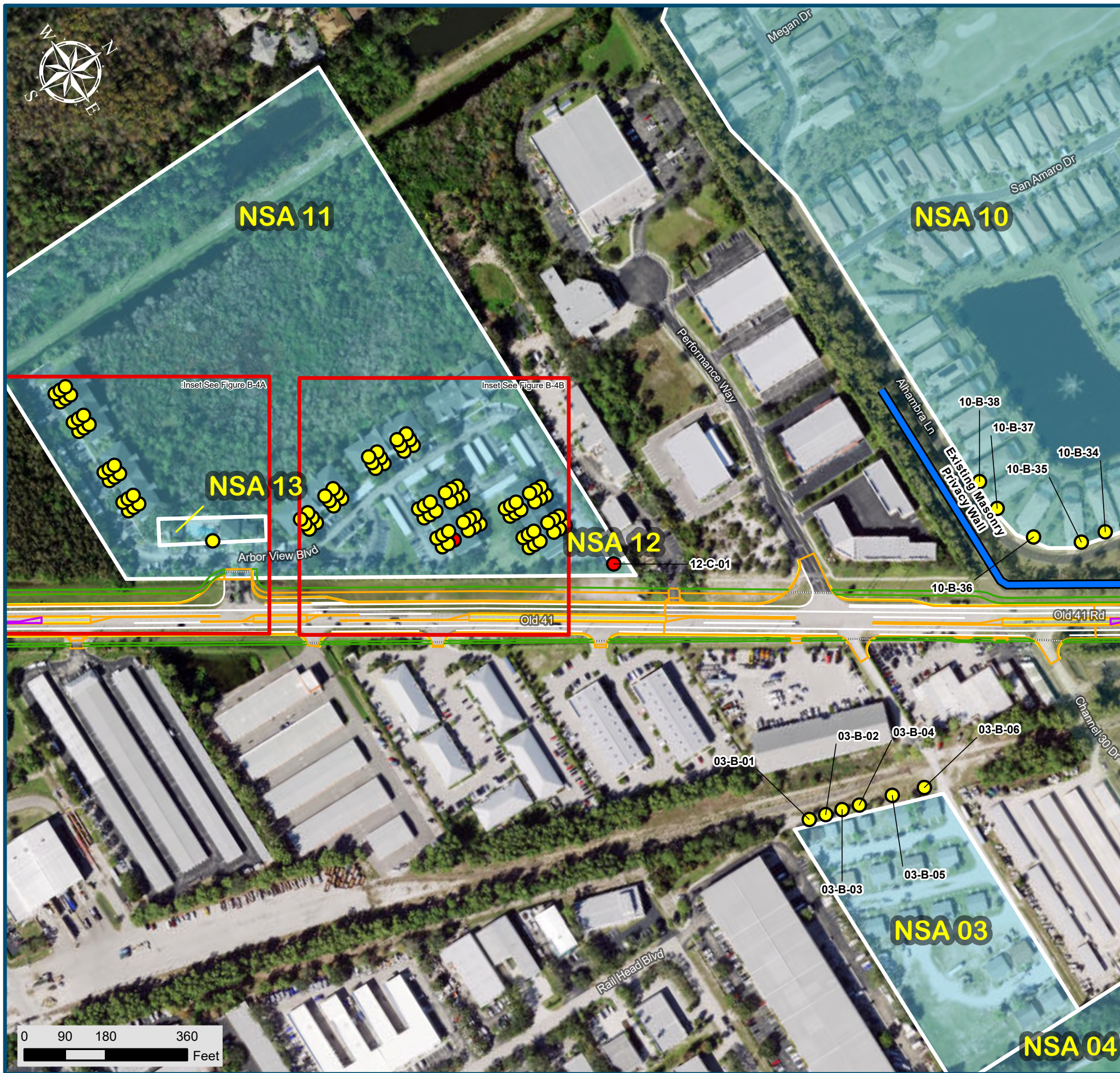
Lee and Collier Counties, Florida



Florida Department of Transportation
Project Development and Environment
District 1

October 2025

Figure B - 3



LEGEND

Noise Study Area

Receptor Types

- Impacted and Benefited
- Not Impacted or Benefited
- Impacted but Not Benefited
- Not Impacted but Benefited
- Validation Measurement Location

Proposed Design	Analyzed Abatement
Roadway	Barrier
Lane Striping	Recommended
Sidewalk	Existing
Curb	Masonry
Traffic Separator	Privacy Wall
Crosswalk	

NOISE STUDY ANALYSIS MAP

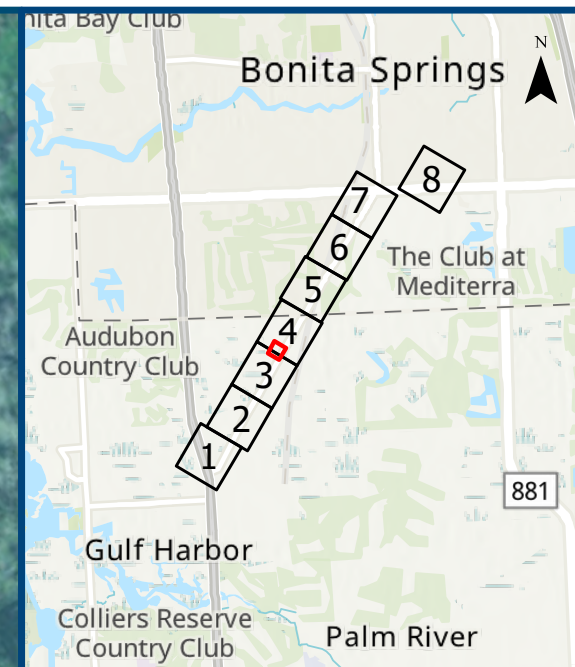
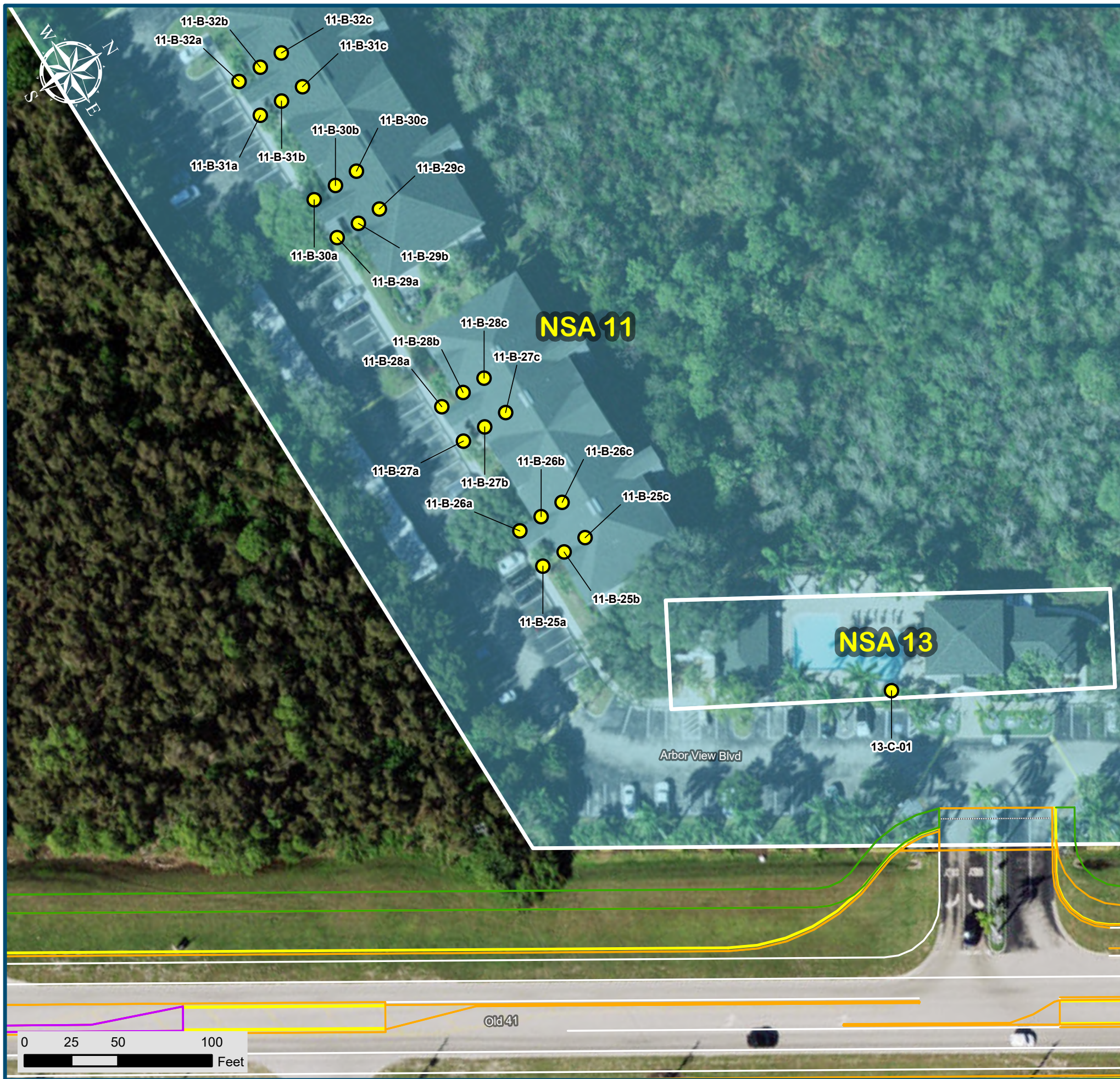
CR 887 (Old US 41)
From US 41 To Lee County Line
Collier County Line to Bonita Beach Road
Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

Lee and Collier Counties, Florida



October 2025

Figure B - 4



LEGEND

Noise Study Area

Receptor Types

- Impacted and Benefited
- Not Impacted or Benefited
- Impacted but Not Benefited
- Not Impacted but Benefited
- Validation Measurement Location

Proposed Design	Analyzed Abatement
Roadway	Barrier
Lane Striping	Recommended
Sidewalk	Existing
Curb	Masonry
Traffic Separator	Privacy Wall
Crosswalk	

**NOISE STUDY
ANALYSIS MAP**

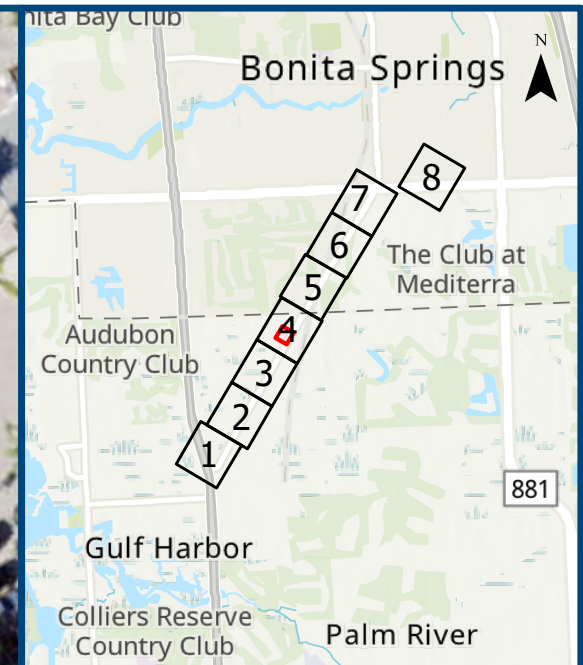
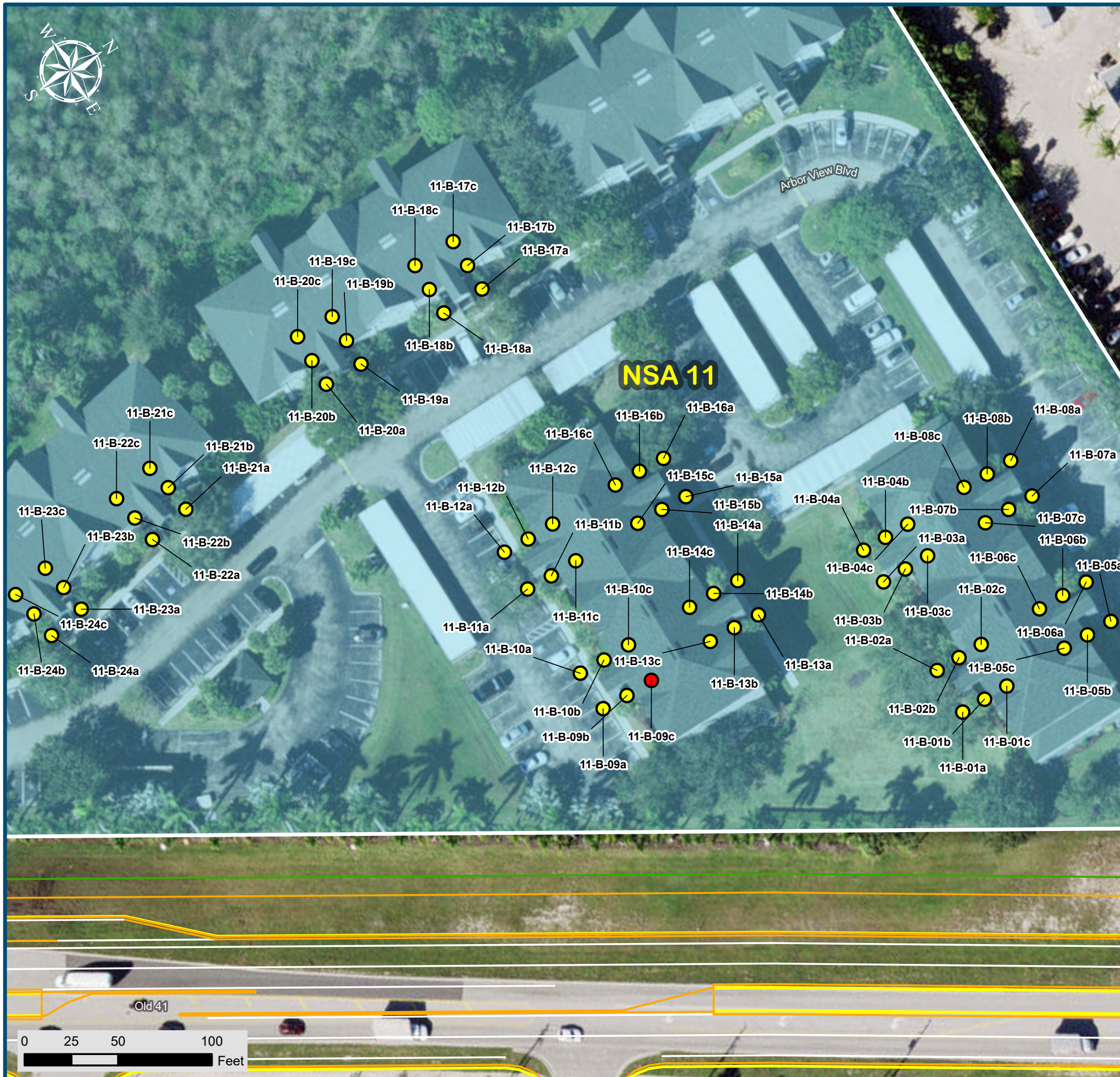
CR 887 (Old US 41)
From US 41 To Lee County Line
Collier County Line to Bonita Beach Road
Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

Lee and Collier Counties, Florida

Florida Department of Transportation
Project Development and Environment
District 1

October 2025

Figure B - 4A



LEGEND

Noise Study Area

Receptor Types

- Impacted and Benefited
- Not Impacted or Benefited
- Impacted but Not Benefited
- Not Impacted but Benefited
- Validation Measurement Location

Proposed Design	Analyzed Abatement
Roadway	Barrier
Lane Striping	Recommended
Sidewalk	Existing
Curb	Masonry
Traffic Separator	Privacy Wall
Crosswalk	

NOISE STUDY ANALYSIS MAP

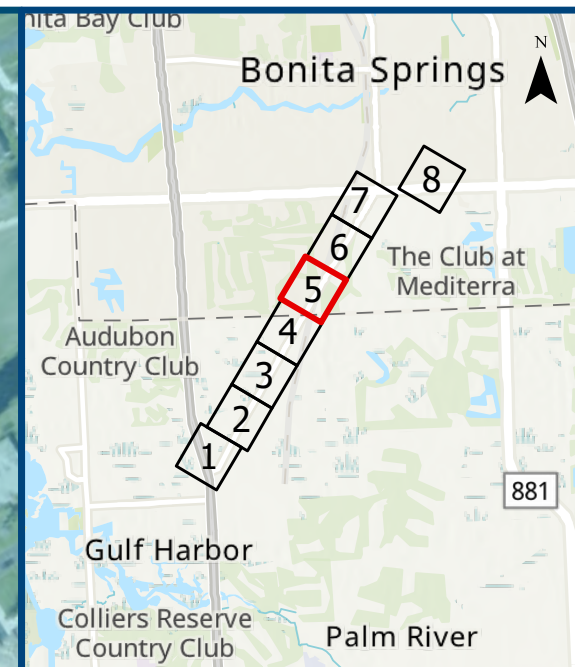
CR 887 (Old US 41)
 From US 41 To Lee County Line
 Collier County Line to Bonita Beach Road
 Noise Analysis
 FPIDs 435110-1-22-01, 435347-1-22-01

Lee and Collier Counties, Florida

FDOT Florida Department of Transportation
 Project Development and Environment
 District 1

October 2025

Figure B - 4B



LEGEND

Noise Study Area

Receptor Types

● Impacted and Benefited

● Not Impacted or Benefited

● Impacted but Not Benefited

● Not Impacted but Benefited

○ Validation Measurement Location

Proposed Design

Roadway

Lane Striping

Sidewalk

Curb

Traffic Separator

Crosswalk

Analyzed Abatement

Barrier

Recommended

Existing

Masonry

Privacy Wall

**NOISE STUDY
ANALYSIS MAP**

CR 887 (Old US 41)
From US 41 To Lee County Line
Collier County Line to Bonita Beach Road
Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

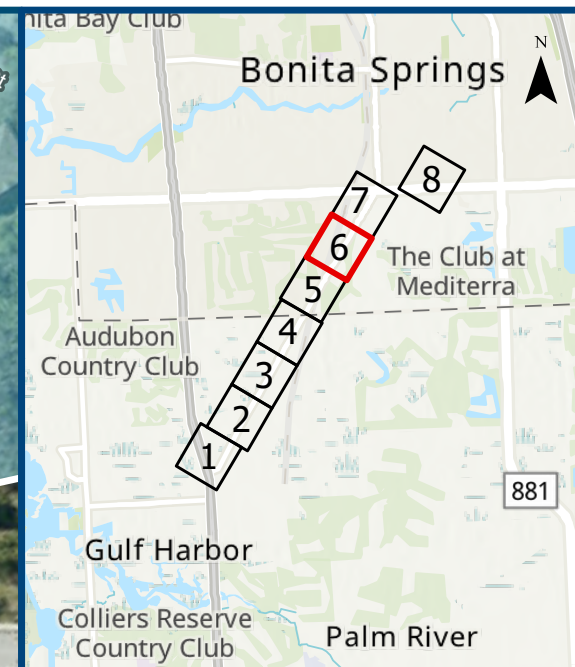
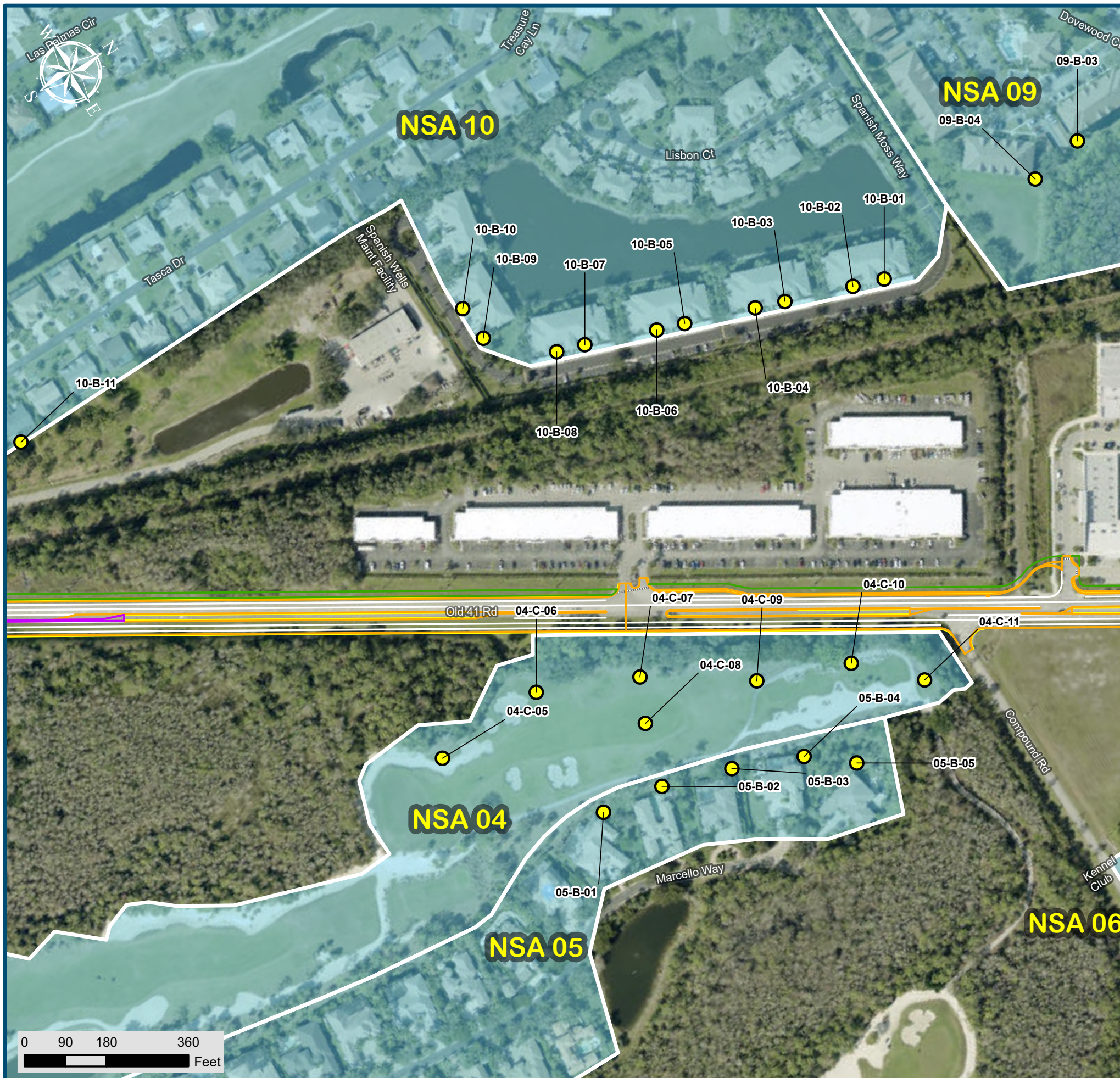
Lee and Collier Counties, Florida



Florida Department
of Transportation
Project Development
and Environment
District 1

October 2025

Figure B - 5



LEGEND

Noise Study Area

Receptor Types

- Impacted and Benefited
- Not Impacted or Benefited
- Impacted but Not Benefited
- Not Impacted but Benefited
- Validation Measurement Location

Proposed Design	Analyzed Abatement
— Roadway	— Barrier
— Lane Striping	— Recommended
— Sidewalk	— Existing
— Curb	— Masonry
— Traffic Separator	— Privacy Wall
— Crosswalk	

NOISE STUDY ANALYSIS MAP

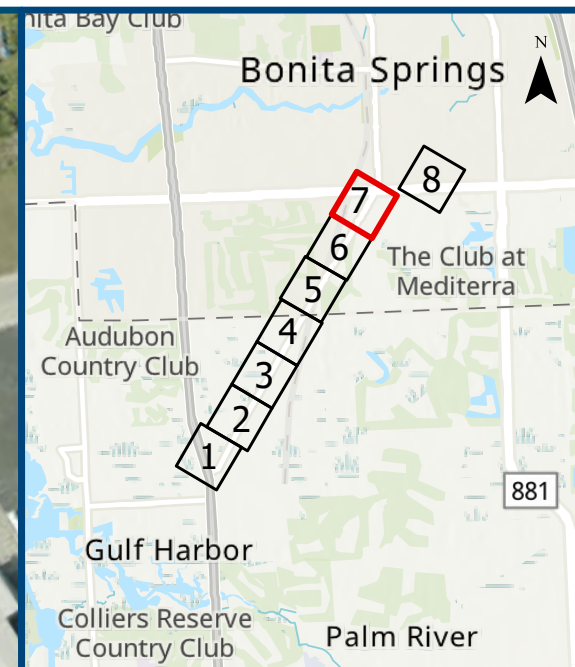
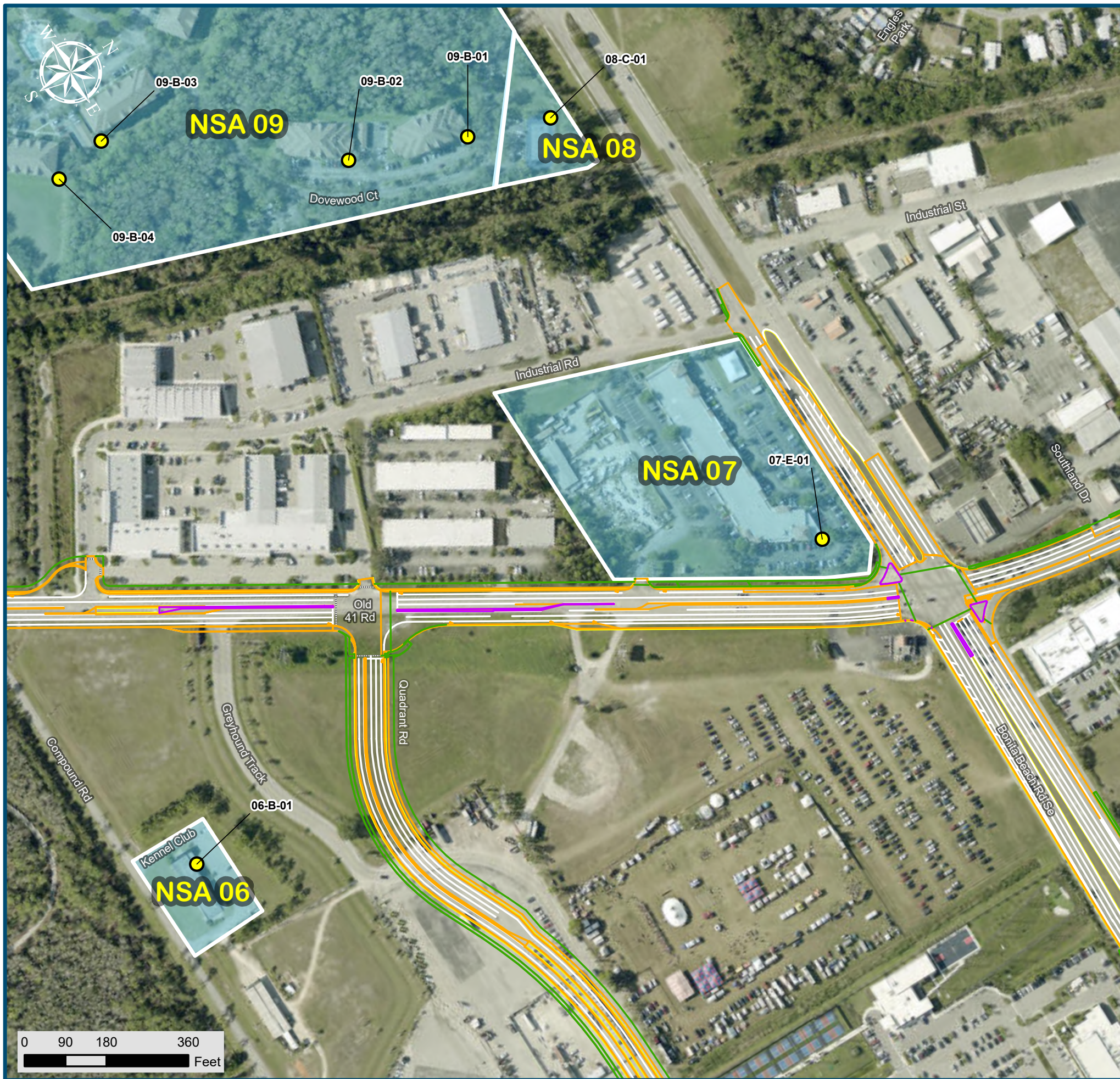
CR 887 (Old US 41)
From US 41 To Lee County Line
Collier County Line to Bonita Beach Road
Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

Lee and Collier Counties, Florida



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Figure B - 6



LEGEND

Noise Study Area

Receptor Types

- Impacted and Benefited
- Not Impacted or Benefited
- Impacted but Not Benefited
- Not Impacted but Benefited
- Validation Measurement Location

Proposed Design	Analyzed Abatement
Roadway	Barrier
Lane Striping	Recommended
Sidewalk	Existing
Curb	Masonry
Traffic Separator	Privacy Wall
Crosswalk	

NOISE STUDY ANALYSIS MAP

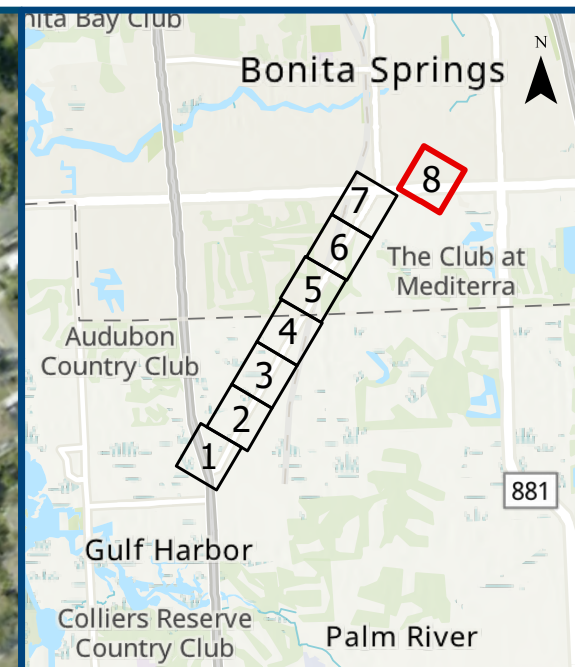
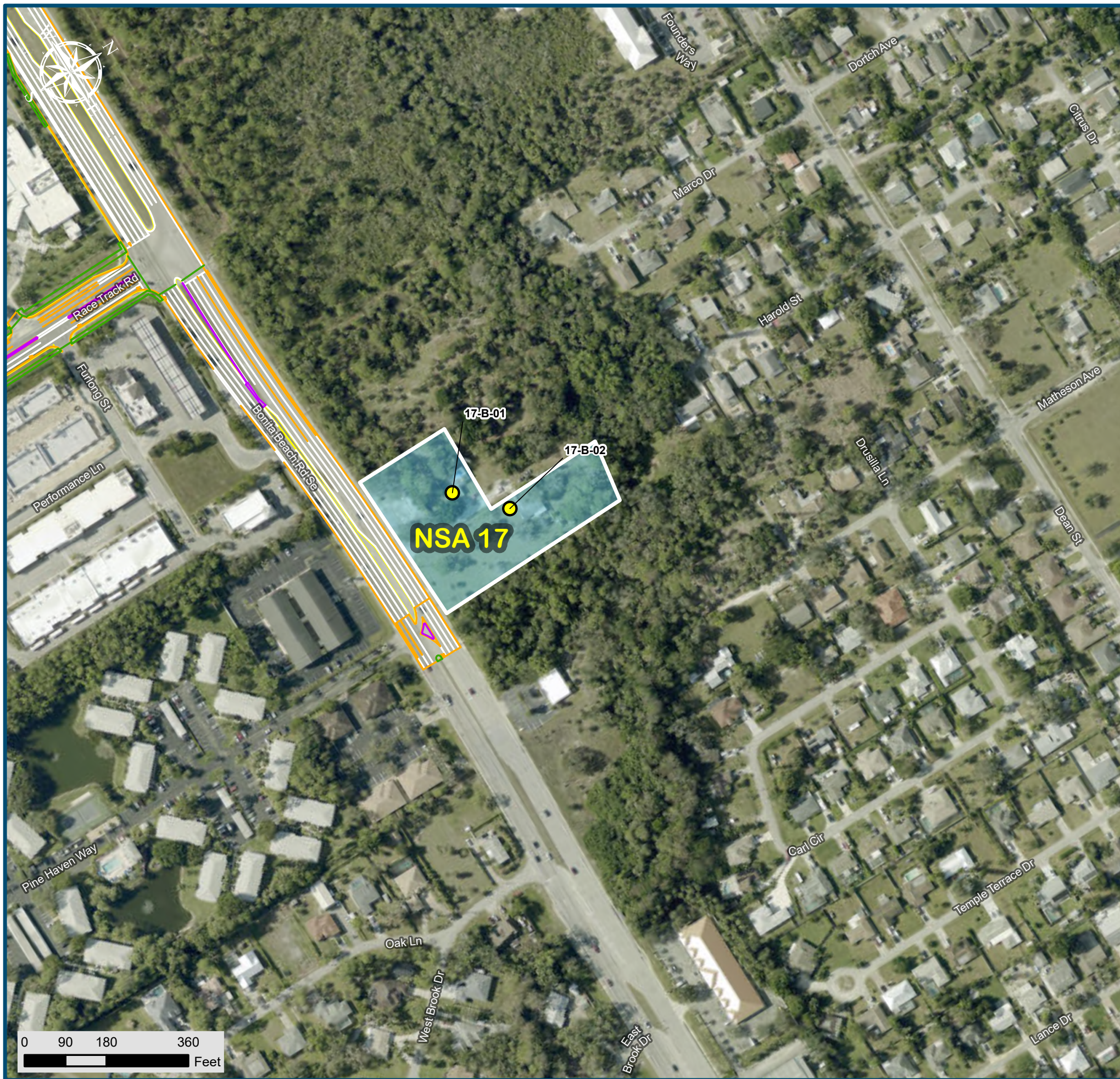
CR 887 (Old US 41)
From US 41 To Lee County Line
Collier County Line to Bonita Beach Road
Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

Lee and Collier Counties, Florida



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Figure B - 7



LEGEND

Noise Study Area

Receptor Types

- Impacted and Benefited
- Not Impacted or Benefited
- Impacted but Not Benefited
- Not Impacted but Benefited
- Validation Measurement Location

Proposed Design	Analyzed Abatement
Roadway	Barrier
Lane Striping	Recommended
Sidewalk	Existing
Curb	Masonry
Traffic Separator	Privacy Wall
Crosswalk	

NOISE STUDY ANALYSIS MAP

CR 887 (Old US 41)
From US 41 To Lee County Line
Collier County Line to Bonita Beach Road
Noise Analysis
FPIDs 435110-1-22-01, 435347-1-22-01

Lee and Collier Counties, Florida

FDOT Florida Department of Transportation
Project Development and Environment
District 1

October 2025

Figure B - 8

APPENDIX C Predicted Noise Levels

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
1	01-E-01	E	Retail	1	65.8	66.5	68.3	2.5	No	No
2	02-B-01	B	Single Family	1	54.1	55.1	56.9	2.8	No	No
2	02-B-02	B	Single Family	1	52.2	53.1	54.2	2.0	No	No
2	02-B-03	B	Single Family	1	52.2	53.2	54.4	2.2	No	No
2	02-B-04	B	Single Family	1	52.1	52.9	54.5	2.4	No	No
2	02-B-05	B	Single Family	1	56.2	57.0	58.7	2.5	No	No
2	02-B-06	B	Single Family	1	56.0	56.6	58.4	2.4	No	No
2	02-B-07	B	Single Family	1	56.9	57.5	59.7	2.8	No	No
2	02-B-08	B	Single Family	1	59.9	60.2	62.7	2.8	No	No
2	02-B-09	B	Single Family	1	60.1	60.4	62.6	2.5	No	No
2	02-B-10	B	Single Family	1	60.4	60.6	62.8	2.4	No	No
2	02-B-11	B	Single Family	1	61.0	61.2	63.2	2.2	No	No
2	02-B-12	B	Single Family	1	61.5	61.7	63.8	2.3	No	No
2	02-B-13	B	Single Family	1	62.0	62.2	64.2	2.2	No	No
2	02-B-14	B	Single Family	1	62.3	62.6	64.5	2.2	No	No
2	02-B-15	B	Single Family	1	62.5	62.7	64.7	2.2	No	No
2	02-B-16	B	Single Family	1	53.6	54.4	55.9	2.3	No	No
2	02-B-17	B	Single Family	1	54.8	55.5	57.1	2.3	No	No
2	02-B-18	B	Single Family	1	55.7	56.3	58.2	2.5	No	No
2	02-B-19	B	Single Family	1	56.7	57.2	59.3	2.6	No	No
2	02-B-20	B	Single Family	1	52.1	52.9	54.3	2.2	No	No
2	02-B-21	B	Single Family	1	53.1	53.9	55.4	2.3	No	No
2	02-B-22	B	Single Family	1	53.4	54.0	55.9	2.5	No	No
2	02-B-23	B	Single Family	1	54.3	54.8	56.9	2.6	No	No
2	02-B-24	B	Single Family	1	56.6	57.0	59.2	2.6	No	No
2	02-B-25	B	Single Family	1	54.1	54.7	56.7	2.6	No	No
2	02-B-26	B	Single Family	1	52.7	53.3	55.2	2.5	No	No
2	02-B-27	B	Single Family	1	54.4	54.9	57.1	2.7	No	No
2	02-B-28	B	Single Family	1	55.2	55.7	57.9	2.7	No	No
2	02-B-29	B	Single Family	1	55.5	55.9	58.1	2.6	No	No

CR 887 (Old US 41), FM Nos. 435110-1 & 435347-1

PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
2	02-B-30	B	Single Family	1	55.8	56.2	58.4	2.6	No	No
2	02-B-31	B	Single Family	1	56.1	56.6	58.8	2.7	No	No
2	02-B-32	B	Single Family	1	62.9	63.1	64.9	2.0	No	No
2	02-B-33	B	Single Family	1	61.0	61.4	63.2	2.2	No	No
2	02-B-34	B	Single Family	1	61.1	61.5	63.3	2.2	No	No
2	02-B-35	B	Single Family	1	61.2	61.6	63.3	2.1	No	No
2	02-B-36	B	Single Family	1	61.2	61.6	63.3	2.1	No	No
2	02-B-37	B	Single Family	1	61.2	61.6	63.3	2.1	No	No
2	02-B-38	B	Single Family	1	61.3	61.7	63.4	2.1	No	No
2	02-B-39	B	Single Family	1	61.2	61.7	63.5	2.3	No	No
2	02-B-40	B	Single Family	1	61.4	61.9	63.7	2.3	No	No
2	02-B-41	B	Single Family	1	61.6	62.2	64.0	2.4	No	No
2	02-B-42	B	Single Family	1	61.2	61.8	63.5	2.3	No	No
2	02-B-43	B	Single Family	1	61.1	61.8	63.6	2.5	No	No
2	02-B-44	B	Single Family	1	61.0	61.8	63.6	2.6	No	No
2	02-B-45	B	Single Family	1	61.0	61.9	63.9	2.9	No	No
2	02-B-46	B	Single Family	1	61.0	62.2	64.2	3.2	No	No
2	02-B-47	B	Single Family	1	61.0	62.6	64.7	3.7	No	No
2	02-B-48	B	Single Family	1	64.1	67.5	70.1	6.0	No	Yes
2	02-B-49	B	Single Family	1	60.7	66.1	69.2	8.5	No	Yes
2	02-B-50	B	Single Family	1	58.5	65.5	68.0	9.5	No	Yes
2	02-B-51	B	Single Family	1	56.7	65.1	67.0	10.3	No	Yes
2	02-B-52	B	Single Family	1	55.0	64.9	66.1	11.1	No	Yes
2	02-B-53	B	Single Family	1	53.8	54.2	56.1	2.3	No	No
2	02-B-54	B	Single Family	1	56.4	56.8	58.8	2.4	No	No

CR 887 (Old US 41), FM Nos. 435110-1 & 435347-1

PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
2	02-B-55	B	Single Family	1	55.9	56.4	58.8	2.9	No	No
2	02-B-56	B	Single Family	1	55.4	56.0	58.6	3.2	No	No
2	02-B-57	B	Single Family	1	55.3	56.1	58.7	3.4	No	No
2	02-B-58	B	Single Family	1	55.3	56.2	58.9	3.6	No	No
2	02-B-59	B	Single Family	1	55.9	56.9	59.6	3.7	No	No
2	02-B-60	B	Single Family	1	55.7	57.0	59.6	3.9	No	No
2	02-B-61	B	Single Family	1	55.5	57.1	59.8	4.3	No	No
2	02-B-62	B	Single Family	1	55.6	58.0	61.0	5.4	No	No
2	02-B-63	B	Single Family	1	56.1	59.0	62.1	6.0	No	No
3	03-B-01	B	Apartments	1	45.4	46.6	49.4	4.0	No	No
3	03-B-02	B	Apartments	1	45.4	46.7	49.6	4.2	No	No
3	03-B-03	B	Apartments	1	45.6	46.9	49.7	4.1	No	No
3	03-B-04	B	Apartments	1	45.9	47.1	50.0	4.1	No	No
3	03-B-05	B	Apartment	1	47.9	49.1	52.7	4.8	No	No
3	03-B-06	B	Apartment	1	49.2	50.4	54.1	4.9	No	No
4	04-C-01	C	Golf Course	1	57.8	59.0	63.5	5.7	No	No
4	04-C-02	C	Golf Course	1	53.3	54.5	58.9	5.6	No	No
4	04-C-03	C	Golf Course	1	57.4	58.5	62.7	5.3	No	No
4	04-C-04	C	Golf Course	1	51.9	53.0	57.7	5.8	No	No
4	04-C-05	C	Golf Course	1	51.6	52.7	56.8	5.2	No	No
4	04-C-06	C	Golf Course	1	50.1	51.2	54.1	4.0	No	No
4	04-C-07	C	Golf Course	1	50.5	51.6	54.7	4.2	No	No
4	04-C-08	C	Golf Course	1	49.4	50.5	53.2	3.8	No	No
4	04-C-09	C	Golf Course	1	50.5	51.6	54.6	4.1	No	No
4	04-C-10	C	Golf Course	1	53.4	54.5	57.6	4.2	No	No

CR 887 (Old US 41), FM Nos. 435110-1 & 435347-1
PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
4	04-C-11	C	Golf Course	1	51.3	52.5	55.4	4.1	No	No
5	05-B-01	B	Single Family	1	46.0	47.2	50.4	4.4	No	No
5	05-B-02	B	Single Family	1	47.0	48.1	51.4	4.4	No	No
5	05-B-03	B	Single Family	1	47.4	48.6	51.9	4.5	No	No
5	05-B-04	B	Single Family	1	48.3	49.4	52.9	4.6	No	No
5	05-B-05	B	Single Family	1	48.8	49.9	53.9	5.1	No	No
6	06-B-01	B	Apartments	1	48.7	49.8	55.4	6.7	No	No
7	07-E-01	E	Retail	1	67.0	68.2	69.2	2.2	No	No
8	08-C-01	C	Tennis Court	0.33	62.8	63.9	65.1	2.3	No	No
9	09-B-01	B	Apartments	1	55.4	56.5	57.8	2.4	No	No
9	09-B-02	B	Apartments	1	50.2	51.3	52.7	2.5	No	No
9	09-B-03	B	Apartments	1	46.5	47.7	49.5	3.0	No	No
9	09-B-04	B	Apartments	1	45.8	47.0	49.2	3.4	No	No
10	10-B-01	B	Apartments	1	42.5	43.7	46.5	4.0	No	No
10	10-B-02	B	Apartments	1	42.3	43.5	46.3	4.0	No	No
10	10-B-03	B	Apartments	1	42.8	44.0	47.0	4.2	No	No
10	10-B-04	B	Apartments	1	42.9	44.1	47.1	4.2	No	No
10	10-B-05	B	Apartments	1	43.6	44.7	48.0	4.4	No	No
10	10-B-06	B	Apartments	1	43.9	45.1	48.5	4.6	No	No
10	10-B-07	B	Apartments	1	44.6	45.7	49.0	4.4	No	No
10	10-B-08	B	Apartments	1	44.7	45.8	49.2	4.5	No	No
10	10-B-09	B	Apartments	1	45.1	46.3	49.6	4.5	No	No
10	10-B-10	B	Apartments	1	43.6	44.8	48.2	4.6	No	No
10	10-B-11	B	Single Family	1	52.5	53.7	57.2	4.7	No	No
10	10-B-12	B	Single Family	1	54.2	55.3	58.2	4.0	No	No

CR 887 (Old US 41), FM Nos. 435110-1 & 435347-1

PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
10	10-B-13	B	Single Family	1	55.5	56.6	59.1	3.6	No	No
10	10-B-14	B	Single Family	1	50.5	51.6	55.6	5.1	No	No
10	10-B-15	B	Single Family	1	51.7	52.8	56.4	4.7	No	No
10	10-B-16	B	Single Family	1	51.0	52.2	54.6	3.6	No	No
10	10-B-17	B	Single Family	1	48.0	49.1	51.8	3.8	No	No
10	10-B-18	B	Single Family	1	46.3	47.5	50.1	3.8	No	No
10	10-B-19	B	Single Family	1	52.4	53.5	56.1	3.7	No	No
10	10-B-20	B	Single Family	1	51.6	52.8	55.3	3.7	No	No
10	10-B-21	B	Single Family	1	51.4	52.6	55.7	4.3	No	No
10	10-B-22	B	Single Family	1	51.6	52.7	55.3	3.7	No	No
10	10-B-23	B	Single Family	1	51.2	52.3	54.9	3.7	No	No
10	10-B-24	B	Single Family	1	51.1	52.2	55.1	4.0	No	No
10	10-B-25	B	Single Family	1	50.9	52.0	54.7	3.8	No	No
10	10-B-26	B	Single Family	1	52.6	53.8	56.2	3.6	No	No
10	10-B-27	B	Single Family	1	52.3	53.4	56.0	3.7	No	No
10	10-B-28	B	Single Family	1	51.2	52.3	55.2	4.0	No	No
10	10-B-29	B	Single Family	1	51.3	52.4	55.2	3.9	No	No
10	10-B-30	B	Single Family	1	51.4	52.5	55.3	3.9	No	No
10	10-B-31	B	Single Family	1	51.9	53.0	55.7	3.8	No	No
10	10-B-32	B	Single Family	1	52.2	53.3	55.9	3.7	No	No
10	10-B-33	B	Single Family	1	53.2	54.3	56.9	3.7	No	No
10	10-B-34	B	Single Family	1	52.7	53.8	56.4	3.7	No	No
10	10-B-35	B	Single Family	1	53.2	54.3	56.9	3.7	No	No
10	10-B-36	B	Single Family	1	52.5	53.6	56.3	3.8	No	No
10	10-B-37	B	Single Family	1	49.3	50.4	53.2	3.9	No	No

CR 887 (Old US 41), FM Nos. 435110-1 & 435347-1

PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
10	10-B-38	B	Single Family	1	47.5	48.6	51.3	3.8	No	No
10	10-B-39	B	Single Family	1	46.7	47.9	50.8	4.1	No	No
10	10-B-40	B	Single Family	1	47.1	48.3	50.7	3.6	No	No
11	11-B-01a	B	Apartments	1	58.5	59.6	62.8	4.3	No	No
11	11-B-01b	B	Apartments	1	61.0	62.1	65.4	4.4	No	No
11	11-B-01c	B	Apartments	1	61.6	62.7	65.9	4.3	No	No
11	11-B-02a	B	Apartments	1	57.0	58.2	61.2	4.2	No	No
11	11-B-02b	B	Apartments	1	59.9	61.0	64.1	4.2	No	No
11	11-B-02c	B	Apartments	1	60.7	61.8	64.9	4.2	No	No
11	11-B-03a	B	Apartments	1	53.8	55.0	58.3	4.5	No	No
11	11-B-03b	B	Apartments	1	57.6	58.7	61.4	3.8	No	No
11	11-B-03c	B	Apartments	1	58.6	59.7	62.7	4.1	No	No
11	11-B-04a	B	Apartments	1	52.7	53.8	57.1	4.4	No	No
11	11-B-04b	B	Apartments	1	56.6	57.7	60.3	3.7	No	No
11	11-B-04c	B	Apartments	1	57.5	58.7	61.7	4.2	No	No
11	11-B-05a	B	Apartments	1	51.2	52.3	56.8	5.6	No	No
11	11-B-05b	B	Apartments	1	54.9	56.0	60.1	5.2	No	No
11	11-B-05c	B	Apartments	1	57.0	58.1	61.2	4.2	No	No
11	11-B-06a	B	Apartments	1	50.6	51.8	55.8	5.2	No	No
11	11-B-06b	B	Apartments	1	53.8	55.0	59.1	5.3	No	No
11	11-B-06c	B	Apartments	1	56.2	57.3	60.4	4.2	No	No
11	11-B-07a	B	Apartments	1	49.4	50.5	54.3	4.9	No	No
11	11-B-07b	B	Apartments	1	51.8	53.0	57.4	5.6	No	No
11	11-B-07c	B	Apartments	1	54.3	55.4	58.8	4.5	No	No
11	11-B-08a	B	Apartments	1	48.8	49.9	53.9	5.1	No	No

CR 887 (Old US 41), FM Nos. 435110-1 & 435347-1

PD&E Noise Study Report

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									Substantial Increase	NAC
11	11-B-08b	B	Apartments	1	51.1	52.3	56.8	5.7	No	No
11	11-B-08c	B	Apartments	1	53.6	54.7	58.2	4.6	No	No
11	11-B-09a	B	Apartments	1	58.9	60.0	63.5	4.6	No	No
11	11-B-09b	B	Apartments	1	61.3	62.5	65.6	4.3	No	No
11	11-B-09c	B	Apartments	1	61.9	63.0	66.1	4.2	No	Yes
11	11-B-10a	B	Apartments	1	57.9	59.0	62.5	4.6	No	No
11	11-B-10b	B	Apartments	1	60.4	61.6	64.7	4.3	No	No
11	11-B-10c	B	Apartments	1	61.3	62.4	65.4	4.1	No	No
11	11-B-11a	B	Apartments	1	56.0	57.2	60.8	4.8	No	No
11	11-B-11b	B	Apartments	1	58.8	59.9	62.9	4.1	No	No
11	11-B-11c	B	Apartments	1	60.1	61.2	64.0	3.9	No	No
11	11-B-12a	B	Apartments	1	55.4	56.5	60.1	4.7	No	No
11	11-B-12b	B	Apartments	1	58.1	59.3	62.2	4.1	No	No
11	11-B-12c	B	Apartments	1	59.4	60.6	63.4	4.0	No	No
11	11-B-13a	B	Apartments	1	51.1	52.2	55.6	4.5	No	No
11	11-B-13b	B	Apartments	1	54.3	55.5	59.0	4.7	No	No
11	11-B-13c	B	Apartments	1	55.8	56.9	60.0	4.2	No	No
11	11-B-14a	B	Apartments	1	49.8	51.0	54.2	4.4	No	No
11	11-B-14b	B	Apartments	1	53.2	54.4	57.8	4.6	No	No
11	11-B-14c	B	Apartments	1	54.8	55.9	59.0	4.2	No	No
11	11-B-15a	B	Apartments	1	47.2	48.3	51.7	4.5	No	No
11	11-B-15b	B	Apartments	1	51.1	52.2	55.3	4.2	No	No
11	11-B-15c	B	Apartments	1	52.4	53.6	56.8	4.4	No	No
11	11-B-16a	B	Apartments	1	46.2	47.4	50.9	4.7	No	No
11	11-B-16b	B	Apartments	1	50.4	51.5	54.4	4.0	No	No

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PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
11	11-B-16c	B	Apartments	1	51.6	52.7	55.8	4.2	No	No
11	11-B-17a	B	Apartments	1	50.5	51.6	56.0	5.5	No	No
11	11-B-17b	B	Apartments	1	53.5	54.7	57.6	4.1	No	No
11	11-B-17c	B	Apartments	1	54.5	55.6	58.5	4.0	No	No
11	11-B-18a	B	Apartments	1	51.2	52.3	56.7	5.5	No	No
11	11-B-18b	B	Apartments	1	54.2	55.3	58.1	3.9	No	No
11	11-B-18c	B	Apartments	1	55.0	56.1	58.9	3.9	No	No
11	11-B-19a	B	Apartments	1	52.3	53.5	57.3	5.0	No	No
11	11-B-19b	B	Apartments	1	55.5	56.7	59.3	3.8	No	No
11	11-B-19c	B	Apartments	1	56.3	57.5	60.1	3.8	No	No
11	11-B-20a	B	Apartments	1	52.1	53.3	57.9	5.8	No	No
11	11-B-20b	B	Apartments	1	55.5	56.6	59.6	4.1	No	No
11	11-B-20c	B	Apartments	1	56.4	57.6	60.4	4.0	No	No
11	11-B-21a	B	Apartments	1	55.2	56.3	59.8	4.6	No	No
11	11-B-21b	B	Apartments	1	57.9	59.0	61.9	4.0	No	No
11	11-B-21c	B	Apartments	1	59.0	60.1	62.9	3.9	No	No
11	11-B-22a	B	Apartments	1	55.8	57.0	60.5	4.7	No	No
11	11-B-22b	B	Apartments	1	58.3	59.5	62.5	4.2	No	No
11	11-B-22c	B	Apartments	1	59.6	60.7	63.5	3.9	No	No
11	11-B-23a	B	Apartments	1	57.3	58.5	62.1	4.8	No	No
11	11-B-23b	B	Apartments	1	59.6	60.8	63.9	4.3	No	No
11	11-B-23c	B	Apartments	1	60.9	62.0	64.9	4.0	No	No
11	11-B-24a	B	Apartments	1	58.0	59.1	62.8	4.8	No	No
11	11-B-24b	B	Apartments	1	60.3	61.4	64.5	4.2	No	No
11	11-B-24c	B	Apartments	1	61.4	62.5	65.4	4.0	No	No

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PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
11	11-B-25a	B	Apartments	1	54.7	55.9	59.6	4.9	No	No
11	11-B-25b	B	Apartments	1	57.3	58.4	62.3	5.0	No	No
11	11-B-25c	B	Apartments	1	59.6	60.8	63.6	4.0	No	No
11	11-B-26a	B	Apartments	1	54.2	55.4	59.1	4.9	No	No
11	11-B-26b	B	Apartments	1	56.5	57.7	61.7	5.2	No	No
11	11-B-26c	B	Apartments	1	58.9	60.0	63.0	4.1	No	No
11	11-B-27a	B	Apartments	1	52.7	53.9	58.1	5.4	No	No
11	11-B-27b	B	Apartments	1	55.0	56.2	60.5	5.5	No	No
11	11-B-27c	B	Apartments	1	57.2	58.4	61.6	4.4	No	No
11	11-B-28a	B	Apartments	1	52.2	53.4	57.7	5.5	No	No
11	11-B-28b	B	Apartments	1	54.5	55.6	60.0	5.5	No	No
11	11-B-28c	B	Apartments	1	56.7	57.8	61.1	4.4	No	No
11	11-B-29a	B	Apartments	1	49.7	51.0	55.8	6.1	No	No
11	11-B-29b	B	Apartments	1	52.2	53.4	58.0	5.8	No	No
11	11-B-29c	B	Apartments	1	54.3	55.5	59.2	4.9	No	No
11	11-B-30a	B	Apartments	1	49.3	50.5	55.4	6.1	No	No
11	11-B-30b	B	Apartments	1	51.8	53.0	57.6	5.8	No	No
11	11-B-30c	B	Apartments	1	53.9	55.1	58.8	4.9	No	No
11	11-B-31a	B	Apartments	1	48.4	49.7	54.4	6.0	No	No
11	11-B-31b	B	Apartments	1	51.0	52.2	56.6	5.6	No	No
11	11-B-31c	B	Apartments	1	53.0	54.2	58.1	5.1	No	No
11	11-B-32a	B	Apartments	1	48.0	49.4	53.9	5.9	No	No
11	11-B-32b	B	Apartments	1	50.7	51.9	56.2	5.5	No	No
11	11-B-32c	B	Apartments	1	52.6	53.8	57.8	5.2	No	No
12	12-C-01	C	Dog Park	0.08	60.9	62.0	66.7	5.8	No	Yes

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PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
13	13-C-01	C	Pool	1	59.3	60.4	64.7	5.4	No	No
14	14-B-01a	B	Single Family	1	62.3	63.5	66.6	4.3	No	Yes
14	14-B-01b	B	Single Family	1	61.7	62.9	66.2	4.5	No	Yes
14	14-B-02a	B	Single Family	1	58.0	59.2	62.0	4.0	No	No
14	14-B-02b	B	Single Family	1	57.9	59.1	62.3	4.4	No	No
14	14-B-03a	B	Single Family	1	53.8	55.0	58.3	4.5	No	No
14	14-B-03b	B	Single Family	1	54.1	55.2	58.4	4.3	No	No
14	14-B-04a	B	Single Family	1	50.4	51.6	54.6	4.2	No	No
14	14-B-04b	B	Single Family	1	52.1	53.2	55.6	3.5	No	No
14	14-B-05a	B	Single Family	1	61.2	62.2	65.2	4.0	No	No
14	14-B-05b	B	Single Family	1	58.0	59.1	61.4	3.4	No	No
14	14-B-05c	B	Single Family	1	54.5	55.6	58.5	4.0	No	No
14	14-B-05d	B	Single Family	1	51.6	52.8	56.2	4.6	No	No
15	15-B-01a	B	Apartment	1	59.5	60.5	63.6	4.1	No	No
15	15-B-01b	B	Apartment	1	61.4	62.4	65.4	4.0	No	No
15	15-B-02a	B	Apartment	1	58.2	59.2	62.2	4.0	No	No
15	15-B-02c	B	Apartment	1	60.2	61.2	64.1	3.9	No	No
15	15-B-03a	B	Apartment	1	54.8	55.8	58.4	3.6	No	No
15	15-B-03b	B	Apartment	1	56.7	57.7	60.7	4.0	No	No
15	15-B-04a	B	Apartment	1	53.3	54.3	57.2	3.9	No	No
15	15-B-04b	B	Apartment	1	55.6	56.6	59.5	3.9	No	No
15	15-B-05a	B	Apartment	1	59.2	60.3	63.0	3.8	No	No
15	15-B-05b	B	Apartment	1	61.0	62.1	65.3	4.3	No	No
15	15-B-05a	B	Apartment	1	57.6	58.7	61.3	3.7	No	No
15	15-B-05b	B	Apartment	1	59.5	60.5	63.5	4.0	No	No

CR 887 (Old US 41), FM Nos. 435110-1 & 435347-1

PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
15	15-B-06a	B	Apartment	1	53.8	54.9	57.4	3.6	No	No
15	15-B-06b	B	Apartment	1	55.6	56.7	59.8	4.2	No	No
15	15-B-07a	B	Apartment	1	52.3	53.5	56.1	3.8	No	No
15	15-B-07b	B	Apartment	1	54.4	55.6	58.4	4.0	No	No
15	15-B-08a	B	Apartment	1	59.0	60.0	63.2	4.2	No	No
15	15-B-08b	B	Apartment	1	60.9	61.9	65.2	4.3	No	No
15	15-B-09a	B	Apartment	1	57.5	58.5	61.6	4.1	No	No
15	15-B-09b	B	Apartment	1	59.4	60.4	63.5	4.1	No	No
15	15-B-10a	B	Apartment	1	54.0	55.0	57.6	3.6	No	No
15	15-B-10b	B	Apartment	1	55.7	56.7	59.7	4.0	No	No
15	15-B-11a	B	Apartment	1	52.3	53.3	56.3	4.0	No	No
15	15-B-11b	B	Apartment	1	54.3	55.3	58.4	4.1	No	No
15	15-B-12a	B	Apartment	1	60.1	61.1	63.8	3.7	No	No
15	15-B-12b	B	Apartment	1	61.3	62.4	65.8	4.5	No	No
15	15-B-13a	B	Apartment	1	58.9	60.0	62.4	3.5	No	No
15	15-B-13b	B	Apartment	1	60.1	61.2	64.4	4.3	No	No
15	15-B-14a	B	Apartment	1	56.3	57.4	59.1	2.8	No	No
15	15-B-14b	B	Apartment	1	57.3	58.5	61.3	4.0	No	No
15	15-B-15a	B	Apartment	1	55.3	56.5	57.8	2.5	No	No
15	15-B-15b	B	Apartment	1	56.4	57.6	60.1	3.7	No	No
15	15-B-16a	B	Apartment	1	59.8	60.8	63.4	3.6	No	No
15	15-B-16b	B	Apartment	1	61.1	62.1	65.7	4.6	No	No
15	15-B-17a	B	Apartment	1	58.5	59.5	62.0	3.5	No	No
15	15-B-17b	B	Apartment	1	59.9	60.9	64.3	4.4	No	No
15	15-B-18a	B	Apartment	1	55.8	56.8	58.6	2.8	No	No

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PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
15	15-B-18b	B	Apartment	1	56.9	58.0	61.0	4.1	No	No
15	15-B-19a	B	Apartment	1	54.9	56.0	57.5	2.6	No	No
15	15-B-19b	B	Apartment	1	56.2	57.4	60.0	3.8	No	No
15	15-B-20a	B	Apartment	1	59.7	60.7	64.5	4.8	No	No
15	15-B-20b	B	Apartment	1	60.8	61.8	65.3	4.5	No	No
15	15-B-21a	B	Apartment	1	58.3	59.4	62.9	4.6	No	No
15	15-B-21b	B	Apartment	1	59.4	60.4	63.6	4.2	No	No
15	15-B-22a	B	Apartment	1	55.0	56.2	59.4	4.4	No	No
15	15-B-22b	B	Apartment	1	56.2	57.4	60.4	4.2	No	No
15	15-B-23a	B	Apartment	1	54.1	55.3	58.2	4.1	No	No
15	15-B-23b	B	Apartment	1	55.2	56.5	59.4	4.2	No	No
15	15-B-24a	B	Apartment	1	60.0	61.0	64.3	4.3	No	No
15	15-B-24b	B	Apartment	1	60.7	61.7	65.3	4.6	No	No
15	15-B-25a	B	Apartment	1	58.5	59.6	62.6	4.1	No	No
15	15-B-25b	B	Apartment	1	59.3	60.3	63.6	4.3	No	No
15	15-B-26a	B	Apartment	1	55.0	56.1	59.0	4.0	No	No
15	15-B-26b	B	Apartment	1	56.0	57.1	60.1	4.1	No	No
15	15-B-27a	B	Apartment	1	53.9	55.0	57.8	3.9	No	No
15	15-B-27b	B	Apartment	1	55.0	56.1	59.0	4.0	No	No
15	15-B-28a	B	Apartment	1	58.8	59.9	63.8	5.0	No	No
15	15-B-28b	B	Apartment	1	60.8	61.8	65.5	4.7	No	No
15	15-B-29a	B	Apartment	1	57.4	58.5	62.0	4.6	No	No
15	15-B-29b	B	Apartment	1	59.2	60.4	63.8	4.6	No	No
15	15-B-30a	B	Apartment	1	54.5	55.7	58.2	3.7	No	No
15	15-B-30b	B	Apartment	1	55.8	57.0	60.2	4.4	No	No

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PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
15	15-B-31a	B	Apartment	1	53.4	54.8	57.0	3.6	No	No
15	15-B-31b	B	Apartment	1	54.8	56.1	59.1	4.3	No	No
15	15-B-32a	B	Apartment	1	58.8	59.8	63.8	5.0	No	No
15	15-B-32b	B	Apartment	1	60.5	61.6	65.2	4.7	No	No
15	15-B-33a	B	Apartment	1	57.3	58.3	62.1	4.8	No	No
15	15-B-33b	B	Apartment	1	59.0	60.0	63.5	4.5	No	No
15	15-B-34a	B	Apartment	1	54.2	55.3	58.3	4.1	No	No
15	15-B-34b	B	Apartment	1	55.4	56.5	59.9	4.5	No	No
15	15-B-35a	B	Apartment	1	53.2	54.4	57.0	3.8	No	No
15	15-B-35b	B	Apartment	1	54.5	55.7	58.9	4.4	No	No
15	15-B-36a	B	Apartment	1	59.1	60.4	64.2	5.1	No	No
15	15-B-36b	B	Apartment	1	61.2	62.5	66.0	4.8	No	No
15	15-B-37a	B	Apartment	1	58.1	59.5	63.0	4.9	No	No
15	15-B-37b	B	Apartment	1	60.2	61.6	65.0	4.8	No	No
15	15-B-38a	B	Apartment	1	56.1	57.8	60.6	4.5	No	No
15	15-B-38b	B	Apartment	1	57.9	59.5	62.9	5.0	No	No
15	15-B-39a	B	Apartment	1	55.4	57.2	59.8	4.4	No	No
15	15-B-39b	B	Apartment	1	57.3	58.9	62.2	4.9	No	No
16	16-B-01a	B	Apartment	1	57.2	58.3	58.8	1.6	No	No
16	16-B-01b	B	Apartment	1	60.0	61.1	60.7	0.7	No	No
16	16-B-02a	B	Apartment	1	63.6	64.9	65.3	1.7	No	No
16	16-B-02b	B	Apartment	1	65.9	67.1	66.8	0.9	No	Yes
16	16-B-03a	B	Apartment	1	64.3	65.6	65.9	1.6	No	Yes
16	16-B-03b	B	Apartment	1	66.7	68.0	67.6	0.9	No	Yes
16	16-B-04a	B	Apartment	1	64.2	65.6	65.5	1.3	No	No

CR 887 (Old US 41), FM Nos. 435110-1 & 435347-1

PD&E Noise Study Report

NSA Name	Receptor ID	Activity Category	Property Type	Number of Residents Represented	2019 Existing Condition dB(A)	2045 No-Build Condition dB(A)	2045 Build Condition dB(A)	Difference Between Existing and Build dB(A)	Impacted	
									Substantial Increase	NAC
16	16-B-04b	B	Apartment	1	66.7	68.0	67.5	0.8	No	Yes
16	16-B-05a	B	Apartment	1	63.4	64.7	64.3	0.9	No	No
16	16-B-05b	B	Apartment	1	65.9	67.2	66.6	0.7	No	Yes
16	16-B-06a	B	Apartment	1	63.3	64.6	64.1	0.8	No	No
16	16-B-06b	B	Apartment	1	65.8	67.1	66.5	0.7	No	Yes
16	16-B-07a	B	Apartment	1	62.2	63.5	63.0	0.8	No	No
16	16-B-07b	B	Apartment	1	64.8	66.2	65.7	0.9	No	Yes
16	16-B-08a	B	Apartment	1	58.6	60.2	59.7	1.1	No	No
16	16-B-08b	B	Apartment	1	61.9	63.5	63.0	1.1	No	No
16	16-B-09a	B	Apartment	1	55.1	56.8	56.3	1.2	No	No
16	16-B-09b	B	Apartment	1	58.0	59.9	59.5	1.5	No	No
16	16-C-01	C	Pool	0.82	65.8	67.1	67.2	1.4	No	Yes
17	17-B-01	B	Apartment	1	62.6	63.9	64.3	1.7	No	No
17	17-B-02	B	Apartment	1	58.9	60.2	60.7	1.8	No	No
1 Receptors with suffixes A, B and C represent multi-story receptors with first, second and third stories, respectively.										

APPENDIX D Model Validation Field Sheets

Table D-1
Measured Noise Levels and Traffic Data for Validation – M-01

Project		Old US 41								
Date		01/28/2020								
Name of Observer(s)		Kristin Fusco Rowe								
Wind Speed, mph		5.78								
Temperature, °F		62.6								
Humidity, %		88.02								
Cloud Cover		Overcast								
Feet from Edge of Pavement		~45'								
X, Y, Z		393929.88, 715097.25, 11.00								
Sound Level Meter Model/Serial #		Rion NL-42/ 000560089								
Calibration Performed		Field: Rion NC-74, Lab: 07/14/2018								
Site #		M-01								
Repetition	File Name	Start Time	Roadway Direction	Cars	Medium Trucks	Heavy Trucks	Motor-cycles	Buses	Speed (mph)	Sound Level dB(A)
1	0114	10:05	North	474	12	12	0	0	45	58.7
			South	630	54	12	0	0	20	
2	0114	10:21	North	408	24	24	0	0	45	59.3
			South	642	24	6	0	0	20	
3	0114	10:31	North	522	18	6	0	0	45	58.2
			South	696	48	6	0	0	20	
Notes										
See below										

Site Sketch



Events & Notes

- 10:05 start → 10:12 end
- 10:12 HT
- background of Lake
fountain
- 10:13 plane overhead 7015
- 10:17 → good ambient sound
(no traffic)
- 10:26 trailer on Old US 41
HT
Trailing
Low HT
swirled
- 10:28 rooster.
- 10:30 dog bark
- 10:37 car horn
- 10:37-8 PO car → engine/door
- 10:39 car horn

North



South



East



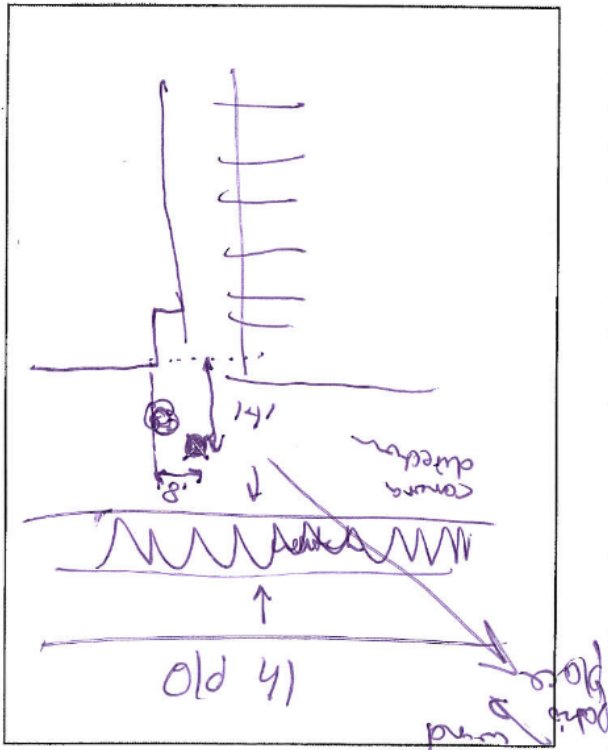
West



Table D-2
Measured Noise Levels and Traffic Data for Validation – M-02

Project		Old US 41								
Date		01/28/2020								
Name of Observer(s)		Kristin Fusco Rowe								
Wind Speed, mph		6.911								
Temperature, °F		60.8								
Humidity, %		Broken								
Cloud Cover		Overcast								
Feet from Edge of Pavement		~100'								
X, Y, Z		394989.59, 717282.13, 10.50								
Sound Level Meter Model/Serial #		Rion NL-42/ 000560089								
Calibration Performed		Field: Rion NC-74, Lab: 07/14/2018								
Site #		M-02								
Repetition	File Name	Start Time	Roadway Direction	Cars	Medium Trucks	Heavy Trucks	Motor-cycles	Buses	Speed (mph)	Sound Level dB(A)
1	0115	11:10	North	534	48	18	0	0	45	63.8
			South	636	30	12	0	0	45	
2	0115	11:20	North	462	24	6	0	0	45	62.8
			South	612	24	6	0	0	45	
3	0115	11:30	North	534	54	12	0	0	45	63.8
			South	594	30	18	0	0	45	
Notes										
See below										

Site Sketch



Events & Notes

11:10 Start
11:22 talk to camera
11:27 car horn distance
11:30 talk camera
11:31 car muffler backfire
11:42 end.

North



South



East



West



Table D-3
Measured Noise Levels and Traffic Data for Validation – M-03

Project		Old US 41								
Date		01/28/2020								
Name of Observer(s)		Kristin Fusco Rowe								
Wind Speed, mph		4.61								
Temperature, °F		60.8								
Humidity, %		77.17								
Cloud Cover		Broken								
Feet from Edge of Pavement		~60'								
X, Y, Z		400079.53, 725040.50, 10.00								
Sound Level Meter Model/Serial #		Rion NL-42/ 000560089								
Calibration Performed		Field: Rion NC-74, Lab: 07/14/2018								
Site #		3								
Repetition	File Name	Start Time	Roadway Direction	Cars	Medium Trucks	Heavy Trucks	Motor-cycles	Buses	Speed (mph)	Sound Level dB(A)
1	0116	11:55	North	519	70	28	0	35	45	59.0
			South	548	42	14	0	0	45	
2	0116	12:05	North	648	66	6	18	0	45	59.5
			South	618	12	30	0	0	45	
3	0116	12:15	North	534	60	0	0	0	45	59.8
			South	726	30	36	0	0	45	
Notes										
See below										

Hand-drawn diagram showing a ditch layout. A vertical line on the left is labeled "ditch" with arrows pointing left. A horizontal line at the bottom is labeled "60'" with a downward arrow. A vertical line segment on the right is labeled "54' ditch center" with a downward arrow. A horizontal dashed line connects a point on the left vertical line to a point on the right vertical line, labeled "95'".

11:55 start
11:56 local street 1 car
11:57 local 2 cars
12:07 11 1 car red
12:08 11 1 car red
12:10 2 local car
12:12 1 car red
12:14 truck home
12:15 border drop.

undressed
30
20
15
10
5
4

245
 47 no
 1-10/11
 6
 high
 low
 density
 10/10/10

North



South



East



West



APPENDIX E Utilities Data

This section includes a list of potential utility conflicts for each potential Feasible and Reasonable (F/R) noise barrier NW02 and NW16 that is recommended for further study in the final design phase of this project.

NW02:

Summit Broadband provided marked maps showing the following utilities:

East/south side of CR 887 from US 41 to east of 13800 Tamiami Trail shopping center entrance where it crosses CR 887 and continues on west side to FPL utility easement driveway. Crosses back to east side and continues north to 300' south of Collier Center Way where it goes underground.

Hotwire Communications provided marked maps showing the following utilities:

Overhead FOC on the east side of CR 887 at north corner Landmark Estates to Channel 30 Drive and crosses CR 887 and ends at the existing utility pole on the west side of CR 887;

Underground FOC on the east side of CR 887 from north corner of Landmark Estates continues north and turns east at Collier Center Way to the end of Business Lane.

Collier County Public Utilities provided digital maps and GIS files showing the following utilities:

16" DIP water main on east side of CR 887 from Gulf Coast Dr to Arbor View Blvd;

12" PVC force main on the east side of CR 887 from north corner of Landmark Community to Performance Way.

CenturyLink provided aerial maps showing the following utilities:

Local buried asset runs along CR 887 from US 41 to Performance Way.

NW16:

CenturyLink provided aerial maps showing the following utilities:

Local buried asset on the west side of US 41 from Audubon Blvd to south past CR 887.

Collier County BBC Road Maintenance provided marked maps and GIS files showing the following utilities:

PVC Lateral Line on the west side of US 41 starts at the south corner of Tarpon Cove Community and continues north on US 41 to the south Market Place Commons driveway where it crosses to the east side of US 41 and intersects main.

Collier County Traffic Operations and Information Technology provided digital maps showing the following utilities:

Buried fiber (CCTO/CCIT) on the west side of US 41 from south of Sunrise Blvd to 650' north of CR 887;

Roadway Lighting on both sides of US 41 from south of Sunrise Blvd to north of Red Fox Run.

Collier County Public Utilities provided digital maps and GIS files showing the following utilities:

16" PVC water main on east side of US 41, crosses US 41 150' south of the south Market Place Commons driveway, and continues south to Wiggins Pass Rd on west side.

Crown Castle provided digital maps showing the following utilities:

Underground Conduit located west of US 41 past Market Place Commons past CR 887.

Florida Power and Light provided digital maps showing the following utilities:

Overhead Electric on the west side of US 41 ranging past Retreat Drive and continues south past Imperial Golf Course.

Hotwire Communications provided marked maps showing the following utilities:

Overhead FOC on the west side of US 41 ranges past Tamiami Square and continues south past Gateway Shoppes.

Summit Broadband provided marked maps showing the following utilities:

West side of US 41 from south entrance of Gateway Shoppes to north of Red Fox Run; Crossing of US 41 on the south side of the CR 887 intersection.

TECO Peoples Gas provided marked maps showing the following utilities:

8" CS gas main on the east side of US 41 past Red Fox Run crosses US 41 to the west side and continues south of Gateway Shoppes.

APPENDIX F Special Land Use Worksheets

NSA 8 - SOMERSET PALMS DOG PARK

Average Single-Family Residence in Florida - Person Hours per Year	
Average number of people in a single-family residence in Florida (US CENSUS, 2018-2022 data)	2.53
Hours a single-family residence is available for use (24 hours x 365 days)	8,760
Residential Person-Hours per Year Available for Use	22,163
Isolated SLU Person-Hours per Year	
Average number of users per day at the SLU	20
Approximate daily hourly usage by each person at the SLU	1
Number of Days per week the SLU is operational	7
Number of weeks per year the SLU is operational	52
Person-Hours per Year SLU is available for use	7,280
Equivalent Residence (ER)	0.33
Isolated SLU Eligible for Noise Barrier Evaluation?	NOT ELIGIBLE

*Note: The exact number of users per day data was unavailable, so an estimate was used, assuming 20 users per day (one per unit).

NSA 12 - SOMERSET PALMS DOG PARK

Average Single-Family Residence in Florida - Person Hours per Year	
Average number of people in a single-family residence in Florida (US CENSUS, 2018-2022 data)	2.53
Hours a single-family residence is available for use (24 hours x 365 days)	8,760
Residential Person-Hours per Year Available for Use	22,163
Isolated SLU Person-Hours per Year	
Average number of users per day at the SLU	5
Approximate daily hourly usage by each person at the SLU	1
Number of Days per week the SLU is operational	7
Number of weeks per year the SLU is operational	52
Person-Hours per Year SLU is available for use	1,820
Equivalent Residence (ER)	0.08
Isolated SLU Eligible for Noise Barrier Evaluation?	NOT ELIGIBLE

*Note: The exact number of users per day data was unavailable, so an estimate was used, based on management stating 3 to five users per day.

NSA 16- TARPON COVE APARTMENTS POOL

Average Single-Family Residence in Florida - Person Hours per Year	
Average number of people in a single-family residence in Florida (US CENSUS, 2018-2022 data)	2.53
Hours a single-family residence is available for use (24 hours x 365 days)	8,760
Residential Person-Hours per Year Available for Use	22,163
Isolated SLU Person-Hours per Year	
Average number of users per day at the SLU	50
Approximate daily hourly usage by each person at the SLU	1
Number of Days per week the SLU is operational	7
Number of weeks per year the SLU is operational	52
Person-Hours per Year SLU is available for use	18,200
Equivalent Residence (ER)	0.82
Isolated SLU Eligible for Noise Barrier Evaluation?	NOT ELIGIBLE