Gibsonton Drive
From Fern Hill Drive to US 301
Project Development & Environment (PD&E) Study

Noise Study Report

Work Program Item Segment No. 450438-1
ETDM Project No. 14493
Hillsborough County, Florida

Florida Department of Transportation
District Seven

In Coordination with:

Hillsborough County Florida

January 2024

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.

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Prepared for:

Florida Department of Transportation
District Seven

In Coordination with:

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January 2024

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) District Seven, in coordination with Hillsborough County, is conducting a Project Development and Environment (PD&E) study along Gibsonton Drive from Fern Hill Drive to U.S. Highway 301 (US 301), in Hillsborough County. The study evaluates widening the existing 4-lane divided facility in this section of Gibsonton Drive and includes pedestrian and bicycle accommodations. The study also evaluates issues related to traffic operations, safety, access management, and freight movements. The proposed improvements will include construction of stormwater management facility (SMF) and floodplain compensation (FPC) sites. The proposed improvements in this study will connect to improvements at the I-75/Gibsonton Drive interchange as well as improvements at Gibsonton Drive/Fern Hill Drive intersection as proposed under other projects.

This highway traffic noise impact analysis was performed as part of the PD&E Study for the project as required by the FDOT's PD&E Manual, and in accordance with the Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772). This Noise Study Report (NSR) presents the results of the noise analysis. This NSR utilized the conceptual plans for the proposed project. The objectives of the NSR are to identify land uses within the project corridor for which there are Noise Abatement Criteria (NAC); to predict and evaluate future traffic noise levels at the receptors with and without the improvements; and to evaluate the need for, and effectiveness of, noise abatement measures. Additional objectives include the identification of sites for potential construction noise and vibration impacts and the identification of traffic noise impact areas for future compatible land use planning adjacent to the corridor.

The prediction of future traffic noise levels with the proposed roadway improvements was performed using FHWA's latest Traffic Noise Model (TNM – Version 2.5). A total of 86 noise receptors were modeled, representing 80 residences, two religious facilities, three medical facilities and the Alafia Scrub Nature Preserve. The 80 residential sites were modeled as Activity Category B. The Alafia Scrub Nature Preserve was modeled as Activity Category C. The religious and medical facilities did not have an outdoor use and were modeled as Activity Category D for interior use. Twelve noise-sensitive receptors were predicted to approach, meet, or exceed the NAC in the Build scenario, including eleven residences and the Alafia Scrub Nature Preserve. None of the sites were predicted to experience a substantial increase (15.0 decibels on the A-weighted scale [dB(A)] or more) in traffic noise as a result of the project.

There are four single-family residences (B12, B47, B50 and B56) that were impacted but are single or isolated sites. Per the FDOT *PD&E Manual, Part 2, Chapter 18*, the number of impacted receptors required to achieve a 5 dB(A) reduction or greater in order for a noise barrier to be considered feasible will be two or greater. Therefore, noise barriers would not meet the feasibility requirement to provide abatement for at least two impacted sites and noise barriers were not analyzed for these impacted receptors.

Barrier 1 was evaluated for the Alafia Scrub Nature Preserve. The FDOT's research publication, *A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations*, was used for Barrier 1 to determine if a noise barrier could be considered a potential abatement measure. Alafia Scrub Nature Preserve was determined to not receive the amount of use required for the cost to stay below the FDOT's cost reasonable limit of $995,935 per person-hour per square foot (person-hr/ft^2).

Barrier 2 was evaluated for the common noise environment (CNE) involving seven impacted residences north of Gibsonton Drive and along Oakridge Avenue and Pineridge Avenue (B62, B65, B66, B70, B71, B75, and B76). Receptor B75 is part of this CNE; however, it was not included in the barrier analysis since it is planned to be relocated and not considered for noise abatement . Barrier 2 could provide a reduction in noise levels of 7 dB(A) for one noise-sensitive receptor only for all heights evaluated. Since a minimum of two impacted sites must achieve a 5 dB(A) reduction or greater in order for a noise barrier to be considered feasible, Barrier 2 is not a feasible option for noise abatement. Further, Barrier 2 is not cost reasonable at any height considered.

Based on the noise analyses performed to date, there are no feasible and reasonable solutions available to mitigate the noise impacts at the locations identified in **Table 3-2** and shown in **Appendix C**.

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Acronyms

AADT	Annual Average Daily Traffic
C3C	Suburban Commercial (Context Classification)
CFR	Code of Federal Regulations
CNE	Common Noise Environment
dB(A)	Decibels (dB) on the A-weighted scale
ETDM	Efficient Transportation Decision Making
ETAT	Environmental Technical Advisory Team
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FPC	Floodplain Compensation Site
FS	Florida Statute
Ft	Feet
FY	Fiscal Year
hr	Hour
Leq(h)	Hourly Equivalent Sound Level
LOS	Level of Service
LRTP	Long Range Transportation Plan
mph	Miles per Hour
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NSR	Noise Study Report
OEM	Office of Environmental Management
PD&E	Project Development and Environment
ROW	Right-of-Way
SMF	Stormwater Management Facility
TBRPM	Tampa Bay Regional Planning Model
TIP	Transportation Improvement Program
TNM	Traffic Noise Model
TPO	Transportation Planning Organization
US 301	U.S. Highway 301
VPD	Vehicles per Day

SECTION 1 INTRODUCTION

The objective of the Project Development and Environment (PD&E) study is to assist the Florida Department of Transportation's (FDOT) Office of Environmental Management (OEM) in reaching a decision on the type, location, and conceptual design of the proposed improvements for the widening of Gibsonton Drive, including stormwater management facility (SMF) and floodplain compensation (FPC) sites. This study documents the need for the improvements as well as the procedures utilized to develop and evaluate various improvements, including elements such as proposed typical sections, preliminary horizontal alignments, and intersection enhancements.

1.1 PROJECT DESCRIPTION

The project consists of widening Gibsonton Drive from Fern Hill Drive to US 301 in Hillsborough County, a distance of approximately 0.95 miles. Improvements will also include a wide sidewalk to accommodate bicycles and pedestrians. The project includes the evaluation of stormwater management facilities (SMF) and floodplain compensation (FPC) sites. The project traverses the unincorporated census designated place of Riverview and provides access to I-75 for the communities of Riverview, Boyette, Fish Hawk and Lithia. Within the project limits, Gibsonton Drive is a four-lane, divided roadway with paved shoulders and 5-foot (ft) sidewalks along both sides of the road. There are some gaps in the sidewalk on the south side (eastbound direction) of the road. Gibsonton Drive is functionally classified by Hillsborough County as an arterial with an existing posted speed limit of 45 miles per hour (mph). A project location map is provided in **Figure 1-1**.

This project was screened through the FDOT's Efficient Transportation Decision Making (ETDM) process as ETDM Project No. 14493. The ETDM Programming Screen Summary Report was published on October 27, 2022, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. A Type 2 Categorical Exclusion is the class of action for this PD&E study.

1.2 PROJECT PURPOSE AND NEED

1.2.1 Purpose

The purpose of this project is to address future roadway capacity issues as well as improve safety conditions on Gibsonton Drive, which is an important east-west connection between I-75 and US 301.

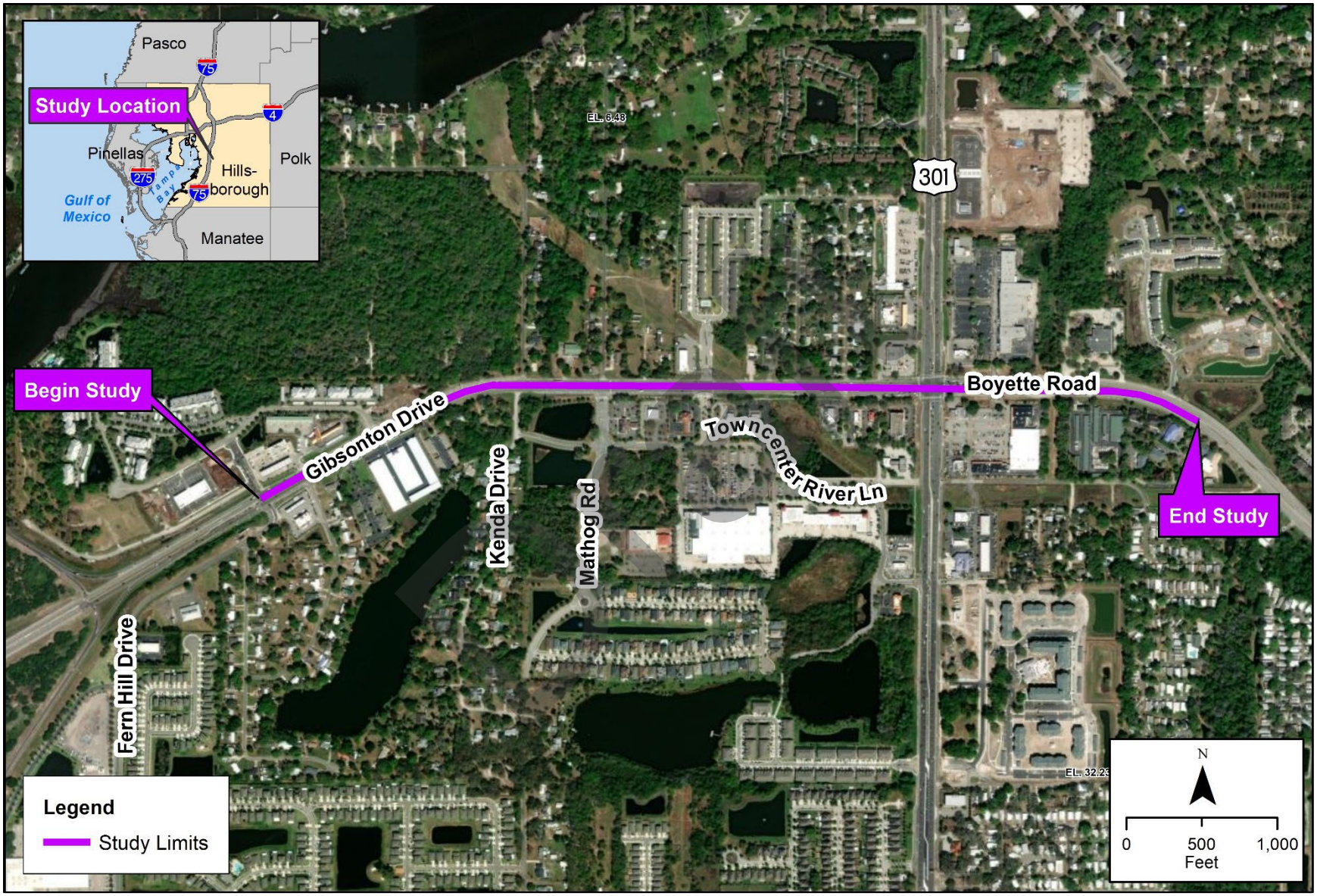

Figure 1-1 Project Location Map

1.2.2 Project Status

This project is listed as a candidate for funding in the Hillsborough Transportation Planning Organization (TPO) FY 2023/2024-2027/2028 Transportation Improvement Program (TIP). Funding for the PD&E study has been requested and an application for Federal funding has been submitted. The project is also listed in the Cost Feasible Plan of the Hillsborough County TPO's 2045 Long Range Transportation Plan (LRTP).

1.2.3 Roadway Capacity

Within the project limits, Gibsonton Drive operates at Level of Service (LOS) F and fails to meet target LOS D, based on 2022 traffic counts. The Gibsonton Drive segment west of Fern Hill Drive is currently not six lanes; however, with the addition of the I-75/Gibsonton Drive interchange improvements, Gibsonton Drive will be widened to six lanes between I-75 and Fern Hill Drive. The segment directly to the east of the project limits is six lanes, thus creating a bottleneck. This segment is projected to continue to operate deficiently in the year 2045 at LOS F with no capacity improvements. This analysis is based on the Generalized Service Volume Tables from the FDOT 2023 Multimodal Quality/Level of Service Handbook for a context classification suburban commercial (C3C) facility and utilizes traffic forecasts from the Tampa Bay Regional Planning Model (TBRPM).

1.2.4 Safety

Crash data was collected for the years 2018 - 2022. Crash totals were obtained for a five-year period and are summarized in **Table 1-1**. This segment suffered a high number of crashes considering its short length (less than one (1) mile). This is reflected in the high crash rates summarized in **Table 1-2** and **Table 1-3**. The calculated crash rates for the segments and intersections are higher than the statewide average rate for similar state facilities except at a short segment between Mathog Road and the Park Place Avenue/Alafia Trace Boulevard intersection, and at the Park Place Avenue/Alafia Trace Boulevard intersection.

Table 1-1 Gibsonton Drive Number of Crashes for 2018-2022

Limits	2018	2019	2020*	2021	2022	Total
Gibsonton Drive from Fern Hill Drive to US 301	220	239	153	136	162	910

Source: Signal 4 Analytics
**Crashes in 2020 are substantially less than those in 2019 due to COVID*

Table 1-2 Crash Rates for Segments

Segment		Crashes	Length (mi)	2022 AADT	Crash Rate (MVMT)	Statewide Average	Above Statewide Average?
From	To						
Fern Hill Dr	Mathog Rd	95	0.33	45,800	3.444	1.747	Yes
Mathog Rd	Park Place Ave	4	0.03	44,000	1.660	1.747	No
Park Place Ave	US 301	27	0.14	45,600	2.317	1.747	Yes

Note: Crashes reported to occur within intersection turn lanes were extracted out of the segments.

Table 1-3 Crash Rates for Intersections

Intersection	Crashes	Entering Volume	Crash Rate (MEV)	Statewide Average	Above Statewide Average?
Fern Hill Dr	159	57,750	1.509	0.526	Yes
Mathog Rd	68	45,200	0.824	0.526	Yes
Park Place Avenue/Alafia Trace Blvd	3	47,500	0.035	0.526	No
US 301	554	99,800	3.042	0.744	Yes

1.3 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

1.3.1 Existing Facility

Gibsonton Drive is owned and maintained by Hillsborough County. Within the project area, Gibsonton Drive is currently a four-lane divided facility functionally classified as an arterial roadway with a posted speed limit of 45 mph. The roadway has two 12 foot (ft) lanes in each direction, a 22-ft median and turn lanes at many locations along the corridor. The shoulders are approximately 10-ft wide (4-ft paved) on the south side and 6.5-ft minimum width (4-ft paved) on the north side throughout the corridor with no dedicated bicycle lanes. There is a 5-ft sidewalk on both sides of the road with a few gaps in the sidewalk on the south side, west of Kendra Drive. Approximately 230 linear feet of the sidewalk on the south side, east of Kendra Drive, is a wooden boardwalk. The existing right of way (ROW) varies along the corridor between 125 ft and 150 ft side. The existing typical section is provided as **Figure 1-2**. There is one existing SMF east of US 301, but no SMF between Fern Hill Drive and US 301 and no existing FPC sites within the project corridor.

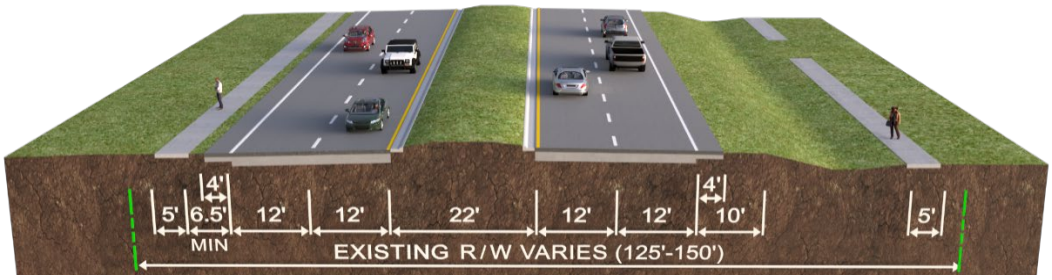

Figure 1-2 Gibsonton Drive – Existing Typical Section

1.3.2 Proposed Improvements

The proposed typical section shows widening Gibsonton Drive to a six-lane divided urban facility with a 22-ft raised median. There will be two 11-ft travel lanes and one 12-ft outside travel lane in each direction with curb and gutter, and 10-ft wide sidewalks. The proposed typical section is provided as **Figure 1-3**. Additional ROW will be required along the north side of Gibsonton Drive (0 to 30 ft in width) to accommodate the widening and along the south side of Gibsonton Drive (0 to 7 ft in width) in advance of the US 301 intersection for intersection improvements. One off-site SMF and one off-site FPC are proposed. Additional ROW will be required for off-site SMF and FPC sites.

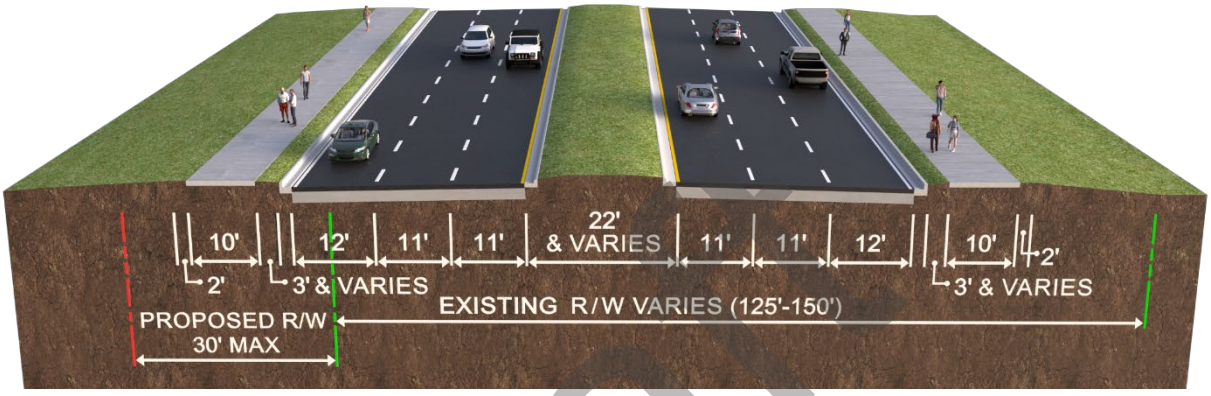

Figure 1-3 Gibsonton Drive – Proposed Typical Section

1.4 REPORT PURPOSE

This Noise Study Report (NSR) presents the assumptions, data, procedures, and results of the highway traffic noise analysis that was conducted to evaluate the proposed improvements to Gibsonton Drive. The objectives of the NSR are to identify land uses within the project corridor for which there are Noise Abatement Criteria (NAC); to predict and evaluate future traffic noise levels at the receptors with and without the improvements; and to evaluate the need for, and effectiveness of, noise abatement measures. Additional objectives include the identification of sites for potential construction noise and vibration impacts and the identification of traffic noise impact areas for future compatible land use planning adjacent to the corridor. This report was performed in accordance with Title 23 Code of Federal Regulations Part 772 (23 CFR 772), *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (effective July 13, 2011), using methodology established by the FDOT in the *PD&E Manual, Part 2, Chapter 18*.

SECTION 2 METHODOLOGY

This traffic noise analysis was prepared in accordance with all applicable guidelines as stated within both Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772) and the FDOT PD&E Manual, Part 2, Chapter 18 (FDOT's Noise Policy). The analysis was performed using the Federal Highway Administration's (FHWA) Traffic Noise Model (TNM), version 2.5. Use of the TNM is required when evaluating the potential for traffic noise impacts during the design year of roadway improvement projects for which the regulations, policies and guidelines within 23 CFR 772 and the PD&E Manual are applicable. This NSR utilized the conceptual plans for the proposed project (**Appendix A**).

To identify potential noise sensitive receptors, land use reviews were conducted for the project area that consisted of a field review, a review of available land use data and other available resources. For the purpose of the traffic noise analysis, the land use review and building permit review were conducted in August 2023.

For properties with uses other than residential, the highway traffic noise analysis methodologies are described in the FDOT's *A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations*. This methodology was utilized for the Alafia Scrub Nature Preserve.

2.1 NOISE METRICS

The noise levels presented in this report are expressed in decibels (dB) on the A-weighted scale [dB(A)]. This scale most closely approximates the response characteristics of the human ear to traffic noise and is defined as the level equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same time period. All noise levels are reported as equivalent level [Leq(h)] values, which theoretically contain the same amount of acoustic energy as an actual time-varying A-weighted sound level over a period of one hour.

2.2 TRAFFIC DATA

Noise levels are low when traffic volumes are low and operating conditions are good (Level of Service [LOS] A or B) and when traffic is so congested that movement is slow (LOS D, E or F). Generally, the maximum hourly noise level occurs between these two conditions (i.e. LOS C). The 2022 existing and future forecast year 2045 traffic data used in TNM for this project are presented in **Appendix B**. For traffic inputs into the model, the lesser of the project demand volumes or LOS "C" volumes were utilized and varied along the corridor. This methodology produces the worst-case traffic noise conditions.

2.3 NOISE SENSITIVE RECEPTORS AND NOISE ABATEMENT CRITERIA

Noise-sensitive receptors are defined as a discrete or representative location of a noise sensitive area(s) for any of the land use categories. To evaluate traffic noise, the FHWA established Noise Abatement Criteria (NAC). As shown in **Table 2-1**, the NAC varies according to a property's activity category. When predicted noise levels approach, meet or exceed the NAC or, when predicted noise levels increase substantially, the FHWA requires that noise abatement measures be considered. The FDOT defines approach to mean within 1.0 dB(A) of the FHWA NAC and considers that a substantial increase will occur if traffic noise levels are predicted to increase by 15.0 or more dB(A) over the existing noise levels as a direct result of a transportation improvement project. For comparative purposes, typical noise levels for common indoor and outdoor activities are provided in **Table 2-2**.

Table 2-1 Noise Abatement Criteria

Activity Category	Activity Leq(h)1		Evaluation Location	Description of 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, recreational 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.

Sources: Table 1 of 23 CFR Part 772 and Figure 18-1 of Chapter 18 of the FDOT's PD&E Manual (effective July 1, 2020).
[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.
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.

Table 2-2 Typical Noise Levels

Common Outdoor Activities	Noise Level dB(A)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area daytime		
Gas lawnmower at 100 feet	**70**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**60**	
		Large business office
Quiet urban daytime	**50**	Dishwasher in next room
		Theater, large conference room
Quiet urban nighttime	**40**	(background)
Quiet suburban nighttime		
	30	Library
		Bedroom at night, concert hall
Quiet rural nighttime		(background)
	20	
		Broadcast/recording studio
	10	
	0	

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

2.4 NOISE ABATEMENT MEASURES

When traffic noise impacts are predicted, noise abatement measures are considered for the impacted properties and the feasibility and reasonableness of providing an abatement measure are considered. Feasibility factors are related to the acoustical and engineering properties of an abatement measure while reasonableness factors relate to the social, economic and environmental properties of a measure. The following subsections of this NSR present and discuss four potential methods of abating traffic noise impacts.

2.4.1 Traffic Management

Traffic management measures that limit motor vehicle speeds and reduce volumes can be effective noise mitigation measures. However, these measures can also negate a project's ability to accommodate forecast traffic volumes.

2.4.2 Alignment Modifications

Modifying the horizontal and/or vertical alignment of a roadway can be an effective traffic noise mitigation measure. When the horizontal alignment is shifted (i.e., moved) away from a noise sensitive property or when the vertical alignment is shifted below (i.e., placing the roadway below the elevation of a noise sensitive land use) or above a noise sensitive property, traffic noise levels have the potential to be reduced.

2.4.3 Buffer Zones

Providing a buffer between a roadway and noise sensitive land uses is an abatement measure that can minimize/eliminate noise impacts. To abate traffic noise at an existing land use for which there are NAC, the property would be acquired to create a buffer zone. Buffer zones can also be used to eliminate the potential for new noise sensitive land uses to be impacted by traffic noise. For this purpose, and to encourage use of this abatement measure through local land use planning, noise contours have been developed and are further discussed in **Section 5.0** of this NSR.

2.4.4 Noise Barriers

Noise barriers have the potential to reduce traffic noise levels by blocking the sound path between the motor vehicles on the roadway (the source) and the noise sensitive land uses adjacent to the roadway. While other noise abatement measures were considered, noise barriers were determined to be the only viable abatement measure to reduce traffic noise at existing noise-sensitive receptors.

In order to effectively reduce traffic noise, a noise barrier must be relatively long, continuous (without intermittent openings) and of sufficient height. Noise barriers must meet the feasibility and reasonableness factors established by the FDOT. For a noise barrier to be considered a potential abatement measure, the barrier must meet the following FDOT criteria:

- Minimum Noise Reduction Requirements - A barrier must provide at least a 5 dB(A) reduction in traffic noise for two or more impacted noise sensitive receptors and also meet the FDOT's noise reduction design goal, which includes providing at least a 7 dB(A) reduction for at least one impacted receptor. Receptors are discrete representative locations on a property that has noise sensitive land uses for which there are NAC (see **Table 2-1**).
- Cost Effectiveness Criteria – The current estimated cost to construct noise barriers (i.e., materials and labor) is $30 per square foot. As stipulated in FDOT's Noise Policy, a barrier should not cost more than $42,000 per benefited noise sensitive receptor (a benefited receptor is a receptor that receives at least a 5 dB(A) reduction in noise from a mitigation

measure). For special land uses (e.g., the outdoor area of a restaurant/bar), the cost should not be more than $995,935 per person-hour per square foot (dollars/person-ft^2).

Other factors considered when evaluating noise barriers as a potential noise abatement measure address both the feasibility of the barriers (given site-specific details, can a barrier actually be constructed) and the reasonableness of the barriers. Feasibility factors that relate to noise barriers include driver/pedestrian sight distance (safety), ingress and egress requirements to and from affected properties, ROW requirements including access rights and easements for construction and/or maintenance, impacts on existing/planned utilities, and drainage. The viewpoint of the impacted property owners (and renters if applicable) who may, or may not, desire a noise barrier, is also a factor that is considered when evaluating noise barriers as an abatement measure.

The TNM accounts for the shielding effect of a noise barrier, the diffraction of sound over a noise barrier, and the effects of the ground between a barrier and a receptor (i.e. sound absorption). The net effect of the barrier shielding is referred to as insertion loss (i.e. insertion loss is the difference in sound level before and after the installation of the barrier).

SECTION 3 TRAFFIC NOISE ANALYSIS

3.1 EVALUATED RECEPTORS

A total of 86 noise receptors were modeled, representing 80 residences, two religious facilities, three medical facilities and the Alafia Scrub Nature Preserve. The location of each of the noise-sensitive receptors is shown in **Appendix C**. The residences modeled include single-family and multiple-family residences. The 80 residential sites were modeled as Activity Category B. The Alafia Scrub Nature Preserve was modeled as Activity Category C. The religious and medical facilities did not have an outdoor use and were modeled as Activity Category D for interior use. All other sites are identified as Activity Category F or G, and were not modeled since FHWA does not identify noise abatement levels for these sites. Noise abatement measures were considered if the predicted traffic noise level was 66.0 dB(A) or more for Activity Categories B and C or if a substantial increase occurs. For Activity Category D for interior use, a conservative approach of a 20.0 dB(A) reduction (based on a light frame building type with closed windows) of the exterior noise levels was used in the analysis. Noise abatement measures were considered if the predicted traffic noise level was 51.0 dB(A) or more or if a substantial increase occurs for Activity Category D.

All receptor heights were set at 5 feet, with an additional 10 feet added for each additional building story modeled. Receptor elevations and other elevations along the study area were obtained utilizing topographic survey results, Google Earth Pro and other available similar resources. Elevation data for the roadway was based on previous survey data, as well as use of Google Earth Pro. The use of the elevation data, proposed concept plans, and other existing and proposed project factors are included in TNM in order to predict noise levels at receptor locations. The noise levels are discussed in the following section of this NSR.

3.2 MODEL VALIDATION

As previously stated, future noise levels with the proposed improvements were modeled using the TNM Version 2.5. The computer model was validated to validate the TNM input values and verify that the model reasonably predicts the existing traffic noise based on the current conditions. Traffic and meteorological data, including traffic volumes, traffic mix vehicle speeds, background noise and atmospheric conditions were recorded during each measurement period.

The field measurements for the Gibsonton Drive noise evaluation were conducted in accordance with the FHWA's *Measurement of Highway Related Noise*. Each field measurement was obtained using a Larson Davis SoundTrack LXT2 Type 2 Sound Level Meter. The meter was calibrated before and after each monitoring period with a Larson Davis CAL 150 Type 2 Sound Level Calibrator.

The measured field data were used as input for the TNM to determine if, given the topography and actual site conditions of the area, the computer model could re-create the measured noise levels with the existing roadway. Following FDOT guidelines, a noise prediction model is considered valid for the use of predicting traffic noise levels if the measured and predicted noise levels are within a tolerance

standard of 3 dB(A). Field measurements were taken on August 4, 2023 on the south side of Gibsonton Drive between Park Place Avenue and Kenda Drive (at approximate station 110+00). The sound level meter was placed approximately 15 feet from the edge of pavement at a height of five feet above ground.

The location at which the measurements were taken are depicted on aerials included in **Appendix C**. Three sets of 10-minute measurements were taken for both directions of traffic. Data collected in the field is provided in **Appendix D.**

Table 3-1 presents the field measurements and the computer validation results. As shown, the computer model predicted noise levels are within 3 dB(A) of the field measured noise levels in all instances. Therefore, the ability of the model to reasonably predict noise levels for the project was confirmed.

Table 3-1 TNM Validation Results

Validation Location	Measurement Period (time of day-AM)	Modeled dB(A)	Measured dB(A)	Difference dB(A) [Measured – Modeled]	Validation Achieved?
Validation Site - Between Park Place Ave and Kenda Drive	10:14 - 10:24	73.3	76.2	2.9	Yes
	10:39 - 10:49	73.2	75.3	2.1	Yes
	10:53 – 11:03	72.5	75.4	2.9	Yes

3.3 PREDICTED TRAFFIC NOISE LEVELS

Table 3-2 presents the results of the traffic noise analysis for the proposed improvements. As shown, the results of the analysis indicate that existing (2022) exterior noise levels are predicted to range from 42.0 to 72.3 dB(A), the No-Build (2045) exterior traffic noise levels are predicted to range from 42.0 to 72.3 dB(A), and the Build (2045) exterior traffic noise levels are predicted to range from 45.6 to 75.1 dB(A). With the Build Alternative, twelve of the evaluated receptors are predicted to be impacted by traffic noise that would exceed the NAC. Impacted receptors include eleven residences and the Alafia Scrub Nature Preserve. Documentation in support of the analysis is provided in **Appendix E.**

Abatement measures must also be considered when a substantial increase in traffic noise would occur as a direct result of the transportation project. As previously stated, a substantial increase is defined as an increase of 15 dB(A), or more, above existing conditions. When compared to the 2022 existing condition, design year 2045 Build exterior traffic noise levels with the proposed improvements range from an increase of 1.1 dB(A) to 4.2 dB(A), as shown in **Table 3-2**. As such, none of the receptors were predicted to experience a substantial increase (15.0 dB(A) or more) in traffic noise as a result of the project.

Table 3-2 Summary of Traffic Noise Analyses

Receptor ID*	# of Units	Laeq1h [dB(A)]					Approaches, Meets or Exceeds NAC?
		Existing (2022)	No-Build (2045)	Build (2045)	Difference between Build and Existing	Difference between Build and No-Build	
B1	1	58.7	58.7	60.4	1.7	0.0	No
B2	1	56.9	56.9	58.6	1.7	0.0	No
B3	1	55.3	55.3	56.7	1.4	0.0	No
B4	1	53.8	53.8	55.1	1.3	0.0	No
B5	1	58.6	58.6	60.7	2.1	0.0	No
B6	1	56.8	56.8	58.7	1.9	0.0	No
B7	1	55.0	55.1	56.7	1.7	0.1	No
B8	1	53.3	53.3	54.8	1.5	0.0	No
B9	1	60.3	60.3	62.5	2.2	0.0	No
B10	1	55.9	55.9	57.8	1.9	0.0	No
B11	1	53.8	53.8	55.6	1.8	0.0	No
B12	1	66.4	66.4	69.2	2.8	0.0	Yes
B13	1	63.3	63.3	65.8	2.5	0.0	No
B14	1	60.3	60.3	62.5	2.2	0.0	No
B15	1	57.8	57.8	59.8	2.0	0.0	No
B16	1	56.3	56.3	58.3	2.0	0.0	No
B17	1	54.3	54.4	56.4	2.1	0.1	No
B18	1	58.1	58.1	60.3	2.2	0.0	No

Receptor ID*	# of Units	Laeq1h [dB(A)]					Approaches, Meets or Exceeds NAC?
		Existing (2022)	No-Build (2045)	Build (2045)	Difference between Build and Existing	Difference between Build and No-Build	
B19	1	61.2	61.2	63.1	1.9	0.0	No
B20	1	56.9	56.9	59.0	2.1	0.0	No
B21	1	60.1	60.1	62.1	2.0	0.0	No
B22	1	58.5	58.5	60.6	2.1	0.0	No
B23	1	61.6	61.6	63.5	1.9	0.0	No
B24	1	57.3	57.3	59.4	2.1	0.0	No
B25	1	60.5	60.5	62.5	2.0	0.0	No
B26	1	58.7	58.8	60.8	2.1	0.1	No
B27	1	61.8	61.8	63.7	1.9	0.0	No
B28	1	57.5	57.5	59.6	2.1	0.0	No
B29	1	60.7	60.7	62.7	2.0	0.0	No
B30	1	59.4	59.4	61.4	2.0	0.0	No
B31	1	62.4	62.4	64.3	1.9	0.0	No
B32	1	58.1	58.1	60.1	2.0	0.0	No
B33	1	61.2	61.2	63.2	2.0	0.0	No
B34	1	60.1	60.1	62.0	1.9	0.0	No
B35	1	63.1	63.1	65.0	1.9	0.0	No
B36	1	58.7	58.7	60.6	1.9	0.0	No
B37	1	61.8	61.8	63.7	1.9	0.0	No
B38	1	60.8	60.8	62.7	1.9	0.0	No
B39	1	63.6	63.6	65.5	1.9	0.0	No
B40	1	59.1	59.1	61.0	1.9	0.0	No
B41	1	62.3	62.3	64.1	1.8	0.0	No
B42	1	61.0	61.0	62.9	1.9	0.0	No
B43	1	63.9	63.9	65.7	1.8	0.0	No
B44	1	59.3	59.3	61.2	1.9	0.0	No
B45	1	62.4	62.4	64.3	1.9	0.0	No
B46	1	61.8	61.8	63.6	1.8	0.0	No
B47	1	64.5	64.5	66.4	1.9	0.0	Yes
B48	1	59.9	59.9	61.8	1.9	0.0	No
B49	1	63.0	63.0	64.9	1.9	0.0	No
B50[R]	1	65.6	65.6	67.9	2.3	0.0	Yes
B51	1	57.0	57.0	59.2	2.2	0.0	No
B52	1	55.3	55.3	57.7	2.4	0.0	No
B53[R]	1	63.3	63.3	65.9	2.6	0.0	No
B54	1	56.8	56.9	59.4	2.6	0.1	No
B55	1	54.9	54.9	57.5	2.6	0.0	No

Receptor ID*	# of Units	Laeq1h [dB(A)]					Approaches, Meets or Exceeds NAC?
		Existing (2022)	No-Build (2045)	Build (2045)	Difference between Build and Existing	Difference between Build and No-Build	
B56	1	68.6	68.6	71.9	3.3	0.0	Yes
B57	1	59.5	59.5	62.1	2.6	0.0	No
B58	1	61.6	61.6	65.3	3.7	0.0	No
B59	1	57.7	57.7	60.5	2.8	0.0	No
B60	1	58.0	58.0	60.9	2.9	0.0	No
B61	1	62.5	62.6	65.4	2.9	0.1	No
B62	1	69.9	70.0	73.2	3.3	0.1	Yes
B63	1	60.5	60.5	62.8	2.3	0.0	No
B64	1	58.3	58.4	60.6	2.3	0.1	No
B65	1	71.0	71.0	74.2	3.2	0.0	Yes
B66	1	66.4	66.4	68.8	2.4	0.0	Yes
B67	1	62.9	62.9	65.0	2.1	0.0	No
B68	1	60.1	60.2	62.4	2.3	0.1	No
B69	1	58.5	58.6	60.8	2.3	0.1	No
B70	1	71.5	71.5	74.4	2.9	0.0	Yes
B71	1	66.3	66.4	68.6	2.3	0.1	Yes
B72	1	62.7	62.8	64.8	2.1	0.1	No
B73	1	60.4	60.6	62.5	2.1	0.2	No
B74	1	58.9	59.2	60.9	2.0	0.3	No
B75[R]	1	72.3	72.3	75.1	2.8	0.0	Yes
B76	1	66.9	67.0	69.0	2.1	0.1	Yes
B77	1	63.4	63.6	65.4	2.0	0.2	No
B78	1	61.0	61.3	63.0	2.0	0.3	No
B79	1	59.7	60.0	61.5	1.8	0.3	No
B80	1	60.1	60.5	61.6	1.5	0.4	No
C1	1	70.0	70.0	71.1	1.1	0.0	Yes
D1	1	46.6	46.6	48.4	1.8	0.0	No
D2	1	44.3	44.3	46.2	1.9	0.0	No
D3	1	42.0	42.0	45.6	3.6	0.0	No
D4	1	43.7	43.7	47.9	4.2	0.0	No
D5	1	44.5	44.5	46.8	2.3	0.0	No

*The letter included in the Receptor ID name indicates the NAC Activity Category for each receptor analyzed.
[R]Receptors B50, B53 and B75 are planned for ROW acquisition and relocation and are not considered for a noise barrier.

If the posted speed limit on Gibsonton Drive were reduced, the capacity of the roadway to handle the forecast traffic demand would also be reduced. Therefore, reducing traffic speeds and/or traffic

volumes is inconsistent with the goal of improving the ability of the roadway to handle the forecast volumes. Likewise, a shift in the roadway alignment would result in the need for additional ROW. The acquisition of property to provide noise buffers is not feasible due to the high cost and/or the unavailability of vacant land in proximity to noise-sensitive receptors. Noise barriers were determined to be the only viable abatement measure to reduce traffic noise at existing noise-sensitive receptors.

3.4 NOISE BARRIER ANALYSIS

As previously stated, in year 2045 with the proposed improvements to Gibsonton Drive, noise levels are predicted to approach, meet, or exceed the NAC at nine residences as well as the Alafia Scrub Nature Preserve. The following presents the results of the noise barrier analysis performed to determine if noise barriers would provide at least the minimum required insertion loss at a cost within the cost reasonable limit for the sites predicted to be impacted by traffic noise with the proposed Gibsonton Drive improvements. Documentation in support of the noise barrier analysis is provided in **Appendix F.**

According to *Part 2, Chapter 18 of the PD&E Manual*, a minimum of two impacted sites must achieve a 5 dB(A) reduction or greater in order for a noise barrier to be considered feasible. There are four single-family residences (B12, B47, B50 and B56), that were impacted but are single or isolated sites. Because the minimum feasibility requirement that abatement must benefit at least two impacted properties for which there are NAC could not be achieved, noise barriers were not evaluated for the single/isolated sites. In addition, receptor B50 is planned for ROW acquisition and relocation and is not considered for a noise barrier.

Barrier 1

Barrier 1 was evaluated for the impacted Alafia Scrub Nature Preserve (receptor C1). The preserve was expected to experience a traffic noise level of 71.1 dB(A) at the portion of the preserve closest to Gibsonton Drive. The FDOT's research publication, *A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations*, dated July 2009, was used to determine if a noise barrier could be considered a potential abatement measure. The barrier was evaluated at a length of approximately 400 feet beginning at approximate station 109+20 and ending at approximate station 113+00 on the north side of Gibsonton Drive as illustrated in **Appendix C**. The barrier was evaluated in two-ft increments from 8 to 22 feet.

At all heights evaluated, the barrier could reduce predicted traffic noise levels within the preserve by a minimum of 7 dB(A). Per a conversation with Ross Dickerson from the Hillsborough County Parks and Recreation Department, the preserve is visited by approximately 30 people on the weekends with less visitation during the week. The average amount of time the visitors stay is one to one and a half hours. At a height of eight feet and a length of 400 feet and assuming that 30 individuals use this facility for one hour and a half a day, the barrier is not a cost reasonable noise abatement measure. The results of the evaluation are provided in **Table 3-3.** Therefore, although potentially feasible, Barrier 1 is not considered to be a reasonable noise abatement measure.

Table 3-3 Barrier Analysis – Barrier 1

Item	Criteria	Input	Units
1	Barrier length	400	ft
2	Barrier height	8	ft
3	Multiply item 1 by item 2	3200	ft^2
4	Average time person stays at site per visit	1.5	Hours
5	Average number of people that use site per day that will receive five dB(A)	30	People
6	Multiply item 4 by item 5	45	person-hr
7	Divide item 3 by item 6	71.11	ft^2/person-hr
8	Multiply $42,000 by item 7	$2,986,666.67	$/person-hr/$ft^2$
9	Does item 8 exceed the "abatement cost factor" of: English units = $995,935/person-hr/$ft^2$?	**Yes**	
10	If item 9 is yes, abatement is not reasonable	**Abatement not reasonable**	

Barrier 2

Barrier 2 was evaluated for the CNE involving seven impacted residences north of Gibsonton Drive and along Oakridge Avenue and Pineridge Avenue (B62, B65, B66, B70, B71, B75, and B76). Receptor B75 is included in this CNE; however, it was not included in the barrier analysis since it is planned to be relocated and not considered for noise abatement. Impacted receptors include single-family residences. The impacted receptors are predicted to experience traffic noise levels ranging from 68.6 dB(A) and 74.4 dB(A) with the proposed improvements, levels that approach and exceed the NAC. This barrier is separated by Oakridge Avenue and Pineridge Avenue; however, the barrier was analyzed as a single barrier for cost reasonable analysis since these residences are considered a CNE. The barrier was evaluated at a length of approximately 454 feet with three segments as follows. Segment 1 begins at approximate station 130+00 and ends at approximate station 131+16. Segment 2 beings at approximate station 132+50 and ends at approximate station 134+41. Segment 3 beings at approximate station 135+31 and ends at approximate station 136+81. Segment 2 could not be extended further to the west due to sight distance requirement for vehicles turning right onto Gibsonton Drive from Oakridge Avenue. The height of the barrier was evaluated in two-foot increments from 8 to 22 feet.

The results of the evaluation are provided in **Table 3-4**. Segments 1 and 3 of this barrier were unable to provide abatement to any receptors due to their short length. At 189 feet in length, segment 2 of the barrier could provide a reduction in noise levels of 7 dB(A) for one noise-sensitive receptor only for all heights evaluated. Since a minimum of two impacted sites must achieve a 5 dB(A) reduction or greater in order for a noise barrier to be considered feasible, Barrier 2 is not a feasible option for noise

abatement. Further, Barrier 2 is not cost reasonable at any height considered. Therefore, a noise barrier is not recommended for further consideration.

Table 3-4 Barrier Analysis – Barrier 2

Barrier Height (ft)	Barrier Length (ft)	Impacted Receptors With Insertion Loss of (dBA)						Number of Benefited Receptors			Total Estimated Cost	Cost Per Benefited Receptor	Cost Reasonable Yes/No
		5	6	7	8	9	≥10	Impacted	Other*	Total			
8	189	0	1	0	0	0	0	1	0	1	$45,466	$45,466	No
10	189	0	0	1	0	0	0	1	0	1	$56,832	$56,832	No
12	189	0	0	1	0	0	0	1	0	1	$68,199	$68,199	No
14	189	0	0	1	0	0	0	1	0	1	$79,565	$79,565	No
16	189	0	0	1	0	0	0	1	0	1	$90,932	$90,932	No
18	189	0	0	1	0	0	0	1	0	1	$102,298	$102,298	No
20	189	0	0	1	0	0	0	1	0	1	$113,665	$113,665	No
22	189	0	0	1	0	0	0	1	0	1	$125,031	$125,031	No
* Receptors that are not impacted but benefit from the noise barrier													

SECTION 4 CONCLUSIONS

This NSR has been prepared for the proposed project in accordance with 23 CFR 772 using methodologies established by the FDOT in the *PD&E Manual, Part 2, Chapter 18*. Eleven residences and the Alafia Scrub Nature Preserve were predicted to approach, meet, or exceed the NAC in the Build scenario. None of the sites were predicted to experience a substantial increase (15.0 dB(A) or more) in traffic noise as a result of the project. Two noise barriers were analyzed for the impacted receptors to determine if noise barriers would provide the minimum required insertion loss (or more) as a feasible and reasonable abatement measure.

There are four single-family residences (B12, B47, B50 and B56) that were impacted but are single or isolated sites. Per the FDOT *PD&E Manual, Part 2, Chapter 18*, the number of impacted receptors required to achieve a 5 dB(A) reduction or greater in order for a noise barrier to be considered feasible will be two or greater. Because the minimum feasibility requirement that abatement must benefit at least two impacted properties for which there are NAC could not be achieved, noise barriers were not evaluated for the single/isolated sites.

Barrier 1 was evaluated for the Alafia Scrub Nature Preserve. The FDOT's research publication, *A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations*, was used for Barrier 1 to determine if a noise barrier could be considered a potential abatement measure. The Alafia Scrub Nature Preserve was determined to not receive the amount of use required for the cost to be below the FDOT's cost reasonable limit of $995,935/person-hr/ft^2 for special land uses.

Barrier 2 was evaluated for the CNE involving seven impacted residences north of Gibsonton Drive and along Oakridge Avenue and Pineridge Avenue (B62, B65, B66, B70, B71, B75, and B76). Receptor B75 is included in this CNE; however, it was not included in the barrier analysis since it is planned to be relocated and not considered for noise abatement. Barrier 2 could provide a reduction in noise levels of 7 dB(A) for one noise-sensitive receptor only for all heights evaluated. Since a minimum of two impacted sites must achieve a 5 dB(A) reduction or greater in order for a noise barrier to be considered feasible, Barrier 2 is not a feasible option for noise abatement. Further, Barrier 2 is not cost reasonable at any height considered. Therefore, a noise barrier is not recommended for further consideration.

Based on the noise analyses performed to date, there are no feasible and reasonable solutions available to mitigate the noise impacts at the locations identified in **Table 3-2** and shown in **Appendix C**.

SECTION 5 LAND-USE CONTROLS

Coordination with local agencies and officials has been accomplished during the development of this project. To aid in promoting land use compatibility, a copy of the NSR, which provides information that can be used to protect future land development from becoming incompatible with anticipated traffic noise level, will be provided to Hillsborough County. Land use controls can be used to minimize traffic noise in future developments or areas where redevelopment occurs. Land uses such as residences, hotels, schools, churches, and recreation areas are considered incompatible with highway traffic noise that exceed the NAC for their respective Activity Category. In order to reduce the possibility of additional noise related impacts, noise level contours were developed for the future improved roadway facility. These noise contours delineate the distance from the improved roadway's edge of pavement where the NAC for each exterior Activity Category (A through E) is predicted to be approached (i.e. within one dB(A) of the NAC) in the design year (2045) with the proposed improvements to Gibsonton Drive. The contours do not consider any shielding of noise provided by structures between the receptor sites and the proposed travel lanes. To minimize potential for incompatible land use, noise sensitive land uses should be located beyond this distance.

As shown in **Table 5-1** within the project limits, the extent of noise level contour varies for each of the Activity Categories evaluated.

Table 5-1 Design Year (2045) Noise Impact Contour Distances

Roadway Segment	Activity Category*	NAC for Activity Category (dB(A))	Distance to Approach (within 1 dB(A) of NAC for Activity Category (feet)**
Study corridor from Fern Hill Drive to US 301	A	57	>500
	B	67	140
	C	67	140
	E	72	60

*Refer to Table 2-1 for details on Activity Categories.

**Distances are measured from the improved roadways edge of pavement, do not account for any reduction in noise levels that may occur from shielding, and should be used for planning purposes only.

SECTION 6 CONSTRUCTION NOISE AND VIBRATIONS

During the short-term construction phase of the proposed project, noise may be generated by stationary and mobile construction equipment. Using FDOT's listing of noise and vibration sensitive sites, residences, medical facilities, and churches were identified as potentially sensitive to vibration caused during construction.

The FDOT commits to coordinating with these facilities and any other construction noise and vibration sites identified during the design phase of the project. The application of the FDOT's *Standard Specifications for Road and Bridge Construction* could minimize or eliminate most of the potential construction noise and vibration. However, should unanticipated noise or vibration issues arise during the construction process, the Project Engineer, in concert with the District Noise Specialist and the Contractor, will investigate additional methods of controlling the issues.

SECTION 7 COMMUNITY COORDINATION

A public hearing will be held for this project. This public hearing will give interested persons an opportunity to express their views concerning the conceptual design, and social, economic, and environmental effects of the proposed improvements. Any public comments specific to noise received at or following the public hearing will be addressed further during the design phase once a detailed analysis for this project has been completed. Although no noise barriers are proposed, additional public coordination specific to potential noise barriers may be conducted during this time.

SECTION 8 REFERENCES

California Department of Transportation. September 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol.

Federal Highway Administration. U.S. Department of Transportation. July 13, 2010. Title 23 CFR, Part 772. Procedures for Abatement of Highway Traffic Noise and Construction Noise.

Federal Highway Administration. February 2004. Traffic Noise Model, Version 2.5.

Federal Highway Administration. December 2011. Highway Traffic Noise: Analysis and Abatement Guidance.

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Florida Department of Transportation. July 22, 2009. A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations.

Florida Department of Transportation, Florida Land Use, Cover and Forms Classification System, January 1999, Third Edition, FDOT Surveying and Mapping Office Geographic Mapping Section.

Florida Department of Transportation. July 1, 2023. Project Development and Environment Manual, Part 2, Chapter 18 – Highway Traffic Noise.

Florida Department of Transportation. January 1, 2023. FDOT Design Manual. Section 264 Noise Walls and Perimeter Walls.

Florida Department of Transportation. January 2023. Standard Specifications for Road and Bridge Construction.

Florida Department of Transportation. Environmental Management Office. December 31, 2016. Traffic Noise Modeling and Analysis Practitioners Handbook.

Google. Accessed June 2023. Google Earth Pro, Aerial Maps and Elevation Data

APPENDICES

APPENDIX A Concept Plans

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT

INDEX OF ROADWAY PLANS

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

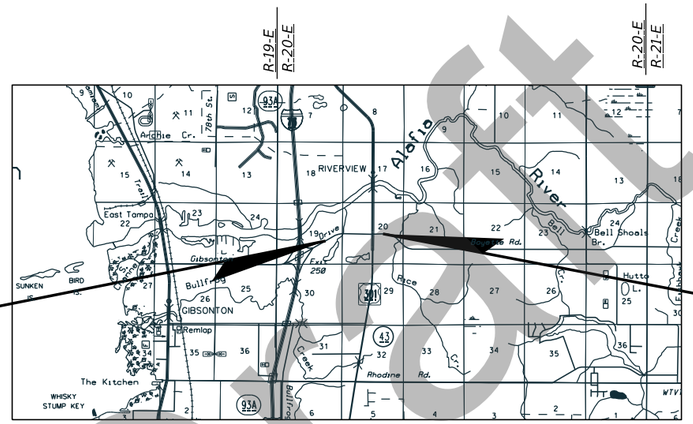
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY CONCEPT PLANS

WPI SEGMENT NO. 450438-1

HILLSBOROUGH COUNTY

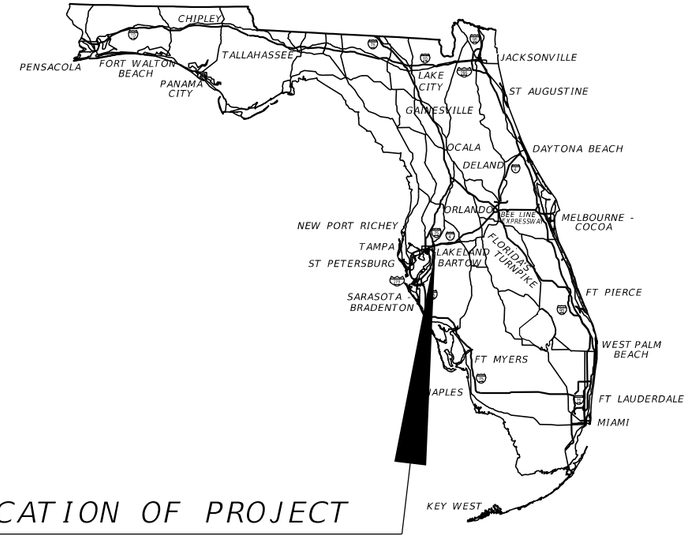
GIBSONTON DRIVE

From west of Fern Hill Drive to East of US 301



BEGIN PROJECT
STA 77+26.71 ℄ SURVEY=
STA 98+26.71 ℄ CONST

END PROJECT
STA 109+87.58 ℄ SURVEY=
STA 150+02.09 ℄ CONST



LOCATION OF PROJECT

ROADWAY PLANS
ENGINEER OF RECORD:

JEFFREY S. NOVOTNY, P.E., AICP, RSP1
P.E. LICENSE NUMBER 51083
AMERICAN CONSULTING PROFESSIONALS, LLC
2818 CYPRESS RIDGE BLVD., SUITE 200
WESLEY CHAPEL, FLORIDA 33544
ENGINEERING BUSINESS NO.: EB7110

FDOT PROJECT MANAGER:

ASHLEY HENZEL, P.E.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
_____	__	000

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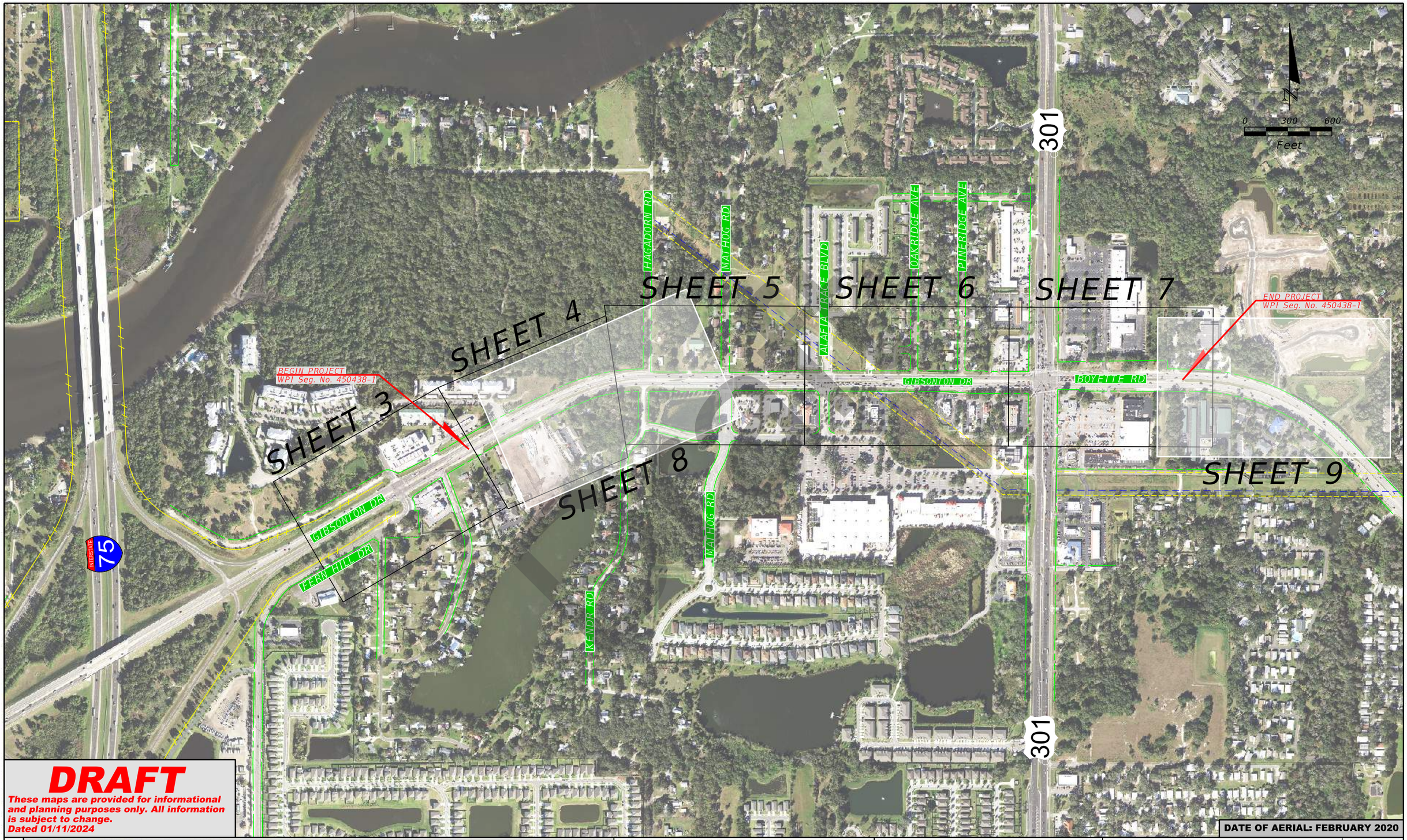

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These maps are provided for informational and planning purposes only. All information is subject to change.
Dated 01/11/2024

DATE OF AERIAL: FEBRUARY 2020

LEGEND

- EASEMENT LINE
- EXISTING ROW
- EXISTING LA ROW
- PLAN SHEET BOUNDARY
- STORMWATER MANAGEMENT FACILITY/FLOODPLAIN COMPENSATION SITE SHEET BOUNDARY

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	450438-1-22-01

American Consulting Professionals, LLC
2818 Cypress Ridge Blvd. Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Engineering Business No. EB7110
Jeffrey S. Novotny, P.E. No. 51083

GIBSONTON DR PD&E STUDY
From FERN HILL DR to US 301
Preferred Alternative Concept Plan
Sheet Layout Map

WPI No.: 450438-1

SHEET NO. 2

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NOTE:
FPID No. 437650-1 GIBSONTON DR FROM WEST OF I-75 TO EAST OF I-75 DIVERGING DIAMOND INTERCHANGE (DDI) PROPOSED ROADWAY IMPROVEMENTS.

HILLSBOROUGH COUNTY CIP No. 69600311
FERN HILL DR AT GIBSONTON DR
INTERSECTION IMPROVEMENTS.

0 20 100
Feet

STARS & STRIPES COMMERCIAL PARK

RACETRAC

STARS & STRIPES CAR WASH

BUS STOP
HART ROUTE 31

UPPER ALAFIA CT

GIBSONTON DR

BEGIN PROJECT
WPI Seg. No. 450438-1

STA 98+26.71
BEGIN ℄ CONST

N59°48'10"E

MOBIL

BUS STOP
HART ROUTE 31

FERN HILL DR

KENLAKE DR

BRANWOOD DR

BOARD WALK
OF RIVERVIEW

MATCH LINE. SEE SHEET 4

DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change.
Dated 01/11/2024

DATE OF AERIAL: FEBRUARY 2020

LEGEND

- WETLANDS BOUNDARY
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA (HILLS. COUNTY STORMWATER MANAGEMENT MODEL)
- PREFERRED SMF AND FPC AREA
- BUSINESS RELOCATION
- RESIDENTIAL RELOCATION
- POTENTIAL CONTAMINATION SITE
- PROPERTY LINE
- EXISTING ROW
- EXISTING LA ROW
- PROPOSED ROW
- EXISTING EASEMENT
- PROPOSED MSE WALL/ GRAVITY WALL
- PROPOSED SIDEWALK
- IMPROVEMENTS
- PROPOSED MEDIAN (SOD)
- PROPOSED TRAFFIC SEPARATOR
- IMPROVEMENT BY COUNTY

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	450438-1-22-01

American Consulting Professionals, LLC
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Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Engineering Business No. EB7110
Jeffrey S. Novotny, P.E. No. 51083

GIBSONTON DR PD&E STUDY
From FERN HILL DR to US 301
Preferred Alternative
Concept Plans
WPI No.: 450438-1

SHEET NO. 3

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These maps are provided for informational and planning purposes only. All information is subject to change.
Dated 01/11/2024

DATE OF AERIAL: FEBRUARY 2020

LEGEND

- WETLANDS BOUNDARY
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA (HILLS. COUNTY STORMWATER MANAGEMENT MODEL)
- PREFERRED SMF AND FPC AREA
- B BUSINESS RELOCATION
- R RESIDENTIAL RELOCATION
- POTENTIAL CONTAMINATION SITE
- PROPERTY LINE
- EXISTING ROW
- EXISTING LA ROW
- PROPOSED ROW
- EXISTING EASEMENT
- PROPOSED MSE WALL/ GRAVITY WALL
- PROPOSED SIDEWALK
- IMPROVEMENTS
- PROPOSED MEDIAN (SOD)
- PROPOSED TRAFFIC SEPARATOR
- IMPROVEMENT BY COUNTY

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	450438-1-22-01

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Phone: (813) 435-2600 Fax: (813) 435-2601
Engineering Business No. EB7110
Jeffrey S. Novotny, P.E. No. 51083

GIBSONTON DR PD&E STUDY
From FERN HILL DR to US 301
Preferred Alternative
Concept Plans
WPI No.: 450438-1

SHEET NO. 4

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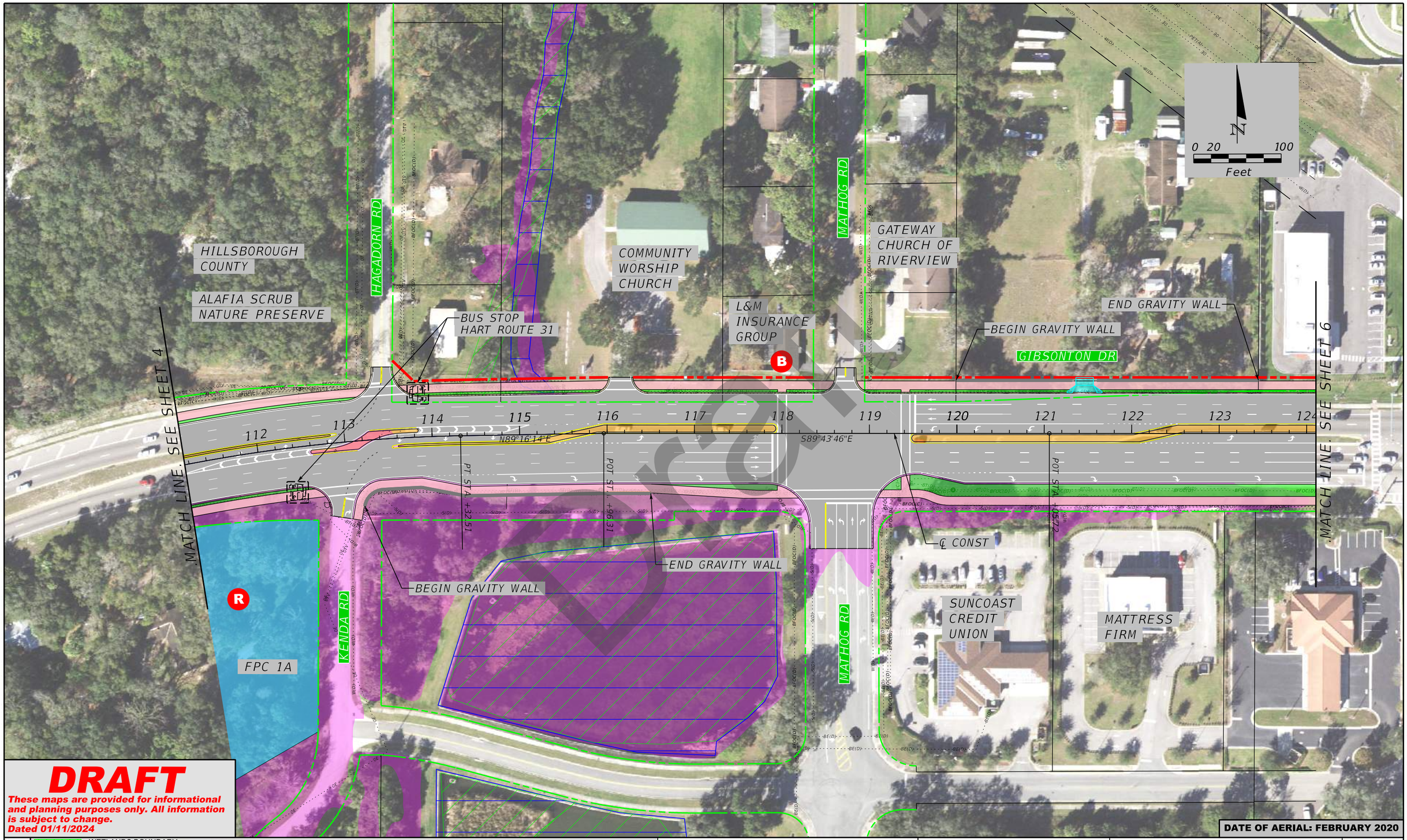


DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change.
Dated 01/11/2024

DATE OF AERIAL: FEBRUARY 2020

LEGEND

- WETLANDS BOUNDARY
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA (HILLS. COUNTY STORMWATER MANAGEMENT MODEL)
- PREFERRED SMF AND FPC AREA
- B BUSINESS RELOCATION
- R RESIDENTIAL RELOCATION
- POTENTIAL CONTAMINATION SITE
- PROPERTY LINE
- EXISTING ROW
- EXISTING LA ROW
- PROPOSED ROW
- EXISTING EASEMENT
- PROPOSED MSE WALL/ GRAVITY WALL
- PROPOSED SIDEWALK
- IMPROVEMENTS
- PROPOSED MEDIAN (SOD)
- PROPOSED TRAFFIC SEPARATOR
- IMPROVEMENT BY COUNTY

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

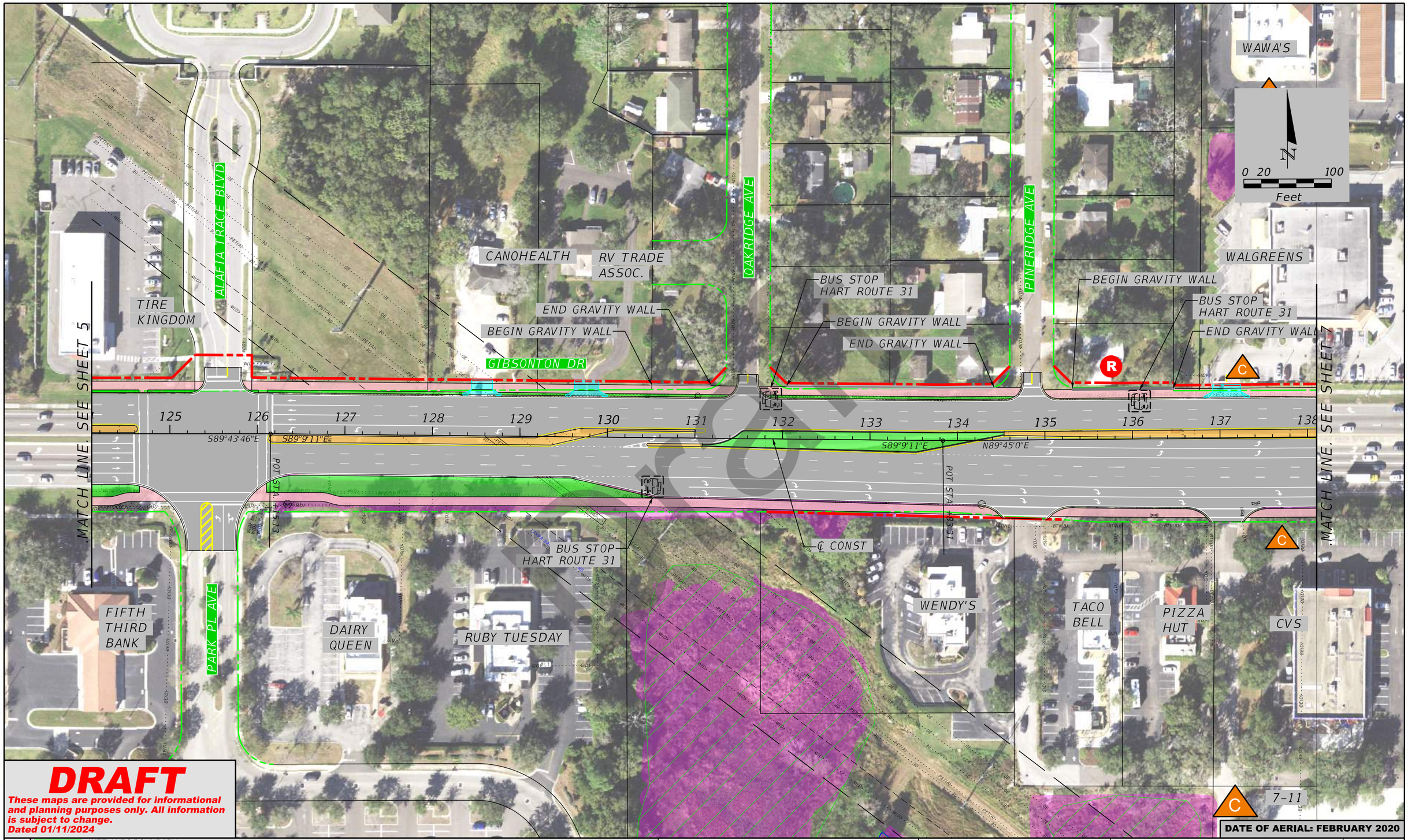
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	450438-1-22-01

American Consulting Professionals, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Engineering Business No. EB7110
Jeffrey S. Novotny, P.E. No. 51083

GIBSONTON DR PD&E STUDY
From FERN HILL DR to US 301
Preferred Alternative
Concept Plans
WPI No.: 450438-1

SHEET NO. 5

5devorm 1/11/2024 4:18:02 PM c:\pw_work\american-pw-01\d0638984\PLANRD103.dgn



DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change.
Dated 01/11/2024

DATE OF AERIAL: FEBRUARY 2020

LEGEND

- WETLANDS BOUNDARY
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA (HILLS. COUNTY STORMWATER MANAGEMENT MODEL)
- PREFERRED SMF AND FPC AREA
- B — BUSINESS RELOCATION
- R — RESIDENTIAL RELOCATION
- POTENTIAL CONTAMINATION SITE
- PROPERTY LINE
- EXISTING ROW
- EXISTING LA ROW
- PROPOSED ROW
- EXISTING EASEMENT
- PROPOSED MSE WALL/ GRAVITY WALL
- PROPOSED SIDEWALK
- IMPROVEMENTS
- PROPOSED MEDIAN (SOD)
- PROPOSED TRAFFIC SEPARATOR
- IMPROVEMENT BY COUNTY

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	450438-1-22-01

American Consulting Professionals, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
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Jeffrey S. Novotny, P.E. No. 51083

GIBSONTON DR PD&E STUDY
From FERN HILL DR to US 301
Preferred Alternative
Concept Plans
WPI No.: 450438-1

SHEET NO. 6

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WAWA'S

B & B CASH
GROCERY STORES, INC

UNITED STATES
POSTAL SERVICE

℄ SURVEY US 301

BUS STOP
HART ROUTE 31

BURGER KING

WALGREENS

BUS STOP
HART ROUTE 24LX

BOYETTE RD

END PROJECT
WPI Seg. No. 450438-1

MATCH LINE. SEE SHEET 6 OF 11

N89°45'0"E

℄ CONST

BANK OF
AMERICA

BUS STOP
HART ROUTE 24LX

PI STA. 150+02.09

STA 150+02.09
END ℄ CONST

CVS

RIVERBAY PLAZA BH LLC

LIFE STORAGE-RIVERVIEW

N0°37'34"E

DRAFT

These maps are provided for informational and planning purposes only. All information is subject to change.
Dated 01/11/2024

DATE OF AERIAL: FEBRUARY 2020

LEGEND

- WETLANDS BOUNDARY
- OTHER SURFACE WATERS BOUNDARY
- FLOODPLAINS AREA (HILLS. COUNTY STORMWATER MANAGEMENT MODEL)
- PREFERRED SMF AND FPC AREA
- B BUSINESS RELOCATION
- R RESIDENTIAL RELOCATION
- C POTENTIAL CONTAMINATION SITE
- PROPERTY LINE
- EXISTING ROW
- EXISTING LA ROW
- PROPOSED ROW
- EXISTING EASEMENT
- PROPOSED MSE WALL/ GRAVITY WALL
- PROPOSED SIDEWALK
- IMPROVEMENTS
- PROPOSED MEDIAN (SOD)
- PROPOSED TRAFFIC SEPARATOR
- IMPROVEMENT BY COUNTY

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	450438-1-22-01

American Consulting Professionals, LLC
2818 Cypress Ridge Blvd, Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Engineering Business No. EB7110
Jeffrey S. Novotny, P.E. No. 51083

GIBSONTON DR PD&E STUDY
From FERN HILL DR to US 301
Preferred Alternative
Concept Plans
WPI No.: 450438-1

SHEET NO. 7

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APPENDIX B Noise Model Traffic Data

TRAFFIC DATA FOR NOISE STUDIES

Federal Aid Number(s):	
FPID Number(s):	450438-1-22-01
State/Federal Route No.:	
Road Name:	Gibsonton Drive
Project Description:	PD&E Studies Gibsonton Dr from Fern Hill Dr to US 301
Segment Description:	Begin Project to Fern Hill Dr
Section Number:	
Mile Post To/From:	

Existing Facility:		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2022	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	1791	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2674	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

No Build Alternative (Design Year):		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2045	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	1791	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	3341	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

Build Alternative (Design Year):		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2045	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	2759	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	3341	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

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

Prepared By: Jeffrey S. Novotny, PE, AICP, RSP1 — DocuSigned by: Jeffrey Novotny — Date: 10/25/2023

Print Name — Signature

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

FDOT Reviewer: _____ Date: _____

Print Name — Signature

TRAFFIC DATA FOR NOISE STUDIES

Federal Aid Number(s):	
FPID Number(s):	450438-1-22-01
State/Federal Route No.:	
Road Name:	Gibsonton Drive
Project Description:	PD&E Studies Gibsonton Dr from Fern Hill Dr to US 301
Segment Description:	Fern Hill to Mathog Rd
Section Number:	
Mile Post To/From:	

Existing Facility:		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2022	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	1791	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2164	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

No Build Alternative (Design Year):		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2045	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	1791	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	3241	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

Build Alternative (Design Year):		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2045	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	2759	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	3241	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

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

Prepared By: Jeffrey S. Novotny, PE, AICP, RSP1 (Print Name) — DocuSigned by: Jeffrey Novotny D3B7AEF139FB488... (Signature) — Date: 10/25/2023

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

FDOT Reviewer: _____ (Print Name) _____ (Signature) — Date: _____

TRAFFIC DATA FOR NOISE STUDIES

Federal Aid Number(s):	
FPID Number(s):	450438-1-22-01
State/Federal Route No.:	
Road Name:	Gibsonton Drive
Project Description:	PD&E Studies Gibsonton Dr from Fern Hill Dr to US 301
Segment Description:	Mathog Rd to Park Place Ave
Section Number:	
Mile Post To/From:	

Existing Facility:		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2022	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	1791	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2036	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

No Build Alternative (Design Year):		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2045	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	1791	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2788	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

Build Alternative (Design Year):		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2045	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	2759	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2788	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

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

Prepared By: Jeffrey S. Novotny, PE, AICP, RSP1 (Print Name) DocuSigned by: Jeffrey Novotny D3B7AEF133FB482... (Signature) Date: 10/25/2023

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

FDOT Reviewer: _____ (Print Name) _____ (Signature) Date: _____

TRAFFIC DATA FOR NOISE STUDIES

Federal Aid Number(s):	
FPID Number(s):	450438-1-22-01
State/Federal Route No.:	
Road Name:	Gibsonton Drive
Project Description:	PD&E Studies Gibsonton Dr from Fern Hill Dr to US 301
Segment Description:	Park Place Ave to US 301
Section Number:	
Mile Post To/From:	

Existing Facility:		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2022	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	1791	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2112	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

No Build Alternative (Design Year):		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2045	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	1791	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2887	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

Build Alternative (Design Year):		D =	52.5	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2045	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	2759	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2887	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

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

Prepared By: Jeffrey S. Novotny, PE, AICP, RSP1 (Print Name) — DocuSigned by: Jeffrey Novotny D3B7AEF135FB482... (Signature) — Date: 10/25/2023

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

FDOT Reviewer: _____ (Print Name) _____ (Signature) — Date: _____

TRAFFIC DATA FOR NOISE STUDIES

Federal Aid Number(s):	
FPID Number(s):	450438-1-22-01
State/Federal Route No.:	
Road Name:	Gibsonton Drive
Project Description:	PD&E Studies Gibsonton Dr from Fern Hill Dr to US 301
Segment Description:	US 301 to End of Project
Section Number:	
Mile Post To/From:	

Existing Facility:		D =	59.0	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2022	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	2012	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2039	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

No Build Alternative (Design Year):		D =	59.0	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2045	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	2012	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2788	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

Build Alternative (Design Year):		D =	59.0	%
		T24 =	8.0	% of 24 Hour Volume
Year:	2045	Tpeak =	4.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	3101	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2788	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

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

Prepared By: Jeffrey S. Novotny, PE, AICP, RSP1 (Print Name) — DocuSigned by: Jeffrey Novotny D3B7AEF135FB482... (Signature) — Date: 10/25/2023

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

FDOT Reviewer: _____ (Print Name) _____ (Signature) — Date: _____

TRAFFIC DATA FOR NOISE STUDIES

Federal Aid Number(s):	
FPID Number(s):	450438-1-22-01
State/Federal Route No.:	
Road Name:	Alafia Trace Blvd
Project Description:	PD&E Studies Gibsonton Dr from Fern Hill Dr to US 301
Segment Description:	Alafia Trace Blvd, north of Gibsonton Dr
Section Number:	
Mile Post To/From:	

Existing Facility:		D =	52.5	%
		T24 =	4.0	% of 24 Hour Volume
Year:	2022	Tpeak =	2.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	345	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	33	B =	0.5	% of Design Hour Volume
Posted Speed:	25	MC =	0.2	% of Design Hour Volume

No Build Alternative (Design Year):		D =	52.5	%
		T24 =	4.0	% of 24 Hour Volume
Year:	2045	Tpeak =	2.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	345	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	41	B =	0.5	% of Design Hour Volume
Posted Speed:	25	MC =	0.2	% of Design Hour Volume

Build Alternative (Design Year):		D =	52.5	%
		T24 =	4.0	% of 24 Hour Volume
Year:	2045	Tpeak =	2.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	345	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	41	B =	0.5	% of Design Hour Volume
Posted Speed:	25	MC =	0.2	% of Design Hour Volume

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

Prepared By: Jeffrey S. Novotny, PE, AICP, RSP1 (Print Name) — DocuSigned by: Jeffrey Novotny D3B7AEF135FB48A... (Signature) — Date: 10/25/2023

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

FDOT Reviewer: _____ (Print Name) _____ (Signature) — Date: _____

TRAFFIC DATA FOR NOISE STUDIES

Federal Aid Number(s):	
FPID Number(s):	450438-1-22-01
State/Federal Route No.:	
Road Name:	Mathog Rd
Project Description:	PD&E Studies Gibsonton Dr from Fern Hill Dr to US 301
Segment Description:	Mathog Rd, south of Gibsonton Dr
Section Number:	
Mile Post To/From:	

Existing Facility:		D =	52.5	%
		T24 =	4.0	% of 24 Hour Volume
Year:	2022	Tpeak =	2.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	345	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	184	B =	0.5	% of Design Hour Volume
Posted Speed:	30	MC =	0.2	% of Design Hour Volume

No Build Alternative (Design Year):		D =	52.5	%
		T24 =	4.0	% of 24 Hour Volume
Year:	2045	Tpeak =	2.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	345	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	227	B =	0.5	% of Design Hour Volume
Posted Speed:	30	MC =	0.2	% of Design Hour Volume

Build Alternative (Design Year):		D =	52.5	%
		T24 =	4.0	% of 24 Hour Volume
Year:	2045	Tpeak =	2.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	345	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	227	B =	0.5	% of Design Hour Volume
Posted Speed:	30	MC =	0.2	% of Design Hour Volume

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

Prepared By: Jeffrey S. Novotny, PE, AICP, RSP1 (Print Name) — DocuSigned by: Jeffrey Novotny D3B7AEF135FB48A... (Signature) — Date: 10/25/2023

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

FDOT Reviewer: _____ (Print Name) _____ (Signature) — Date: _____

TRAFFIC DATA FOR NOISE STUDIES

Federal Aid Number(s):	
FPID Number(s):	450438-1-22-01
State/Federal Route No.:	
Road Name:	Park Place Ave
Project Description:	PD&E Studies Gibsonton Dr from Fern Hill Dr to US 301
Segment Description:	Park Place Ave, south of Gibsonton Dr
Section Number:	
Mile Post To/From:	

Existing Facility:		D =	52.5	%
		T24 =	4.0	% of 24 Hour Volume
Year:	2022	Tpeak =	2.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	345	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	217	B =	0.5	% of Design Hour Volume
Posted Speed:	25	MC =	0.2	% of Design Hour Volume

No Build Alternative (Design Year):		D =	52.5	%
		T24 =	4.0	% of 24 Hour Volume
Year:	2045	Tpeak =	2.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	345	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	269	B =	0.5	% of Design Hour Volume
Posted Speed:	25	MC =	0.2	% of Design Hour Volume

Build Alternative (Design Year):		D =	52.5	%
		T24 =	4.0	% of 24 Hour Volume
Year:	2045	Tpeak =	2.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	345	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	269	B =	0.5	% of Design Hour Volume
Posted Speed:	25	MC =	0.2	% of Design Hour Volume

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

Prepared By: Jeffrey S. Novotny, PE, AICP, RSP1 (Print Name) — DocuSigned by: Jeffrey Novotny D3B7AEF135FB48A... (Signature) — Date: 10/25/2023

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

FDOT Reviewer: _____ (Print Name) _____ (Signature) — Date: _____

TRAFFIC DATA FOR NOISE STUDIES

Federal Aid Number(s):	
FPID Number(s):	450438-1-22-01
State/Federal Route No.:	
Road Name:	US 301
Project Description:	PD&E Studies Gibsonton Dr from Fern Hill Dr to US 301
Segment Description:	US 301, north of Gibsonton Dr
Section Number:	
Mile Post To/From:	

Existing Facility:		D =	60.0	%
		T24 =	5.0	% of 24 Hour Volume
Year:	2022	Tpeak =	3.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	3154	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2824	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

No Build Alternative (Design Year):		D =	60.0	%
		T24 =	5.0	% of 24 Hour Volume
Year:	2045	Tpeak =	3.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	3154	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	3343	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

Build Alternative (Design Year):		D =	60.0	%
		T24 =	5.0	% of 24 Hour Volume
Year:	2045	Tpeak =	3.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	3154	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	3343	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

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

Prepared By: Jeffrey S. Novotny, PE, AICP, RSP1 (Print Name) — DocuSigned by: Jeffrey Novotny D3B7AEF135FB48A... (Signature) — Date: 10/25/2023

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

FDOT Reviewer: _____ (Print Name) _____ (Signature) — Date: _____

TRAFFIC DATA FOR NOISE STUDIES

Federal Aid Number(s):	
FPID Number(s):	450438-1-22-01
State/Federal Route No.:	
Road Name:	US 301
Project Description:	PD&E Studies Gibsonton Dr from Fern Hill Dr to US 301
Segment Description:	US 301, south of Gibsonton Dr
Section Number:	
Mile Post To/From:	

Existing Facility:		D =	60.0	%
		T24 =	5.0	% of 24 Hour Volume
Year:	2022	Tpeak =	3.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	3154	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	2878	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

No Build Alternative (Design Year):		D =	60.0	%
		T24 =	5.0	% of 24 Hour Volume
Year:	2045	Tpeak =	3.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	3154	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	3672	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

Build Alternative (Design Year):		D =	60.0	%
		T24 =	5.0	% of 24 Hour Volume
Year:	2045	Tpeak =	3.0	% of Design Hour Volume
		MT =	3.2	% of Design Hour Volume
LOS C Peak Hour Directional Volume:	3154	HT =	2.6	% of Design Hour Volume
Demand Peak Hour Volume:	3672	B =	0.5	% of Design Hour Volume
Posted Speed:	45	MC =	0.2	% of Design Hour Volume

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

Prepared By: Jeffrey S. Novotny, PE, AICP, RSP1 (Print Name) — DocuSigned by: Jeffrey Novotny D3B7AEF135FB482... (Signature) — Date: 10/25/2023

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

FDOT Reviewer: _____ (Print Name) _____ (Signature) — Date: _____

APPENDIX C Noise-Sensitive Receptor Sites

Not Impacted:
B18-B33

Not Impacted:
B34-B46; B48-B49
Impacted: B47

Begin Study

Alafia Preserve Dr

The Preserve
at Alafia

All Dental
Riverview

Alafia Scrub
Nature Preserve

Hegadorn Rd

Mathog Rd

Community
Worship Center

Church of Nazarene
Riverview

Florida Society of
Clinical Oncology

Branwood Dr

Fern Hill Dr

Kenlake Dr

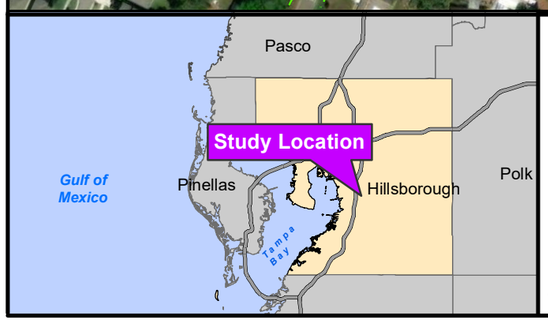
Kenda Dr

Gibsonton Dr

Towncenter Rd

N

0 250 500
Feet



Appendix C: Noise Sensitive Receptor Map

Gibstonton Drive PD&E Study

From Fern Hill Drive to US 301

FPID: 450438-1

Hillsborough County

Source: ESRI

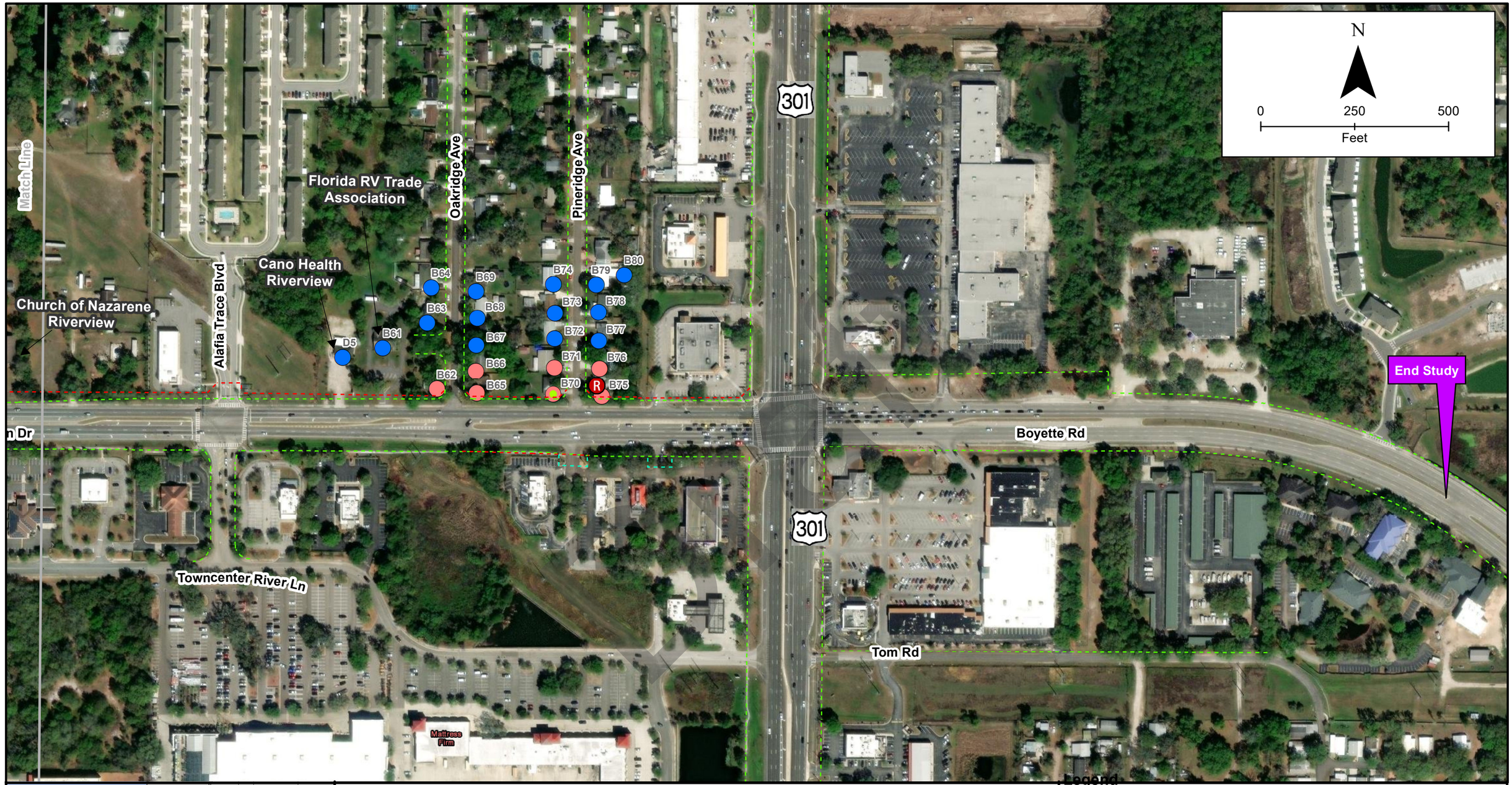
Legend

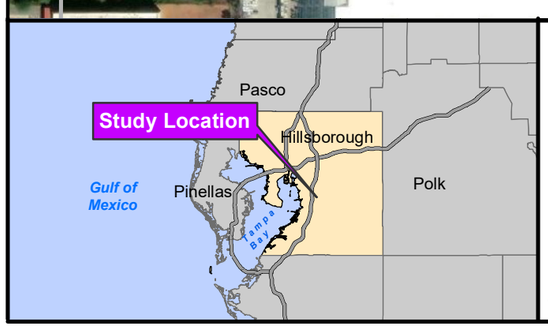
Relocation - Type

- B Business
- R Residential
- Proposed ROW
- Temporary Construction Easement
- Existing ROW
- Validation Point

Noise Receptors

- Not Impacted
- Impacted
- Impacted, Benefited
- Not Impacted, Two-Story Building
- Impacted, Two-Story Building





Appendix C: Noise Sensitive Receptor Map

Gibstonton Drive PD&E Study

From Fern Hill Drive to US 301

FPID: 450438-1

Hillsborough County

Source: ESRI

Legend

- ROADS

Relocation - Type

- Business
- Residential
- Validation Point
- Proposed ROW
- Temporary Construction Easement
- Existing ROW

Noise Receptors

- Not Impacted
- Impacted
- Impacted, Benefited
- Not Impacted, Two-Story Building
- Impacted, Two-Story Building

APPENDIX D Noise Model Validation Data

Noise Validation Data

Location (Address and County)/Site Identification	Station Number	Survey No.
Bus Stop Gibsonton Drive @ Kenda Drive (Hillsborough County)	789	1

Date	Calibration Begin	Calibration End	Time Begin	Time End	Measured dB(A)
08/04/23	10:17	10:18	10:14	10:34	76.2

Weather Data

Temperature	Cloud/Sun Cover	Precipitation/ Humidity	Wind Speed Direction
85°	20	72%	0 mph

Traffic Classification - NB SB (WB) EB

Cars	Med Trucks	Heavy Trucks	Buses	Motorcycles
231	7	5	-	-

Traffic Classifications - NB SB WB (EB)

Cars	Med Trucks	Heavy Trucks	Buses	Motorcycles
142	5	6	-	-

Measurements Taken By: Tom Daniel, Juan Martinez, Cameron Jones

Other Comments:

10:24

Noise Validation Vehicle Speeds

Location (Address and County)/Site Identification	Station Number	Survey No.
Gibsonton Drive @ Icenda Drive - Bus Stop (Hillsborough County)	789	1

Speed Counts - NB SB (WB) EB

Cars	Cars	Cars	Cars	M. Trucks	M. Trucks	H. Trucks	H. Trucks	Buses	M. Cycles
35	47	43		46		37			
47	45	40		40		32			
45	44			36		38			
41	43			44		45			
49	47					46			
45	41								
41	42								
39	41								
55	44								
47	43								
48	40								
46	45								

Speed Counts - NB SB WB (EB)

Cars	Cars	Cars	Cars	M. Trucks	M. Trucks	H. Trucks	H. Trucks	Buses	M. Cycles
35	53			44		36			
49	35			41		42			
51	50			35		40			
41	47			41		39			
40	50					50			
42	51					40			
40	49								
50	48								
49	44								
50	35								
52									
44									

Noise Validation Data

Location (Address and County)/Site Identification	Station Number	Survey No.
Gibsonton Drive @ Icenda Drive - Bus Stop (Hillsborough County)	789	2

Date	Calibration Begin	Calibration End	Time Begin	Time End	Measured dB(A)
08/04/23			10:39	10:49	75.3

Weather Data

Temperature	Cloud/Sun Cover	Precipitation/ Humidity	Wind Speed Direction
86	20%	69%	0mph -

Traffic Classification - NB SB (WB) EB

Cars	Med Trucks	Heavy Trucks	Buses	Motorcycles
240	7	7	-	-

Traffic Classifications - NB SB WB (EB)

Cars	Med Trucks	Heavy Trucks	Buses	Motorcycles
151	7	4	-	-

Measurements Taken By: Tom Daniel, Juan Martinez, Cameron Jones

Other Comments: loud acceleration by car halfway thru

Noise Validation Vehicle Speeds

Location (Address and County)/Site Identification	Station Number	Survey No.
Gibsonton Drive @ Kenda Drive - Bus Stop (Hillsborough County)	789	2

Speed Counts - NB SB ~~WB~~ EB

Cars	Cars	Cars	Cars	M. Trucks	M. Trucks	H. Trucks	H. Trucks	Buses	M. Cycles
41	45			40		38			
48	42			40		35			
37	38			40		36			
48	39					~~42~~			
40	34					42			
46	42								
47	42								
49	41								
44	46								
46									
45									
47									

Speed Counts - NB SB WB ~~EB~~

Cars	Cars	Cars	Cars	M. Trucks	M. Trucks	H. Trucks	H. Trucks	Buses	M. Cycles
49	34	47		44		32			
48	38	45		48		32			
46	46	48		37		~~42~~			
47	45	51		44		~~42~~			
48	46			45		44			
44	54			55		42			
48	42			41					
40	30								
40	39								
41	42								
45	52								
42	46								

Noise Validation Data

Location (Address and County)/Site Identification	Station Number	Survey No.
Gibsonton Drive @ Kenda Drive - Bus Stop (Hillsborough)	789	3

Date	Calibration Begin	Calibration End	Time Begin	Time End	Measured dB(A)
08/04/23			10:53	11:03	75.4

Weather Data

Temperature	Cloud/Sun Cover	Precipitation/ Humidity	Wind Speed Direction
87	20%	67%	2WB

Traffic Classification - NB SB (WB) EB

Cars	Med Trucks	Heavy Trucks	Buses	Motorcycles
235	9	8	0	6

Traffic Classifications - NB SB WB (EB)

Cars	Med Trucks	Heavy Trucks	Buses	Motorcycles
165	4	5	0	1

Measurements Taken By: Tom Daniel, Juan Martinez and Cameron Jones

Other Comments:

10:53

Noise Validation Vehicle Speeds

Location (Address and County)/Site Identification	Station Number	Survey No.
Gibsonton Drive @ Kenda Drive - Bus Stop (Hillsborough County)	789	3

Speed Counts - NB SB (WB) EB

Cars	Cars	Cars	Cars	M. Trucks	M. Trucks	H. Trucks	H. Trucks	Buses	M. Cycles
45	47			37		38			
46	44			42		45			
44	51			43		41			
45	44			45		45			
34	43			46		35			
42	47			46		45			
43	44			40					
42	45								
39									
51									
47									
46									

Speed Counts - NB SB WB (EB)

Cars	Cars	Cars	Cars	M. Trucks	M. Trucks	H. Trucks	H. Trucks	Buses	M. Cycles
48	40	42		38		42			47
41	46	27		37		37			
37	42	20		38		39			
41	38	38		44		46			
42	50			44					
53	56								
45	49								
42	45								
46	48								
44	46								
45	47								
43	44								

American Consulting
S. Connor
5 October 2023
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 5217722_002
RUN: Gibsonton Dr PD&E Study Validation 1
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

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

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.3	66	73.3	10	Snd Lvl	73.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

American Consulting
S. Connor
5 October 2023
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 5217722_002
RUN: Gibsonton Dr PD&E Study validation 2
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

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

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.2	66	73.2	10	Snd Lvl	73.2	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

American Consulting
S. Connor
5 October 2023
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: 5217722_002
RUN: Gibsonton Dr PD&E Study validation 3
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

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

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.5	66	72.5	10	Snd Lvl	72.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

APPENDIX E TNM Data

Available for review at the District Office

APPENDIX F Barrier Analysis

Available for review at the District Office