

NOISE STUDY REPORT

PROJECT DEVELOPMENT AND ENVIRONMENT STUDY STATE ROAD 9 (I-95)

From North of Oakland Park Boulevard (SR 816)
to South of Glades Road (SR 808)
Mileposts 13.742-25.307 and 0.000-2.014



ETDM Number 3330

Broward and Palm Beach Counties

FPID Numbers 409359-1-22-01 and 409355-1-22-01

FAP Numbers 0951-609-I and 0951-608-I

Prepared for:



FDOT DISTRICT FOUR

3400 West Commercial Boulevard

Fort Lauderdale, Florida 33309

FINAL

JUNE 2013

NOISE STUDY REPORT

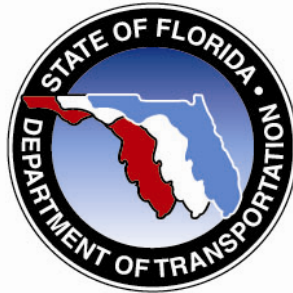
State Road 9/Interstate 95 Project Development and Environment Study

Project Study Limits:

From North of Oakland Park Boulevard (SR 816) to South of Glades Road (SR 808)
in Broward (Mileposts 13.742-25.307) and Palm Beach (Mileposts 0.000-2.014)
Counties

ETDM Number 3330
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Prepared for:



FDOT District Four
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JUNE 2013



EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) District Four is conducting a Project Development and Environment (PD&E) Study for Interstate 95 (I-95/SR 9) from north of Oakland Park Boulevard (SR 816) to south of Glades Road (SR 808) in Broward and Palm Beach counties. The total project length is approximately 13.5 miles.

The primary objective of this project is to design a transportation system that will offer new commuting choices and more reliable travel during congested periods. The purpose of these improvements is to improve mobility and relieve congestion by adding additional capacity along the I-95 corridor. Additional capacity will maximize long-term capacity needs and long-term mobility needs of the project.

As part of this PD&E Study, a traffic noise study was conducted in accordance with Title 23 CFR 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (July 13, 2010) and the FDOT *PD&E Manual*, Chapter 17 – Noise (dated May 24, 2011). The primary objectives of this noise study were to: 1) describe the existing site conditions including noise sensitive land uses within the project study area, 2) document the methodology used to conduct the noise assessment, 3) assess the significance of traffic noise levels on noise sensitive sites for the No Build and Build Alternatives, and 4) evaluate abatement measures for those noise sensitive sites that, under the Build Alternative, approach or exceed the Noise Abatement Criteria (NAC) set forth by the FDOT and FHWA.

Approximately 1,784 residences, including single-family homes, mobile-homes, apartments and condominiums were identified as being sensitive to traffic noise associated with I-95 within the limits of this project. Also, 24 non-residential or special-use noise sensitive sites, including schools, churches, parks, apartment and hotel pools, restaurants and medical facilities were identified along the project corridor.



Traffic noise levels were predicted for noise sensitive locations along the project corridor for the existing conditions and the Design Year (2040) No-Build and Build Alternative. With the Build Alternative, Design Year traffic noise levels at nearby residences are predicted to range from 44.1 to 76.7 dB(A). The Build Alternative noise levels at special land use sites are predicted to range from 40.3 to 71.4 dB(A). With the Build Alternative, noise levels are predicted to exceed the NAC at 422 residences along the project corridor and at eight special land use sites. No other noise sensitive sites within the project study area are predicted to experience traffic noise levels equal to or exceeding the FDOT NAC. Also, no sites are expected to experience any substantial noise level increases as defined by the FDOT [i.e., greater than 15.0 dB(A) over existing levels] with the build alternatives.

In accordance with FHWA and FDOT policies, noise barriers were considered for all noise sensitive receptor sites where Design Year traffic noise levels were predicted to equal or exceed the NAC. Noise barriers were evaluated at 14 locations to mitigate noise impacts and are recommended at eight locations are recommended for further consideration and public input. These noise barriers are expected to benefit approximately 357 residences, 248 of which are predicted to be impacted by this project, and one church.

The FDOT is committed to the construction of feasible noise abatement measures at the locations where noise barriers have been recommended for further consideration during the final design phase, contingent upon the following conditions:

- *Detailed noise analyses during the final design process support the need for abatement;*
- *Reasonable cost analyses indicate that the economic cost of the barrier(s) will not exceed the cost reasonable criterion;*
- *Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed and any conflicts or issues resolved;*
- *Community input regarding desires, types, heights and locations of barriers has been solicited by the FDOT; and*
- *Any other mitigating circumstances found in Section 17-4.6.1 of FDOT's PD&E Manual have been analyzed.*



If, during the Final Design phase, any of the contingency conditions listed above cause abatement to no longer be considered reasonable or feasible for a given location(s), such determination(s) will be made prior to requesting approval for construction advertisement. Commitments regarding the exact abatement measure locations, heights, and type (or approved alternatives) will be made during project reevaluation and at a time before the construction advertisement is approved. At locations where existing shoulder-mounted noise barriers will be physically impacted by this project and it was determined to not be feasible and/or reasonable to replace them with new noise barriers, the existing noise barriers will be replaced in kind during project construction in order to maintain the FDOT's previous noise abatement commitments.



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ACRONYMS

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
BRT	Bus Rapid Transit
CNE	Common Noise Environments
ETDM	Efficient Transportation Decision Making
FAC	Florida Administrative Code
FDOT	Florida Department of Transportation
FEC	Florida East Coast
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FLUE	Future Land Use Element
GIS	Geographic Information System
HOV	High Occupancy Vehicle
LOS	Level of Service
LPA	Locally Preferred Alternative
LRTP	Long-Range Transportation Plan
MPH	Miles per Hour
NAC	Noise Abatement Criteria
PD&E	Project Development and Environment
SFRC	South Florida Rail Corridor
SIS	Strategic Intermodal System
SR	State Road
STIP	State Transportation Improvement Program
TIP	Transportation Improvement Program
TNM	Traffic Noise Model



1.0 INTRODUCTION

The Florida Department of Transportation (FDOT) District Four is conducting a Project Development and Environment (PD&E) Study for Interstate 95 (I-95/SR 9) from north of Oakland Park Boulevard (SR 816) to south of Glades Road (SR 808) in Broward and Palm Beach Counties. The total project length is approximately 13.5 miles. **Figure 1.1** depicts the project location and study limits. The study limits for each county are described below:

1. Broward County, from north of Oakland Park Boulevard to the Broward/Palm Beach County Line – 11.565 miles (FM# 409359-1) Mileposts 13.742-25.307.
2. Palm Beach County, from the Broward/Palm Beach County Line to south of Glades Road – 2.014 miles (FM #409355-1) Mileposts 0.000-2.014.

The primary objective of this project is to design a transportation system that will offer new commuting choices and more reliable travel during congested periods. The purpose of these improvements is to improve mobility and relieve congestion by adding additional capacity along the I-95 corridor. Additional capacity will maximize long-term capacity needs and long-term mobility needs of the project.

This project is guided by the FDOT *PD&E Manual*, the FDOT *Efficient Transportation Decision Making (ETDM) Manual*, Section 339.155 of the Florida Statutes, Executive Orders 11990 and 11988, the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, and 23 Code of Federal Regulations 771. This PD&E study complies with the requirements of the National Environmental Policy Act, which requires the evaluation of the potential impacts (both positive and negative) that a project has on its physical, natural, social, and cultural environment.



As part of this PD&E Study, a traffic noise study was conducted in accordance with Title 23 CFR 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (July 13, 2010) and the FDOT *PD&E Manual*, Chapter 17 – Noise (dated May 24, 2011). The primary objectives of this noise study were to: 1) describe the existing site conditions including noise sensitive land uses within the project study area, 2) document the methodology used to conduct the noise assessment, 3) assess the significance of traffic noise levels on noise sensitive sites for the No Build and Build Alternatives, and 4) evaluate abatement measures for those noise sensitive sites that, under the Build Alternative, approach or exceed the Noise Abatement Criteria (NAC) set forth by the FDOT and FHWA. Other objectives of this study include consideration of construction noise and vibration impacts and the development of noise level isopleths, which can be used in the future by local municipal and county government agencies to identify compatible land uses. The methods and results of the noise study performed for the I-95 project are summarized in this report.



Figure 1.1 – Project Location Map



2.0 PROJECT DESCRIPTION

The project study area, as shown in *Figure 1.1*, is located in northeast Broward County and southeast Palm Beach County; and is approximately 13.5 miles in length. The limits extend along I-95 from north of Oakland Park Boulevard (SR 816) to south of Glades Road (SR 808).

I-95 is the primary north-south interstate facility that links all major cities along the Atlantic seaboard and is one of the most important transportation systems in southeast Florida. I-95 is one of the only two major expressways, Florida's Turnpike being the other, that connect the major employment centers and residential areas within the South Florida tri-county area. The corridor serves the Boca Raton Airport, Florida Atlantic University, Fort Lauderdale-Hollywood International Airport, Palm Beach International Airport and major shopping malls and business centers. Within the study limits, I-95 is a major connector between northern Broward County and southern Palm Beach County and serves as a feeder route to east/west corridors along the facility. I-95 is part of the Strategic Intermodal System (SIS) and National Highway System (NHS). In addition, I-95 is designated as an evacuation route along the east coast of Florida.

I-95, within the study limits, is an eight-lane divided limited access facility classified as an urban principal arterial interstate. The existing speed limit along I-95 is posted at 65 miles per hour (MPH). The access management classification for this corridor is Class 1.2, Freeway in an existing urbanized area with limited access. The project area traverses two counties and the following five municipalities:

- Oakland Park
- Fort Lauderdale
- Pompano Beach
- Deerfield Beach
- Boca Raton



This section of I-95 has interchange connections with major roadway facilities including Commercial Boulevard (SR 870), Cypress Creek Road, Atlantic Boulevard (SR 814), Copans Road, Sample Road (SR 834), SW 10th Street (SR 869), Hillsboro Boulevard (SR 810) and Palmetto Park Road. SW 10th Street provides a direct connection between I-95 and the Sawgrass Expressway.

The primary objective of this project is to design a transportation system that will offer new commuting choices and more reliable travel during congested periods. The purpose of these improvements is to improve mobility and relieve congestion by adding additional capacity along the I-95 corridor. Additional capacity will maximize long-term capacity needs and long-term mobility needs of the project.

The corridor improvements will consist of two tolled express lanes in each direction along the I-95 corridor within the study limits. These improvements are needed to address future vehicular growth projected in the area, improve highway safety, enhance hurricane and other emergency evacuations, and improve system connectivity with major arterials along the corridor. The express lanes will create an opportunity to accommodate a Bus Rapid Transit (BRT) system that will allow express bus service between counties with connections to the existing park-and-ride lots along the corridor. The express lanes will have a variable toll pricing based on congestion to optimize the traffic flow.



2.1 BACKGROUND

The I-95 corridor is considered the “spine” of the transportation system in southeast Florida. Master planning of major transportation facilities such as I-95 has been essential to facilitate the availability of capacity within the transportation network and to support the region’s high growth. The FDOT has been involved in both master planning and implementation of master plan recommendations for the past three decades. Over the past few decades, Miami-Dade, Broward and Palm Beach Counties have experienced a high demographic growth which has translated into traffic volumes exceeding the capacity of the corridor. These high volumes have brought congestion during the peak hours on I-95 to unacceptable levels of service.

In early 1980s, FDOT began a major study for the I-95 corridor from the Miami-Dade/Broward County line to north of Glades Road in Palm Beach County. The Interstate 95 High Occupancy Vehicle Lane Study was completed in March 1984 and provided the preliminary engineering data and environmental documentation needed to initiate the design of High Occupancy Vehicle (HOV) lanes, auxiliary lanes, and interchange improvements. This study offered the basis for subsequent studies along the corridor during the late 1980s and throughout the 1990s.

In September 2003, the FDOT finalized a master planning study for the I-95/I-595 corridors and the South Florida Rail Corridor (SFRC), which evaluated the existing deficiencies and recommended possible future improvements along these corridors within the following limits:

- I-95 from the Miami-Dade/Broward County Line to Indiantown Road (SR 706) in Palm Beach County
- I-595 from SW 136th Avenue to US 1 in Broward County
- SFRC from the Miami-Dade/Broward County Line to the Palm Beach/Martin County Line



This PD&E study is one of the recommendations outlined in the master plan process. The main objective would be to improve the capacity of the I-95 transportation corridor within the specified limits by identifying and implementing viable and appropriate multimodal alternatives. The Locally Preferred Alternative (LPA) from the master plan study, within the PD&E study limits, consisted of the following improvements:

- Add an additional general purpose lane for a total of four general purpose lanes in each direction
- Add auxiliary lanes between interchanges
- Interchange improvements

In 2007, the FDOT began this PD&E study to evaluate in detail the LPA recommendations from the master plan and identify a corridor alternative that is environmentally feasible and publically compatible which will meet the need determined in the planning phase. A year into the study, the travel demand forecasting efforts were completed and showed that adding an additional general purpose lane within the study limits will not improve the existing and future operations of the corridor. The additional lane was not expected to accommodate the projected travel demand and growth along the corridor. Therefore, the FDOT decided to put the study on hold and return to the planning phase to evaluate other possible concepts that could address the anticipated high demand and growth corridor wide.

Late in 2007, the FDOT completed the Managed Lanes Comprehensive Traffic and Revenue Study, which evaluated the potential operations of the corridor with the implementation of two tolled express lanes. The study determined that the improvements will offer potential time savings of up to 38 minutes during peak travel periods by providing continuous express lanes along I-95 throughout Miami-Dade, Broward, and Palm Beach Counties.



In 2009, the FDOT began the *I-95 Corridor Planning Study*, between Stirling Road (SR 848) in Broward County and Indiantown Road (SR 706) in Palm Beach County, to evaluate the feasibility of adding tolled express lanes in the median of I-95. The study was completed in January 2012 and determined that express lanes along this portion of I-95 was feasible and could be studied further during the PD&E phase to evaluate the concept as a viable alternative along the corridor.

The FDOT was also tasked by the state legislature to conduct the *I-95 Transportation Alternatives Study* to identify cost-effective measures that could be implemented to alleviate congestion along the I-95 corridor, facilitate emergency and security responses and foster economic development. The study was completed in 2010.

The results of these planning-level studies identified, recommended, and prioritized the development of an integrated multimodal transportation system which is economically efficient, safe, and environmentally sound. These studies' results lead the FDOT to re-start this PD&E study in 2012 with the focus of evaluating capacity improvements along the corridor with the implementation of an express lanes system.



2.2 PURPOSE AND NEED OF THE PROJECT

The overall project objectives of this PD&E study are described below:

- Design a transportation system that will offer new commuting choices and more reliable travel times during congested periods that can be constructed within the existing right of way resulting in a feasible and cost effective project.
- Evaluate future mainline improvements in terms of safety, capacity, operations and interstate access that can be constructed and open to traffic in a short term.
- Maximize long-term capacity needs and long-term mobility needs of the corridor.

The purpose and need for the project is based on the following criteria:

- **Capacity/Transportation Demand** – The I-95 project corridor operates at Level of Service (LOS) F. The HOV lanes, depending on the location, are currently either operating near capacity or under capacity. Without improvements, the project corridor will continue to experience high delays and will continue to operate at LOS F in the year 2040. Driving conditions for residents and commuters will continue to deteriorate well below acceptable LOS standards.
- **Plan Consistency** – The I-95 capacity improvements project is in the 2035 Long-Range Transportation Plan (LRTP) and the five-year Transportation Improvement Program (TIP) for each of the respective counties as well as the State Transportation Improvement Program (STIP).
- **Growth Management Planning** – This section of I-95 is one of the most heavily traveled sections of urban interstate in the nation. As traffic levels increase due to population and employment growth, both along the corridor and in the region, capacity improvements will become increasingly important to continue facilitating north/south traffic movement throughout the tri-county area and Southeast Florida. The regional roadway system is close to build-out and the ability to add more traffic lanes is limited. The Broward County area is only able to grow inward since it is geographically constrained.



- **System Linkage** – This project is intended to evaluate strategies that maximize long-term capacity needs, long-term mobility needs, travel reliability and travel options for motorists and transit users along the I-95 corridor throughout Broward and Palm Beach Counties.
- **Modal Interrelationships (Freight Activity)** – Capacity improvements along the I-95 project corridor are critical in order to enhance the mobility of goods by alleviating current and future congestion along the corridor and on the surrounding freight network. Reduced congestion will serve to maintain and improve viable access to the major transportation facilities and businesses of the area (including connectors to freight activity centers/local distribution facilities or between the regional freight corridors).
- **Emergency Evacuation** – As part of the emergency evacuation route network designated by the Florida Division of Emergency Management, I-95 is critical in facilitating the movement of traffic during emergency evacuation periods. This facility connects other major arterials and highways designated on the state evacuation route network within the project limits, such as I-595 and the Florida's Turnpike. The project will allow for enhanced emergency access and incident response times.

2.2.1 CAPACITY/TRANSPORTATION DEMAND

According to data extracted from the 2011 FDOT Florida Traffic Information database and the 2040 South East Regional Planning Model (SERPM) network (developed during the PD&E study), the existing and future traffic conditions for the I-95 project corridor within the project limits are as follows:

- The 2011 Annual Average Daily Traffic (AADT) volume is projected to grow from an average of 220,000 vehicle trips per day to 282,000 vehicle trips per day in 2040 (1.0% annual growth rate).
- The average roadway volume-to-capacity (v/c) ratio is approximately 1.4. This indicates that the roadway has exceeded its designated service volume and LOS standard. In other words, the traffic volume exceeds capacity in the number of lanes available to accommodate the traffic demand.
- The 2011 AADT volume is projected to increase from 12,540 truck trips per day (5.7%) to 16,074 truck trips per day in 2040 (assuming the percentage of trucks on the road remains the same as the base year percentage).



Based on the 2012 FDOT Generalized Annual Average Daily Volumes Table 1 of the FDOT *Quality/Level of Service Handbook*, the I-95 project corridor operates at LOS F. It is important to note that the HOV lanes along much of this corridor are also operating, depending on the location, either near capacity or under capacity, offering little time savings to carpools/vanpools on I-95. The under capacity issue is related to the restrictions that only two passenger per vehicle can only use the HOV lanes. As a result of the corridor being over capacity, travel demand is shifting vehicles onto less appropriate facilities. This, in turn, is negatively impacting the quality of life in local neighborhoods, as well as increasing driver frustration, reducing safety and increasing trip travel time. Without improvements, the project corridor will continue to experience high delays and will continue to operate at LOS F by the design year of 2040. Driving conditions for residents and commuters along the adjacent corridors connecting with I-95 will also deteriorate well below acceptable LOS standards.

The proposed capacity improvements project is expected to provide Southeast Florida motorists and transit users with a viable option for consistent and dependable travel.



2.2.2 PLAN CONSISTENCY

The I-95 capacity improvements project is in the 2035 LRTP and the 2012/2013-2016/2017 TIP for each of the respective counties as well as the STIP. The design and construction phases are listed in the FDOT Work Program under four financial project identification numbers (see *Table 2.1*).

Table 2.1 Project Funding Plan					
Financial Project Identification Number	Project Limit	Design		Construction	
		Fiscal Year	Funds	Fiscal Year	Funds
409359-2	From Oakland Park Boulevard to Atlantic Boulevard	2015	\$1,700,000	2022	\$85,600,000
409359-3	From Atlantic Boulevard to Sample Road	2015	\$1,500,000	2024	\$72,500,000
409359-4	From Sample Road to the Broward/Palm Beach County Line	2015	\$1,100,000	2024	\$82,700,000
409355-2	From the Broward/Palm Beach County Line to Glades Road	2015	\$900,000	2024	\$46,800,000

Source: FDOT Work Program

FDOT District Four will continue to coordinate with Broward County, Palm Beach County, Broward MPO and Palm Beach MPO to ensure that funding is identified for future project phases in the TIP, LRTP, STIP and FDOT SIS Cost Feasible Plan.

2.2.3 GROWTH MANAGEMENT

I-95 is recognized as a corridor that is vital to the economic development of Broward and Palm Beach Counties. Serving as one of two major expressways that connect the major employment centers and residential areas of the tri-county area, the I-95 project segment fills an important role in facilitating the north/south movement of traffic in Southeast Florida. The project segment traverses a dense urban area with predominantly commercial and residential uses lining the corridor. The project area is located within two counties and several municipalities, a few of whom presently support designated Community Redevelopment Areas. These areas are defined as having the ability to



accommodate residential infill and development interest due to their access to regional transportation corridors, support infrastructure and services. In addition, the project corridor supports and promotes the economic development and expansion activities of two major regional employers, Fort Lauderdale-Hollywood International Airport and Port Everglades (located south of the study limits).

Based on socioeconomic data extracted from the traffic analysis zones of the 2035 South East Regional Planning Model (SERPM), which encompass the I-95 project corridor:

- Population is projected to grow along the corridor from 21,339 in 2005 to 26,636 in 2035 (0.8% annual growth rate).
- Employment along the corridor is projected to grow from 22,879 in 2005 to 33,008 in 2035 (1.5% annual growth rate).

Similarly, according to projections prepared for the Broward MPO 2035 LRTP:

- Population within the county is forecasted to increase from 1,747,399 in 2005 to 2,250,830 in 2035 (1.0% annual growth rate).
- Employment within the county is projected to grow from 735,731 in 2005 to 1,011,286 in 2035 (1.3% annual growth rate).

Similarly, according to projections prepared for the Palm Beach MPO 2035 LRTP:

- Population within the county is forecasted to increase from 1,270,302 in 2005 to 1,677,170 in 2035 (1.1% annual growth rate).
- Employment within the county is projected to grow from 544,496 in 2005 to 800,045 in 2035 (1.6% annual growth rate).

At the time of this report, 2005 was the LRTP base year and 2035 was the LRTP horizon year.



This section of I-95 is one of the most heavily traveled sections of the corridor with an estimated AADT of 220,000 vehicle trips per day. The traffic volume is expected to exceed 282,000 vehicle trips per day by the year 2040. As traffic levels increase due to population and employment growth, both along the corridor and in the region, capacity improvements will become increasingly important in this area in order to continue facilitating a reliable north/south traffic movement. Broward County is only able to grow inward due to geographical constraints of the Atlantic Ocean to the east, the Everglades to the west and urbanized Miami-Dade County to the south. The regional roadway system is also close to build-out and the ability to add more traffic lanes is limited. The project is anticipated to meet the mobility needs of the area by alleviating current and future congestion on the corridor and surrounding roadway network. The additional capacity will allow I-95 to continue to serve as an important arterial in facilitating the north/south movement of traffic in Southeast Florida, thus improving access between communities of Miami-Dade, Broward, and Palm Beach Counties.

2.2.4 SYSTEM LINKAGE

Capacity improvements on I-95 from north of Oakland Park Boulevard to south of Glades Road are intended to complement and support the following improvements presently underway along the I-95 corridor throughout Miami-Dade, Broward, and Palm Beach Counties:

- **SR 9 (I-95) from Golden Glades Interchange to I-595 (SR 862), ETDM Project #3174 in Miami-Dade and Broward Counties** – Referred to as "95 Express Phase 2", this project will extend the existing dual express lanes that were previously constructed in each direction along I-95 as part of the "95 Express Phase 1" project. Approximately 11 miles in length, the "95 Express Phase 2" project will implement two tolled express lanes in each direction by converting the existing single HOV to an express lane and by adding a second express lane through widening. The express lanes will have variable toll pricing based on congestion. Project construction (under a design-build contract) broke ground in November 2011 and is anticipated to be completed by early 2014.



- **SR 9 (I-95) from Stirling Road (SR 848) to North of Oakland Park Boulevard (SR 816), ETDM Project #13168 in Broward County** – Approximately 8.6 miles in length, this project is currently in the PD&E phase. As part of the PD&E process, alternatives are presently being analyzed for the proposed widening of I-95. The primary purpose of this project is to enhance operational capacity and relieve congestion in order to maximize long-term capacity needs and long-term mobility needs along the I-95 corridor. The PD&E study is anticipated to be completed by summer 2013.
- **SR 9 (I-95) from South of Glades Road (SR 808) to Linton Boulevard, ETDM Project #3333 in Palm Beach County** – Approximately 6 miles in length, this project is currently in a design reevaluation phase. The PD&E phase recommended the addition of one general purpose lane in each direction for a total of ten lanes (eight general purpose lanes and two HOV lanes). This recommendation is the same one from the I-95 master plan study. However, the reevaluation is considering to modify the proposed typical section. The reevaluation is anticipated to be completed by fall 2013.

2.2.5 MODAL INTERRELATIONSHIPS

Freight Activity – I-95 is the primary interstate route along the east coast of the United States extending from Maine to Florida and serving some of the most populated urban areas in the country. In Florida, I-95 is a designated SIS facility. The SIS is a statewide network of highway, railway and waterway corridors as well as transportation hubs that handle the bulk of Florida's passenger and freight traffic. Highways that are designated as part of the SIS network provide for movement of high volumes of goods and people at high speeds. The SIS highway network is composed of interconnected limited- and controlled-access roadways (which include designated SIS highway corridors) that provide for high-speed and high-volume traffic movements within the state to serve both interstate and regional commerce and long-distance trips. This statewide transportation network accommodates high occupancy vehicles, express bus transit and, in some corridors, passenger rail service.



Within southeast Florida, I-95 is a vital north/south transportation corridor providing important regional access to major east/west and north/south transportation corridors, as well as residential and employment activity centers and other regional destinations in the area. Within the project limits, I-95 connects to the local roadway network and a number of additional SIS facilities such as I-595, Florida's Turnpike, Fort Lauderdale-Hollywood International Airport and Port Everglades.

Several SIS facilities also run parallel to the I-95 corridor including the FEC Railway, FEC Intermodal Terminal and South Florida Regional Transportation Authority Tri-Rail. According to the Broward County Urban Freight/Intermodal Mobility Study (completed in 2008), the I-95 project corridor supports three freight industry zones:

- I-95/Powerline Road Corridor
- I-595/Airport Zone (Mega Transport Zone)
- South County/Other

It should be noted that the current daily truck volume on the corridor is expected to increase as freight activity within these zones expands. The proposed capacity improvements along the I-95 project corridor are critical to enhance the mobility of goods by alleviating current and future congestion along the corridor and on the surrounding freight network. Reduced congestion will serve to maintain and improve viable access to the major transportation facilities and businesses of the area (including connectors to freight activity centers/local distribution facilities or between the regional freight corridors).

Transit and Non-Motorized Travel – Direct route services that do not require transfers will be explored for cross county trips to initially provide uncongested routes for buses on I-95 and subsequently on a regional network. Local transit currently operates a number of local routes within the limits of the project; however, none use the I-95 corridor. By adding capacity to the corridor and improving the operations during the peak hour periods, inter-county regional express bus service can be extended throughout the corridor providing an opportunity for express bus service to qualify as Bus Rapid Transit, offering faster and more reliable service for many transit users.



2.2.6 EMERGENCY EVACUATION

I-95 serves as part of the emergency evacuation route network designated by the Florida Division of Emergency Management. Also designated as a Broward and Palm Beach Counties evacuation facility, I-95 is critical in facilitating traffic during emergency evacuation periods as it connects to other major arterials and highways of the state evacuation route network (i.e., I-595 and the Florida's Turnpike). The project is anticipated to:

- Improve emergency evacuation capabilities by enhancing connectivity and accessibility to other major arterials designated on the state evacuation route network.
- Increase the capacity of traffic that can be evacuated during an emergency event.
- Allow for enhanced emergency access and incident response times due to the ability to improve the operational speeds of the corridor.



2.3 LAND USE

2.3.1 EXISTING LAND USE

The I-95 project corridor is located within two counties (Broward and Palm Beach Counties) and five municipalities (Fort Lauderdale, Oakland Park, Pompano Beach, Deerfield Beach, and Boca Raton). The project corridor traverses a number of land use categories on record with the Broward County Planning and Redevelopment Division and Palm Beach County Planning, Zoning, and Building Department. **Figure 2.1** illustrates the existing land use within the study limits in Broward and Palm Beach counties. The project study area encompasses a mixture of land use classifications:

- Agricultural
- Industrial
- Institutional
- Mining
- Public and Semi-Public
- Recreational
- Residential
- Retail and Office
- Vacant Non-residential
- Vacant Residential

In general, I-95 corridor acts as delineation between the distinct areas to the west and east of the project study area. Along the east side of the I-95 project study area, the majority of land uses are comprised of Residential areas with pockets of Retail and Office space and Public and Semi-public land uses. The majority of the west side of the study area is comprised of Industrial land uses with a lesser amount of Retail and Office space and Residential land uses.

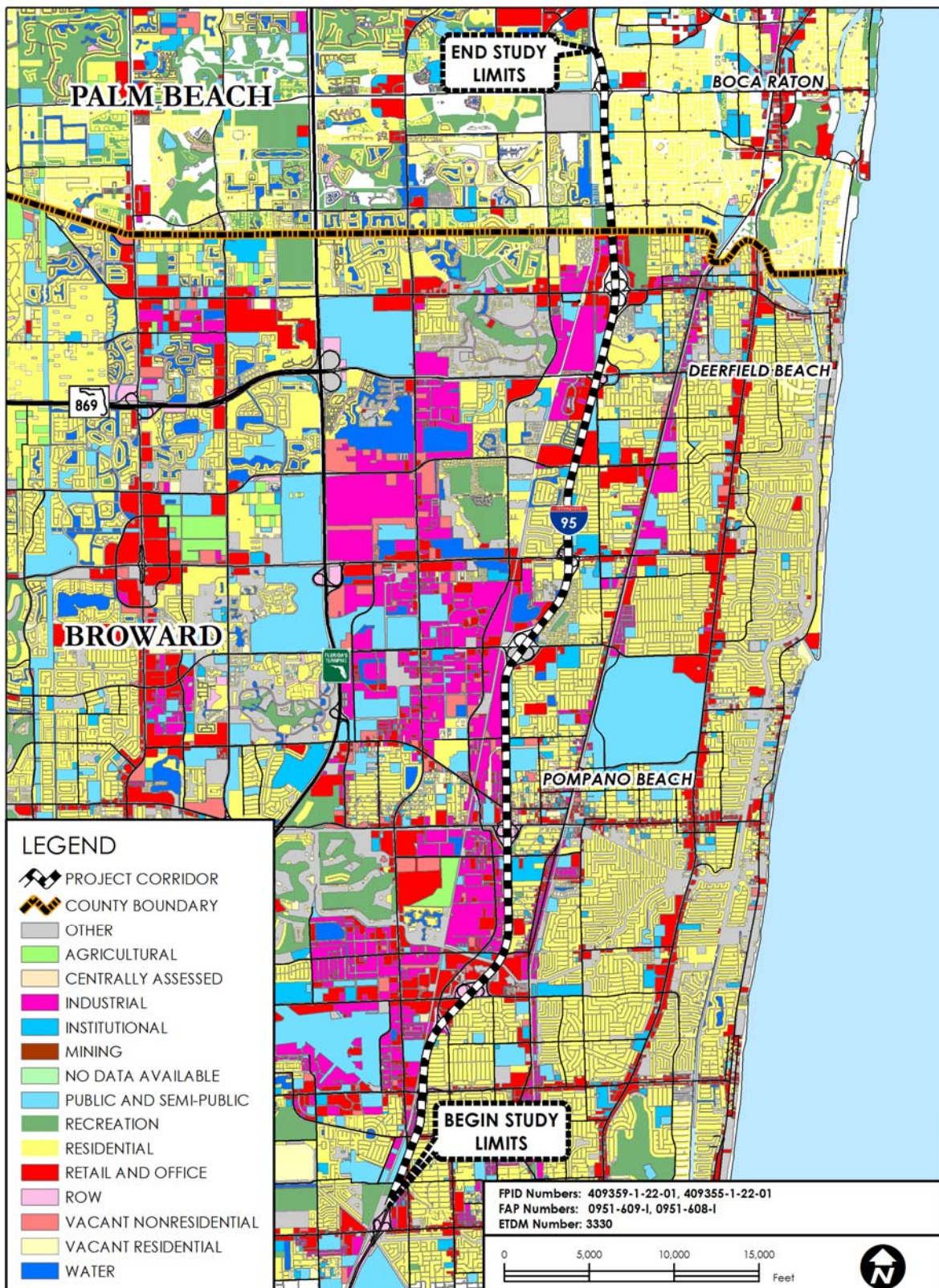


Figure 2.1 – Existing Land Use Map



2.3.2 FUTURE LAND USE

Broward and Palm Beach Counties and each of the cities along the project corridor (Fort Lauderdale, Oakland Park, Pompano Beach, Deerfield Beach, and Boca Raton) each have a Comprehensive Plan, developed in accordance with Chapter 163, Florida Statutes, and 9J-5, Florida Administrative Code. Each comprehensive plan establishes goals, objectives, and policies for future growth. The latest version of the comprehensive plan for each of the counties and cities along the project corridor are as follows:

- Broward County Comprehensive Plan amended on December 12, 2006
- Palm Beach County Comprehensive Plan revised on July 23, 2012
- City of Fort Lauderdale Comprehensive Plan adopted in 2008
- City of Oakland Park Comprehensive Plan amended in April 2010
- City of Pompano Beach Comprehensive Plan adopted in January 2010 and amended in 2012
- City of Deerfield Beach Comprehensive Plan adopted January 24, 2012
- City of Boca Raton Comprehensive Plan adopted October 26, 2010

Each plan contains nine required elements, along with optional elements specific to the county's/city's needs, including a Future Land Use Element (FLUE) and a Transportation Element. These elements provide a vision of the county's/city's future transportation network and land use, including those areas along the I-95 corridor within the study area.

The purpose of the FLUE in each of the comprehensive plans is to establish a vision of future land use patterns. As stated in the Palm Beach County Comprehensive Plan (and applicable to the other county and city plans):

[The FLUE] defines the components of the community and the interrelationship among them through integrating the complex relationships between land use and the other elements of the Plan that address the physical, social, and economic needs of [the county/city].

The FLUE institutes the framework for growth management and land planning ... authorized by Chapter 163, Florida Statutes, the "Local



Government Comprehensive Planning and Land Development Act.” This act requires the FLUE to be consistent with State and regional plans.

Per Chapter 163, Florida Statutes, the purpose of the Transportation Element is:

... to plan for a multimodal transportation system that places emphasis on public transportation systems, where feasible. The element shall provide for a safe, convenient multimodal transportation system, coordinated with the future land use map or map series and designed to support all elements of the comprehensive plan.

The I-95 express lanes project is in the LRTP and the TIP for each of the respective counties as well as the STIP. As mentioned previously, the FLUE for each of the counties' comprehensive plans is required to be consistent with state and regional plans, including the LRTPs, TIPs, and STIP. Therefore, since this project is included in the LRTPs, TIPs, and STIP, the impacts to land use from this project should have been considered within the FLUE of each of the respective comprehensive plans.

Consistent with the planned future growth in each of the comprehensive plans, and consistent with the LRTPs, TIPs, and STIP, the future land use along the study corridor could be expected to be very similar to the existing land use. The I-95 corridor would continue to act as a delineation of distinct land uses to the west and east of the project study area. Along the east side of the I-95 project study area, the majority of land uses would continue to be comprised of mainly Residential areas with lesser amounts of Retail, Office space, and Public and Semi-public land uses. The majority of the west side of the study area would continue to be comprised of mainly Industrial land uses with lesser amounts of Retail, Office space, and Residential land uses. **Figure 2.2** depicts the future land use along the project corridor.

As depicted on the City of Fort Lauderdale Future Land Use Map (completed as part of the city's comprehensive plan), the western side of the project corridor within the city limits consists of land uses designated as Commercial, Industrial, and Employment Center, as well as one parcel designated as Utilities (a water/wastewater treatment plant). The boundaries of the City of Fort Lauderdale do not extend to the eastern side of the project corridor.



As depicted on the City of Oakland Park Future Land Use Map (completed as part of the city's comprehensive plan), the eastern side of the project corridor within the city limits is dominated mainly by Low Density Residential areas bordered by Commercial areas. The western side of the project corridor within the city limits is comprised of a mix of Industrial, Parks/Recreational, Community Facilities, and areas of Residential.

As depicted on the City of Pompano Beach Future Land Use Map (completed as part of the city's comprehensive plan), the eastern side of the project corridor within the city limits is similarly dominated by Low and Medium Density Residential areas bordered by Commercial areas, interspersed with Community Facilities and Recreation and Open Space. The western side of the project corridor within the city limits is dominated almost entirely by Industrial land uses.

As depicted on the City of Deerfield Beach Future Land Use Map (completed as part of the city's comprehensive plan), the eastern side of the project corridor within the city limits is similarly dominated by Residential land uses with a few commercial land uses. The western side of the project corridor within the city limits is mainly dominated by Industrial land uses in the northern portion of the city, with a few residential land uses in the southern portion of the city.

As depicted on the City of Boca Raton Future Land Use Map (completed as part of the city's comprehensive plan), the eastern side of the project corridor within the city limits is dominated by Residential and Institutional (Florida Atlantic University) land uses, with small areas designated as Recreation and Open Space. The western side of the project corridor within the city limits consists of Residential areas in the southern portion of the city, Industrial areas through the central portion of the city, and a Conservation area (Blazing Star Preserve) at the northern edge of the city.

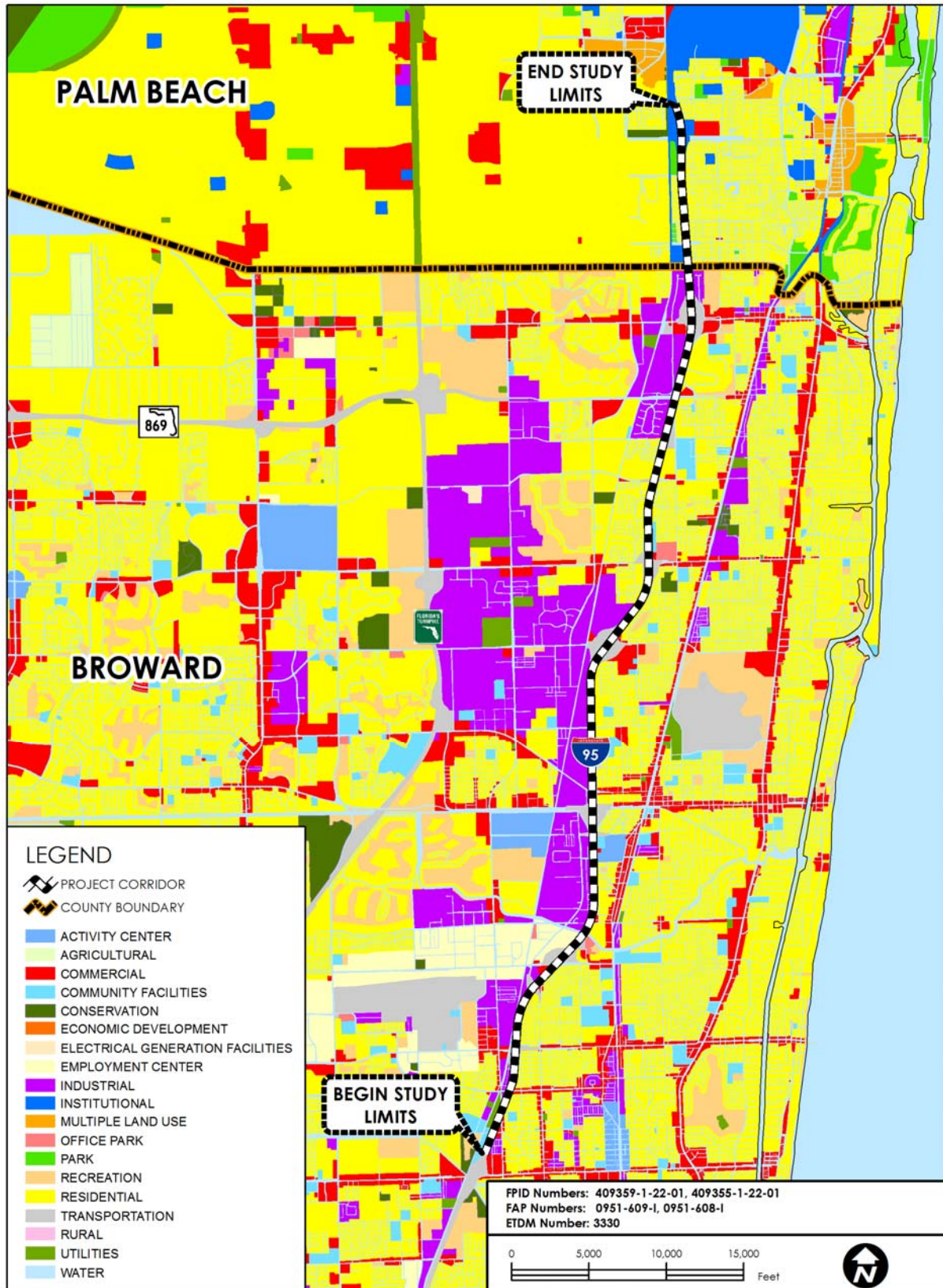


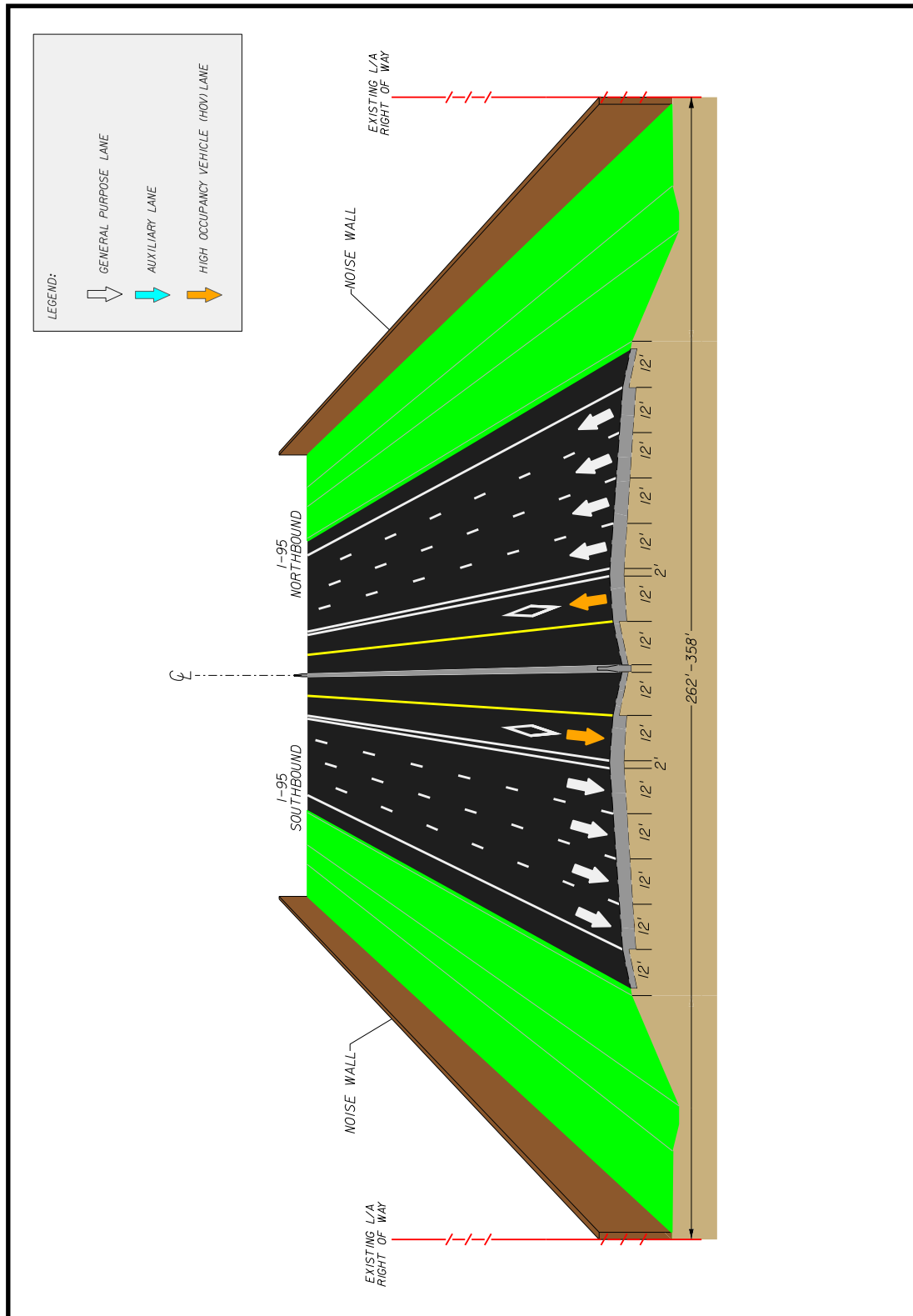
Figure 2.2 – Future Land Use Map



2.4 DESCRIPTION OF EXISTING FACILITY

I-95, within the study limits, is an eight-lane divided limited access facility. The existing roadway typical section varies slightly and consists primarily of two 12-foot (12') wide HOV lanes (one in each direction), six 12-foot (12') wide general purpose lanes (three in each direction), two-foot (2') wide buffer areas with pavement markings separating the general purpose lanes from the HOV lanes, 12-foot (12') wide paved inside shoulders, 12-foot (12') wide outside shoulders (ten-foot (10') paved and two-foot (2') unpaved) and a two and a half-foot (2.5') wide center barrier wall. Twelve-foot (12') wide auxiliary lanes exist at selected locations.

The I-95 corridor typical section, south of Commercial Boulevard, has an additional general purpose lane in each direction for a total of eight general purpose lanes. The southbound on-ramp at Commercial Boulevard from the existing westbound to southbound flyover becomes the fourth lane south of the interchange. In the northbound direction, the additional fourth lane ends and becomes the off-ramp to Commercial Boulevard. *Figures 2.3 and 2.4* show the existing typical sections along the corridor within the study limits.



**Figure 2.3 – Existing Typical Section between
Oakland Park Boulevard and Commercial Boulevard**

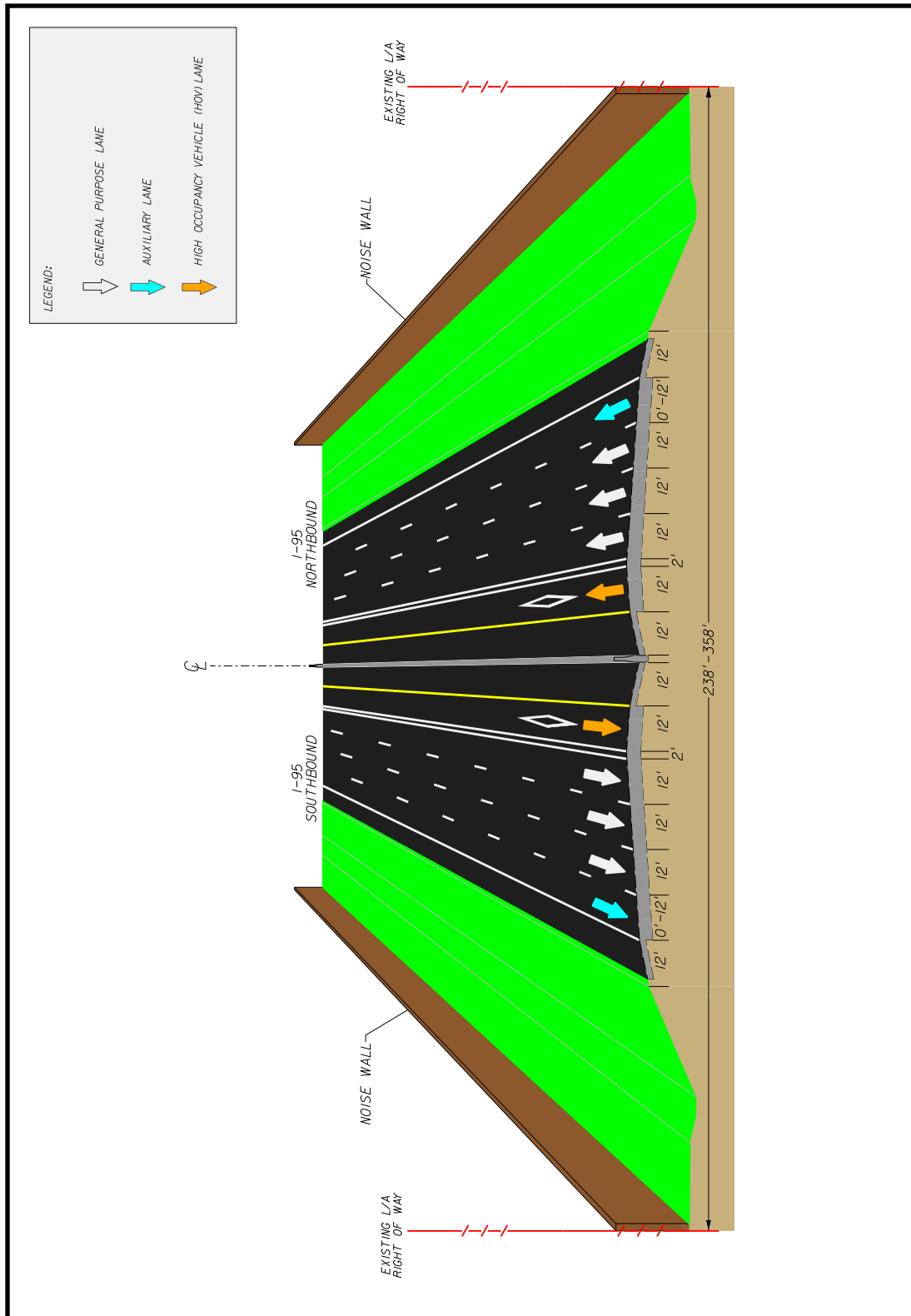


Figure 2.4 – Existing Typical Section between Commercial Boulevard and Glades Road



The existing limited access right of way varies slightly within the study limits. The right of way is generally consistent throughout the corridor except at the interchanges, where it varies to accommodate entrance and exit ramps. **Table 2.2** summarizes the available right of way along the corridor.

Table 2.2 Summary of Existing Limited Access Right of Way	
Roadway Section	Right of Way Width (feet)
Oakland Park Boulevard – Commercial Boulevard	337-374
Commercial Boulevard - Cypress Creek Road	315-372
Cypress Creek Road – Atlantic Boulevard	337-500
Atlantic Boulevard - Copans Road	280-340
Copans Road - Sample Road	338
Sample Road – SW 10 th Street	270-300
SW 10 th Street - Hillsboro Boulevard	270-285
Hillsboro Boulevard - Palmetto Park Road	270-300
Palmetto Park Road- Glades Road	285-346

Source: 2007 Project Survey



3.0 ALTERNATIVE ANALYSIS

3.1 NO-BUILD ALTERNATIVE

The No-Build Alternative proposes to keep the existing roadway and interchange configurations into the future without improvements. No traffic capacity, operation, or safety improvements would be implemented throughout the corridor. The effect associated with this alternative includes the acceptance of existing highly congested traffic conditions. Also, travel demand will increase significantly over the next 20 years, given the continued growth expected in Broward and Palm Beach Counties. This alternative is considered to be a viable alternative during the public hearing and final selection phase to serve as a comparison to the study's proposed alternatives.

The No-Build Alternative has a number of positive aspects, since it would not require expenditure of public funds for design, construction and/or utility relocation. Traffic would not be disrupted due to construction, therefore, avoiding inconveniences to local residents and businesses. Also, there would be no direct or secondary impacts to the environment, the socio-economic characteristics, community cohesion, or system linkage of the area.

However, the No-Build Alternative fails to fulfill the needs of this project for the area. If no long-term improvements are made, I-95 and the surrounding cross roads will experience heavy congestion during the peak hours and will operate at undesirable levels of services. The congestion within the area will cause additional impacts to these roadways. Such impacts may include excessive delays in travel time, a large reduction of average travel speeds, excess fuel consumption from idling vehicles, increased air pollutants (particularly hydrocarbons and carbon monoxide) and a potential increase in rear end and sideswipe collisions.

3.2 TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS ALTERNATIVE

The Transportation Systems Management and Operations (TSMO) alternatives are comprised of minor improvement options that are typically developed to alleviate specific traffic congestion and safety problems, or to get the maximum utilization out of the existing facility by improving operational efficiency. TSMO



alternatives may include, but not limited to, the following improvements to the mainline and interchanges:

- Add auxiliary lanes between interchanges
- Add exclusive turn lanes at the interchange ramp terminals and adjacent intersections
- Increase turn-lane storage at the interchange ramp terminals and adjacent intersections
- Capacity improvements at the ramp junctions
- Signal optimization
- Enhance signage
- New ITS technologies and infrastructure

However, a TSMO Alternative will not significantly improve the capacity issues through the corridor by the design year 2040. Long-term improvements are necessary to mitigate the existing traffic conditions and increase capacity to accommodate future travel demand.

3.3 MULTI-MODAL ALTERNATIVES

Multi-modal alternatives are comprised of a range of improvements to each of the modal systems (roadway, transit and non-motorized) within a specific study area. The most common are Travel Demand Management and the expansion of current facilities and/or development of new facilities. This PD&E study is focused on providing highway capacity improvements along the I-95 mainline only. Therefore, multi-modal improvements were not considered as part of this study. As a result, alternative travel modes were not considered in this study.

3.4 CONCEPTUAL EVALUATION

The purpose of this section is to discuss the concepts that were developed during the initial phase of the study. All concepts were evaluated in a general manner and analyzed in order to select a build alternative.

The No-Build and TSMO Alternatives will not provide adequate traffic capacity or operational improvements to the corridor, therefore, additional study concepts were developed to increase capacity and improve traffic operations for the corridor. A discussion of the concepts evaluation is provided in the following sections.



3.4.1 CONCEPTUAL TYPICAL SECTIONS

Four conceptual typical sections were considered in the initial phase of the PD&E study. All the concepts propose to add two express lanes in each direction along I-95, provide access points at selected locations along the corridor to enter and exit the express lanes system and maintain the existing number of general purpose lanes throughout the corridor. In general, the concepts vary on the roadway width (lanes and shoulders) and type of separation between the express lanes and general purpose lanes. The preliminary development and evaluation of these concepts were based on established design controls for the various elements of the project such as roadway width, median width, shoulder width, horizontal alignment and drainage considerations. Other key evaluation features included interchange improvements, structures, environmental impacts, right of way, utility impacts, maintenance of traffic, and construction costs.

Concept #1 – Barrier Wall Separated Express Lanes

In Concept #1, the express lanes will be separated from the general purpose lanes with a rigid concrete barrier wall. The express lanes inside shoulder width will be six feet (6') wide and the outside shoulder width will be ten feet (10') wide (see **Figure 3.1**).

Concept #2 – Tubular Marker Separated Express Lanes

In Concept #2, the express lanes will be separated from the general purpose lanes with a tubular marker and a four-foot (4') wide buffer. The express lanes inside shoulder width will be twelve feet (12') wide (see **Figure 3.2**).

Diagram illustrating the four lanes of a highway:

- GENERAL PURPOSE LANE
- EXPRESS LANE
- AUXILIARY LANE
- HOV LANE



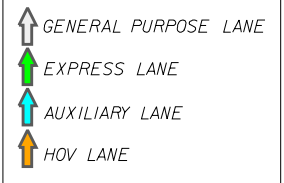


Concept #3 – Tubular Marker Separated Express Lanes

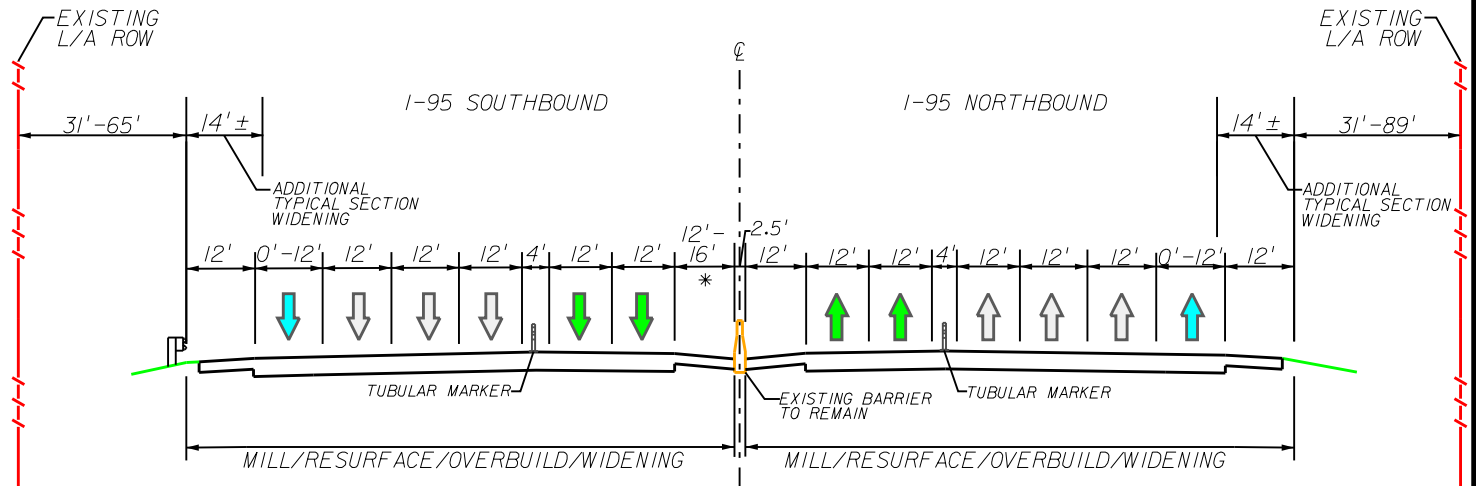
In Concept #3, the express lanes will be separated from the general purpose lanes with a tubular marker and a four-foot (4') wide buffer. Concept #3 is similar to Concept #2 (see **Figure 3.3**). The only difference is the reduction of the typical section width (express lanes, roadway shoulders and buffer widths) at the following five locations:

- Commercial Boulevard Interchange
- Andrews Avenue Overpass
- Racetrack Road Overpass
- NE 48th Street Overpass
- SW 10th Street Interchange

The existing footprint under these structures cannot accommodate the proposed roadway typical section. Therefore, the typical sections will need to be reduced in order to avoid reconstructing these cross streets (roadway and structure). **Figure 3.4** depicts the proposed typical sections at these constrained locations.

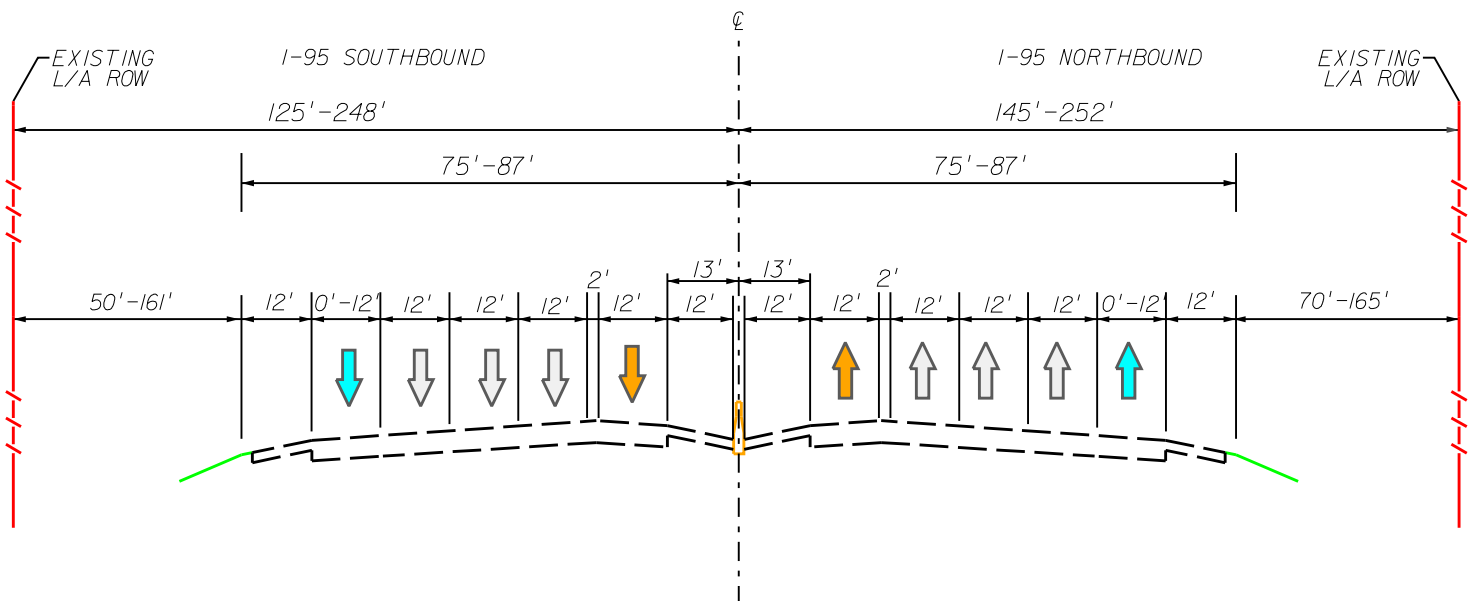


CONCEPT #3 TYPICAL SECTION



* LOW VALUE IS TYPICAL, BUT VARIES IN SPECIFIC LOCATIONS DUE TO STOPPING SIGHT DISTANCE CRITERION

EXISTING TYPICAL SECTION



I-95 (SR 9) PD&E STUDY

FPID: 409359-I-22-01 (BROWARD COUNTY)
FPID: 409355-I-22-01 (PALM BEACH COUNTY)
ETOM: 3330



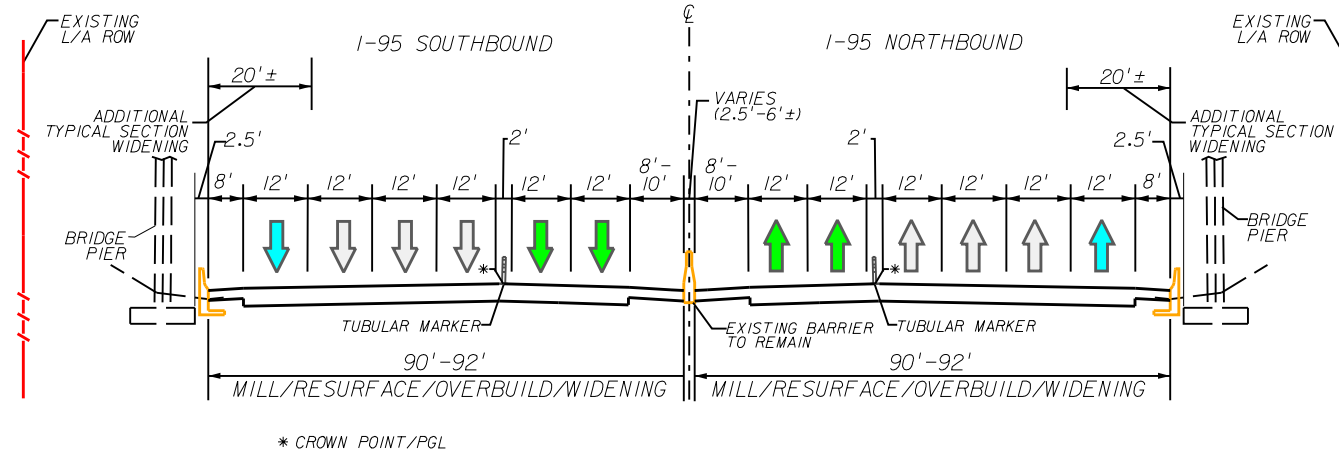
CONCEPT # 3

CONCEPTUAL TYPICAL SECTION EVALUATION

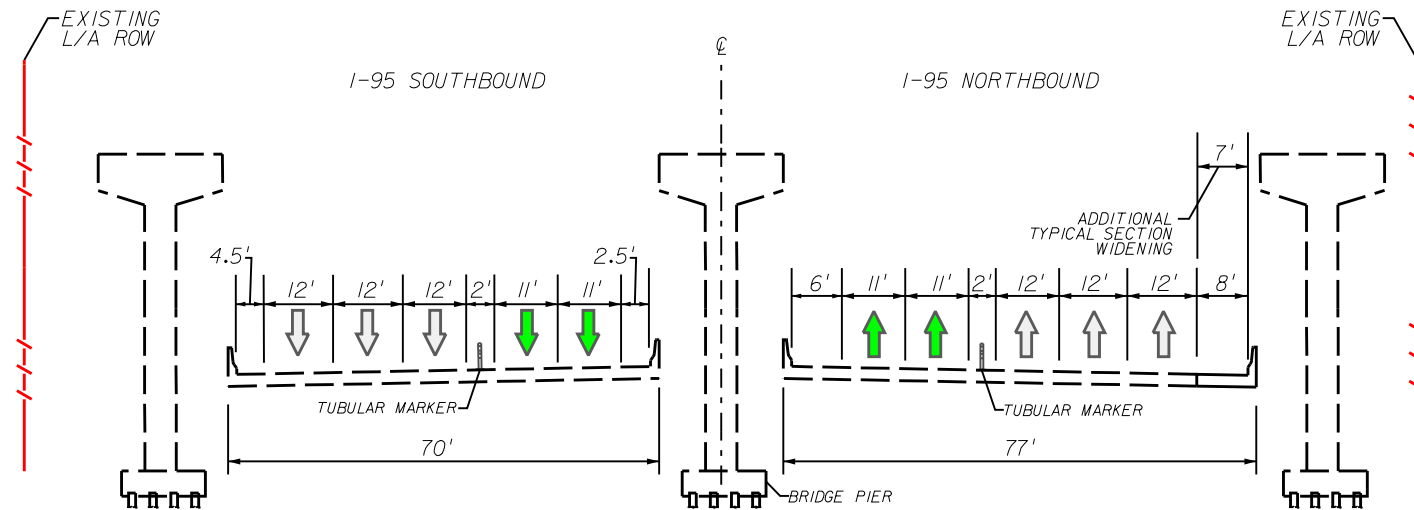
FIGURE 3.3

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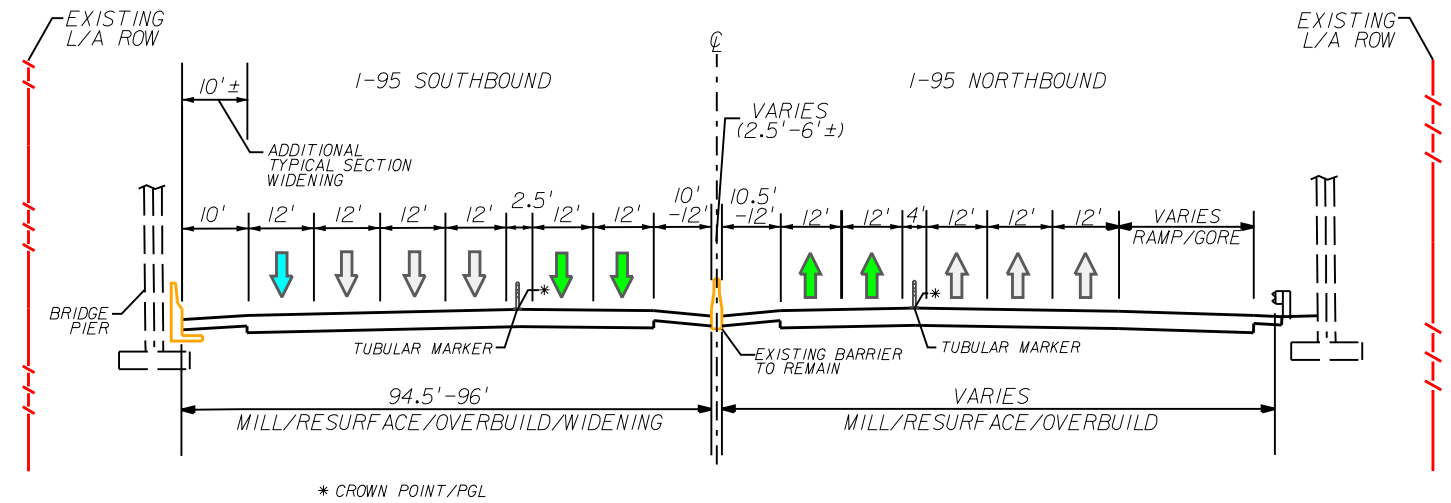
**TYPICAL SECTION IN CONSTRAINED AREA
(NE 48TH STREET)**



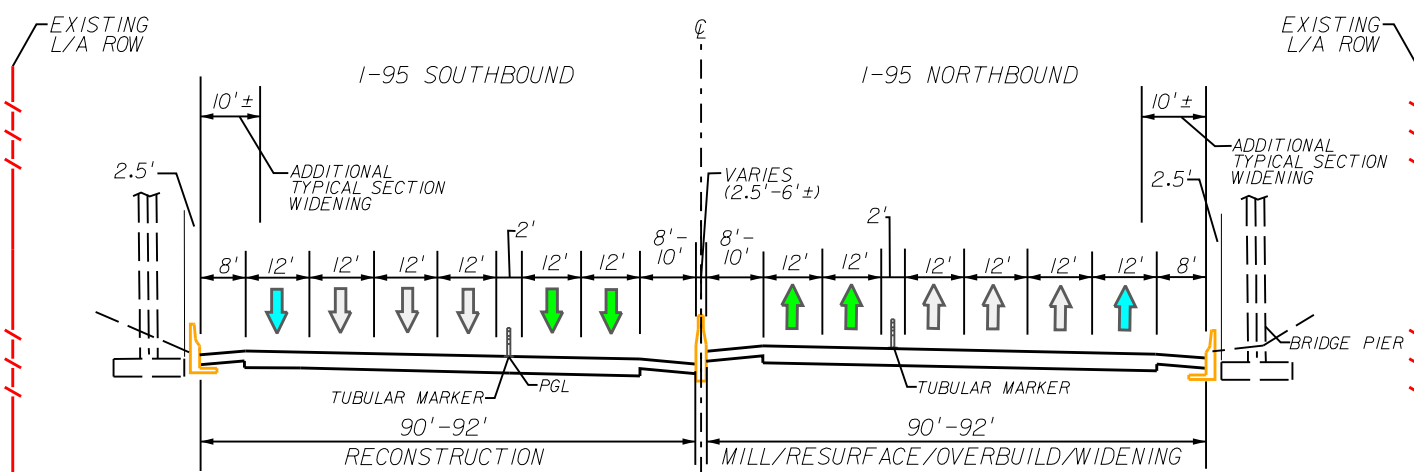
**TYPICAL SECTION IN CONSTRAINED AREA
(COMMERCIAL BOULEVARD)**



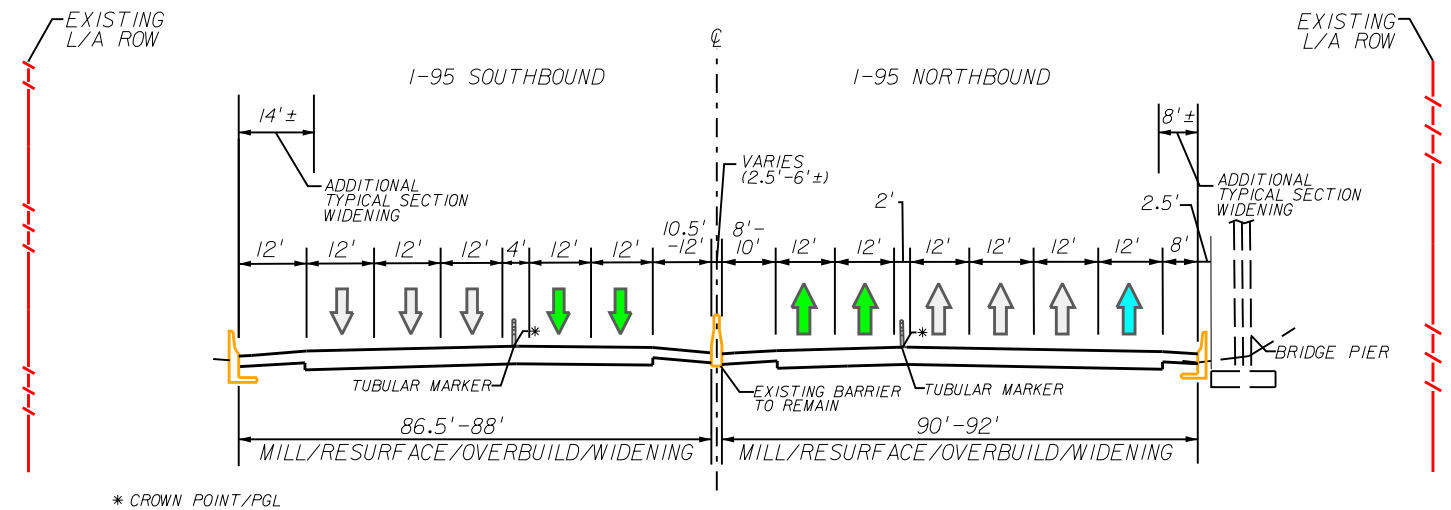
**TYPICAL SECTION IN CONSTRAINED AREA
(RACE TRACK ROAD)**



**TYPICAL SECTION IN CONSTRAINED AREA
(ANDREWS AVENUE)**



**TYPICAL SECTION IN CONSTRAINED AREA
(SW 10TH STREET)**



I-95 (SR 9) PD&E STUDY

FPID: 409359-I-22-01 (BROWARD COUNTY)
FPID: 409355-I-22-01 (PALM BEACH COUNTY)
ETDM: 3330



NOTES/LEGEND:

↑ GENERAL PURPOSE LANE ↑ EXPRESS LANE ↑ AUXILIARY LANE

DESIGN SPEED = 65 mph
L/A ROW = LIMITED ACCESS RIGHT OF WAY

CONCEPT # 3 - CONSTRAINED LOCATIONS

CONCEPTUAL TYPICAL SECTION EVALUATION

FIGURE 3.4

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Concept #4 – 95 Express Phase 2 (Tubular Marker Separated Express Lanes)

In Concept #4, the express lanes will be separated from the general purpose lanes with a tubular marker and a three-foot (3') wide buffer. Concept #4 is similar to Concepts #2 and #3 (see **Figure 3.5**). The main difference is the reduction of the typical section width (express lanes width, one general purpose lane width and roadway shoulders width) is throughout the entire project study limits. This typical section is consistent with the 95 Express Phase 2 typical sections, currently under construction between the Golden Glades Interchange in Miami-Dade County and Interstate 595 in Broward County. The following three locations will require further roadway typical reduction in order to avoid recontouring these cross streets (roadway and structure):

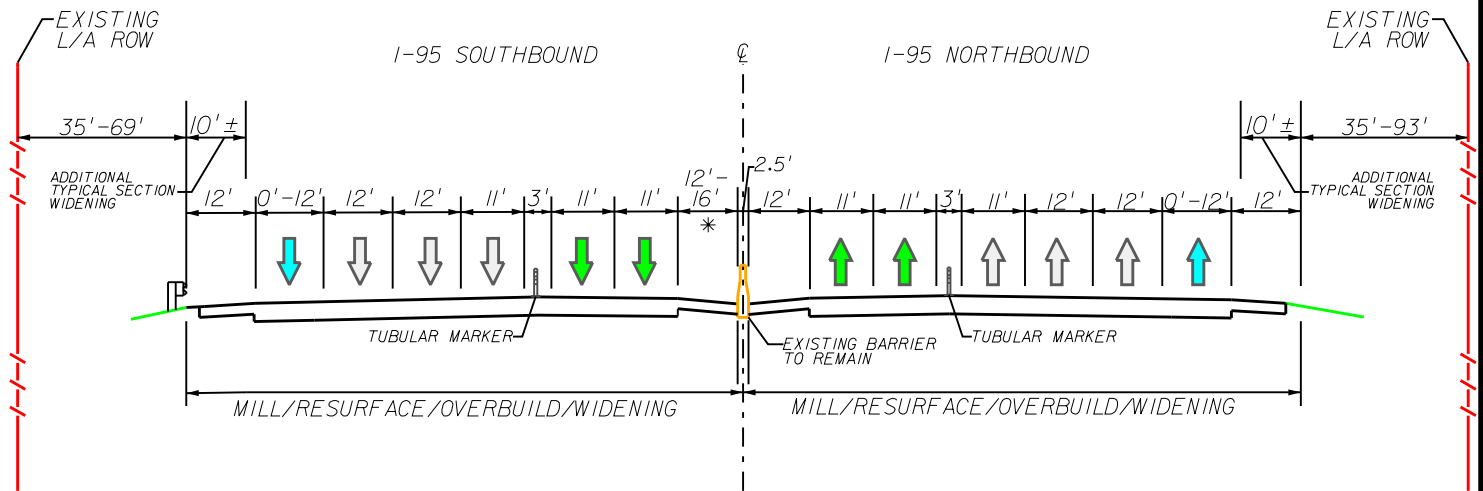
- Commercial Boulevard Interchange
- Andrews Avenue Overpass
- SW 10th Street Overpass

Figure 3.6 depicts the proposed typical section at these constrained locations.

The detailed analysis and evaluation of these concepts are documented in the Preliminary Engineering Report.

-  GENERAL PURPOSE LANE
-  EXPRESS LANE
-  AUXILIARY LANE
-  HOV LANE

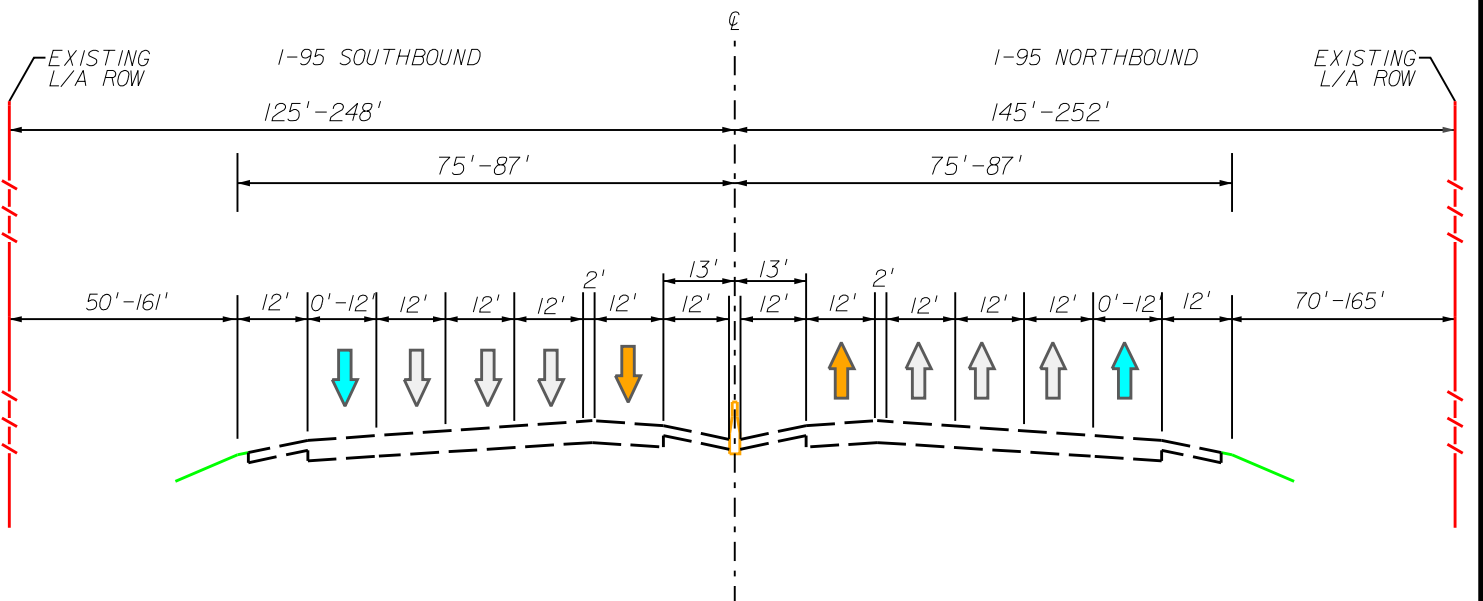
CONCEPT #4 TYPICAL SECTION



* LOW VALUE IS TYPICAL, BUT VARIES IN SPECIFIC LOCATIONS DUE TO STOPPING SIGHT DISTANCE CRITERION

NOTES: DESIGN SPEED = 65 MPH
L/A = LIMITED ACCESS

EXISTING TYPICAL SECTION



I-95 (SR 9) PD&E STUDY

FPID: 409359-I-22-01 (BROWARD COUNTY)
FPID: 409355-I-22-01 (PALM BEACH COUNTY)
ETOM: 3330



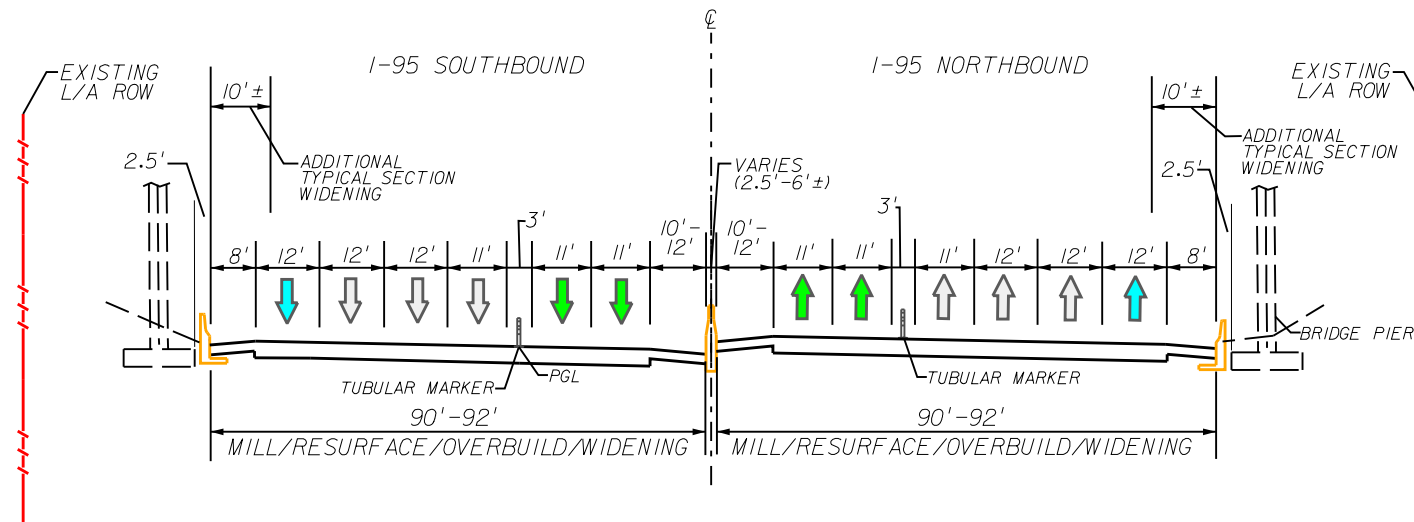
CONCEPT # 4

FIGURE 3.5

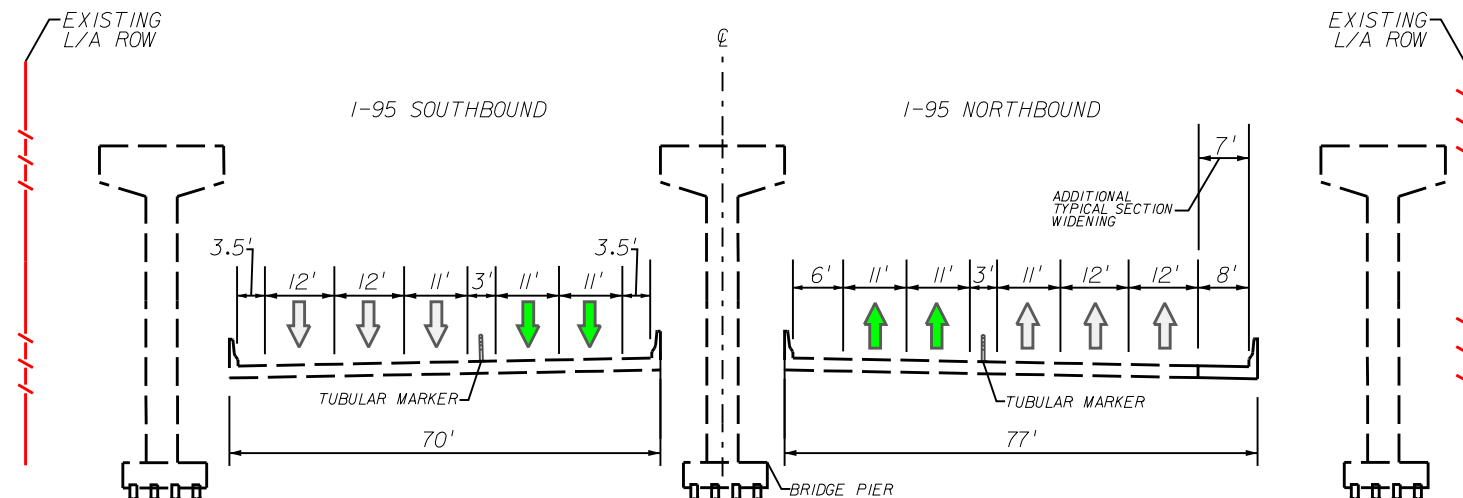
CONCEPTUAL TYPICAL SECTION EVALUATION

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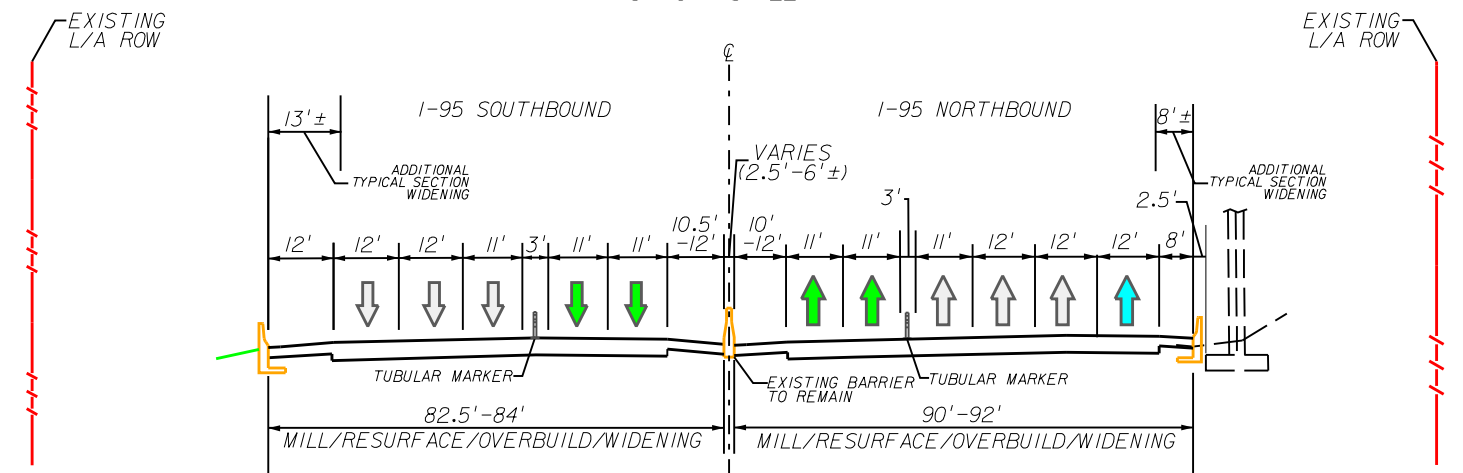
**TYPICAL SECTION IN CONSTRAINED AREA
(ANDREWS AVENUE)**



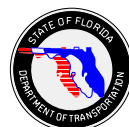
**PROPOSED TYPICAL SECTION
TYPICAL SECTION IN CONSTRAINED AREA
(COMMERCIAL BOULEVARD)**



**PROPOSED TYPICAL SECTION
TYPICAL SECTION IN CONSTRAINED AREA
(SW 10TH STREET)**



I-95 (SR 9) PD&E STUDY
 FPID: 409359-I-22-01 (BROWARD COUNTY)
 FPID: 409355-I-22-01 (PALM BEACH COUNTY)
 ETDM: 3330



NOTES/LEGEND:

↑ GENERAL PURPOSE LANE ↑ EXPRESS LANE ↑ AUXILIARY LANE

DESIGN SPEED = 65 mph
 L/A ROW = LIMITED ACCESS RIGHT OF WAY

CONCEPT # 4 - CONSTRAINED LOCATIONS

CONCEPTUAL TYPICAL SECTION EVALUATION

FIGURE 3.6

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3.4.2 CONCEPTUAL TYPICAL SECTION SELECTION

The typical sections for Concepts #1 and #2 meet all design criteria and standards as required by the FDOT and the American Association of State Highway and Transportation Officials (AASHTO). However, constructing these wider typical sections along I-95 to accommodate the FDOT and AASHTO design criteria would require major reconstruction of the facility and/or major impacts to highly traveled arterial cross streets. Concept #1 would require substantial right of way acquisition and would impact all the adjacent properties and arterial cross streets along the corridor. In addition, a wider footprint would result in environmental and drainage impacts to the canals and wetlands abutting and crossing the corridor. Concept #2 will significantly impact three of the most highly traveled arterial cross streets within the study limits:

- Commercial Boulevard – Six-lane divided corridor within a three level diamond interchange under I-95
- Andrews Avenue – Four-lane divided corridor over I-95
- SW 10th Street – Six-lane divided corridor within a diamond/one quadrant loop interchange over I-95

These three corridors would require reconstruction (roadway and bridge) in order to accommodate the proposed typical section. The cost associated with the reconstruction, property impacts and environmental impacts would substantially increase the total project cost, resulting in an unfeasible project. Therefore, Concepts #1 and #2 were eliminated from further analysis.

Concepts #3 and #4 were developed in order to preserve the existing roadway alignment, maintain the existing footprint of the facility without the reconstruction of the mainline corridor and to minimize arterial cross street impacts. Concept #4 proposes to reduce the express lanes and one general purpose lane to eleven feet (11') wide and the buffer width to three feet (3') wide. During the concept's reviews by the FDOT and the Federal Highway Administration (FHWA), reducing the travel lanes throughout the corridor was not a design the reviewers were supporting during the typical section development.

Speed was a primary consideration when evaluating the potential adverse impacts of lane width on safety. On high-speed corridors like I-95, an increased



risk of cross-centerline sideswipe crashes is a concern because drivers may have more difficulty staying within the travel lane. On high-speed roadways, the primary safety concern with reductions in lane width is crash types related to lane departure. In addition, trucks and other large vehicles can affect safety and operations by off-tracking into adjacent lanes, buffer and/or the shoulder. Therefore, not providing the required lane widths along the corridor could produce an unfavorable effect by reducing the relative safety factors. As a result, Concept #4 was eliminated from further analysis.

Based on the conceptual evaluation conducted and documented during the initial phase of the study, it is clear that Concept #3 will meet the overall project objectives of this PD&E study. These objectives are:

- Design a transportation system that will offer new commuting choices and more reliable travel times during congested periods with the implementation of an express lanes system that can be constructed within the existing right of way resulting in a feasible and cost effective project.
- Advance the region's emerging express lanes network to provide immediate congestion relief with minimal impacts to the existing facility.
- Evaluate future mainline improvements in terms of safety, capacity, operations and interstate access that can be constructed and open to traffic in a short term.
- Improve the overall mobility of the I-95 daily users, especially the long trips.

3.5 ALTERNATIVE EVALUATION

The No-Build and TSMO Alternatives will not provide adequate traffic capacity or operational improvements to the corridor. Therefore, additional study concepts were developed to increase capacity and improve traffic operations for the corridor. Various corridor typical section concepts were considered during the early stages of the PD&E study (see **Section 3.4**). After the Department's review and concurrency of the final conceptual evaluation of the corridor typical section concepts, a build alternative was identified to move forward in the study. Based on this preliminary evaluation, Concept #3 was selected as the proposed Build Alternative.

A No-Build Alternative and one Build Alternative were considered in this PD&E study as the only viable alternatives.



The Build Alternative proposes the following corridor improvements:

- Convert the existing HOV lane to a tolled express lane.
- Add one tolled express lane for a total of two express lanes in each direction in the center of the corridor.
- Provide access points at selected locations along the corridor to enter and exit the express lanes system.
- The express lanes will have variable toll pricing based on congestion to optimize traffic flow.
- Maintain the existing number of general purpose lanes and auxiliary lanes.
- Create an opportunity for a Bus Rapid Transit (BRT). A BRT is an express bus service that will operate within the express lanes system.
- Transit (buses) and registered HOVs with three or more people (HOV-3) will be able to use the express lane system at no cost.

3.5.1 TYPICAL SECTIONS

The No-Build Alternative typical section is the same as the existing typical section. The No-Build Alternative consists of the following roadway elements:

- Two 12-foot (12') wide HOV lanes (one in each direction)
- Six 12-foot (12') wide general purpose lanes (three in each direction)
- Two-foot (2') wide buffer separating the general purpose lanes from the HOV lanes
- A 12-foot (12') wide paved inside shoulder
- A 12-foot (12') wide outside shoulder (ten-foot (10') paved and two-foot (2') unpaved)
- A two and a half-foot (2.5') wide center barrier wall
- Twelve-foot (12') wide auxiliary lanes exist at selected locations.

The I-95 corridor typical section, south of Commercial Boulevard, has an additional general purpose lane in each direction for a total of eight general purpose lanes. The southbound on-ramp at Commercial Boulevard from the existing westbound to southbound flyover becomes the fourth lane south of the interchange. In the northbound direction, the additional fourth lane ends and becomes the off-ramp to Commercial Boulevard. **Figures 3.7** and **3.8** show the No-Build Alternative typical sections.

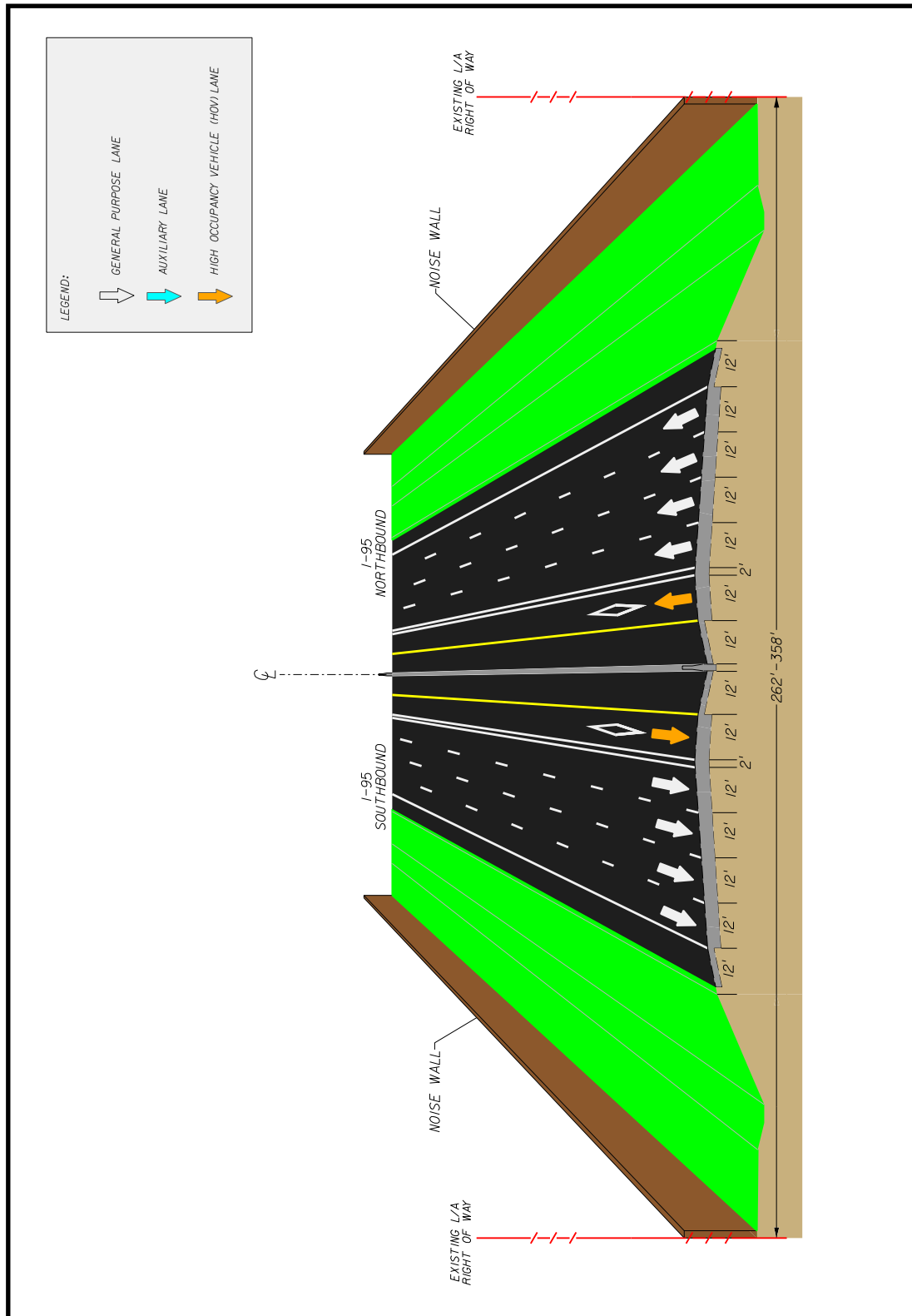


Figure 3.7 – No-Build Alternative Typical Section between Oakland Park Boulevard and Commercial Boulevard

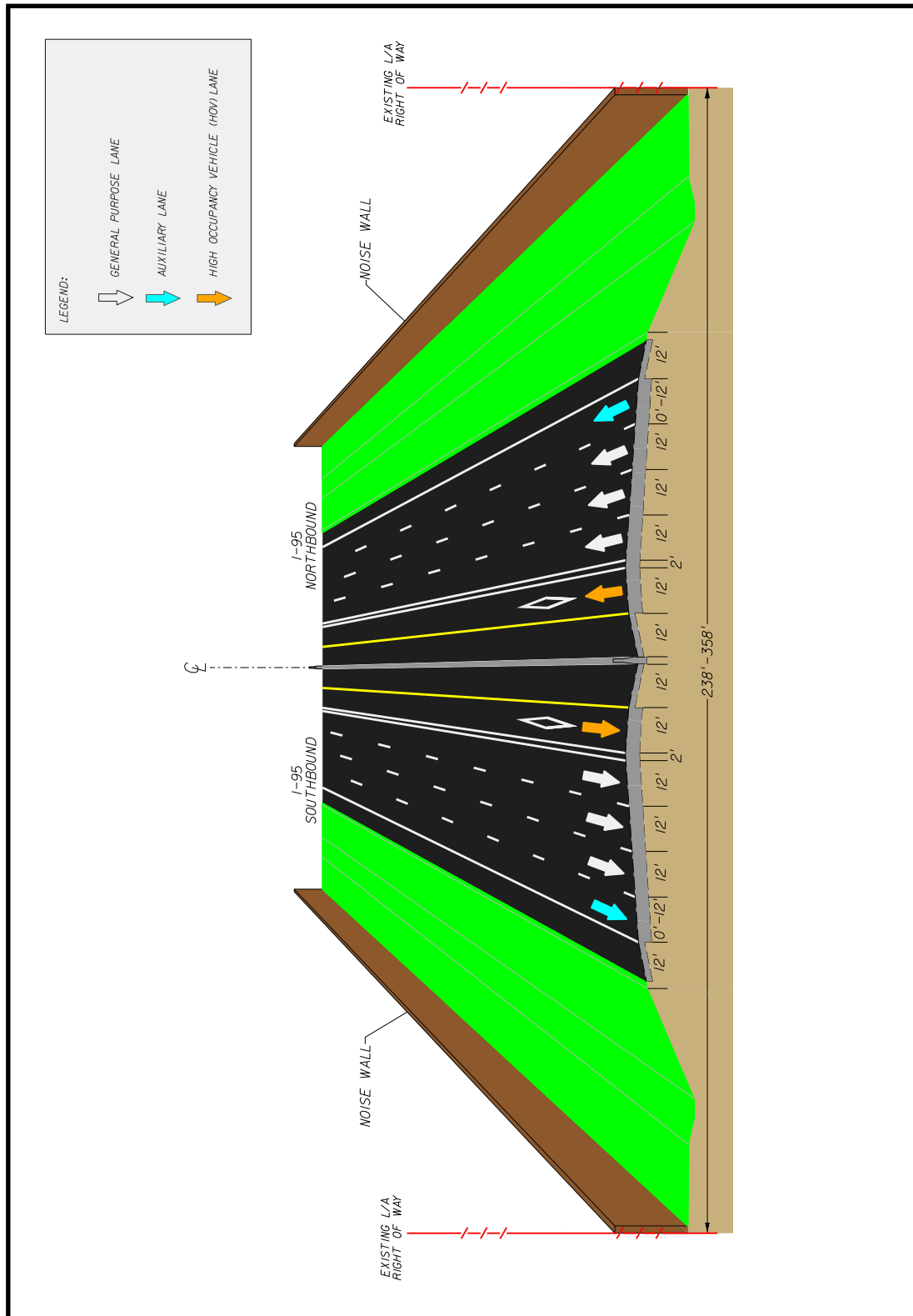


Figure 3.8 – No-Build Typical Section between
Commercial Boulevard and Glades Road



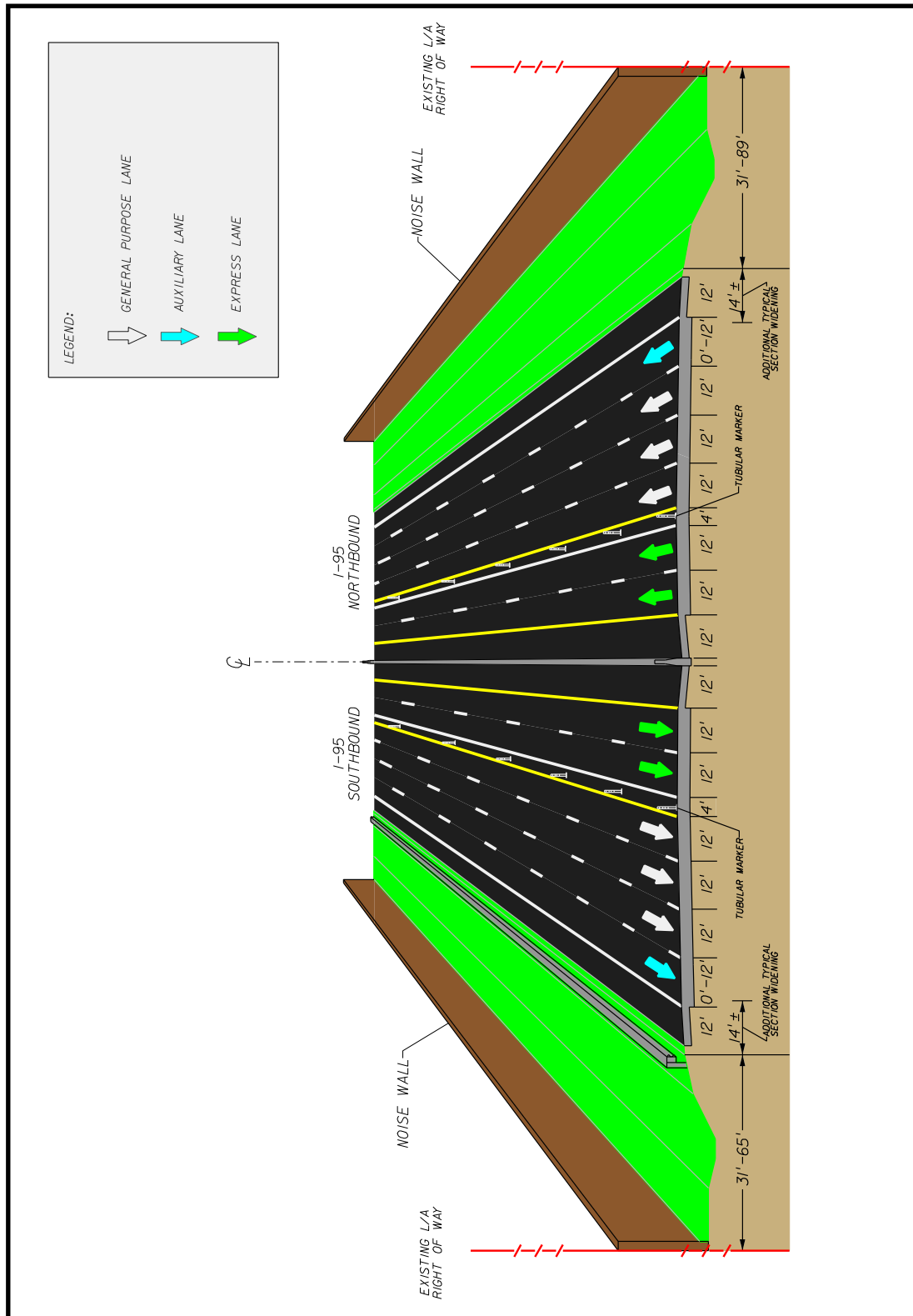
The Build Alternative typical section will consist of the following roadway elements:

- Four 12-foot (12') wide express lanes (two in each direction)
- Six 12-foot (12') wide general purpose lanes (three in each direction)
- Four-foot (4') wide buffer with tubular markers separating the general purpose lanes from the express lanes
- A 12-foot (12') wide paved inside shoulder
- A 12-foot (12') wide outside shoulder (ten-foot (10') paved and two-foot (2') unpaved)
- A two and a half-foot (2.5') wide center barrier wall
- Twelve-foot (12') wide auxiliary lanes at selected locations

Figure 3.9 shows the Build Alternative typical section.

The Build Alternative typical section will need to be reduced (express lanes, roadway shoulders and/or buffer widths) at the following five locations in order to avoid reconstructing these cross streets (roadway and structure). The existing footprint under these structures cannot accommodate the proposed roadway typical section (see *Figure 3.4*).

- Commercial Boulevard Interchange
- Andrews Avenue Overpass
- Racetrack Road Overpass
- NE 48th Street Overpass
- SW 10th Street Interchange



**Figure 3.9 – Build Typical Section between
Oakland Park Boulevard and Glades Road**



4.0 TRAFFIC NOISE ANALYSIS

Prior to conducting a detailed noise analysis, a desk-top review of the project was performed to determine if noise levels would likely increase as a result of the proposed improvements, if noise sensitive receptor sites are located within the project area, or if noise impacts are likely to occur. The desk-top review indicated that the proposed improvements may cause Design Year (2040) traffic noise levels to approach or exceed the FHWA NAC at noise sensitive sites along I-95 within the project limits. Therefore, in accordance with the FDOT *PD&E Manual*, Chapter 17 – Noise (dated May 24, 2011), a more detailed noise analysis was performed. The methods and results of this traffic noise analysis are summarized within this section and involved the following procedures:

- *Identification of Noise Sensitive Receptor Sites*
- *Field Measurement of Noise Levels and Noise Model Validation*
- *Prediction of Existing and Future Noise Levels*
- *Assessment of Traffic Noise Impacts*
- *Consideration of Noise Abatement Measures*

The FHWA Traffic Noise Model (TNM) Version 2.5 (February 2004) was used to predict traffic noise levels and to analyze the effectiveness of noise barriers. This model estimates the acoustic intensity at a noise sensitive receptor site 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, obstructions (houses, trees, etc.), ground surface type (hard or soft) and topography. Elevation data for the existing travel lanes and the limited-access right-of-way lines that were used in the traffic noise modeling were obtained from roadway plans depicting the existing conditions where available.

Noise levels documented in this report represent the hourly equivalent sound level (LAeq1h). LAeq1h is the steady-state sound level, which contains the same amount of acoustic energy as the actual time-varying sound level over a one-hour period. LAeq1h is measured in A-weighted decibels [dB(A)], which closely approximate the human frequency response.



4.1 NOISE SENSITIVE SITES

The FHWA has established NAC for seven land use activity categories. These criteria determine when an impact occurs and when consideration of noise abatement analysis is required. Maximum noise level thresholds have been established for five of these activity categories. These maximum thresholds, or criteria levels, represent the upper limit of acceptable traffic noise level conditions. The July 2010 NAC levels are presented in **Table 4.1**. Noise abatement measures must be considered when predicted noise levels approach or exceed the FHWA NAC levels or when a substantial noise increase occurs. A substantial noise increase is defined as when the existing noise level is predicted to be exceeded by 15 dB(A) or more as a result of the transportation improvement project. The FDOT defines "approach" as within 1 dB(A) of the FHWA criteria.

Table 4.1 Noise Abatement Criteria [Hourly A-Weighted Sound Level-Decibels (dB(A))]				
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.



Table 4.1
Noise Abatement Criteria

[Hourly A-Weighted Sound Level-Decibels (dB(A))]

Activity Category	Activity Leq(h) ¹		Evaluation Location	Description of Activity Category
	FHWA	FDOT		
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 Part 772)

¹ The Leq(h) Activity Criteria values are for impact determination only and are not a design standard 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.

Developed lands along the project corridor were evaluated to identify noise sensitive receptor sites that may be impacted by traffic noise associated with the proposed improvements. Noise sensitive receptor sites represent any property where frequent exterior human use occurs and where a lowered noise level would be of benefit. These include residences (FHWA Noise Abatement Activity Category B); other noise sensitive areas such as parks and recreational areas, medical facilities, schools, and places of worship (Category C); and noise sensitive commercial properties such as restaurants (Category E). Noise sensitive sites also include interior use areas where no exterior activities occur for facilities such as auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, recording studios, and schools (Category D).

A GIS review and field reconnaissance were conducted to identify potentially noise sensitive sites along the limits of this project. Approximately 1,784 nearby noise sensitive sites were identified along the project corridor – (see **Table 4.2 and Figure 4.1**). These sites include nearby residences, schools, religious facilities, parks, pools and medical facilities. Many of the nearby neighborhoods consist of single-family homes located in dense residential communities; however, there are several large apartment and condominium complexes. Twenty-two noise barriers are located within the limits of this project. These noise barriers include shoulder-mounted and ground-mounted noise barriers that range in height from 6 to 21 feet tall.



Table 4.2 Noise Sensitive Sites		
Project Segment	Residential Noise Sensitive Sites	Non-Residential and Special-Use Noise Sensitive Sites
Oakland Park Boulevard to Commercial Boulevard	90	3
Commercial Boulevard to Cypress Creek Road	71	1
Cypress Creek Road to Atlantic Boulevard	290	3
Atlantic Boulevard to Copans Road	187	4
Copans Road to Sample Road	477	1
Sample Road to SW 10 th Street	375	8
SW 10 th Street to Hillsboro Boulevard	137	1
Hillsboro Boulevard to Pompano Park Road	157	3



Figure 4.1 – Noise Sensitive Sites Map (Sheet 1)

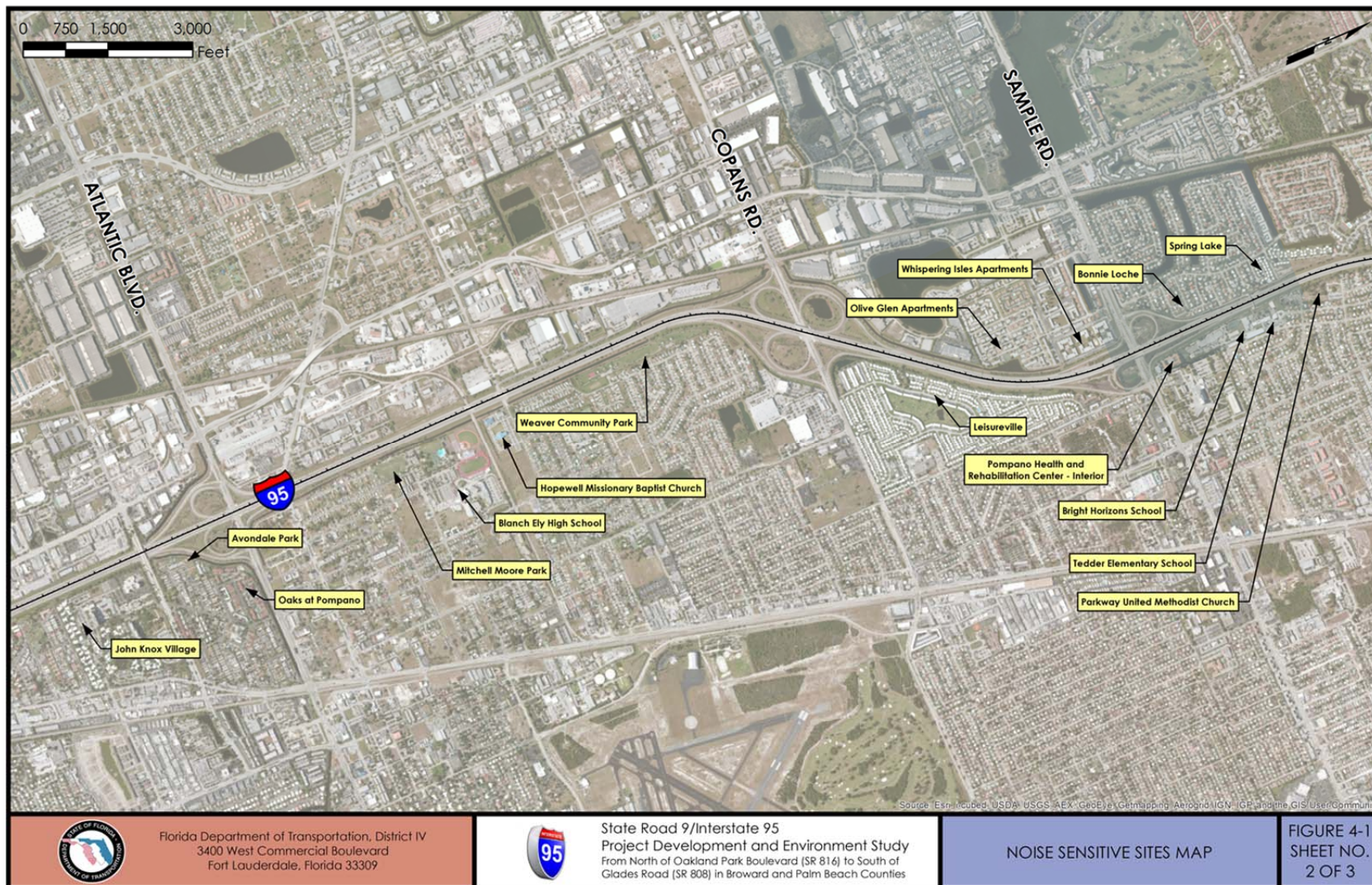


Figure 4.1 – Noise Sensitive Sites Map (Sheet 2)

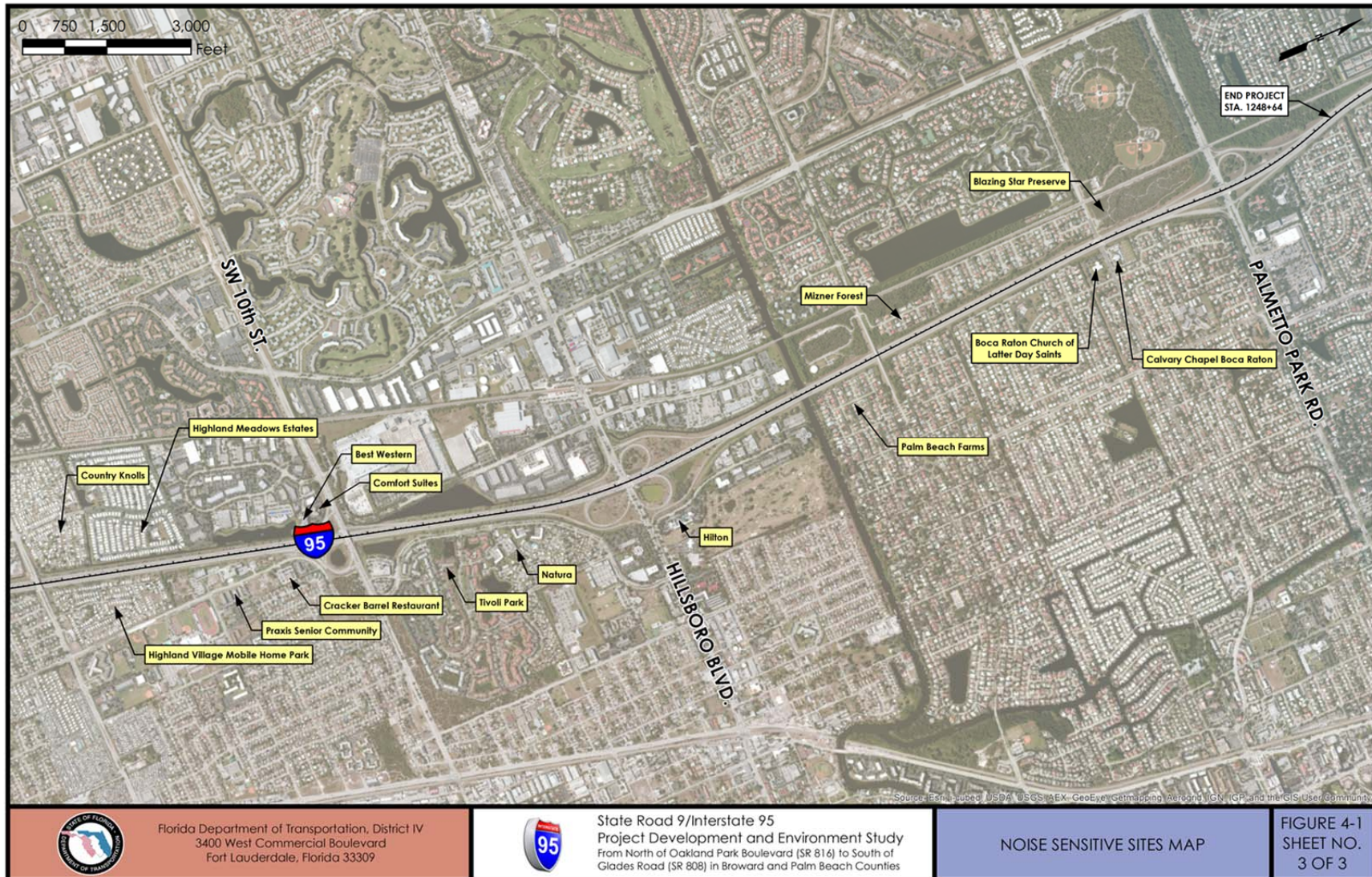


Figure 4.1 – Noise Sensitive Sites Map (Sheet 3)



4.1.1 OAKLAND PARK BOULEVARD (SR 816) TO COMMERCIAL BOULEVARD (SR 870)

Noise sensitive sites along this segment of the I-95 project corridor are depicted on **Sheet 1** of **Figure 4.1**. Noise sensitive sites are found primarily along the east side of this project segment. These noise sensitive sites include approximately 90 nearby residences including single-family homes, duplexes, or apartments. The City of Oakland Park's North Andrews Garden Volunteer Park is located east of this segment at 518 NW 48th Court. The Igreja Pentacostal Betania church is also located east of the corridor at 4054 NW 9th Avenue/Powerline Road. Oakland Park's Oakland Bark Park is located west of I-95 at 971 NW 38th Street. This segment of the project also includes retail stores, office buildings, warehouses, industrial/light industrial enterprises and institutional uses that are not considered noise sensitive (i.e., Activity Category F).

Two noise barriers are located along this segment of I-95. Both are found along the east side of I-95. These noise barriers are as follows:

- 86070-3506 (I-95 C) – Shoulder of northbound lanes, NW 41st Street to NW 48th Court (Station 557+36 to 597+14), 3,997 feet long, 8 feet tall.
- 86070-3506 (I-95 D) – Eastern limited-access right of way line, NW 48th Street to Commercial Boulevard (Station 596+96 to 601+21), 443 feet long, 21feet tall.

4.1.2 COMMERCIAL BOULEVARD (SR 870) TO EAST CYPRESS CREEK ROAD

Noise sensitive sites along this segment of the I-95 project corridor are depicted on **Sheet 1** of **Figure 4.1**. Noise sensitive sites are found only along the east side of this project segment. These noise sensitive sites include approximately 71 residences, primarily single-family homes. The City of Oakland Park's North Andrews Gardens Neighborhood Park is located east of the corridor at 300 NW 56th Street. This segment of the project also includes office buildings, warehouses and industrial/light industrial enterprises that are not considered noise sensitive (i.e., Activity Category F).

Two noise barriers are located along this segment of I-95. Both are found along the east side of I-95. These noise barriers are as follows:



- 86070-3506 (I-95 3A) – Eastern limited-access right of way line, NW 57th Street to NW 51st Street (Station 606+60 to 639+58), 3,313 feet long, 18 feet tall.
- 86070-3506 (I-95 3B) – Eastern limited-access right of way line, NE 59th Street to East Cypress Creek Road (Station 652+45 to 668+41, 1,597 feet long, 17 feet tall.

4.1.3 EAST CYPRESS CREEK ROAD TO ATLANTIC BOULEVARD (SR 814)

Noise sensitive sites along this segment of the I-95 project corridor are depicted on ***Sheets 1 and 2 of Figure 4.1***. Noise sensitive sites are found only along the east side of this project segment. These noise sensitive sites include approximately 290 residences, primarily apartments and multi-family homes. Several single-family homes and mobile-homes are also included in this number. A Westin Hotel is located east of the corridor at 400 Corporate Drive just north of East Cypress Creek Road. A City of Pompano Beach park, Avondale Park, is located east of this segment at 225 SW 6th Avenue. Also, a pool at the Oaks at Pompano apartments was considered to be noise sensitive. This segment of the project also includes office buildings, warehouses, industrial/light industrial enterprises and institutional uses that are not considered noise sensitive (i.e., Activity Category F).

Two noise barriers are located along this project segment. Both are found along the east side of I-95. These noise barriers are as follows:

- 86070-3506 (I-95 3C) – Shoulder of northbound lanes, SW 8th Drive to McNab Road (Station 692+91 to 699+30), 654 feet long, 6 to 8 feet tall.
- 86070-3506 (I-95 3D/E) – Eastern limited-access right of way line, SW 14th Court to SW 6th Street (Station 703+57 to 744+00), 4,214 feet long, 17 feet tall.

4.1.4 ATLANTIC BOULEVARD (SR 814) TO COPANS ROAD

Noise sensitive sites along this segment of the I-95 project corridor are depicted on ***Sheet 2 of Figure 4.1***. Noise sensitive sites are found only along the east side of this project segment. These noise sensitive sites include approximately 187 residences, primarily single-family homes. Two City of Pompano Beach parks are located along this segment; Mitchell Moore Park at 901 NW 10th Street and



Weaver Community Park at 800 NW 20th Street. Other noise sensitive uses along this project segment include athletic fields/playgrounds associated with Blanche Ely High School at 1201 NW 6th Avenue and Hopewell Preschool Academy (and the associated Hopewell Missionary Baptist Church) at 890 NW 15th Street. This segment of the project also includes retail stores, office buildings, warehouses and industrial/light industrial enterprises that are not considered noise sensitive (i.e., Activity Category F).

Two noise barriers are located of this project segment. Both are found along the east side of I-95. These noise barriers are as follows:

- 86070-3506 (I-95 3F) – Shoulder of northbound lanes, NW 9th Avenue to Dr. Martin Luther King Boulevard (Station 780+33 to 785+51), 540 feet long, 8 feet tall.
- 86070-3506 (I-95 3G) – Eastern limited-access right of way line, NW 5th Street to NW 8th Street (Station 791+44 to 802+79), 1,136 feet long, 20 feet tall.

4.1.5 COPANS ROAD TO SAMPLE ROAD

Noise sensitive sites along this segment of the I-95 project corridor are depicted on **Sheet 2** of **Figure 4.1**. Noise sensitive sites are found along both sides of this project segment. These noise sensitive sites include approximately 477 residences, primarily apartments but also including single-family homes and condominiums. A pool at the Olive Glen apartments was also considered to be noise sensitive. This segment of the project also includes retail stores, office buildings, warehouses and industrial/light industrial enterprises that are not considered noise sensitive (i.e., Activity Category F).

Two noise barriers are located along this project segment, one along each side of I-95. These noise barriers are as follows:

- 99004-3420 (I-95 A) – Eastern limited-access right of way line, NW 24th Court to NE 35th Court (Station 897+38 to 944+19), 4,993 feet long, 15 feet tall.
- 99004-3420 (I-95 B) – Western limited-access right of way line, NW 33rd Street to Sample Road (Station 934+00 to 944+73), 1,092 feet long, 15 feet tall.



4.1.6 SAMPLE ROAD TO SW 10TH STREET (SR 869)

Noise sensitive sites along this segment of the I-95 project corridor are depicted on ***Sheets 2 and 3 of Figure 4.1***. Noise sensitive sites are found along both sides of this project segment. These noise sensitive sites include approximately 375 residences, primarily single-family homes but also included mobile-homes, condominiums and apartments. Two schools are located along the east side of this project segment; Tedder Elementary School at 4157 NW 1st Terrace and the Bright Horizons School at 3901 NW 1st Terrace. Pompano Health and Rehabilitation Center at 51 West Sample Road, Parkway United Methodist Church at 100 NE 44th Street and a Cracker Barrel Restaurant at 1250 FAU Research Park Boulevard are other noise sensitive sites also located along the east side of this segment. Noise sensitive sites west of this project segment also include two hotels, the Best Western Plus at 1050 East Newport Center Drive and a Comfort Suite at 1040 East Newport Center Drive, and the Women In Distress Shelter/Jim and Jan Moran Family Center at 4700 NW 3rd Avenue. This segment of the project also includes office buildings and institutional uses that are not considered noise sensitive (i.e., Activity Category F).

Five noise barriers are located along this project segment. Three of these noise barriers are found along the east side of I-95 and two are located to the west. These noise barriers are as follows:

- 99004-3420 (I-95 D[part1]) – Eastern limited-access right of way line, NE 38th Street to NE 42nd Street (953+16 to 978+00), 2,484 feet long, 16 feet tall.
- 99004-3420 (I-95 D[part2]) – Eastern limited-access right of way line, NE 44th Street to NE 48th Street (983+59 to 1000+00), 1,641 feet long, 16 feet tall.
- 99004-3420 (I-95 E) – Eastern limited-access right of way line, NE 48th Street to NE 52nd Street (1002+55 to 1022+20), 1,964 feet long, 14 feet tall.
- 99004-3420 (I-95 C) – Western limited-access right of way line, NW 36th Street to NE 48th Street (947+26 to 999+12), 5,563 feet long, 16 feet tall.
- 99004-3420 (I-95 F) – Western limited-access right of way line, NW 48th Street to NE 53rd Place (1001+73 to 1028+51), 2,677 feet long, 16 feet tall.

4.1.7 SW 10TH STREET (SR 869) TO HILLSBORO BOULEVARD (SR 810)

Noise sensitive sites along this segment of the I-95 project corridor are depicted on ***Sheet 3 of Figure 4.1***. Noise sensitive sites are found only along the east side



of this segment of I-95 and include approximately 137 residences, primarily condominiums or apartments. Several single-family homes are included in this number. A pool at the Tivoli Park apartments was also considered to be noise sensitive. This segment of the project also includes retail stores, office buildings and warehouses that are not considered noise sensitive (i.e., Activity Category F).

There are currently no noise barriers along this project segment.

4.1.8 HILLSBORO BOULEVARD (SR 810) TO PALMETTO PARK ROAD

Noise sensitive sites along this segment of the I-95 project corridor are depicted on **Sheet 3** of **Figure 4.1**. Noise sensitive sites are found along both sides of this project segment. These noise sensitive sites include approximately 157 residences, all single-family homes. Two churches, a Latter Day Saints Church located at 1530 West Camino Real and the Calvary Chapel Boca Raton at 1551 West Camino Real are located east of this project segment. The City of Boca Raton's Blazing Star Preserve nature preserve is located to the west of the corridor at 1751 West Camino Real. This segment of the project also includes office buildings and institutional uses that are not considered noise sensitive (i.e., Activity Category F).

Seven noise barriers are located along this segment of the project corridor. Five of these noise barriers are found along the east side of I-95 and one is to the west. These noise barriers are as follows:

- Unnamed – Shoulder of northbound lanes crossing the Hillsboro Canal (Station 1139+40 to 1145+36), 599 feet long, 8 feet tall.
- 99004-3420 (I-95 8-A) – Eastern limited-access right of way line, Hillsboro Canal to SW 18th Street (Station 1144+33 to 1156+41), 1,206 feet long, 16 feet tall.
- 99004-3420 (I-95 8-B) – Eastern limited-access right of way line, SW 18th Street to SW 8th Street (Station 1158+19 to 1196+64), 3,849 feet long, 16 feet tall.
- Unnamed – Shoulder of northbound lanes from SW 8th Street to Royal Palm Road (Station 1195+02 to 1121+45), 3,867 feet long, 8 feet tall.



- 99004-3420 (I-95 8-D) – Eastern limited-access right of way line, SW 4th Street to Palmetto Park Road (Station 1206+34 to 1224+15, 1,851 feet long, 13 feet tall.
- Unnamed – Shoulder of northbound mainline on the overpass across Palmetto Park Road (Station 1215+63 to 1227+68), 3,867 feet long, 8 feet tall.
- 99004-3420 (I-95 8-C) – Western limited-access right of way line, SW 13th Place to West Camino Real (Station 1171+09 to 1201+10), 4,007 feet long, 17 feet tall.

4.1.9 PALMETTO PARK ROAD TO NORTHERN PROJECT TERMINUS

The noise analysis for these sites are being evaluated as part of the FDOT's project to construct express lanes along I-95 from north of Palmetto Park Road to Linton Boulevard (FM# 412420-1).

4.2 FIELD MEASUREMENT OF NOISE LEVELS AND MODEL VALIDATION

Measurements of sample existing noise levels along the project corridor were performed using procedures defined in the FHWA report *Measurement of Highway-Related Noise* (FHWA-PD-96-046). Existing traffic noise levels were measured between June 2007 and April 2012 at ten locations along I-95. The locations of the field measurement sites are depicted on figures contained in **Appendix A** and are described in **Table 4.3**.

A minimum of three repetitions of ten-minute readings were measured at each site to obtain reasonable results. Where possible, readings were taken at the first and second rows in residential communities. Unusual noises at the monitoring sites were documented to allow identification of any atypical noise sources along the alignment. Rion Model NL-21 Type-II integrating sound level meters were used to collect noise level data. Foam wind screens and adjustable tripods were also used. The sound level meters were calibrated to 94 dB at 1000 Hertz using a Rion Model NC-73 acoustical calibrator. Traffic data were collected by the project team during each measurement period. Traffic speeds were measured using C.M.I., Inc. - Type JF100 radar speed measuring equipment. Traffic volumes, speed data and noise levels were collected during 44 ten-minute sampling periods.



The ambient temperature during the June 2007 measurements (Sites FR-10 and FR-11) ranged from approximately 90 to 93 degrees Fahrenheit and the wind was variable generally blowing at less than approximately 5 MPH throughout the measurement periods. The relative humidity was approximately 50 percent and the cloud cover was between 25 and 75 percent throughout the measurement periods. The ambient temperature during the April 2012 measurements (Sites FR-1 through FR-9) was approximately 79 to 84 degrees Fahrenheit and the wind was blowing generally from the east and southeast at less than approximately 10 MPH throughout the measurement periods. The relative humidity was approximately 50 percent and the cloud cover was between zero and 100 percent throughout the measurement periods. All roadway surfaces remained clean and dry throughout the measurements. The dates, times, traffic data, and the measured and TNM-predicted noise levels are presented in **Table 4.3**.

Table 4.3
Field Measured Traffic Noise Data

Field Receptor	Location	Sample Run	Time	Measured 10-Minute Traffic Volume (Auto/MT/HT/B/Mcy)	Distance From Edge-Of Nearest Travel Lane (Feet)	Measured Traffic Noise Level (dBA)	Modeled Traffic Noise Level (dBA)	Difference (Modeled-Measured) (dBA)
FR-1	Intersection of NW 5 th Street and NW 54 th Court in Oakland Park. East side of roadway. Station 625+20.	1A	10:19 AM April 19, 2012	Northbound 904/66/43/2/3 Southbound 1116/51/57/4/2	215	59.5	61.4	1.9
					290	56.6	58.8	2.2
		1B	10:33 AM April 19, 2012	Northbound 1038/48/49/1/2 Southbound 1058/54/56/5/4	215	61.7	61.7	0.0
					290	59.3	59.2	-0.1
		1C	10:48 AM April 19, 2012	Northbound 1000/60/42/2/4 Southbound 1033/46/53/2/2	215	63.0	61.6	-1.4
					290	60.4	59.0	-1.4
		1D	11:03 AM April 19, 2012	Northbound 955/61/54/1/2 Southbound 1023/51/52/2/2	215	59.6	61.6	2.0
					290	57.0	59.1	2.1



Table 4.3
Field Measured Traffic Noise Data

Field Receptor	Location	Sample Run	Time	Measured 10-Minute Traffic Volume (Auto/MT/HT/B/Mcy)	Distance From Edge-Of Nearest Travel Lane (Feet)	Measured Traffic Noise Level (dBA)	Modeled Traffic Noise Level (dBA)	Difference (Modeled-Measured) (dBA)
FR-2	Intersection of SW 9 th Avenue and SW 13 th Court in Pompano Beach. East side of roadway. Station 710+00.	2A	3:37 PM April 19, 2012	Northbound 1215/41/40/4/7 Southbound 1300/32/34/4/4	200	60.4	62.4	2.0
					295	60.7	63.2	2.5
		2B	3:52 PM April 19, 2012	Northbound 1261/45/38/1/0 Southbound 1341/26/26/8/3	200	60.5	62.1	1.6
					295	61.0	62.9	1.9
		2C	4:07 PM April 19, 2012	Northbound 1199/25/33/3/6 Southbound 1386/34/29/7/5	200	60.8	62.0	1.2
					295	60.7	62.8	2.1
		2D	4:21 PM April 19, 2012	Northbound 1262/35/38/3/4 Southbound 1223/29/33/5/3	200	60.3	61.9	1.6
					295	60.6	62.8	2.2
FR-3	Intersection of NW 9 th Avenue and NW 10 th Street in Pompano Beach's Mitchell/Moore Park. East side of roadway. Station 807+00.	3A	11:45 AM April 18, 2012	Northbound 937/56/47/0/0 Southbound 985/37/55/0/4	375	61.8	64.6	2.8
		3B	12:06 PM April 18, 2012	Northbound 975/59/41/0/0 Southbound 995/48/42/2/	375	62.2	65.0	2.8
		3C	12:22 PM April 18, 2012	Northbound 900/53/40/0/3 Southbound 905/45/47/5/0	375	62.0	65.2	3.2
		3D	12:37 PM April 18, 2012	Northbound 989/45/45/3/2 Southbound 970/41/48/2/4	375	62.1	65.0	2.9
FR-4	Intersection of NE 9 th Avenue and NE44 th Street in Deerfield Beach. East side of roadway. Station 981+00.	4A	2:25 PM April 18, 2012	Northbound 993/48/34/4/1 Southbound 947/36/37/2/10	170	67.7	68.9	1.2
					225	64.6	67.2	2.6
		4B	2:39 PM April 18, 2012	Northbound 966/43/35/1/2 Southbound 995/28/46/1/2	170	67.8	68.7	0.9
					225	65.0	66.9	1.9
		4C	2:53 PM April 18, 2012	Northbound 1015/46/37/2/3 Southbound 978/47/46/8/2	170	67.5	68.9	1.4
					225	64.9	67.2	2.3
		4D	3:06 PM April 18, 2012	Northbound 1032/37/30/1/1 Southbound 1051/30/56/6/3	170	67.8	68.8	1.0
					225	65.1	67.1	2.0



Table 4.3
Field Measured Traffic Noise Data

Field Receptor	Location	Sample Run	Time	Measured 10-Minute Traffic Volume (Auto/MT/HT/B/Mcy)	Distance From Edge-Of Nearest Travel Lane (Feet)	Measured Traffic Noise Level (dBA)	Modeled Traffic Noise Level (dBA)	Difference (Modeled-Measured) (dBA)
FR-5	SW 14 th Drive in Boca Raton. East side of roadway. Station 1170+40.	5A	3:55 PM April 18, 2012	Northbound 1092/30/25/3/2 Southbound 1045/20/45/0/2	145	62.1	61.7	-0.4
					230	59.3	59.7	0.4
		5B	4:09 PM April 18, 2012	Northbound 1044/38/23/5/2 Southbound 1193/26/37/2/6	145	61.9	61.6	-0.3
					230	59.0	59.5	0.5
		5C	4:22 PM April 18, 2012	Northbound 1104/27/25/0/3 Southbound 1136/16/29/0/7	145	62.5	61.5	-1.0
					230	59.7	59.4	-0.3
		5D	4:35 PM April 18, 2012	Northbound 1169/27/21/0/3 Southbound 1049/24/33/0/5	145	61.5	61.7	0.2
					230	58.9	59.6	0.7
FR-7	SW 16 th Street in Boca Raton. West side of roadway. Station 1164+20.	7A	10:50 AM April 19, 2012	Northbound 948/58/39/0/2 Southbound 933/39/37/1/1	150	67.0	69.5	2.5
					215	64.8	65.9	1.1
		7B	11:07 AM April 19, 2012	Northbound 919/53/31/0/0 Southbound 671/39/23/0/3	150	66.2	68.4	2.2
					215	64.0	64.8	0.8
		7C	11:20 AM April 19, 2012	Northbound 921/51/41/0/0 Southbound 743/31/22/1/2	150	65.9	68.6	2.7
					215	63.9	65.0	1.1
		7D	11:33 AM April 19, 2012	Northbound 909/50/26/0/2 Southbound 750/40/34/0/1	150	65.9	68.7	2.8
					215	63.7	65.1	1.4
FR-8	Intersection of NW 50 th Court and NW 1 st Avenue in Deerfield Beach. West side of roadway. Station 1009+00.	8A	1:05 PM April 19, 2012	Northbound 852/35/39/0/0 Southbound 935/58/33/2/3	310	64.3	61.4	-2.9
		8B	1:19 PM April 19, 2012	Northbound 991/44/40/5/1 Southbound 965/48/35/3/5	310	65.2	62.5	-2.7
		8C	1:45 PM April 19, 2012	Northbound 1133/46/27/3/4 Southbound 950/51/39/3/1	310	65.3	62.6	-2.4



Table 4.3
Field Measured Traffic Noise Data

Field Receptor	Location	Sample Run	Time	Measured 10-Minute Traffic Volume (Auto/MT/HT/B/Mcy)	Distance From Edge-Of Nearest Travel Lane (Feet)	Measured Traffic Noise Level (dBA)	Modeled Traffic Noise Level (dBA)	Difference (Modeled-Measured) (dBA)
FR-9	NW 32 nd Court in Pompano Beach. West side of roadway. Station 929+60.	9A	2:20 PM April 19, 2012	Northbound 1091/30/45/4/3 Southbound 1034/35/46/1/5	185	71.8	72.3	0.5
					290	69.3	69.1	-0.2
		9B	2:33 PM April 19, 2012	Northbound 1276/40/35/4/5 Southbound 1075/41/48/2/3	185	72.0	71.9	-0.1
					290	69.6	68.7	-0.9
		9C	2:46 PM April 19, 2012	Northbound 1206/48/47/2/3 Southbound 1070/30/57/2/2	185	71.8	72.2	0.4
					290	69.5	68.9	-0.6
		9D	2:59 PM April 19, 2012	Northbound 1218/45/43/5/3 Southbound 1066/41/41/5/1	185	72.1	71.9	-0.2
					290	69.9	68.6	-1.3
FR-10	NW 43 rd Street in Oakland Park. East side of roadway. Station 572+20.	10A	10:47 AM June 12, 2007	Northbound 980/57/72/1/0 Southbound 940/48/67/0/1	220	68.2	62.5	-5.7
					350	62.2	62.7	0.5
		10B	11:06 AM June 12, 2007	Northbound 760/52/77/0/0 Southbound 1100/53/71/0/2	220	62.5	62.9	0.4
					350	61.3	63.2	1.9
		10C	11:20 AM June 12, 2007	Northbound 720/60/71/1/1 Southbound 1040/33/58/2/0	220	62.0	62.2	0.2
					350	60.9	62.5	1.6
		10D	11:34 AM June 12, 2007	Northbound 810/65/80/2/1 Southbound 1020/44/79/0/0	220	63.0	61.9	-1.1
					350	62.0	62.2	0.2



Table 4.3
Field Measured Traffic Noise Data

Field Receptor	Location	Sample Run	Time	Measured 10-Minute Traffic Volume (Auto/MT/HT/B/Mcy)	Distance From Edge-Of Nearest Travel Lane (Feet)	Measured Traffic Noise Level (dBA)	Modeled Traffic Noise Level (dBA)	Difference (Modeled-Measured) (dBA)
FR-11	NW 45 th Street in Oakland Park. East side of roadway. Station 579+40.	11A	12:20 APM June 12, 2007	Northbound 940/37/90/1/1 Southbound 960/42/57/0/0	130	61.6	63.8	2.2
					240	59.0	61.6	2.6
		11B	12:34 PM June 12, 2007	Northbound 790/50/66/1/2 Southbound 1000/37/74/0/0	130	61.6	63.7	2.1
					240	58.9	61.4	2.5
		11C	12:49 PM June 12, 2007	Northbound 790/51/70/1/1 Southbound 850/44/50/0/1	130	61.5	63.5	2.0
					240	58.8	61.2	2.4
		11D	1:03 AM June 12, 2007	Northbound 650/48/88/0/1 Southbound 910/50/55/0/0	130	61.8	63.7	1.9
					240	58.8	61.6	2.8

Notes: dB(A) = A-weighted decibels, MT = Medium Trucks, HT = Heavy Trucks, B = Bus, Mcy = Motorcycles

4.2.1 FIELD MEASUREMENT SITES

4.2.1.1 Site FR-1

Measurement site FR-1 is located east of I-95, at the intersection of NW 5th Street and NW 54th Court. This site is within the City of Oakland Park. This site is representative of noise sensitive sites along the east side of I-95 between Commercial Boulevard and Cypress Creek Road. Homes in this neighborhood are located behind a 18 foot tall noise barrier along the eastern limited-access right of way line of I-95. Traffic noise levels at this site were measured at distances of approximately 215 and 290 feet from the near edge-of-pavement of the northbound lanes of I-95. These distances are representative of how far the first and second row homes are from the northbound lanes. Noise level readings were taken between 10:19 AM and 11:13 AM on April 19, 2012. Existing traffic noise levels were found to range from 59.5 to 63.0 dB(A) at the near location and 56.6 to 60.4 dB(A) at the far location.



4.2.1.2 Site FR-2

Measurement site FR-2 is located east of I-95, at the intersection of SW 9th Avenue and SW 13th Court. This site is within the City of Pompano Beach. This site is representative of noise sensitive sites along the east side of I-95 between Cypress Creek Road and Atlantic Boulevard. Homes in this neighborhood are located behind a 17 foot tall noise barrier along the eastern limited-access right of way line of I-95. Traffic noise levels at this site were measured at distances of approximately 200 and 295 feet from the near edge-of-pavement of the northbound lanes of I-95. These distances are representative of how far the first and second row homes are from the northbound lanes. Noise level readings were taken between 3:37 PM and 4:31 PM on April 19, 2012. Existing traffic noise levels were found to range from 60.3 to 60.8 dB(A) at the near location and 60.6 to 61.0 dB(A) at the far location.

4.2.1.3 Site FR-3

Measurement site FR-3 is located east of I-95, at the intersection of NW 9th Avenue and NW 10th Street. This site is within the City of Pompano Beach's Mitchell/Moore Park. This site is representative of noise sensitive sites along the east side of I-95 between Atlantic Boulevard and Copans Road. There is no noise barrier near this site. Traffic noise levels at this site were measured at a distance of approximately 375 feet from the near edge-of-pavement of the northbound lanes of I-95. This distance is representative of how far the baseball fields are from the northbound lanes. Noise level readings were taken between 11:45 AM and 12:47 PM on April 18, 2012. Existing traffic noise levels were found to range from 61.8 to 62.2 dB(A).

4.2.1.4 Site FR-4

Measurement site FR-4 is located east of I-95, at Parkway United Methodist Church, near the intersection of NE 1st Avenue and NE 44th Street. This site is within the City of Deerfield Beach. This site is representative of noise sensitive sites along the east side of I-95 between Copans Road and SW 10th Street. Although there is no noise barrier directly adjacent to this church, many of the nearby homes are located behind 16 foot tall noise barriers along the eastern limited-access right of way line of I-95. Traffic noise levels at this site were measured at distances of approximately 170 and 225 feet from the near edge-of-pavement



of the northbound lanes of I-95. These distances are representative of how far the first and second row homes are from the northbound lanes. Noise level readings were taken between 2:25 PM and 3:16 PM on April 18, 2012. Existing traffic noise levels were found to range from 67.5 to 67.8 dB(A) at the near location and 64.6 to 65.1 dB(A) at the far location.

4.2.1.5 Site FR-5

Measurement site FR-5 is located east of I-95 on SW 14th Drive in the City of Boca Raton. This site is representative of noise sensitive sites along the east side of I-95 between Hillsboro Boulevard and the northern project terminus. The nearby homes are located behind a 16 foot tall noise barrier along the eastern limited-access right of way line of I-95. Traffic noise levels at this site were measured at distances of approximately 145 and 230 feet from the near edge-of-pavement of the northbound lanes of I-95. These distances are representative of how far the first and second row homes are from the northbound lanes. Noise level readings were taken between 3:55 PM and 4:45 PM on April 18, 2012. Existing traffic noise levels were found to range from 61.5 to 62.5 dB(A) at the near location and 58.9 to 59.7 dB(A) at the far location.

4.2.1.6 Site FR-7

Measurement site FR-7 is located west of I-95 on SW 16th Street in the City of Boca Raton. This site is representative of noise sensitive sites along the west side of I-95 between Hillsboro Boulevard and the northern project terminus. Although there is no noise barrier near these homes, an approximately 6 foot tall concrete block privacy wall is located between the homes and I-95. Traffic noise levels at this site were measured at distances of approximately 150 and 215 feet from the near edge-of-pavement of the southbound lanes of I-95. These distances are representative of how far the first and second row homes are from the southbound lanes. Noise level readings were taken between 10:50 AM and 11:43 AM on April 19, 2012. Existing traffic noise levels were found to range from 65.9 to 67.0 dB(A) at the near location and 63.7 to 64.8 dB(A) at the far location.

4.2.1.7 Site FR-8

Measurement site FR-8 is located west of I-95 at the intersection of NW 50th Court and NW 1st Avenue in the City of Deerfield Beach. This site is representative of



noise sensitive sites along the west side of I-95 between Sample Road and SW 10th Street. Homes in this neighborhood are located behind a 16 foot tall noise barrier along the western limited-access right of way line of I-95. Traffic noise levels at this site were measured at a distance of approximately 310 feet from the near edge-of-pavement of the southbound lanes of I-95. This distance is representative of how far the nearby homes are from the southbound lanes. Noise level readings were taken between 1:05 PM and 1:55 PM on April 19, 2012. Existing traffic noise levels were found to range from 64.3 to 65.3 dB(A).

4.2.1.8 Site FR-9

Measurement site FR-9 is located west of I-95 on NW 32nd Court in the City of Pompano Beach. This site is representative of noise sensitive sites along the west side of I-95 between Copans Road and Sample Road. A 15 foot tall noise barrier is located along the western limited-access right of way line of I-95 north of this measurement site that provides noise abatement for one of the apartment complexes. However, it does not extend far enough south to provide noise abatement for the southernmost apartment complex where this measurement site is located. Traffic noise levels at this site were measured at distances of approximately 185 and 290 feet from the near edge-of-pavement of the southbound lanes of I-95. These distances are representative of how far the first and second row apartments are from the southbound lanes. Noise level readings were taken between 2:20 PM and 3:09 PM on April 19, 2012. Existing traffic noise levels were found to range from 71.8 to 72.1 dB(A) at the near location and 69.3 to 69.9 dB(A) at the far location.

4.2.1.9 Site FR-10

Measurement site FR-10 is located east of I-95 on NW 43rd Court in the City of Oakland Park. This site is representative of noise sensitive sites along the east side of I-95 between Oakland Park Boulevard and Commercial Boulevard. An approximately 8 foot tall noise barrier is located along the shoulder of the elevated northbound lanes of I-95. Traffic noise levels at this site were measured at distances of approximately 220 and 350 feet from the near edge-of-pavement of the northbound lanes of I-95. These distances are representative of how far the first and second row homes are from the northbound lanes. Noise level readings were taken between 10:47 AM and 11:44 AM on June 6, 2007.



Existing traffic noise levels were found to range from 62.0 to 68.2 dB(A) at the near location and 60.9 to 62.2 dB(A) at the far location.

4.2.1.10 Site FR-11

Measurement site FR-11 is located east of I-95 on NW 45th Street in the City of Oakland Park. This site is also representative of noise sensitive sites along the east side of I-95 between Oakland Park Boulevard and Commercial Boulevard. An approximately 8 foot tall noise barrier is located along the shoulder of the elevated northbound lanes of I-95. Traffic noise levels at this site were measured at distances of approximately 130 and 240 feet from the near edge-of-pavement of the northbound lanes of I-95. These distances are representative of how far the first and second row homes are from the southbound lanes. Noise level readings were taken between 12:20 PM and 1:13 PM on June 6, 2007. Existing traffic noise levels were found to range from 61.5 to 61.8 dB(A) at the near location and 58.8 to 59.0 dB(A) at the far location.

4.2.1.11 Field Measurement Summary

Existing noise levels were measured at eleven sites along the I-95 project corridor during 35 ten-minute sampling periods. Traffic noise levels were found to range from 56.6 to 72.1 dB(A). In all cases, traffic noise from I-95 was the dominant source of noise at the nearby noise sensitive sites

4.3 COMPUTER NOISE MODEL VALIDATION

Site conditions and traffic data gathered during the field measurements were used to develop inputs to the FHWA's TNM 2.5 for computer models representative of the existing conditions. Additional geometric information necessary for these models was developed from aerial photographs and/or MircoStation files of the existing conditions in the project study area. The TNM results were then compared to the noise level data collected for each field measurement sample. The results of this analysis are shown in **Table 4.4**.



Table 4.4
Field Verification Data

Field Receptor	Distance from Nearest Travel Lane (I-95) (Feet)	Average Difference (Measured – Modeled) (dBA)
FR-1	215	0.6
	290	0.7
FR-2	200	1.6
	295	2.2
FR-3	375	2.9
FR-4	170	1.1
	225	2.2
FR-5	145	-0.4
	230	0.3
FR-7	150	2.6
	215	1.1
FR-8	310	-2.7
FR-9	185	0.2
	290	-0.8
FR-10	220	-1.6
	350	1.1
FR-11	130	2.1
	240	2.6

The model inputs for the field conditions are deemed to be within an acceptable level of accuracy if the predicted noise levels are within ± 3.0 dB(A) of the measured noise levels. These model inputs are then used as a basis for additional model runs used to predict existing and future noise levels at representative nearby noise sensitive locations. The average difference for each of the field measurement sites fall within the ± 3.0 dB(A) verification limit using TNM in accordance with the FDOT *PD&E Manual*, Chapter 17 – Noise (dated May 24, 2011). Thus, further use of the TNM model on this project is supported.



4.4 NOISE MODEL DEVELOPMENT

After verification of the prediction methodology, computer models were developed for the existing year (2011) conditions and the viable Design Year (2040) No-Build and Build alternatives. The TNM models for all alternatives were developed using geometric information from the project master plans. Roadway and ground elevation data were taken from plans detailing the existing conditions where available. Traffic data used in the TNM models were derived from the FDOT's *2012 Level of Service Handbook*. This data may be found in **Appendix B**.

Representative (model) receptor sites were used in the TNM model inputs to estimate noise levels associated with existing and future conditions along I-95. 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 residences, traffic noise levels were predicted at patios or balconies, or in the yard at the edge of the dwelling unit closest to the travel lane. For other noise sensitive sites that may be impacted, traffic noise levels were predicted where the exterior activity occurs. For the prediction of interior noise levels, receptor sites were placed ten feet inside the building at the edge closest to roadway. A 25 dB(A) building noise reduction factor identified in Table 17.2 of the FDOT *PD&E Manual*, Chapter 17 – Noise (dated May 24, 2011) for masonry construction and closed window conditions was used to estimate the noise reduction due to the physical structure. First floor receptor sites were modeled five feet above ground, second floor receptor sites were modeled at 15 feet above ground level and so on for higher floors. Two-hundred forty-five model receptor locations representative of the noise sensitive residential sites, parks, schools, churches, medical facilities, hotel pools, and an outdoor seating area at a restaurant. These locations are presented on the figures in **Appendix A** and are described in **Table 4.5**.



Table 4.5
Modeled Noise Receptor Locations and Noise Analysis Results

Representative Model Receptor	Predominant Type	Description (Noise Abatement Activity Category)	FDOT Noise Abatement Approach Criteria [dB(A)]	Location (Side of Road, Station)	Station	Number Of Noise Sensitive Sites	Distance To Nearest Traffic Lane* (Existing/No-Build/Build)	Predicted Traffic Noise Levels [LAeq1h, dB(A)]			Notes
								Existing (2011)	Design Year (2040)		
									No Build	Build Alternative	
Oakland Park Boulevard to Commercial Boulevard											
AE-MFH1(FR)	MFH	Residential (B)	66	East	554+84	8	450/450/436	68.4	68.4	68.2	
AE-SFH1(FR)	SFH	Residential (B)	66	East	557+00	8	347/347/333	68.8	68.8	69.1	
AE-IPChurch (Int)	Church (Interior)	Church Interior (D)	51	East	560+12	SLU	88/88/74	50.8	50.8	51.8	Igreja Pentacostal Betania - Interior
AE-SFH2(FR)	SFH	Residential (B)	66	East	564+14	14	107/107/93	64.1	64.1	66.9	
AE-SFH3(FR)	SFH	Residential (B)	66	East	572+16	4	137/137/123	63.2	63.2	66.7	
AE-SFH4(FR)	SFH	Residential (B)	66	East	586+81	9	68/68/49	63.7	63.7	67.9	
AE-SFH5(FR)	SFH	Residential (B)	66	East	594+45	5	69/69/68	64.1	64.1	68.3	
AE-NAGP	Park	Park (C)	66	East	598+67	SLU	100/100/100	60.2	60.2	60.6	North Andrews Gardens Volunteer Park
AE-SFH1(SR)	SFH	Residential (B)	66	East	557+45	12	491/491/477	64.0	64.0	64.7	
AE-SFH2(SR)	SFH	Residential (B)	66	East	564+14	8	242/242/230	60.0	60.0	63.5	
AE-SFH3(SR)	SFH	Residential (B)	66	East	572+32	4	251/251/238	61.9	61.9	65.2	
AE-SFH4(SR)	SFH	Residential (B)	66	East	587+25	9	139/139/119	61.3	61.3	66.5	
AE-SFH5(SR)	SFH	Residential (B)	66	East	594+65	5	155/155/154	61.1	61.1	63.4	
AE-SFH6(SR)	SFH	Residential (B)	66	East	599+37	4	145/145/145	61.0	61.0	61.2	
AW-OPBP(FR)	Park	Park (C)	66	West	556+80	SLU	170/170/145	64.5	64.5	65.7	Oakland Park Oakland Bark Park
AW-OPBP(SR)	Park	Park (C)	66	West	556+80	SLU	300/300/275	63.1	63.1	63.3	Oakland Park Oakland Bark Park
Commercial Boulevard to Cypress Creek Road											
BE-SFH1 (FR)	SFH	Residential (B)	66	East	608+78	4	96/96/96	61.3	61.3	60.7	
BE-SFH2 (FR)	SFH	Residential (B)	66	East	615+66	10	147/147/142	62.8	62.8	63.8	
BE-SFH3 (FR)	SFH	Residential (B)	66	East	625+00	12	195/195/182	62.9	62.9	63.9	



Table 4.5 Modeled Noise Receptor Locations and Noise Analysis Results											
Representative Model Receptor	Predominant Type	Description (Noise Abatement Activity Category)	FDOT Noise Abatement Approach Criteria [dB(A)]	Location (Side of Road, Station)	Station	Number Of Noise Sensitive Sites	Distance To Nearest Traffic Lane* (Existing/No- Build/Build)	Predicted Traffic Noise Levels [LAeq1h, dB(A)]			Notes
								Existing (2011)	Design Year (2040)		
									No Build	Build Alternative	
BE-NANP	Park	Park (C)	66	East	631+67	SLU	267/267/254	62.8	62.8	63.9	North Andrews Gardens Neighborhood Park
BE-SFH4 (FR)	SFH	Residential (B)	66	East	637+57	4	79/79/67	64.1	64.1	65.4	
BE-SFH5 (FR)	SFH	Residential (B)	66	East	655+00	4	145/145/141	62.9	62.9	64.0	
BE-SFH6 (FR)	SFH	Residential (B)	66	East	662+44	4	82/82/82	58.6	58.6	59.4	
BE-SFH7 (FR)	SFH	Residential (B)	66	East	665+52	4	137/137/137	60.0	60.0	60.6	
BE-SFH1 (SR)	SFH	Residential (B)	66	East	609+22	4	214/214/214	60.8	60.8	60.2	
BE-SFH2 (SR)	SFH	Residential (B)	66	East	616+00	6	238/238/232	58.9	58.9	59.7	
BE-SFH3 (SR)	SFH	Residential (B)	66	East	625+27	7	279/279/266	58.5	58.5	59.3	
BE-SFH4 (SR)	SFH	Residential (B)	66	East	638+00	3	155/155/142	62.6	62.6	64.0	
BE-SFH5 (SR)	SFH	Residential (B)	66	East	655+52	3	264/264/260	60.6	60.6	61.7	
BE-SFH6 (SR)	SFH	Residential (B)	66	East	663+13	3	183/183/183	60.9	60.9	61.8	
BE-SFH7 (SR)	SFH	Residential (B)	66	East	666+48	3	69/69/69	62.1	62.1	63.5	
Cypress Creek Road to Atlantic Boulevard											
CE-WEST POOL	Pool	Sensitive Commercial (E)	71	East	683+00	SLU	211/211/211	67.6	67.6	69.4	Westin Hotel Pool
CE-HV1 (FR)	SFH	Residential (B)	66	East	697+46	4	218/218/207	63.7	63.7	64.6	Holiday Village Mobile Home Park
CE-LP1a,b,c,d,e (FR)	MFH	Residential (B)	66	East	704+00	4,4,4,4,4	245/245/231	67.6,70.5,73.0,73.2,73.7	67.6,70.5,73.0,73.2,73.7	67.1,69.9,72.0,73.9,75.1	Laguna Pointe Apartments
CE-LP2a,b,c,d,e (FR)	MFH	Residential (B)	66	East	706+53	5,5,5,5,5	212/212/197	65.9,73.0,73.9,74.3,74.8	65.9,73.0,73.9,74.3,74.8	66.2,72.1,74.0,75.7,76.1	Laguna Pointe Apartments
CE-LP3a,b,c,d,e (FR)	MFH	Residential (B)	66	East	708+71	3,3,3,3,3	251/251/236	63.4,71.4,72.4,73.0,73.4	63.4,71.4,72.4,73.0,73.4	64.2,71.9,73.5,74.4,74.7	Laguna Pointe Apartments
CE-SFH1 (FR)	SFH	Residential (B)	66	East	717+35	7	150/150/134	61.9	61.9	63.4	
CE-MF1 (FR)	MFH	Residential (B)	66	East	722+35	5	298/298/282	62.1	62.1	63.5	
CE-MF2 (FR)	MFH	Residential (B)	66	East	726+36	2	247/247/230	61.9	61.9	63.3	
CE-MF3 (FR)	MFH	Residential (B)	66	East	729+00	6	218/218/198	62.2	62.2	63.6	
CE-MF4 (FR)	MFH	Residential (B)	66	East	733+53	7	200/200/174	62.5	62.5	64.0	



Table 4.5
Modeled Noise Receptor Locations and Noise Analysis Results

Representative Model Receptor	Predominant Type	Description (Noise Abatement Activity Category)	FDOT Noise Abatement Approach Criteria [dB(A)]	Location (Side of Road, Station)	Station	Number Of Noise Sensitive Sites	Distance To Nearest Traffic Lane* (Existing/No- Build/Build)	Predicted Traffic Noise Levels [LAeq1h, dB(A)]			Notes
								Existing (2011)	Design Year (2040)		
									No Build	Build Alternative	
CE-MF5 (FR)	MFH	Residential (B)	66	East	738+72	10	252/252/225	52.4	52.5	53.6	
CE-JKV1 (FR)	MFH	Residential (B)	66	East	742+33	4	175/175/149	61.7	61.7	63.3	John Knox Village
CE-JKV2 (Int)	MFH	Residential (B)	66	East	747+00	24	409/409/391	42.0	42.0	44.1	John Knox Village Tower Interior
CE-AvonPk	Park	Park (C)	66	East	763+55	SLU	212/212/212	69.8	69.8	71.4	Avondale Park
CE-MF6 (FR)	MFH	Residential (B)	66	East	766+45	10	226/226/226	66.1	66.1	67.7	
CE-OPa,b,c (FR)	MFH	Residential (B)	66	East	771+00	8,8,4	160/160/160	64.1,66.8,67.6	64.1,66.8,67.6	64.9, 67.6,68.4	Oaks at Pompano
CE-OP POOL	Pool	Residential (B)	66	East	774+26	SLU	183/183/183	66.3	66.3	66.6	Oaks at Pompano Pool
CE-HV1 (SR)	SFH	Residential (B)	66	East	697+72	4	281/281/271	60.2	60.2	61.3	Holiday Village Mobile Home Park
CE-LP1a,b,c,d,e (SR)	MFH	Residential (B)	66	East	706+31	5,5,5,5,5	384/384/370	56.1,58.1,59.2,59.7,60.0	56.1,58.1,59.2,59.7,60.0	56.2,58.1,59.2,59.8,60.1	Laguna Pointe Apartments
CE-LP2a,b,c,d,e (SR)	MFH	Residential (B)	66	East	709+27	2,2,2,2,2	428/428/414	61.4,65.1,66.9,68.4,69.3	61.4,65.1,66.9,68.4,69.3	62.6, 66.1,68.0,69.6,70.6	Laguna Pointe Apartments
CE-SFH1 (SR)	SFH	Residential (B)	66	East	711+21	1	284/284/269	63.1	63.1	63.9	
CE-MF1 (SR)	SFH	Residential (B)	66	East	722+65	3	522/522/506	57.9	57.9	59.0	
CE-MF2 (SR)	MFH	Residential (B)	66	East	725+65	8	332/332/316	60.7	60.7	61.9	
CE-MF3 (SR)	MFH	Residential (B)	66	East	729+35	3	359/359/339	56.7	56.7	57.3	
CE-MF4 (SR)	MFH	Residential (B)	66	East	733+53	7	278/278/251	57.5	57.5	58.1	
CE-MF5 (SR)	MFH	Residential (B)	66	East	738+72	8	369/369/341	56.7	56.7	57.9	
CE-JKV1 (SR)	MFH	Residential (B)	66	East	742+33	4	302/302/277	60.9	60.9	61.8	John Knox Village
CE-MF6 (SR)	MFH	Residential (B)	66	East	763+55	9	379/379/379	66.3	66.3	67.8	
CE-MF7 (SR)	MFH	Residential (B)	66	East	766+45	9	349/349/349	55.3	55.3	56.4	
CE-OPa,b,c (SR)	MFH	Residential (B)	66	East	773+00	8,8,4	393/393/393	61.3,63.4,64.2	61.3,63.4,64.2	61.8,63.8,64.6	Oaks at Pompano



Table 4.5
Modeled Noise Receptor Locations and Noise Analysis Results

Representative Model Receptor	Predominant Type	Description (Noise Abatement Activity Category)	FDOT Noise Abatement Approach Criteria [dB(A)]	Location (Side of Road, Station)	Station	Number Of Noise Sensitive Sites	Distance To Nearest Traffic Lane* (Existing/No-Build/Build)	Predicted Traffic Noise Levels [LAeq1h, dB(A)]			Notes
								Existing (2011)	Design Year (2040)		
									No Build	Build Alternative	
Atlantic Boulevard to Copans Road											
DE-SFH1 (FR)	SFH	Residential (B)	66	East	782+00	5	233/233/233	66.1	66.1	67.1	
DE-SFH2 (FR)	SFH	Residential (B)	66	East	792+00	5	181/181/166	65.5	65.5	65.8	
DE-SFH3 (FR)	SFH	Residential (B)	66	East	796+67	7	161/161/144	63.5	63.5	64.4	
DE-MMBB	Athletic Field	Park (C)	66	East	805+62	SLU	339/339/321	69.4	69.4	67.3	Mitchell Moore Park
DE-MMPool	Pool	Park (C)	66	East	815+00	SLU	449/449/432	65.4	65.4	65.6	Mitchell Moore Park
DE-BEHSBB	Athletic Field	Park (C)	66	East	821+33	SLU	254/254/238	66.1	66.1	65.6	Blanche Ely High School
DE-HW CHURCH 1	Church	Church (C)	66	East	825+52	SLU	244/244/227	66.2	66.2	63.7	Hopewell Missionary Baptist Church
DE-HW CHURCH 2	Church	Church (C)	66	East	825+52	SLU	558/558/544	61.4	61.4	61.8	Hopewell Preschool Academy
DE-SFH4 (FR)	SFH	Residential (B)	66	East	832+77	11	196/196/179	69.3	69.3	68.8	
DE-SFH5 (FR)	SFH	Residential (B)	66	East	838+00	11	195/195/178	73.5	73.5	71.0	
DE-WPKBB	Athletic Field	School (C)	66	East	844+69	SLU	270/270/253	71.4	71.4	68.6	Weaver Community Park
DE-WPPAV	Picnic Pavillion	Park (C)	66	East	858+65	SLU	267/267/238	70.5	70.5	68.8	Weaver Community Park
DE-SFH6 (FR)	SFH	Residential (B)	66	East	867+00	8	250/250/245	66.4	66.4	68.2	
DE-SFH7 (FR)	SFH	Residential (B)	66	East	871+73	4	360/360/359	64.4	64.4	65.7	
DE-SFH8 (FR)	SFH	Residential (B)	66	East	876+49	4	218/218/218	63.1	63.1	64.1	
DE-SFH1 (SR)	SFH	Residential (B)	66	East	782+00	2	415/415/415	64.8	64.8	65.0	
DE-SFH2 (SR)	SFH	Residential (B)	66	East	792+00	5	303/303/289	63.4	63.4	63.7	
DE-SFH3 (SR)	SFH	Residential (B)	66	East	796+67	7	323/323/306	59.9	59.9	60.9	
DE-MF1a,b (SR)	MFH	Residential (B)	66	East	805+62	32,32	638/638/621	61.2,66.0	61.2,66.0	60.4,65.5	
DE-SFH4 (SR)	SFH	Residential (B)	66	East	832+77	8	369/369/352	62.5	62.5	62.4	
DE-SFH5 (SR)	SFH	Residential (B)	66	East	838+00	8	368/368/351	62.1	62.1	62.4	
DE-SFH6 (SR)	SFH	Residential (B)	66	East	844+69	4	640/640/623	63.4	63.4	61.2	



Table 4.5
Modeled Noise Receptor Locations and Noise Analysis Results

Representative Model Receptor	Predominant Type	Description (Noise Abatement Activity Category)	FDOT Noise Abatement Approach Criteria [dB(A)]	Location (Side of Road, Station)	Station	Number Of Noise Sensitive Sites	Distance To Nearest Traffic Lane* (Existing/No- Build/Build)	Predicted Traffic Noise Levels [LAeq1h, dB(A)]			Notes
								Existing (2011)	Design Year (2040)		
									No Build	Build Alternative	
DE-SFH7 (SR)	SFH	Residential (B)	66	East	852+00	12	478/478/460	67.1	67.1	64.0	
DE-SFH8 (SR)	SFH	Residential (B)	66	East	858+65	8	448/448/415	67.7	67.7	65.4	
DE-SFH9 (SR)	SFH	Residential (B)	66	East	867+68	6	375/375/370	61.5	61.5	62.8	
DE-SFH10 (SR)	SFH	Residential (B)	66	East	870+27	4	457/457/455	60.8	60.8	61.8	
DE-SFH11 (SR)	SFH	Residential (B)	66	East	876+00	4	345/345/345	59.4	59.4	60.2	
Copans Road to Sample Road											
EE-LV1a,b (FR)	MFH	Residential (B)	66	East	892+30	14,14	315/315/315	67.6,69.3	67.6,69.3	67.8,69.8	Leisureville
EE-LV2a,b (FR)	MFH	Residential (B)	66	East	896+00	14,14	159/159/159	63.0,69.3	63.0,69.3	64.0, 70.3	Leisureville
EE-LV3 (FR)	SFH	Residential (B)	66	East	900+00	11	118/118/118	60.9	60.9	61.7	Leisureville
EE-LV4 (FR)	SFH	Residential (B)	66	East	909+00	14	145/145/132	61.3	61.3	62.1	Leisureville
EE-LV5 (FR)	SFH	Residential (B)	66	East	920+00	24	156/156/143	62.4	62.4	63.1	Leisureville
EE-LV6 (FR)	SFH	Residential (B)	66	East	928+15	8	160/160/154	63.2	63.2	63.9	Leisureville
EE-LV7 (FR)	SFH	Residential (B)	66	East	932+40	7	82/82/82	59.3	59.3	59.9	Leisureville
EE-TP (FR)	SFH	Residential (B)	66	East	936+00	17	123/123/123	59.7	59.7	60.3	
EE-MF1 (FR)	MFH	Residential (B)	66	East	938+21	9	180/180/180	56.0	56.0	57.0	
EE-MF2 (FR)	MFH	Residential (B)	66	East	942+00	18	85/85/85	57.3	57.3	58.0	
EE-LV1a,b (SR)	MFH	Residential (B)	66	West	893+82	14	484/484/484	65.4,67.1	65.4,67.1	65.3, 67.3	Leisureville
EE-LV2a,b (SR)	MFH	Residential (B)	66	West	897+00	14,14	298/298/298	59.7,64.4	59.7,64.4	60.9,65.4	Leisureville
EE-LV3 (SR)	SFH	Residential (B)	66	East	900+00	8	224/224/224	58.6	58.6	60.7	Leisureville
EE-LV4 (SR)	SFH	Residential (B)	66	East	909+00	11	260/260/247	59.7	59.7	60.5	Leisureville
EE-LV5 (SR)	SFH	Residential (B)	66	West	920+73	20	260/260/247	59.9	59.9	59.8	Leisureville
EE-LV6 (SR)	SFH	Residential (B)	66	West	928+69	5	319/319/315	60.4	60.4	60.7	Leisureville
EE-LV7 (SR)	SFH	Residential (B)	66	West	932+40	5	238/238/238	61.0	61.0	60.5	Leisureville
EE-MF1 (SR)	MFH	Residential (B)	66	East	936+00	10	242/242/242	55.9	55.9	56.8	



Table 4.5
Modeled Noise Receptor Locations and Noise Analysis Results

Representative Model Receptor	Predominant Type	Description (Noise Abatement Activity Category)	FDOT Noise Abatement Approach Criteria [dB(A)]	Location (Side of Road, Station)	Station	Number Of Noise Sensitive Sites	Distance To Nearest Traffic Lane* (Existing/No-Build/Build)	Predicted Traffic Noise Levels [LAeq1h, dB(A)]			Notes
								Existing (2011)	Design Year (2040)		
									No Build	Build Alternative	
EE-MF2 (SR)	MFH	Residential (B)	66	East	942+00	6	188/188/188	55.9	55.9	56.7	
EW-OG1a,b (FR)	MFH	Residential (B)	66	West	919+00	14,14	159/159/144	57.0,59.1	57.0,59.1	58.1,60.2	Olive Glen Apartments
EW-OGPool	Pool	Park (C)	66	West	923+75	SLU	387/387/376	66.5	66.5	67.5	Olive Glen Apartments Pool
EW-OG2a,b (FR)	MFH	Residential (B)	66	West	926+82	11,11	225/225/221	59.6,62.2	59.6,62.2	60.6,63.4	Olive Glen Apartments
EW-OG3a,b (FR)	MFH	Residential (B)	66	West	931+00	10,10	165/165/165	70.3,74.5	70.3,74.5	71.9,75.7	Olive Glen Apartments
EW-W1a,b (FR)	MFH	Residential (B)	66	West	938+79	24,24	150/150/150	62.0,69.1	62.0,69.1	63.1, 70.7	Whispering Isles Apartments
EW-OG1 (SR)	MFH	Residential (B)	66	West	920+37	4	408/408/393	66.2	66.2	67.5	Olive Glen Apartments
EW-OG2 (SR)	MFH	Residential (B)	66	West	923+00	6	528/528/515	62.8	62.8	63.9	Olive Glen Apartments
EW-OG3 (SR)	MFH	Residential (B)	66	West	926+56	8	385/385/379	61.8	61.8	62.8	Olive Glen Apartments
EW-OG4a,b (SR)	MFH	Residential (B)	66	West	930+00	10,10	413/413/413	61.5,64.9	61.5,64.9	61.7, 66.1	Olive Glen Apartments
EW-W1a,b (SR)	MFH	Residential (B)	66	West	938+79	18,18	265/265/265	57.3,59.9	57.3,59.9	58.3,60.9	Whispering Isles Apartments
Sample Road to SW 10 th Street											
FE-PH (Int)	Medical Facility	Medical Facility Interior (D)	51	East	951+52	8	104/104/104	45.2	45.2	45.8	Pompano Health and Rehabilitation Center - Interior
FE-BH	Playground	School (C)	66	East	984+00	SLU	154/154/151	61.8	61.8	63.0	Bright Horizons School
FE-TES	Playground	School (C)	51	East	971+41	SLU	141/141/130	61.8	61.8	63.5	Tedder Elementary School
FE-SFH1 (FR)	SFH	Residential (B)	66	East	977+00	8	98/98/84	62.8	62.8	64.0	
FE-PUMC	Church	Church (C)	66	East	982+44	SLU	220/220/206	64.5	64.5	68.3	Parkway United Methodist Church-Playground
FE-SFH2 (FR)	SFH	Residential (B)	66	East	985+62	10	113/113/98	62.1	62.1	64.6	
FE-SFH3 (FR)	SFH	Residential (B)	66		994+00	7	168/168/153	61.3	61.3	63.3	
FE-HV1 (FR)	SFH	Residential (B)	66	East	1005+41	18	102/102/83	62.8	62.8	65.1	Highland Village Mobile Home Park
FE-HV2 (FR)	SFH	Residential (B)	66	East	1015+21	12	99/99/75	62.5	62.5	65.2	Highland Village Mobile Home Park



Table 4.5
Modeled Noise Receptor Locations and Noise Analysis Results

Representative Model Receptor	Predominant Type	Description (Noise Abatement Activity Category)	FDOT Noise Abatement Approach Criteria [dB(A)]	Location (Side of Road, Station)	Station	Number Of Noise Sensitive Sites	Distance To Nearest Traffic Lane* (Existing/No-Build/Build)	Predicted Traffic Noise Levels [LAeq1h, dB(A)]			Notes
								Existing (2011)	Design Year (2040)		
									No Build	Build Alternative	
FE-PRAXa,b,c,d (FR)	MFH	Residential (B)	66	East	1033+68	12,12,12,12	567/567/554	55.8, 60.9, 62.8, 63.4	55.8, 60.9, 62.8, 63.4	60.2, 63.6, 64.8, 65.7	Praxis Senior Community
FE-CB	Restaurant Exterior Patio	Sensitive Commercial (E)	71	East	1045+00	SLU	396/396/394	65.7	65.7	68.4	Cracker Barrel Restaurant
FE-SFH4 (FR)	SFH	Residential (B)	66	East	1051+00	9	138/138/138	66.3	66.3	68.8	
FE-SFH1 (SR)	SFH	Residential (B)	66	East	975+77	6	232/232/218	62.0	62.0	64.7	
FE-SFH2 (SR)	SFH	Residential (B)	66	East	985+62	7	203/203/189	62.8	62.8	65.8	
FE-SFH3 (SR)	SFH	Residential (B)	66	East	994+38	10	339/339/324	57.4	57.4	59.2	
FE-HV1 (SR)	SFH	Residential (B)	66	East	1006+00	14	241/241/222	59.8	59.8	61.2	Highland Village Mobile Home Park
FE-HV2 (SR)	SFH	Residential (B)	66	East	1015+69	10	226/226/202	58.8	58.8	60.2	Highland Village Mobile Home Park
FE-PRAXa,b,c,d (SR)	MFH	Residential (B)	66	East	1035+00	12,12,12,12	674/674/661	51.8, 57.2, 59.1, 59.7	51.8, 57.2, 59.1, 59.7	56.2, 60.1, 61.3, 61.6	Praxis Senior Community
FE-SFH4 (SR)	SFH	Residential (B)	66	East	1049+29	7	330/330/330	57.3	57.3	58.5	
FW-BL1 (FR)	SFH	Residential (B)	66	West	953+00	7	73/73/73	58.8	58.8	59.6	Bonnie Loche
FW-BL2 (FR)	SFH	Residential (B)	66	West	961+57	11	88/88/84	63.4	63.4	64.6	Bonnie Loche
FW-SL1 (FR)	SFH	Residential (B)	66	West	972+45	9	158/158/145	61.8	61.8	63.5	Spring Lake
FW-SL2 (FR)	SFH	Residential (B)	66	West	982+00	13	252/252/239	61.4	61.4	63.4	Spring Lake
FW-LI (FR)	MFH	Residential (B)	66	West	987+41	5	146/146/133	62.3	62.3	64.4	Lake Island
FW-MFC	Women’s Shelter	Medical Facility Exterior (C)	66	West	995+25	SLU	321/321/308	57.1	57.1	58.2	Moran Family Center/ Women in Distress Shelter
FW-CoKn (FR)	SFH	Residential (B)	66	West	1006+78	10	161/161/138	62.4	62.4	64.3	Country Knolls
FW-HME1 (FR)	SFH	Residential (B)	66	West	1018+00	19	168/168/152	62.6	62.6	64.4	Highland Meadows Estates
FW-HME2 (FR)	SFH	Residential (B)	66	West	1024+57	12	160/160/147	63.8	63.8	65.9	Highland Meadows Estates
FW-BL1 (SR)	SFH	Residential (B)	66	West	952+69	7	123/123/123	58.2	58.2	59.0	Bonnie Loche
FW-BL2 (SR)	SFH	Residential (B)	66	West	962+00	7	214/214/208	60.0	60.0	60.8	Bonnie Loche
FW-SL1 (SR)	SFH	Residential (B)	66	West	972+19	10	254/254/241	58.8	58.8	60.2	Spring Lake



Table 4.5
Modeled Noise Receptor Locations and Noise Analysis Results

Representative Model Receptor	Predominant Type	Description (Noise Abatement Activity Category)	FDOT Noise Abatement Approach Criteria [dB(A)]	Location (Side of Road, Station)	Station	Number Of Noise Sensitive Sites	Distance To Nearest Traffic Lane* (Existing/No-Build/Build)	Predicted Traffic Noise Levels [LAeq1h, dB(A)]			Notes
								Existing (2011)	Design Year (2040)		
									No Build	Build Alternative	
FW-SL2 (SR)	SFH	Residential (B)	66	West	982+44	19	320/320/306	58.0	58.0	59.8	Spring Lake
FW-LI (SR)	MFH	Residential (B)	66	West	987+60	5	278/278/265	57.9	57.9	59.8	Lake Island
FW-CoKn (SR)	SFH	Residential (B)	66	West	1006+78	9	277/277/253	57.7	57.7	59.0	Country Knolls
FW-HME1 (SR)	SFH	Residential (B)	66	West	1018+00	9	294/294/279	56.8	56.8	58.0	Highland Meadows Estates
FW-HME2 (SR)	SFH	Residential (B)	66	West	1024+28	9	290/290/276	58.0	58.0	59.4	Highland Meadows Estates
FW-BWPOOL	Pool	Sensitive Commercial (E)	71	West	1049+00	SLU	265/265/265	59.8	59.8	61.5	Best Western Pool
FW-CSPOOL	Pool	Sensitive Commercial (E)	71	West	1052+00	SLU	178/178/178	66.0	66.0	66.4	Comfort Suites Pool
SW 10 th Street to Hillsboro Boulevard											
GE-TP1a,b (FR)	MFH	Residential (B)	66	East	1066+34	4,4	386/386/373	63.5,70.0	63.5,70.0	65.0, 71.3	Tivoli Park
GE-TP2a,b (FR)	MFH	Residential (B)	66	East	1069+24	4,4	252/252/237	65.6,72.8	65.6,72.8	67.6, 74.5	Tivoli Park
GE-TP3a,b (FR) (Int)	MFH	Residential Interior (D)	51	East	1079+00	8,8	280/280/267	65.9,71.9	65.9,71.9	68.0, 73.8	Tivoli Park
GE-TPPool	Pool	Residential Pool (B)	66	East	1079+00	SLU	425/425/412	57.2	57.2	59.2	Tivoli Park
GE-NAT1a,b,c (FR)	MFH	Residential (B)	66	East	1085+00	8,4,4	246/246/241	69.0, 71.1, 72.3	69.0,71.1,72.3	71.2, 72.7, 73.8	Natura
GE-NAT2a,b,c (FR)	MFH	Residential (B)	66	East	1091+00	4,4,4	266/266/266	65.4, 68.9, 69.9	65.4,68.9,69.9	68.7, 70.7, 71.5	Natura
GE-NAT3 (FR)	MFH	Residential (B)	66	East	1093+63	7	212/212/212	67.7	67.7	70.0	Natura
GE-NAT4 (FR)	MFH	Residential (B)	66	East	1096+67	5	207/207/207	65.9	65.9	67.1	Natura
GE-TP1a,b (SR)	MFH	Residential (B)	66	East	1069+00	12,12	438/438/423	60.5, 65.6	60.5,65.6	62.3, 67.5	Tivoli Park
GE-NAT1a,b,c (SR)	MFH	Residential (B)	66	East	1086+00	8,4,4	390/390/386	59.3, 62.8, 66.3	59.3,62.8,66.3	61.9, 64.4, 68.1	Natura
GE-NAT2a,b,c (SR)	MFH	Residential (B)	66	East	1091+51	4,4,4	441/441/441	58.0, 62.8, 65.6	58.0,62.8,65.6	61.2, 64.7, 67.2	Natura
GE-NAT3 (SR)	MFH	Residential (B)	66	East	1093+23	8	272/272/272	62.9	62.9	66.0	Natura
GE-NAT4 (SR)	MFH	Residential (B)	66	East	1096+24	5	293/293/293	57.2	57.2	58.3	Natura



Table 4.5
Modeled Noise Receptor Locations and Noise Analysis Results

Representative Model Receptor	Predominant Type	Description (Noise Abatement Activity Category)	FDOT Noise Abatement Approach Criteria [dB(A)]	Location (Side of Road, Station)	Station	Number Of Noise Sensitive Sites	Distance To Nearest Traffic Lane* (Existing/No-Build/Build)	Predicted Traffic Noise Levels [LAeq1h, dB(A)]			Notes
								Existing (2011)	Design Year (2040)		
									No Build	Build Alternative	
Hillsboro Boulevard to Palmetto Park Road											
HE-HIL POOL	Pool	Sensitive Commercial (E)	71	East	1114+00	SLU	268/268/268	61.5	61.5	62.7	Hilton Pool
HE-PBF1 (FR)	SFH	Residential (B)	66	East	1150+21	7	116/116/103	63.6	63.6	65.0	Palm Beach Farms
HE-PBF2 (FR)	SFH	Residential (B)	66	East	1165+10	10	123/123/110	62.8	62.8	64.0	Palm Beach Farms
HE-SFH1 (FR)	SFH	Residential (B)	66	East	1182+28	13	167/167/144	62.5	62.5	63.8	
HE-SFH2 (FR)	SFH	Residential (B)	66	East	1195+56	5	135/135/121	62.8	62.8	64.3	
HE-LDS (Int)	Church	Church Interior (D)	51	East	1200+12	SLU	227/227/213	39.6	39.6	42.6	Church of Latter Day Saints - Interior
HE-CCBR (Int)	Church	Church Interior (D)	51	East	1202+75	SLU	239/239/226	38.3	38.3	40.3	Calvary Chapel Boca Raton - Interior
HE-SFH3 (FR)	SFH	Residential (B)	66	East	1210+00	6	143/143/131	63.5	63.5	67.7	
HE-SFH4 (FR)	SFH	Residential (B)	66	East	1218+81	10	164/164/164	60.9	60.9	65.3	
HE-PBF1 (SR)	SFH	Residential (B)	66	East	1150+33	7	189/189/176	60.1	60.1	61.2	Palm Beach Farms
HE-PBF2 (SR)	SFH	Residential (B)	66	East	1165+10	10	210/210/197	58.5	58.5	59.6	Palm Beach Farms
HE-SFH1 (SR)	SFH	Residential (B)	66	East	1182+28	6	263/263/240	57.2	57.2	58.4	
HE-SFH2 (SR)	SFH	Residential (B)	66	East	1195+56	5	219/219/205	61.5	61.5	63.1	
HE-SFH3 (SR)	SFH	Residential (B)	66	East	1210+00	5	257/257/245	59.4	59.4	64.7	
HE-SFH4 (SR)	SFH	Residential (B)	66	East	1218+64	10	261/261/261	57.5	57.5	60.7	
HW-MZ1 (FR)	SFH	Residential (B)	66	West	1161+75	3	156/156/140	69.9	69.9	71.1	Mizner Forest
HW-MZ2 (FR)	SFH	Residential (B)	66	West	1169+27	3	101/101/80	71.9	71.9	73.8	Mizner Forest
HW-SF1 (FR)	SFH	Residential (B)	66	West	1181+70	14	189/189/165	61.8	61.8	63.0	
HW-SF2 (FR)	SFH	Residential (B)	66	West	1193+72	13	222/222/207	61.9	61.9	63.4	
HW-NP	Park	Park (C)	66	West	1123+21	SLU	268/268/257	65.0	65.0	66.2	Blazing Star Preserve
HW-MZ1 (SR)	MFH	Residential (B)	66	West	1161+89	4	231/231/216	64.5	64.5	65.5	Mizner Forest
HW-MZ2 (SR)	MFH	Residential (B)	66	West	1169+27	3	182/182/161	67.5	67.5	69.0	Mizner Forest



Table 4.5 Modeled Noise Receptor Locations and Noise Analysis Results											
Representative Model Receptor	Predominant Type	Description (Noise Abatement Activity Category)	FDOT Noise Abatement Approach Criteria [dB(A)]	Location (Side of Road, Station)	Station	Number Of Noise Sensitive Sites	Distance To Nearest Traffic Lane* (Existing/No- Build/Build)	Predicted Traffic Noise Levels [LAeq1h, dB(A)]			Notes
								Existing (2011)	Design Year (2040)		
									No Build	Build Alternative	
HW-SF1 (SR)	SFH	Residential (B)	66	West	1182+00	10	255/255/231	58.4	58.4	59.6	
HW-SF2 (SR)	SFH	Residential (B)	66	West	1194+00	13	288/288/273	61.4	61.4	62.8	

Notes: * = To existing edge-of-pavement of the nearest through-lane on I-95.
Bold numbers indicate Build Alternative noise levels equal or exceeding FDOT Noise Abatement Criteria
(Int) = Interior, (FR) = First Row, (SR) = Second Row, SFH = Single-Family Home, Sta. = Station
MFH = Multi-Family Home (i.e., apartments, condominiums), SLU = Special Land Use site



4.5 PREDICTED TRAFFIC NOISE LEVELS

The TNM results for the worst-case traffic conditions for all project alternatives are summarized in the following sections. Since the predicted worst-case conditions under the No-Build Alternative are expected to be the same as the those currently experienced along the project corridor, the noise levels predicted for the No-Build Alternative are the same as those predicted for the existing conditions. Predicted noise levels for individual model receivers are presented in **Table 4.5**. More detailed traffic noise level data is presented in **Appendix C**.

4.5.1 PREDICTED TRAFFIC NOISE LEVELS

4.5.1.1 Oakland Park Boulevard (SR 816) to Commercial Boulevard (SR 870)

Existing traffic noise levels at residences along I-95 between Oakland Park Boulevard and Commercial Boulevard are predicted by TNM to range from 60.0 to 68.8 dB(A). Traffic noise levels with the Design Year No-Build Alternative are the same. Design year Build Alternative noise levels at these residences are predicted to range from 61.2 to 69.1 dB(A). Fifty-seven of these residences are predicted to experience noise levels of at least 66.0 dB(A) with the project. However, noise levels are predicted to increase by no more than 5.2 dB(A) at any of these sites as a result of this project.

The interior noise level at the Igreja Pentacostal Betania Church along Powerline Road is predicted to be 50.8 dB(A) under the existing and Design Year No-Build conditions and 51.8 dB(A) with the Build Alternative. The traffic noise level at the North Andrews Garden Volunteer Park is predicted to be 60.2 dB(A) under the existing and Design Year No-Build conditions and 60.6 dB(A) with the Build Alternative. At the Oakland Bark Park, the noise level is predicted to range from 63.1 to 64.5 dB(A) under the existing and Design Year No-Build conditions and from 63.3 to 65.7 dB(A) with the Build Alternative.

4.5.1.2 Commercial Boulevard (SR 870) to East Cypress Creek Road

Existing and Design Year No-Build traffic noise levels at residences along I-95 between Commercial Boulevard and East Cypress Creek Road are predicted by TNM to range from 58.5 to 64.1 dB(A). Design year Build Alternative noise levels at these residences are predicted to range from 59.3 to 65.4 dB(A). None



of these residences are predicted to experience noise levels of at least 66.0 dB(A) with the project. Also, noise levels are predicted to increase by no more than 1.4 dB(A) at any of these sites as a result of this project.

The traffic noise level at the North Andrews Gardens Neighborhood Park is predicted to be 62.8 dB(A) under the existing and Design Year No-Build conditions and 63.9 dB(A) with the Build Alternative.

4.5.1.3 East Cypress Creek Road to Atlantic Boulevard (SR 814)

Existing and Design Year No-Build traffic noise levels at residences along I-95 between East Cypress Creek Road and Atlantic Boulevard are predicted by TNM to range from 42.0 dB(A) at the interior of the John Knox Village tower building [receptor site CE-JKV2(int)] to 74.8 dB(A). Design year Build Alternative noise levels at these residences are predicted to range from 44.1 to 76.1 dB(A). Ninety-six of these residences are predicted to experience noise levels of at least 66.0 dB(A) with the project. However, noise levels are predicted to increase by no more than 1.6 dB(A) at any of these sites as a result of this project.

The traffic noise levels at the Westin Hotel pool, the Oaks at Pompano apartment complex pool and at Avondale Park are predicted to range from 66.3 to 69.8 dB(A) under the existing and Design Year No-Build conditions and 66.6 to 71.4 dB(A) with the Build Alternative. Traffic noise levels at the Oaks at Pompano pool and at Avon Park are predicted to be at least 66.0 dB(A) with the project.

4.5.1.4 Atlantic Boulevard (SR 814) to Copans Road

Existing and Design Year No-Build traffic noise levels at residences along I-95 between Atlantic Boulevard and Copans Road are predicted by TNM to range from 59.4 to 73.5 dB(A). Design year Build Alternative noise levels at these residences are predicted to range from 60.2 to 71.0 dB(A). Thirty-five of these residences are predicted to experience noise levels of at least 66.0 dB(A) with the project. However, noise levels are predicted to increase by no more than 1.8 dB(A) at any of these sites as a result of this project.

The traffic noise levels at the outdoor special-use areas at the parks and the churches along this project segment are predicted to range from 61.4 to 71.4



dB(A) under the existing and Design Year No-Build conditions and 61.8 to 68.8 dB(A) with the Build Alternative. Traffic noise levels at Mitchell Moore Park and Weaver Community Park are predicted to be at least 66.0 dB(A) with the project.

4.5.1.5 Copans Road to Sample Road

Existing and Design Year No-Build traffic noise levels at residences along I-95 between Copans Road and Sample Road are predicted by TNM to range from 55.9 to 74.5 dB(A). Design year Build Alternative noise levels at these residences are predicted to range from 56.7 to 75.7 dB(A). One-hundred fourteen of these residences are predicted to experience noise levels of at least 66.0 dB(A) with the project. However, noise levels are predicted to increase by no more than 2.1 dB(A) at any of these sites as a result of this project.

The traffic noise level at a pool at the Olive Glen Apartments on the west side of the corridor near Sample Road is predicted to be 66.5 dB(A) under the existing and Design Year No-Build conditions and 67.5 dB(A) with the Build Alternative.

4.5.1.6 Sample Road to SW 10th Street (SR 869)

Existing and Design Year No-Build traffic noise levels at residences along I-95 between Sample Road and SW 10th Street are predicted by TNM to range from 51.8 to 66.3 dB(A). Design year Build Alternative noise levels at these residences are predicted to range from 56.2 to 68.8 dB(A). Nine of these residences are predicted to experience noise levels of at least 66.0 dB(A) with the project. However, noise levels are predicted to increase by no more than 4.4 dB(A) at any of these sites as a result of this project.

The traffic noise levels at the outdoor special-use areas of the two schools, the church, the restaurant, the two hotel pools and the women's shelter are predicted to range from 57.1 to 66.0 dB(A) under the existing and Design Year No-Build conditions and 58.2 to 68.4 dB(A) with the Build Alternative. The predicted noise level at the interior of Pompano Health is 45.2 dB(A) under the existing and No-Build conditions and 45.8 dB(A) with the Build Alternative. Of the non-commercial special-use noise sensitive sites along this project section, only Parkway United Methodist Church is predicted to experience noise levels of at



least 66.0 dB(A) with the project. Noise levels are predicted to increase by no more than 3.8 dB(A) at any of these sites.

4.5.1.7 SW 10th Street (SR 869) to Hillsboro Boulevard (SR 810)

Existing and Design Year No-Build traffic noise levels at residences along I-95 between SW 10th Street and Hillsboro Boulevard are predicted by TNM to range from 57.2 to 72.8 dB(A). Design year Build Alternative noise levels at these residences are predicted to range from 58.3 to 74.5 dB(A). Ninety-six of these residences are predicted to experience noise levels of at least 66.0 dB(A) with the project. However, noise levels are predicted to increase by no more than 3.3 dB(A) at any of these sites as a result of this project.

The traffic noise level at a pool at the Tivoli Park Apartments on the east side of the corridor near SW 10th Street is predicted to be 57.2 dB(A) under the existing and Design Year No-Build conditions and 59.2 dB(A) with the Build Alternative.

4.5.1.8 Hillsboro Boulevard (SR 810) to Palmetto Park Road

Existing and Design Year No-Build traffic noise levels at residences along I-95 between Hillsboro Boulevard and Palmetto Park Road are predicted by TNM to range from 57.2 to 71.9 dB(A). Design year Build Alternative noise levels at these residences are predicted to range from 58.4 to 73.8 dB(A). Fifteen of these residences are predicted to experience noise levels of at least 66.0 dB(A) with the project. However, noise levels are predicted to increase by no more than 5.3 dB(A) at any of these sites as a result of this project.

The traffic noise levels at the interiors of the two churches are predicted to range from 38.3 to 39.6 dB(A) under the existing and Design Year No-Build conditions and 40.3 to 42.6 dB(A) with the Build Alternative. The traffic noise levels at the hotel pool and the nature preserve are predicted to range from 61.5 to 65.0 dB(A) under the existing and Design Year No-Build conditions and 62.7 to 66.2 dB(A) with the Build Alternative. Noise levels are predicted to increase by no more than 3.0 dB(A) at any of these sites as a result of this project.



4.6 NOISE IMPACT ANALYSIS

Approximately 1,784 residences, including single-family homes, mobile-homes, apartments and condominiums were identified as being sensitive to traffic noise associated with I-95 within the limits of the noise analysis. Also, 24 non-residential or special-use noise sensitive sites, including schools, churches, parks, apartment and hotel pools, restaurants and medical facilities were identified along the project corridor. Under the existing conditions, the primary source of noise at these nearby noise sensitive sites is traffic on the I-95 mainline or access-ramps. Noise impacts to the 24 residences and two medical facilities located north of Palmetto Park Road have been evaluated as part of the FDOT's project to construct express lanes along I-95 from north of Palmetto Park Road to Linton Boulevard (FM# 412420-1).

Traffic noise levels at the exterior noise sensitive areas of the 1784 residences assessed as part of this project are expected to range from 53.6 to 76.7 dB(A) with the Build Alternative. Interior noise levels are predicted to be 44.1 dB(A) at residences in the John Knox Village Tower with the Build Alternative. The Build Alternative noise levels at special land use sites are predicted to range from 40.3 dB(A) at an interior location at the Calvary Chapel Boca Raton to 71.4 dB(A) at outdoor areas in Avondale Park.

During the Design Year, the primary source of noise in the area is expected to remain traffic on I-95. Based on the predicted traffic noise levels and on the planned improvements, several factors are expected to affect traffic noise levels along the project corridor. The additional through lanes and auxiliary lanes are expected to result in increased traffic noise by increasing roadway capacity. The associated roadway widening will in most cases bring the near edge of the roadway 10 to 15 feet closer to the nearby noise sensitive sites. The edge-of-pavement between Sample Road and Hillsboro Boulevard, where an auxiliary lane will also be added, will be up to approximately 25 feet closer to the nearby noise sensitive sites. Also, noise levels are expected to increase in areas where 8-foot tall shoulder-mounted noise barriers will be removed to accommodate the widening. These areas are all located east of I-95, along the northbound lanes, at the following locations:



- Powerline Road to Commercial Boulevard;
- Across the Hillsboro Canal;
- Camino Real to Palmetto Park Road; and,
- Palmetto Park Road off-ramp to Palmetto Park Road.

Along segments where it was determined that it was not feasible and/or reasonable to replace the existing shoulder-mounted noise barriers to mitigate expected noise impacts, the existing noise barriers will be replaced in kind during project construction in order to maintain the FDOT's previous commitment to provide noise abatement along I-95.

One factor expected to slightly reduce traffic noise levels in some areas is the replacement of the existing guardrails along several elevated sections of the project with 2.75-foot tall solid concrete traffic railings.

Predicted Design Year traffic noise levels for the Build Alternative were compared to the NAC, and to noise levels predicted for the existing conditions, to assess potential noise impacts associated with the proposed project (see **Table 4.5**). A summary of the noise impacts expected to occur as a result of this project is shown in **Table 4.6**.

Overall, traffic noise levels are predicted to approach or exceed the FHWA NAC at 422 residences and eight non-residential or special land use sites such as park areas, churches, apartment complex pools and a nature preserve. Based on the FHWA and FDOT methodologies used to evaluate traffic noise levels in this study, modifications proposed with this project were determined to generate noise impacts at noise sensitive sites within the project study area and consideration of noise abatement is required to mitigate these impacts. An analysis of noise abatement measures considered for the sites that approach or exceed the NAC is presented in **Section 5.0**. Although a number of sites approach or exceed the NAC, the proposed improvements do not result in any substantial noise increases (i.e., greater than 15 dB(A) over existing levels).



Table 4.6
Noise Impact Summary

Project Segment	Range of Predicted Build Alternative Noise Levels [dB(A)]	Impacted Noise Sensitive Sites	
		Residential	Non-Residential and Special-Use Sites
Oakland Park Boulevard to Commercial Boulevard	51.8 – 69.1	57	Igreja Pentacostal Betania Church
Commercial Boulevard to East Cypress Creek Road	59.3 – 65.4	0	None
East Cypress Creek Road to Atlantic Boulevard	44.1 – 76.1	96	Avondale Park Oaks at Pompano pool
Atlantic Boulevard to Copans Road	60.2 – 71.0	35	Mitchell Moore Park athletic fields Weaver Community Park athletic fields and picnic pavilion
Copans Road to Sample Road	56.7 – 75.7	114	Olive Glen pool
Sample Road to SW 10 th Street	45.8 – 68.8	9	Parkway United Methodist Church playground
SW 10 th Street to Hillsboro Boulevard	58.3 – 74.5	96	None
Hillsboro Boulevard to Palmetto Park Road	40.3 – 73.8	15	Blazing Star Preserve

Design year traffic noise levels with the Build Alternative do not approach or exceed the NAC nor does a substantial increase in noise levels occur at 1,362 residences and 16 of the special land use sites analyzed for this project. Therefore, consideration of noise abatement measures is not warranted at these locations at this time.



5.0 NOISE BARRIER ANALYSIS

FDOT policy requires that the reasonableness and feasibility of noise abatement be considered when the FHWA NAC is approached or exceeded. The most common and effective noise abatement measure for projects such as this is the construction of noise barriers. Noise barriers reduce noise by blocking the sound path between a roadway and a noise sensitive area. To be effective, a noise barrier must be long, continuous, and have sufficient height to block the path between the noise source and the receptor site. As described in **Section 4.6**, predicted Design Year traffic noise levels will approach or exceed the FHWA NAC at 422 residences and eight non-residential or special land use sites. The feasibility and reasonableness of noise barriers were considered for all of the noise sensitive sites that are anticipated to be impacted by traffic noise.

A wide range of factors are used to evaluate the feasibility and reasonableness of noise abatement measures. Feasibility primarily concerns engineering considerations including the ability to construct a noise barrier using standard construction methods and techniques and the ability to provide a reduction of at least 5 dB(A) for two or more impacted receivers. For example, an evaluation is conducted based on the topography of a particular location to determine if the minimum noise reduction [i.e., 5 dB(A)] can be achieved given certain access, drainage, utility, safety, or maintenance requirements.

Reasonableness implies that common sense and good judgment were applied in a decision related to noise abatement. Reasonableness includes the consideration of the cost of providing noise abatement. The FDOT's current Statewide average noise barrier unit cost is \$30 per square-foot. To be deemed reasonable, a noise barrier or other noise abatement measure must not exceed the FDOT's reasonable cost criteria of \$42,000 per benefited receptor site and must attain the FDOT noise reduction design goal of 7 dB(A) at one or more benefited receptor sites. In addition, once the noise abatement measure has been determined to be reasonable and feasible, the viewpoint of the benefited property owners must be considered. As part of the cost reasonableness analysis, various conceptual noise barrier designs were evaluated for each impacted area to determine the most effective location, length and height that will achieve the desired noise level reduction at reasonable cost. In most cases, a number of conceptual barrier designs were considered for each area where



the Design Year traffic noise levels with the planned improvements were predicted to approach or exceed the NAC.

To facilitate the noise barrier analysis, contiguous noise sensitive areas were grouped together into 14 Common Noise Environments (CNE). A CNE represents a group of impacted receptor sites that would benefit from the same noise barrier or barrier system (i.e., overlapping/continuous barriers) and are exposed to similar noise sources and levels, traffic volumes, traffic mix, speeds and topographic features. Generally, CNEs occur in distinct neighborhoods or between two secondary noise sources, such as interchanges, intersections and/or cross-roads. In addition, the cost reasonableness of a noise barrier is determined through a review of the cost per benefited receptor site for the construction of a noise barrier benefiting a single location or common noise environment (e.g., a subdivision or contiguous impact area). Many of the locations where noise impacts are predicted to occur are near existing noise barriers. In these cases, only alternatives such as increasing the length of an existing noise barrier or filling in gaps in noise barrier coverage were evaluated since increasing the height of an existing noise barrier is not possible without completely replacing the noise barrier with a new taller noise barrier. The analysis of noise barriers and recommendations are summarized by CNE in **Sections 5.1 through 5.14**. The locations where noise barriers were evaluated and how the noise sensitive areas were grouped together; and the section of the report where the analysis appears in this report are listed in **Table 5.1**.



Table 5.1
Locations Evaluated for Noise Barriers

General Location (Cross Streets)	Relative Location	Community Name/Common Noise Environment	Type of Noise Sensitive Site (Noise Abatement Criteria Activity Category)	Common Noise Environment Identification Number	Number of Impacted Receptors	Noise Barrier Analysis Section
Oakland Park Boulevard to Commercial Boulevard						
Powerline Road to Commercial Boulevard	East Side	Unnamed neighborhood	Residential (Activity Category B) Church Interior (Activity Category D)	CNE-E1	57 and 1 Special- Use Site	5.1
Commercial Boulevard to Atlantic Boulevard						
McNab Road to SW 13 th Court	East Side	Laguna Pointe	Residential (Activity Category B)	CNE-E2	65	5.2
SW 3 rd Street/Racetrack Road to Atlantic Boulevard	East Side	Unnamed neighborhood, Avondale Park and Oaks at Pompano	Residential/Pool (Activity Category B), Park (Activity Category C)	CNE-E3	31 and 2 Special- Use Sites	5.3
Atlantic Boulevard to Copans Road						
Atlantic Boulevard to Martin Luther King Boulevard	East Side	Unnamed neighborhood	Residential (Activity Category B)	CNE-E4	5	5.4
NW 8 th Street to NW 13 th Street/Railroad	East Side	Mitchell Moore Park Athletic Field	Park (Activity Category C)	CNE-E5	1 Special- Use Site	5.5
NW 15 th Street to NW 21 st Court	East Side	Unnamed neighborhood and Weaver Community Park	Residential (Activity Category B), Park (Activity Category C)	CNE-E6	30 and 1 Special- Use Site	5.6
Copans Road to Sample Road						
Copans Road to NW 26 th Street	East Side	Leisureville	Residential (Activity Category B)	CNE-E7	56	5.7
NW 29 th Court to NW 33 rd Street	West Side	Olive Glen and Whispering Isles	Residential/Pool (Activity Category B)	CNE-W1	58 and 1 Special- Use Site	5.8
Sample Road to SW 10th Street						
NW 42 nd Street to NW 45 th Street	East Side	Parkway United Methodist Church	Church (Activity Category C)	CNE-E8	1 Special- Use Site	5.9
SW 15 th Street to SW 10 th Street	East Side	Unnamed neighborhood	Residential (Activity Category B)	CNE-E9	9	5.10
SW 10th Street to Hillsboro Boulevard						
SW 10 th Street to Hillsboro Boulevard	East Side	Tivoli Park and Natura	Residential (Activity Category B)	CNE-E10	96	5.11
Hillsboro Boulevard to Palmetto Park Road						
SW 8 th Street to Royal Palm Road	East Side	Unnamed neighborhood	Residential (Activity Category B)	CNE-E11	6	5.12
SW 18 th Street to SW 13 th Place	West Side	Mizner Forest	Residential (Activity Category B)	CNE-W2	9	5.13
West Camino Real to Palmetto Park Road	West Side	Blazing Star Preserve	Park (Activity Category C)	CNE-W3	1 Special- Use Site	5.14



5.1 NOISE BARRIER E1 – POWERLINE ROAD TO COMMERCIAL BOULEVARD

Common Noise Environment Area E1 encompasses outdoor areas in an unnamed neighborhood consisting primarily of single and multi-family homes. This neighborhood is located east of I-95 between Powerline Road and Commercial Boulevard in the City of Oakland Park. Exterior noise sensitive areas at these residences include patios and yards. Design year traffic noise levels with the Build Alternative are predicted to range from 61.2 to 69.1 dB(A) at the nearby homes and the average noise level would be approximately 2.5 dB(A) higher than existing levels. The interior noise level at the Igreja Pentacostal Betania Church is predicted to be 51.8 dB(A) with the project. Fifty-seven residences and the interior of the church are predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis for these sites are summarized in **Table 5.2** (located at the end of this chapter). There are two existing noise barriers along this project segment. An 8-foot tall, 3,997 foot long noise barrier [86070-3506 (I-95 C)] located along the shoulder of northbound lanes between NW 41st Street and NW 48th Court (Stations 557+36 to 597+14) will be removed to accommodate this project. The other noise barrier is a 21-foot tall, 443-foot long ground-mounted noise barrier [86070-3506 (I-95 D)] located along the eastern limited-access right of way line between NW 48th Street and Commercial Boulevard (Stations 596+96 to 601+21). This noise barrier is not expected to be physically impacted by this project. Elevated roadways along this segment of I-95 include the mainline as it crosses Powerline Road, Prospect Road and Commercial Boulevard. Due to the elevation of the mainline lanes, only structure and shoulder-mounted noise barriers were evaluated for this area.

Noise barriers of various lengths and heights were evaluated near the impacted sites. The most feasible location to provide noise abatement for this neighborhood would be along the shoulder of the northbound mainline lanes and along the northbound off-ramp to Commercial Boulevard. The recommended noise barrier design concept incorporates a system of two noise barriers, referred to as CD2-E1 in **Table 5.2** (located at the end of this chapter) (please also see **Sheets 2 and 3** in **Appendix A**). The first noise barrier will be an 8 to 14-foot tall, 2,120-foot long structure and shoulder-mounted noise barrier located between Stations 577+00 and 597+80. The second noise barrier is an 8-



foot tall, 1,715-foot long shoulder-mounted noise barrier along the northbound mainline between the northbound off-ramp and Commercial Boulevard (Stations 585+00 to 602+00). This noise barrier system would reduce noise levels in this neighborhood by up to 8.4 dB(A). However, only 23 of the 57 impacted homes were predicted to experience a noise level reduction of at least 5.0 dB(A) and thus be benefited by this noise barrier design concept. It was not possible to benefit any of the remaining impacted homes or the interior of the church. An additional five homes that are not predicted to be impacted by this project will be benefited incidentally by this noise barrier. The estimated cost of this noise barrier system is \$1,129,200 overall and \$40,329 per benefited site. Therefore, the cost per benefited site of this noise barrier is within the FDOT's noise barrier cost criteria (\$42,000 per benefited site) and it will attain the FDOT's noise reduction design requirement of 7 dB(A) at one or more sites.

Noise barrier CD2-E1 is recommended for further consideration and public input. Of all of the noise barrier design concepts assessed, this concept provides reasonable noise abatement performance at a cost within the FDOT noise barrier cost criteria. This noise barrier design also attains the FDOT's noise reduction design goal of at least a 7 dB(A) reduction for at least one impacted receptor site. In addition, this conceptual noise barrier design satisfies the other reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety, constructability, utilities and drainage. This conceptual noise barrier design does not have any sight distance issues, any substantial conflicts with utilities or drainage facilities, or obstruct any existing, conforming and legally permitted outdoor advertising signs and it can be constructed using standard construction methods.

The segment of the existing noise barrier between Stations 557+36 and 577+00 that is not being recommended for replacement by this noise analysis will be replaced in its current configuration along the shoulder of the widened roadway in order to maintain the FDOT's previous commitment to provide noise abatement along I-95.

5.2 NOISE BARRIER E2 – McNAB ROAD TO SW 13TH COURT

Common Noise Environment Area E2 encompasses outdoor areas in the Laguna Pointe Apartments. These apartments are located east of I-95 between McNab Road and SW 13th Court in the City of Pompano Beach. Exterior noise sensitive



areas at these apartments include patios and balconies. Design year traffic noise levels with the Build Alternative are predicted to range from 56.2 to 76.1 dB(A) at these apartments and the average noise level would be approximately 0.5 dB(A) higher than existing levels. Sixty-five residences are predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis for these residences are summarized in **Table 5.3** (located at the end of this chapter). This noise barrier will supplement two existing noise barriers. A 6 to 8-foot tall, 654 foot-long shoulder-mounted noise barrier [86070-3506 (I-95 3C)] is located along the northbound lanes between SW 8th Drive and McNab Road (Stations 692+91 to 699+30). The second existing noise barrier is a 17-foot tall, 4,241 foot long noise barrier [86070-3506 (I-95 3C)] located along the eastern limited-access right of way line between SW 14th Court and SW 6th Street (Stations 703+57 to 744+00). Neither noise barrier is expected to be physically impacted by this project. Elevated roadways along this segment of I-95 include the mainline lanes over McNab Road to the south. Since there is already a ground-mounted noise barrier located along the eastern limited-access right of way line, only structure and shoulder-mounted noise barriers were evaluated for this area.

Noise barriers of various lengths and heights were evaluated near the impacted residences. The most feasible location to provide noise abatement for the apartments would be along the shoulder of the northbound mainline lanes. The recommended noise barrier design concept is an 8 to 14-foot tall, 1,420-foot long structure and shoulder-mounted noise barrier located between Station 699+30 (at the north end of the existing shoulder-mounted noise barrier) and Station 713+40. This noise barrier design concept is referred to as CD3-E2 in **Table 5.3** (located at the end of this chapter) (please also see **Sheets 6 and 7** in **Appendix A**). This noise barrier would reduce noise levels in this neighborhood by up to 8.6 dB(A). However, only 22 of the 65 impacted homes were predicted to experience a noise level reduction of at least 5.0 dB(A) and thus be benefited by this noise barrier design concept. It was not possible to benefit any of the remaining impacted homes. The estimated cost of this noise barrier is \$434,400 overall and \$19,745 per benefited site. Therefore, the cost per benefited site of this noise barrier is within the FDOT's noise barrier cost criteria (\$42,000 per benefited site) and it will attain the FDOT's noise reduction design requirement of 7 dB(A) at one or more sites.



Noise barrier CD3-E2 is recommended for further consideration and public input. Of all of the noise barrier design concepts assessed, this concept provides reasonable noise abatement performance at a cost within the FDOT noise barrier cost criteria. This noise barrier design also attains the FDOT's noise reduction design goal of at least a 7 dB(A) reduction for at least one impacted receptor site. In addition, this conceptual noise barrier design satisfies the other reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety, constructability, utilities and drainage. This conceptual noise barrier design does not have any sight distance issues, any substantial conflicts with utilities or drainage facilities, or obstruct any existing, conforming and legally permitted outdoor advertising signs and it can be constructed using standard construction methods.

5.3 NOISE BARRIER E3 – SW 3RD STREET TO ATLANTIC BOULEVARD

Common Noise Environment Area E3 encompasses outdoor areas in an unnamed neighborhood that includes single and multi-family homes, the Oaks at Pompano apartment complex and Avondale Park. These sites are located east of I-95 between SW 3rd Street and Atlantic Boulevard in the City of Pompano Beach. Exterior noise sensitive areas at the nearby residences include patios, yards, balconies and pools. Noise sensitive areas in the park include athletic fields, playgrounds and a picnic pavilion. Design year traffic noise levels with the Build Alternative are predicted to range from 56.4 to 71.4 dB(A) at these sites and the average noise level would be approximately 0.9 dB(A) higher than existing levels. Thirty-one residences, Avondale Park and the pool at the Oaks of Pompano Apartments are predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis for these sites are summarized in **Table 5.4** (located at the end of this chapter). There are no existing noise barriers adjacent to this neighborhood. Elevated roadways along this segment of I-95 include SW 3rd Street/Racetrack Road over the mainline to the south. Both ground-mounted and shoulder-mounted noise barriers were evaluated for this area.

Noise barriers of various lengths and heights were evaluated near the impacted sites. The most feasible location to provide noise abatement for this



neighborhood would be along the eastern limited-access right of way line between SW 3rd Street and Atlantic Boulevard. The recommended noise barrier design concept is a 20-foot tall, 1,945-foot long ground-mounted noise barrier located between Stations 759+60 and 776+30. This noise barrier design concept is referred to as CD2-E3 in **Table 5.4** (located at the end of this chapter) (please also see ***Sheets 8 and 9*** in **Appendix A**).

This noise barrier would reduce noise levels in this neighborhood by up to 8.8 dB(A). Only 27 of the 31 impacted residences were predicted to experience a noise level reduction of at least 5.0 dB(A) and thus be benefited by this noise barrier design concept. It was not possible to benefit any of the remaining impacted homes. Avondale Park is also predicted to be benefited. An additional eight residences that are not predicted to be impacted by this project will be benefited incidentally by this noise barrier. The estimated cost of this noise barrier is \$1,167,000 overall and \$33,343 per benefited site. The cost reasonableness of providing noise abatement for Avondale Park was not evaluated since it was necessary to extend this noise barrier south to SW 3rd Street in order to provide noise abatement for nearby impacted residences. Based on the number of residences expected to be benefited by this noise barrier, the cost per benefited site is within the FDOT's noise barrier cost criteria (\$42,000 per benefited site). This noise barrier will also attain the FDOT's noise reduction design requirement of 7 dB(A) at one or more sites.

Noise barrier CD2-E3 is recommended for further consideration and public input. Of all of the noise barrier design concepts assessed, this concept provides reasonable noise abatement performance at a cost within the FDOT noise barrier cost criteria. This noise barrier design also attains the FDOT's noise reduction design goal of at least a 7 dB(A) reduction for at least one impacted receptor site. In addition, this conceptual noise barrier design satisfies the other reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety, constructability, utilities and drainage. This conceptual noise barrier design does not have any sight distance issues, any substantial conflicts with utilities or drainage facilities, or obstruct any existing, conforming and legally permitted outdoor advertising signs and it can be constructed using standard construction methods.



5.4 NOISE BARRIER E4 – ATLANTIC BOULEVARD TO MARTIN LUTHER KING BOULEVARD

Common Noise Environment Area E4 encompasses outdoor areas in an unnamed neighborhood consisting primarily of single-family homes. These homes are located east of I-95 between Atlantic Boulevard and Martin Luther King Boulevard in the City of Pompano Beach. Exterior noise sensitive areas at the homes include patios and yards. Design year traffic noise levels with the Build Alternative are predicted to range from 65.0 to 67.1 dB(A) at the homes and the average noise level would be approximately 0.5 dB(A) higher than existing levels. Five residences are predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis for these residences are summarized in **Table 5.5** (located at the end of this chapter). An existing 8-foot tall, 540 foot long noise barrier [86070-3506 (I-95 3F)] is located near these homes along the shoulder of the northbound on-ramp from Atlantic Boulevard between Stations 780+33 to 785+51. This noise barrier is not expected to be physically impacted by this project. Elevated roadways along this segment of I-95 include the mainline lanes over Atlantic Boulevard and Martin Luther King Boulevard. Ground-mounted, shoulder-mounted and structure-mounted noise barriers were evaluated for this area.

Noise barriers of various lengths and heights were evaluated for these impacted residences. The initial design concept considered extending the existing noise barrier in both directions along the northbound on-ramp from Atlantic Boulevard (please see **Sheet 9** in **Appendix A**). Extending the existing noise barrier was predicted to reduce the noise levels at the nearby homes by no more than 0.6 dB(A). A second design concept, referred to as CD2-E4, considered supplementing this initial design concept with an additional 8 to 14-foot tall noise barrier along the northbound mainline lanes between Stations 778+00 and 786+00. However, it was possible to only reduce noise levels by no more than 5.6 dB(A) with this noise barrier system. All of the noise barriers were evaluated at their maximum allowable heights according to FDOT design criteria. Furthermore, it was found that it would not be possible to attain the FDOT's noise reduction requirements by increasing the length of any of the noise barriers.



Based on the results of this analysis, noise abatement is not recommended for further consideration and public input for CNE-E4 since it was not possible to reduce noise levels by at least 7 dB(A) at one or more sites in accordance with the FDOT's noise reduction design requirement.

5.5 NOISE BARRIER E5 – NW 8TH STREET TO NW 13TH STREET/RAILROAD CORRIDOR

Common Noise Environment Area E5 encompasses outdoor areas in Mitchell Moore Park. This park is located east of I-95 between NW 8th Street and the railroad corridor at NW 13th Street in the City of Pompano Beach. Exterior noise sensitive areas at this park include athletic fields and a pool. Design year traffic noise levels with the Build Alternative are predicted to range from 65.6 to 67.3 dB(A) at the park and the average noise level would be approximately 0.5 dB(A) lower than existing levels due to the addition of concrete traffic barrier along elevated segments of the northbound lanes. The athletic fields in the southern half of the park are predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted. Since Mitchell Moore Park represents a special land use, traffic noise impacts and the reasonableness and feasibility of noise abatement measures were assessed in accordance with the FDOT report *A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations* (Updated July 22, 2009). See **Appendix D** for the detailed results of this analysis.

The results of the noise barrier analysis this park are summarized in **Table 5.6** (located at the end of this chapter). This noise barrier will supplement an existing 20-foot tall, 1,136 foot long noise barrier [86070-3506 (I-95 3G)] along the eastern limited-access right of way line between NW 5th Street and NW 8th Street (Station 791+44 to 802+79). Elevated roadways along this segment of I-95 include the mainline over Martin Luther King Boulevard to the south and over the railroad and NW 1st Street to the north. Both ground-mounted and shoulder-mounted noise barriers were evaluated for this area.

Noise barriers of various lengths and heights were evaluated for the impacted areas of the park. The most feasible locations to provide noise abatement for the park would be along the shoulder of the northbound mainline lanes and along the eastern limited-access right of way line. This design concept incorporates two noise barriers. The first noise barrier is an 8 to 14-foot tall, 2,800-



foot long structure and shoulder-mounted noise barrier located between Station 798+00 at the north end of the existing noise barrier and Station 826+00. The second noise barrier is a 22-foot tall, 1,950-foot long ground-mounted noise barrier along the eastern limited-access right of way line between Stations 802+79 and 822+30. This noise barrier design concept is referred to as CD3-E5 in **Table 5.6** (located at the end of this chapter) (please also see **Sheets 9 and 10** in **Appendix A**). This noise barrier would reduce noise levels in the park by up to 7.0 dB(A). The estimated cost of this noise barrier is \$2,239,800 overall.

The FDOT's special land use methodology was used to determine if the cost of this noise barrier would be reasonable based on the level of activity in the impacted areas of Mitchell Moore Park. Based on park usage data provided by the City of Pompano Beach, approximately 69,611 people per year, or an average of 191 people per day, use the park. It was conservatively estimated that the average stay of guests in the park is two hours. Based on this requirement, usage of this property is well below a level sufficient to meet the cost criterion for construction of a noise barrier at this location (See **Appendix D**). Approximately eight times the stated usage rate for this park would be required for the cost of this noise barrier to be considered reasonable. No other noise barrier design concept provided a noise level reduction of at least 7 dB(A).

Based on the results of this analysis, noise abatement is not recommended for further consideration and public input for CNE-E5 (Mitchell Moore Park) since the estimated cost exceeds the FDOT's noise barrier cost criteria for special land uses.

5.6 NOISE BARRIER E6 – NW 15TH STREET TO NW 21ST COURT

Common Noise Environment Area E6 encompasses outdoor areas in an unnamed neighborhood consisting primarily of single-family homes and Weaver Community Park. These sites are located east of I-95 between NW 15th Street and NW 21st Court in the City of Pompano Beach. Exterior noise sensitive areas at the residences include patios, yards, balconies and pools. Noise sensitive areas of the park include athletic fields, playgrounds and a picnic pavilion. Design year traffic noise levels with the Build Alternative are predicted to range from 60.2 to 71.0 dB(A) at the residences and the average noise level would be approximately 0.3 dB(A) lower than existing levels due to the addition of concrete traffic barrier along the elevated segments of the northbound lanes.



Forty residences are predicted to be impacted by Design Year traffic noise with the proposed improvements. Design year traffic noise levels in Weaver Community Park are predicted to range from 68.6 to 68.8 dB(A). Therefore, consideration of noise abatement is warranted. In order to evaluate the cost reasonableness of noise abatement for the park, this CNE was divided into three contiguous CNEs; CNE-6South, CNE-6Park and CNE-6North. Since the park is a special land use, traffic noise impacts and the reasonableness and feasibility of noise abatement measures were assessed in accordance with the FDOT report *A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations* (Updated July 22, 2009). See **Appendix D** for the detailed results of this analysis.

5.6.1 CNE-6SOUTH

The results of the noise barrier analysis for the residences in CNE-6South are summarized in **Table 5.7** (located at the end of this chapter). Twenty-two homes in this neighborhood are predicted to be impacted by this project. There are no existing noise barriers adjacent to this CNE. Elevated roadways along this segment of I-95 include the mainline over the railroad and NW 1st Street to the south. Both ground-mounted and shoulder-mounted noise barriers were evaluated for this area.

Noise barriers of various lengths and heights were evaluated for the residences in CNE-6South. The most feasible location to provide noise abatement for this neighborhood was determined to be along the shoulder of the northbound mainline lanes and along the eastern limited-access right of way line between NW 15th Street and NW 17th Street. The recommended noise barrier design concept incorporates two noise barriers. The first noise barrier is an 8-foot tall, 900-foot long shoulder-mounted noise barrier located between Stations 826+00 and 835+00. The second noise barrier is a 20-foot tall, 1,155-foot long ground-mounted noise barrier along the eastern limited-access right of way line between Stations 831+00 and 842+55. This noise barrier design concept is referred to as CD3-E6South in **Table 5.7** (located at the end of this chapter) (please also see ***Sheets 10 and 11*** in **Appendix A**). This noise barrier system would reduce noise levels in this neighborhood by up to 7.2 dB(A). All 22 of the impacted homes in this neighborhood were predicted to experience a noise level reduction of at least 5.0 dB(A) and thus be benefited by this noise barrier design concept. The estimated cost of this noise barrier is \$909,000 overall and



\$41,318 per benefited site. Therefore, the cost per benefited site of this noise barrier is within the FDOT's noise barrier cost criteria (\$42,000 per benefited site) and it will attain the FDOT's noise reduction design requirement of 7 dB(A) at one or more sites.

Noise barrier CD3-E6South is recommended for further consideration and public input. Of all of the noise barrier design concepts assessed, this concept provides reasonable noise abatement performance at a cost within the FDOT noise barrier cost criteria. This noise barrier design also attains the FDOT's noise reduction design goal of at least a 7 dB(A) reduction for at least one impacted receptor site. In addition, this conceptual noise barrier design satisfies the other reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety, constructability, utilities and drainage. This conceptual noise barrier design does not have any sight distance issues, any substantial conflicts with utilities or drainage facilities, or obstruct any existing, conforming and legally permitted outdoor advertising signs and it can be constructed using standard construction methods.

5.6.2 CNE-6PARK

The results of the noise barrier analysis for the sites in CNE-6Park are summarized in **Table 5.8** (located at the end of this chapter). There are no existing noise barriers adjacent to Weaver Community Park. Elevated roadways along this segment of I-95 include the mainline over the railroad and NW 1st Street to the south. Both ground-mounted and shoulder-mounted noise barriers were evaluated for this area.

Noise barriers of various lengths and heights were evaluated for this park. The most feasible location to provide noise abatement for the park was determined to be along the eastern limited-access right of way line between NW 15th Court and NW 21st Court (Stations 834+00 to 868+00), please see ***Sheets 10 through 12*** in **Appendix A**. This noise barrier design concept is referred to as CD1-E6Park in **Table 5.8** (located at the end of this chapter). Based on the expected project conditions, a 22-foot tall, 3,360-foot long noise barrier would be the only noise barrier design concept that would reduce traffic noise levels in the park by at least 7.0 dB(A). Since this noise barrier would overlap with the noise barrier recommended for CD3-E6South by approximately 850 feet, the cost reasonableness evaluation for this noise barrier considered only the 2,510-foot long noise barrier segment north of Station 842+55 along with an additional



1,700 square-feet of noise barrier to account for the two feet added height required along the shared 850-foot long segment of CD3-E6South. Therefore, the estimated cost of this noise barrier is \$1,707,600 overall.

The FDOT's special land use methodology was used to determine if the cost of this noise barrier would be reasonable based on the level of activity in the impacted areas of Weaver Community Park. Daily usage rates for the park are not available. The usage rate of the park necessary to meet the FDOT's cost reasonableness criteria for special land use was evaluated based on the design concept described above. It was determined that at least 1,201 people per day, each spending a minimum of two hours in the park, would be necessary to meet the FDOT's cost reasonableness requirements for this noise barrier. Based on this requirement, actual usage of this park is expected to be well below a level sufficient to meet the cost criterion for construction of a noise barrier at this location. Therefore, noise abatement is not recommended for further consideration and public input for CNE-E6Park (Weaver Community Park) since the estimated cost exceeds the FDOT's noise barrier cost criteria for special land use.

5.6.3 CNE-6NORTH

The results of the noise barrier analysis for the residences in CNE-6North are summarized in **Table 5.9** (located at the end of this chapter). Eight homes in this neighborhood are predicted to be impacted by this project. There are no existing noise barriers adjacent to this CNE. Elevated roadways along this segment of I-95 include the mainline over Copans Road to the north. Both ground-mounted and shoulder-mounted noise barriers were evaluated for this area.

Noise barriers of various lengths and heights were evaluated for the residences in CNE-6North. The most feasible locations to provide noise abatement for this neighborhood was determined to be along the shoulder of the northbound mainline lanes and along the eastern limited-access right of way line between NW 18th Court and NW 21st Court. This design concept incorporates two noise barriers. The first noise barrier is a 14-foot tall, 1,690-foot long shoulder-mounted noise barrier located between Stations 857+00 and 874+70. The second noise barrier is a 20 to 22-foot tall, 1,390-foot long ground-mounted noise barrier along the eastern limited-access right of way line between Stations 860+00 and



874+60. This noise barrier design concept is referred to as CD3-E6North in *Table 5.9* (located at the end of this chapter) (please also see *Sheets 11 and 12* in *Appendix A*). This noise barrier system would reduce noise levels in this neighborhood by up to 7.0 dB(A). All eight of the impacted homes in this neighborhood were predicted to experience a noise level reduction of at least 5.0 dB(A) and thus be benefited by this noise barrier design concept. The estimated cost of this noise barrier is \$1,292,700 overall and \$161,588 per benefited site. Therefore, the cost per benefited site of this noise barrier exceeds the FDOT's noise barrier cost criteria (\$42,000 per benefited site). Although this noise barrier system will attain the FDOT's noise reduction design requirement of 7 dB(A) at one or more sites, the predicted cost far exceeds the FDOT's noise barrier cost criteria. No other noise barrier design concept provided a noise reduction of at least 7 dB(A).

Based on the results of this analysis, noise abatement is not recommended for further consideration and public input for the homes in CNE-E6North since the estimated cost exceeds the FDOT's noise barrier cost criteria.

5.7 NOISE BARRIER E7 – COPANS ROAD TO NW 26TH STREET

Common Noise Environment Area E7 encompasses outdoor areas in the Leisureville Apartments. These apartments are located east of I-95 between Copans Road and NW 26th Street in the City of Pompano Beach. Exterior noise sensitive areas at these apartments include patios and balconies. Design year traffic noise levels with the Build Alternative are predicted to range from 60.9 to 70.3 dB(A) at the apartments and the average noise level would be approximately 0.6 dB(A) higher than existing levels. Fifty-six apartments are predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis are summarized in *Table 5.10* (located at the end of this chapter). This noise barrier will supplement an existing 15-foot tall, 4,993 foot long noise barrier [99004-3420 (I-95 A)] located along the eastern limited-access right of way line between NW 24th Court and NE 35th Court (Station 897+38 to 944+19). This existing noise barrier is not expected to be physically impacted by the project. Elevated roadways along this segment of I-95 include the mainline lanes over Copans Road to the south. Ground, structure and shoulder-mounted noise barriers were evaluated for this area.



Noise barriers of various lengths and heights were evaluated near these impacted residences. The initial design concept considered extending the existing noise barrier approximately 350 feet to the south along the on-ramp with a 22-foot tall noise barrier (please see **Sheet 12** in **Appendix A**). Extending the existing noise barrier southward was predicted to reduce the noise levels at the nearby homes by a maximum of only 3.1 dB(A). A second design concept, referred to as CD2-E7 in **Table 5.10** (located at the end of this chapter), considered the addition of an 8 to 14-foot tall noise barrier along the northbound mainline lanes between Stations 884+70 and 900+20. However, it was possible to only reduce noise levels by no more than 6.1 dB(A) with this noise barrier. A noise barrier system, referred to as CD3-E7, consisting of the southward noise barrier extension and the shoulder-mounted noise barrier provided a maximum noise level reduction of 6.8 dB(A). The noise barriers were evaluated at their maximum allowable heights according to FDOT design criteria. Furthermore, it was found that it would not be possible to attain the FDOT's noise reduction requirements by increasing the length of any of the noise barriers.

Based on the results of this analysis, noise abatement is not recommended for further consideration and public input for CNE-E7 since it was not possible to reduce noise levels by at least 7 dB(A) at one or more sites in accordance with the FDOT's noise reduction design requirement.

5.8 NOISE BARRIER W1 – NW 29TH COURT TO NW 33RD STREET

Common Noise Environment Area W1 encompasses outdoor areas in the Olive Glen and Whispering Pines apartment complexes. These apartment complexes are located west of I-95 between NW 29th Court and NW 33rd Street in the City of Pompano Beach. Exterior noise sensitive areas at these apartment complexes include patios, balconies and a pool. Design year traffic noise levels with the Build Alternative are predicted to range from 58.1 to 75.7 dB(A) at these apartment complexes and the average noise level would be approximately 1.1 dB(A) higher than existing levels. Fifty-eight residences and the pool at the Olive Glen apartments are predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis are summarized in **Table 5.11** (located at the end of this chapter). This noise barrier will supplement an existing 15-foot tall,



1,092 foot long noise barrier [99004-3420 (I-95 B)] along the western limited-access right of way line adjacent to the southbound on-ramp between NW 33rd Street and Sample Road (Station 934+00 to 944+73). This existing noise barrier is not expected to be physically impacted by the project. Elevated roadways along this segment of I-95 include the mainline lanes over Sample Road to the north. Ground-mounted and shoulder-mounted noise barriers were evaluated for this area.

Noise barriers of various lengths and heights were evaluated for the apartment complexes. The most feasible locations to provide noise abatement for this neighborhood was determined to be along the shoulder of the southbound mainline lanes and on-ramp from Sample Road and along the southbound mainline lanes between Sample Road and the on-ramp. The recommended noise barrier design concept incorporates two noise barriers. The first noise barrier is a 14-foot tall, 1,935-foot long shoulder-mounted noise barrier located between Stations 915+00 and 935+00. The second noise barrier is also a 14-foot tall shoulder-mounted noise barrier. This noise barrier is 1,260 feet long and is located between Stations 932+00 and 945+00. This noise barrier design concept is referred to as CD3-W1 in **Table 5.11** (located at the end of this chapter) (please also see ***Sheets 13 and 14*** in **Appendix A**). This noise barrier system would reduce noise levels at these apartments by up to 10.1 dB(A). All 58 of the impacted residences and the pool area were predicted to experience a noise level reduction of at least 5.0 dB(A) and thus be benefited by this noise barrier design concept. An additional 60 residences that are not predicted to be impacted by this project will be benefited incidentally by this noise barrier system. The estimated cost of this noise barrier design concept is \$1,341,900 overall and \$11,372 per benefited site. Therefore, the cost per benefited site of this noise barrier is within the FDOT's noise barrier cost criteria (\$42,000 per benefited site) and it will attain the FDOT's noise reduction design requirement of 7 dB(A) at one or more sites.

Noise barrier CD3-W1 is recommended for further consideration and public input. Of all of the noise barrier design concepts assessed, this concept provides reasonable noise abatement performance at a cost within the FDOT noise barrier cost criteria. This noise barrier design also attains the FDOT's noise reduction design goal of at least a 7 dB(A) reduction for at least one impacted receptor site. In addition, this conceptual noise barrier design satisfies the other reasonableness and feasibility factors considered in the evaluation of noise



abatement measures including safety, constructability, utilities and drainage. This conceptual noise barrier design does not have any sight distance issues, any substantial conflicts with utilities or drainage facilities, or obstruct any existing, conforming and legally permitted outdoor advertising signs and it can be constructed using standard construction methods.

5.9 NOISE BARRIER E8 – NW 42ND STREET TO NW 45TH STREET

Common Noise Environment Area E8 encompasses outdoor areas at Parkway United Methodist Church. This church is located east of I-95 between NW 42nd Street and NW 45th Street in the City of Deerfield Beach. The most commonly used exterior noise sensitive area at this church specifically is a playground. Other outdoor areas at the church include a community garden and outdoor study areas. Church services are also occasionally held outdoors on the property. The Design Year traffic noise level with the Build Alternative is predicted to be 68.3 dB(A) at this playground, approximately 3.8 dB(A) higher than the existing level.

The church is located adjacent to a gap in noise abatement coverage between two existing 16-foot tall ground-mounted noise barriers that are located along the eastern limited-access right of way line. To the south, a 2,484 foot long noise barrier [99004-3420 (I-95 D-Part1)] is located between NE 38th Street (Station 953+16) and NE 42nd Street (Station 978+00). To the north, a 1,641 foot long noise barrier [99004-3420 (I-95 D-Part2)] is located between NE 44th Street (Station 983+59) and NE 48th Street (Station 1000+00). The 559 foot long gap exists from approximately NW 42nd Street to NW 44th Street.

The church has been located on this property since the 1970s. The nearby noise barriers were constructed during the early 1990s as part of FDOT's HOV lane project. However, it is unknown why a gap in noise barrier coverage was left adjacent to the church. Under FDOT's guidelines, one continuous noise barrier would normally have been constructed between NE 38th Street and NE 48th Street that would have provided noise abatement for all of the nearby noise sensitive sites, including this church. The FDOT has been contacted by church leadership, members and interested parties regarding outdoor church-related activities and programs occurring on the church grounds. Although the church is planning to increase the frequency of outdoor activities, all of the interested



stakeholders have expressed concern regarding being able to actually carry out these plans due to the existing and expected future high traffic noise levels.

In order to reduce traffic noise levels at the outdoor use areas of the church, the FDOT has committed to filling in this gap in noise barrier coverage as part of this express lanes project. A 16-foot tall, 559-foot long ground-mounted noise barrier will be constructed along the eastern limited-access right of way line between the existing noise barriers in order to fill in this gap. This noise barrier would reduce noise levels at the church by up to 7.0 dB(A). The estimated cost of this noise barrier is \$268,320 overall. The results of the noise barrier analysis are summarized in **Table 5.12** (located at the end of this chapter) (please also see **Sheet 15** in **Appendix A**).

5.10 NOISE BARRIER E9 – SW 15TH STREET TO SW 10TH STREET

Common Noise Environment Area E9 encompasses outdoor areas in an unnamed neighborhood consisting primarily of single-family homes located east of I-95 between SW 15th Street and SW 10th Street. This neighborhood is located in the City of Deerfield Beach. Exterior noise sensitive areas at these homes include patios and yards. Design year traffic noise levels with the Build Alternative are predicted to range from 58.5 to 68.8 dB(A) at the homes and the average noise level would be approximately 1.9 dB(A) higher than existing levels. Nine first-row residences are predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis are summarized in **Table 5.13** (located at the end of this chapter). There are no existing noise barriers adjacent to these homes. Elevated roadways along this project segment include SW 10th Street over I-95 to the north. Given the flat terrain near these homes, only ground-mounted noise barriers were evaluated for this area.

Noise barriers of various lengths and heights were evaluated for these impacted residences. The most feasible location to provide noise abatement for this neighborhood was determined to be along the eastern limited-access line adjacent to the northbound mainline lanes and the off-ramp to SW 10th Street. This noise barrier design concept is referred to as CD1-E9 in **Table 5.13** (located at the end of this chapter) (please also see **Sheet 17** in **Appendix A**). A 20-foot



tall, 1,495-foot long ground-mounted noise barrier along the eastern limited-access right of way line between Stations 1044+00 and 1053+40 would reduce noise levels in this neighborhood by up to 8.1 dB(A). Seven of the nine impacted homes in this neighborhood were predicted to experience a noise level reduction of at least 5.0 dB(A) and thus be benefited by this noise barrier design concept. The estimated cost of this noise barrier is \$897,000 overall and \$128,143 per benefited site. Therefore, the cost per benefited site of this noise barrier exceeds the FDOT's noise barrier cost criteria (\$42,000 per benefited site). Although this noise barrier system will attain the FDOT's noise reduction design requirement of 7 dB(A) at one or more sites, the predicted cost far exceeds the FDOT's noise barrier cost criteria. No other noise barrier design concept provided a noise reduction of at least 7 dB(A).

Based on the results of this analysis, noise abatement is not recommended for further consideration and public input for the homes in CNE-E9 since the estimated cost exceeds the FDOT's noise barrier cost criteria.

5.11 NOISE BARRIER E10 – SW 10TH STREET TO HILLSBORO BOULEVARD

Common Noise Environment Area E10 encompasses outdoor areas in the Tivoli Park and Natura apartment and multi-family home communities. These homes are located east of I-95 between SW 10th Street and Hillsboro Boulevard in the City of Deerfield Beach. Exterior noise sensitive areas at these homes include yards, patios and balconies. Design year traffic noise levels with the Build Alternative are predicted to range from 58.3 to 74.5 dB(A) at these homes and the average noise level would be approximately 1.9 dB(A) higher than existing levels. Ninety-six residences are predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis are summarized in **Table 5.14** (located at the end of this chapter). There are no existing noise barriers adjacent to these residences. Elevated roadways along this project segment include SW 10th Street over I-95 to the south and the mainline lanes over Hillsboro Boulevard to the north. Ground-mounted and shoulder-mounted noise barriers were evaluated for this area.



Noise barriers of various lengths and heights were evaluated for these residences. The most feasible location to provide noise abatement for this neighborhood was determined to be along eastern limited-access line adjacent to the northbound mainline lanes and the northbound off-ramp to Hillsboro Boulevard. This noise barrier design concept is referred to as CD3-E10 in **Table 5.14** (located at the end of this chapter) (please see ***Sheets 17 through 19*** in **Appendix A**). A 20-foot tall, 4,335-foot long ground-mounted noise barrier along the eastern limited-access right of way line between Stations 1060+50 and 1101+00 would reduce noise levels in this neighborhood by up to 9.8 dB(A). Eighty-seven of the 96 impacted residences were predicted to experience a noise level reduction of at least 5.0 dB(A) and thus be benefited by this noise barrier design concept. It was not possible to benefit the remaining impacted sites, many of which are located on the top floors of the nearby apartment buildings. An additional 32 residences and a pool that are not predicted to be impacted by this project will be benefited incidentally by this noise barrier. The estimated cost of this noise barrier is \$2,601,000 overall and \$21,857 per benefited site. Therefore, the cost per benefited site of this noise barrier is within the FDOT's noise barrier cost criteria (\$42,000 per benefited site) and it will meet the FDOT's noise reduction design requirement of 7 dB(A) at one or more sites.

Noise barrier CD3-E10 is recommended for further consideration and public input. Of all of the noise barrier design concepts assessed, this concept provides reasonable noise abatement performance at a cost within the FDOT noise barrier cost criteria. This noise barrier design also attains the FDOT's noise reduction design goal of at least a 7 dB(A) reduction for at least one impacted receptor site. In addition, this conceptual noise barrier design satisfies the other reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety, constructability, utilities and drainage. This conceptual noise barrier design does not have any sight distance issues, any substantial conflicts with utilities or drainage facilities, or obstruct any existing, conforming and legally permitted outdoor advertising signs and it can be constructed using standard construction methods.



5.12 NOISE BARRIER E11 – SW 8TH STREET TO ROYAL PALM ROAD

Common Noise Environment Area E11 encompasses outdoor areas in an unnamed neighborhood of single-family homes located east of I-95 between SW 8th Street and Royal Palm Road. This neighborhood is located in the City of Boca Raton. Exterior noise sensitive areas at these homes include patios, yards and pools. Design year traffic noise levels with the Build Alternative are predicted to range from 60.7 to 67.6 dB(A) at these homes and the average noise level would be approximately 4.3 dB(A) higher than existing levels. Six residences are predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis are summarized in **Table 5.15** (located at the end of this chapter). Three noise barriers are located along this portion of the project. The first noise barrier is an existing 13-foot tall, 1,851-foot long ground-mounted noise barrier [99004-3420 (I-95 8-D)] is located along the eastern limited-access right of way line between SW 4th Street and Palmetto Park Road (Stations 1206+34 to 1224+15). This noise barrier is not expected to be physically impacted by this project. The second is an existing 8-foot tall, 3,867-foot long unnamed noise barrier located along the shoulder of northbound lanes between SW 8th Street and Royal Palm Road (Station 1195+02 to 1121+45) will be removed to accommodate this project. A third noise barrier is an existing 8-foot tall, 1,205-foot long noise barrier located along the northbound mainline lanes from the northbound off-ramp to Palmetto Park Road to just north of Palmetto Park Road (Stations 1215+63 to 1227+68) will also be removed. Elevated roadways along this segment of I-95 include the mainline lanes over Palmetto Park Road. Since there is already an existing ground-mounted noise barrier along much of this project segment and due to the roadway elevation, only structure and shoulder-mounted noise barriers were evaluated.

Noise barriers of various lengths and heights were evaluated for the residences in this neighborhood. The most feasible locations to provide noise abatement for these homes was determined to be along the shoulder of the northbound mainline lanes and along the off-ramp to Palmetto Park Road and along the northbound mainline lanes between the off-ramp and Palmetto Park Road. The most feasible noise barrier design concept incorporates two noise barriers. The first noise barrier is a 14-foot tall, 1,725-foot long shoulder-mounted noise barrier



located between Stations 1206+40 and 1223+30. The second noise barrier is also a 14-foot tall shoulder-mounted noise barrier, that is 900 feet long and is located between Stations 1215+60 and 1224+60. This noise barrier design concept is referred to as CD4-E11 in **Table 5.15** (located at the end of this chapter) (please also see **Sheet 22** in **Appendix A**). This noise barrier would reduce noise levels in this neighborhood by up to 7.0 dB(A). All six of the impacted residences were predicted to experience a noise level reduction of at least 5.0 dB(A) and thus be benefited by this noise barrier design concept. An additional 15 residences that are not predicted to be impacted by this project will be benefited incidentally by this noise barrier. The estimated cost of this noise barrier is \$1,102,500 overall and \$52,500 per benefited site. Therefore, the cost per benefited site of this noise barrier exceeds the FDOT's noise barrier cost criteria (\$42,000 per benefited site). Although this noise barrier system will attain the FDOT's noise reduction design requirement of 7 dB(A) at one or more sites, the predicted cost far exceeds the FDOT's noise barrier cost criteria. No other noise barrier design concepts provided noise reductions of at least 7 dB(A).

Based on the results of this analysis, noise abatement is not recommended for further consideration and public input for the homes in CNE-E11 since the estimated cost exceeds the FDOT's noise barrier cost criteria. However, the existing shoulder-mounted noise barriers will be replaced in their current configuration along the shoulder of the widened roadway in order to maintain the FDOT's previous commitment to provide noise abatement along I-95.

5.13 NOISE BARRIER CNE-W2 – SW 18TH STREET TO SW 13TH PLACE

Common Noise Environment Area W2 encompasses outdoor areas in the Mizner Forest neighborhood of single-family homes. These homes are located west of I-95 between SW 18th Street and SW 13th Place in the City of Boca Raton. Exterior noise sensitive areas at these homes include patios, yards and pools. Design year traffic noise levels with the Build Alternative are predicted to range from 65.5 to 73.8 dB(A) at these homes and the average noise level would be approximately 1.4 dB(A) higher than existing levels. Nine residences are predicted to be impacted by Design Year traffic noise with the proposed I-95 improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis for these homes are summarized in **Table 5.16** (located at the end of this chapter). An existing 17-foot tall, 4,007 foot long



noise barrier [99004-3420 (I-95 8-C)] is located to the north of this community along the western limited-access right of way line between SW 13th Place and West Camino Real (Station 1171+09 to 1201+10). This noise barrier is not expected to be physically impacted by the project. Elevated roadways along this segment of I-95 include SW 18th Street over I-95 to the south. Given the flat elevation of the nearby roadway and the existing nearby ground-mounted noise barrier, only a ground-mounted noise barrier was evaluated for this area.

Noise barriers of various lengths and heights were evaluated for this neighborhood. The most feasible location to provide noise abatement for these homes was determined to be along western limited-access line between Stations 1158+40 and 1171+09. This noise barrier design concept is referred to as CD2-W2 in **Table 5.16** (located at the end of this chapter) (please also see ***Sheets 20 and 21*** in **Appendix A**). A 14-foot tall, 1,285-foot long ground-mounted noise barrier would reduce noise levels in this neighborhood by up to 8.4 dB(A). All nine of the impacted residences were predicted to experience a noise level reduction of at least 5.0 dB(A) and thus be benefited by this noise barrier design concept. An additional four residences that are not predicted to be impacted by this project will be benefited incidentally by this noise barrier. The estimated cost of this noise barrier is \$539,700 overall and \$41,515 per benefited site. Therefore, the cost per benefited site of this noise barrier is within the FDOT's noise barrier cost criteria (\$42,000 per benefited site) and it will attain the FDOT's noise reduction design requirement of 7 dB(A) at one or more sites.

Noise barrier CD2-W2 is recommended for further consideration and public input. Of all of the noise barrier design concepts assessed, this concept provides reasonable noise abatement performance at a cost within the FDOT noise barrier cost criteria. This noise barrier design also attains the FDOT's noise reduction design goal of at least a 7 dB(A) reduction for at least one impacted receptor site. In addition, this conceptual noise barrier design satisfies the other reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety, constructability, utilities and drainage. This conceptual noise barrier design does not have any sight distance issues, any substantial conflicts with utilities or drainage facilities, or obstruct any existing, conforming and legally permitted outdoor advertising signs and it can be constructed using standard construction methods.



5.14 NOISE BARRIER CNE-W3 – WEST CAMINO REAL TO PALMETTO PARK ROAD

Common Noise Environment Area W3 encompasses the Blazing Star Preserve. This nature preserve is located west of I-95 between West Camino Real and Palmetto Park Road in the City of Boca Raton. Exterior noise sensitive areas at this preserve include a pavilion and nearby walking trails. Design year traffic noise levels with the Build Alternative are predicted to be 66.3 dB(A) at this preserve and approximately 1.2 dB(A) higher than existing levels. The preserve is predicted to be impacted by Design Year traffic noise with the proposed improvements. Therefore, consideration of noise abatement is warranted.

The results of the noise barrier analysis are summarized in *Table 5.17* (located at the end of this chapter). There are no existing noise barriers adjacent to this nature preserve. Elevated roadways along this project segment include the mainline lanes over West Camino Real and Palmetto Park Road. Given the elevation of the roadway, structure and shoulder-mounted noise barriers were evaluated for this area.

The only feasible noise abatement alternative for this area is a structure and shoulder-mounted noise barrier along the southbound on-ramp from Palmetto Park Road and along the southbound mainline lanes between Stations 1196+00 and 1224+00. This design concept is referred to as CD1-W3 in *Table 5.17* (located at the end of this chapter). An 8 to 14-foot tall, 2,805-foot long noise barrier was determined to be the most feasible design concept. However, it was possible to only reduce noise levels by no more than 4.2 dB(A) with this noise barrier. The noise barrier was evaluated at its maximum allowable height according to FDOT design criteria. Furthermore, it was found that it would not be possible to attain the FDOT's noise reduction requirements by increasing the length of the noise barrier.

Based on the results of this analysis, noise abatement is not recommended for further consideration and public input for CNE-W3 since it was not possible to reduce noise levels by at least 7 dB(A) at one or more sites in accordance with the FDOT's noise reduction design requirement.

Table 5.2

Noise Barrier Analysis for Common Noise Environment-E1

Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E1 Powerline Road to Commercial Boulevard	Barrier Alternatives for Common Noise Environment E1														
	CD1-E1	Shoulder-Mounted	14	700	550+40	557+40	57 Residences and 1 Church Interior	4.1 (8.4)	23	5	28	7.0 (8.4)	\$2,183,700	\$77,989	Not Recommended – Exceeds FDOT's Noise Barrier Reasonable Cost Criteria
		Structure-Mounted	8	480	557+40	562+20									
		Shoulder-Mounted	14	1,305	562+20	575+25									
		Structure-Mounted	8	1,075	575+25	586+40									
		Shoulder-Mounted	14	1,160	586+40	597+80									
		Shoulder-Mounted	8	2,005	583+00	602+00									
	CD2-E1	Structure-Mounted	8	960	577+00	586+40	57 Residences and 1 Church Interior	2.7 (8.4)	23	5	28	6.9 (8.4)	\$1,129,200	\$40,329	Recommended Design Concept
		Shoulder-Mounted	14	1,160	586+40	597+80									
		Shoulder-Mounted	8	1,715	585+00	602+00									

Table 5.3

Noise Barrier Analysis for Common Noise Environment-E2

Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E2 Laguna Pointe Apartments McNab Road to SW 13 th Court	Barrier Alternatives for Common Noise Environment E2														
	CD1-E2	Structure-Mounted	8	900	699+30	708+30	65	3.4 (6.6)	13	0	13	5.7 (6.6)	\$355,200	N/A	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
		Shoulder-Mounted	8	580	708+30	714+00									
	CD2-E2	Structure-Mounted	8	900	699+30	708+30	65	4.6 (8.8)	22	2	24	6.5 (8.8)	\$459,600	\$19,150	
		Shoulder-Mounted	14	580	708+30	714+00									
	CD3-E2	Structure-Mounted	8	900	699+30	708+30	65	4.5 (8.6)	22	0	22	6.4 (8.6)	\$434,400	\$19,745	Recommended Design Concept
		Shoulder-Mounted	14	520	708+30	713+40									



Table 5.4 Noise Barrier Analysis for Common Noise Environment-E3															
Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E3 Avondale Park Oaks at Pompano SW 3 rd Street/Racetrack Road to Atlantic Boulevard	Barrier Alternatives for Common Noise Environment E3														
	CD1-E3	Ground-Mounted	18	1,945	759+60	776+30	31 Residences, Pool, Park	5.3 (8.2)	19 Residences, Park	8	27 Residences, Park	7.1 (8.2)	\$1,050,300	\$38,900	
	CD2-E3	Ground-Mounted	20	1,945	759+60	776+30	31 Residences, Pool, Park	6.2 (8.8)	27 Residences, Park	8	35 Residences, Park	7.7 (8.8)	\$1,167,000	\$33,343	Recommended Design Concept
	CD3-E3	Shoulder-Mounted	14	1,980	759+60	776+30	31 Residences, Pool, Park	4.3 (7.0)	10 Residences, Park	8	18 Residences, Park	6.3 (7.0)	\$831,600	\$46,200	Not Recommended – Exceeds FDOT's Noise Barrier Reasonable Cost Criteria

Table 5.5 Noise Barrier Analysis for Common Noise Environment-E4															
Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E4 W. Atlantic Boulevard to Martin Luther King Boulevard	Barrier Alternatives for Common Noise Environment E4														
	CD1-E4	Shoulder (on-ramp)	14	430	777+20	780+33	5	0.6 (0.6)	0	0	0	N/A	\$537,600	N/A	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
		Shoulder (on-ramp)	14	850	785+51	794+00									
	CD2-E4	Shoulder (on-ramp)	14	430	777+20	780+33	5	5.6 (5.6)	5	0	5	5.6 (5.6)	\$821,400	\$164,280	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
		Shoulder (on-ramp)	14	850	785+51	794+00									
		Structure (mainline)	8	290	778+00	780+90									
		Shoulder (mainline)	14	510	780+90	786+00									



Table 5.6 Noise Barrier Analysis for Common Noise Environment-E5															
Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E5 Mitchell Moore Park NW 8 th Street to NW 13 th Street/Railroad Corridor	Barrier Alternatives for Common Noise Environment E5														
	CD1-E5	Ground-Mounted	22	1,950	802+79	822+30	Park	5.7 (5.7)	Park	0	Park	N/A	\$1,287,000	N/A	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
	CD2-E5	Shoulder-Mounted	14	1,560	798+00	813+60	Park	5.7 (5.7)	Park	0	Park	N/A	\$952,800	N/A	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
		Structure-Mounted	8	1,240	813+60	826+00									
	CD3-E5	Shoulder-Mounted	14	1,560	798+00	813+60	Park	7.0 (7.0)	Park	0	Park	7.0 (7.0)	\$2,239,800	See Appendix D	Not Recommended – Exceeds FDOT's Noise Barrier Special Land Use Reasonable Cost Criteria
		Structure-Mounted	8	1,240	813+60	826+00									
		Ground-Mounted	22	1,950	802+79	822+30									

Table 5.7 Noise Barrier Analysis for Common Noise Environment-E6 South															
Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E6South NW 15 th Street to NW 17 th Street	Barrier Alternatives for Common Noise Environment E6South														
	CD1-E6South	Ground-Mounted	20	1,465	828+85	843+50	22	4.1 (7.3)	11	0	11	6.1 (7.3)	\$879,000	\$79,909	Not Recommended – Exceeds FDOT's Noise Barrier Reasonable Cost Criteria
	CD2-E6South	Structure-Mounted	8	1,150	826+00	837+50	22	3.2 (5.9)	11	0	11	4.8 (5.9)	\$1,095,000	\$99,545	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
		Shoulder-Mounted	14	1,950	837+50	857+00									
	CD3-E6South	Structure-Mounted	8	900	826+00	835+00	22	4.1 (7.2)	22	0	22	6.1 (7.2)	\$909,000	\$41,318	Recommended Design Concept
		Ground-Mounted	20	1,155	831+00	842+55									



Table 5.8 Noise Barrier Analysis for Common Noise Environment-E6Park															
Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E6Park Weaver Community Park NW 15 th Court to NW 21 st Court	Barrier Alternatives for Common Noise Environment E6Park														
	CD1-E6Park	Ground-Mounted	22	3,360	834+00	868+00	Park	6.5 (7.0)	Park	0	Park	6.5 (7.0)	\$1,707,600	See Appendix D	Not Recommended – Exceeds FDOT's Noise Barrier Special Land Use Reasonable Cost Criteria
	CD2-E6Park	Structure-Mounted	8	250	835+00	837+50	Park	6.5 (6.7)	Park	0	Park	6.5 (6.7)	\$1,420,800	N/A	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
		Ground-Mounted	14	3,240	837+50	870+40									

Table 5.9 Noise Barrier Analysis for Common Noise Environment-E6North															
Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E6North NW 18 th Court to NW 21 st Court	Barrier Alternatives for Common Noise Environment E6North														
	CD1-E6North	Ground-Mounted	22	1,200	862+00	874+60	8	5.2 (5.2)	8	0	8	N/A	\$792,000	\$99,000	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
	CD2-E6North	Shoulder-Mounted	14	1,690	857+00	874+70	8	6.5 (6.5)	8	0	8	N/A	\$709,800	\$88725	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
	CD3-E6North	Shoulder-Mounted	14	1,690	857+00	874+70	8	7.0 (7.0)	8	0	8	7.0 (7.0)	\$1,292,700	\$161,588	Not Recommended – Exceeds FDOT's Noise Barrier Reasonable Cost Criteria
		Ground-Mounted	20	780	860+00	868+00									
		Ground-Mounted	22	610	868+00	874+60									



Table 5.10

Noise Barrier Analysis for Common Noise Environment-E7

Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E7 Leisureville Apartments W. Copans Road to NW 26 th Street	Barrier Alternatives for Common Noise Environment E7														
	CD1-E7	Ground-Mounted	22	350	891+00	892+40	56	1.8 (3.1)	14	0	14	N/A	\$231,000	N/A	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
	CD2-E7	Structure-Mounted	8	330	884+70	888+00	56	3.0 (6.1)	14	0	14	6.1 (6.1)	\$591,600	\$42,257	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
		Shoulder-Mounted	14	1,220	888+00	900+20									
	CD3-E7	Structure-Mounted	14	1,220	888+00	900+20	56	4.4 (6.8)	14	0	14	6.8 (6.8)	\$743,400	\$53,100	Not Recommended – Does not attain FDOT's Noise Level Reduction Criteria
		Ground-Mounted	22	350	891+00	892+40									

Table 5.11

Noise Barrier Analysis for Common Noise Environment-W1

Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-W1 Olive Glen Whispering Pines NW 29 th Court to NW 33 rd Street	Barrier Alternatives for Common Noise Environment W1														
	CD1-W1	Ground-Mounted	20	1,985	913+00	934+00	58 Residences and Pool	4.8 (7.0)	14 Residences and Pool	25 Residences	39 Residences and Pool	5.9 (7.0)	\$1,191,000	\$30,538	
	CD2-W1	Shoulder-Mounted	14	1,935	915+00	935+00	58 Residences and Pool	5.9 (8.0)	34 Residences and Pool	36 Residences	70 Residences and Pool	6.3 (8.0)	\$812,700	\$11,610	
	CD3-W1	Shoulder-Mounted	14	1,935	915+00	935+00	58 Residences and Pool	7.7 (10.1)	58 Residences and Pool	60 Residences	118 Residences and Pool	6.8 (10.1)	\$1,341,900	\$11,372	Recommended Design Concept
		Shoulder-Mounted	14	1,260	932+20	945+00									



Table 5.12

Noise Barrier Analysis for Common Noise Environment-E8

Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E8 Parkway United Methodist Church NW 42 nd Street to NW 45 th Street	Barrier Alternatives for Common Noise Environment E8														
	CD1-E8	Ground-Mounted	16	559	978+00	983+59	Playground	7.0 (7.0)	Playground	0	Playground	7.0 (7.0)	\$268,320	N/A	FDOT will construct this noise barrier to fill in the gap in noise barrier coverage adjacent to this church.

Table 5.13

Noise Barrier Analysis for Common Noise Environment-E9

Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E9 SW 15 th Street to SW 10 th Street	Barrier Alternatives for Common Noise Environment E9														
	CD1-E9	Ground-Mounted	20	1,495	1044+00	1053+40	9	6.3 (7.5)	7	0	7	6.8 (8.1)	\$897,000	\$128,143	Not Recommended – Exceeds FDOT's Noise Barrier Reasonable Cost Criteria

Table 5.14

Noise Barrier Analysis for Common Noise Environment-E10

Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E10 Tivoli Park Natura SW 10 th Street to Hillsboro Boulevard	Barrier Alternatives for Common Noise Environment E10														
	CD1-E10	Shoulder-Mounted	14	4,460	1059+00	1102+00	96	6.2 (9.2)	75	16	91	6.8 (9.2)	\$1,873,200	\$20,585	
	CD2-E10	Ground-Mounted	18	4,335	1060+50	1101+00	96	6.7 (9.4)	75	16	91	7.3 (9.4)	\$2,340,900	\$25,724	
	CD3-E10	Ground-Mounted	20	4,335	1060+50	1101+00	96	7.3 (9.8)	87	32 Residences and Pool	119 Residences and Pool	7.3 (9.8)	\$2,601,000	\$21,857	Recommended Design Concept



Table 5.15

Noise Barrier Analysis for Common Noise Environment-E11

Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-E11 SW 8 th Street to Royal Palm Road	Barrier Alternatives for Common Noise Environment E11														
	CD1-E11	Shoulder-Mounted (off-ramp)	14	540	1191+45	1196+85	6	5.7 (5.7)	6	5	11	5.7 (5.7)	\$1,180,500	\$107,318	Not Recommended – Does not attain FDOT’s Noise Level Reduction Criteria
		Structure-Mounted (off-ramp)	8	955	1196+85	1206+40									
		Shoulder-Mounted (off-ramp)	14	1,725	1206+40	1223+30									
	CD2-E11	Shoulder-Mounted (off-ramp)	14	540	1191+45	1196+85	6	5.8 (5.8)	6	15	21	6.5 (7.1)	\$1,558,500	\$74,214	Not Recommended – Exceeds FDOT’s Noise Barrier Reasonable Cost Criteria
		Structure-Mounted (off-ramp)	8	955	1196+85	1206+40									
		Shoulder-Mounted (off-ramp)	14	1,725	1206+40	1223+30									
		Shoulder-Mounted (mainline)	14	900	1215+60	1224+60									
	CD3-E11	Structure-Mounted (off-ramp)	8	955	1196+85	1206+40	6	5.8 (5.8)	6	15	21	6.5 (7.1)	\$1,331,700	\$63,414	Not Recommended – Exceeds FDOT’s Noise Barrier Reasonable Cost Criteria
		Shoulder-Mounted (off-ramp)	14	1,725	1206+40	1223+30									
		Shoulder-Mounted (mainline)	14	900	1215+60	1224+60									
	CD4-E11	Shoulder-Mounted (off-ramp)	14	1,725	1206+40	1223+30	6	5.2 (5.2)	6	15	21	6.2 (7.0)	\$1,102,500	\$52,500	Not Recommended – Exceeds FDOT’s Noise Barrier Reasonable Cost Criteria
		Shoulder-Mounted (mainline)	14	900	1215+60	1224+60									

Table 5.16

Noise Barrier Analysis for Common Noise Environment-W2

Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-W2 Mizner Forest SW 18 th Street to SW 13 th Place	Barrier Alternatives for Common Noise Environment W2														
	CD1-W2	Ground-Mounted	12	1,345	1157+80	1171+09	9	6.1 (7.3)	9	0	9	6.1 (7.3)	\$484,200	\$53,800	Not Recommended – Exceeds FDOT’s Noise Barrier Reasonable Cost Criteria
	CD2-W2	Ground-Mounted	14	1,285	1158+40	1171+09	9	7.2 (8.4)	9	4	13	6.7 (8.4)	\$539,700	\$41,515	Recommended Design Concept



Table 5.17 Noise Barrier Analysis for Common Noise Environment-W3															
Community Identifier(s)	Conceptual Noise Barrier Design Number	Noise Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Average (Maximum) Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average (Maximum) Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Comments
CNE-W3 Blazing Star Preserve W. Camino Real to W. Palmetto Park Road	Barrier Alternatives for Common Noise Environment W3														
	CD1-W3	Shoulder-Mounted	14	500	1196+00	1201+00	Park	4.2 (4.2)	0	0	0	N/A	\$1,160,100	N/A	Not Recommended – Does not attain FDOT’s Noise Level Reduction Criteria
		Structure-Mounted	8	100	1201+00	1202+00									
		Shoulder-Mounted	14	2,205	1202+00	1224+00									



6.0 SUMMARY

Approximately 1,784 residences, including single-family homes, mobile-homes, apartments and condominiums were identified as being sensitive to traffic noise associated with I-95 within the limits of this project. Also, 24 non-residential or special-use noise sensitive sites, including schools, churches, parks, apartment and hotel pools, restaurants and medical facilities were identified along the project corridor. Noise impacts to the 24 residences and two medical facilities located north of Palmetto Park Road have been evaluated as part of the FDOT's project to construct express lanes along I-95 from north of Palmetto Park Road to Linton Boulevard (FM# 412420-1).

Traffic noise levels were predicted for noise sensitive locations along the project corridor for the existing conditions and the Design Year (2040) No-Build and Build Alternative. With the Build Alternative, Design Year traffic noise levels at nearby residences are predicted to range from 44.1 to 76.7 dB(A). The Build Alternative noise levels at special land use sites are predicted to range from 40.3 dB(A) at an interior location at the Calvary Chapel Boca Raton to 71.4 dB(A) at outdoor areas in Avondale Park. With the Build Alternative, noise levels are predicted to exceed the NAC at 422 residences along the project corridor and at eight special land use sites. No other noise sensitive sites within the project study area are predicted to experience traffic noise levels equal to or exceeding the FDOT NAC. Also, no sites are expected to experience any substantial noise level increases as defined by the FDOT [i.e., greater than 15.0 dB(A) over existing levels] with the build alternatives.

In accordance with traffic noise study requirements set forth by both the FHWA and FDOT, noise barriers were considered for all noise sensitive receptor sites where Design Year traffic noise levels were predicted to equal or exceed the NAC. Noise barriers were evaluated at 14 locations to mitigate noise impacts. **Table 6.1** summarizes the results of the noise barrier analyses and recommendations for each of the 14 locations where noise barriers were evaluated. The locations where barriers were evaluated or planned are depicted in the figures in **Appendix A**. Noise barriers are recommended for further consideration and public input at eight of these locations; including:



- **CNE-E1** – Unnamed Neighborhood, Powerline Road to Commercial Boulevard;
- **CNE-E2** – Laguna Pointe Apartments, McNab Road to SW 13th Court;
- **CNE-E3** – Avondale Park, Oaks at Pompano Apartments, Unnamed Neighborhood, SW 3rd Street to Atlantic Boulevard;
- **CNE-E6South** – Unnamed Neighborhood, NW 15th Street to NW 17th Street;
- **CNE-W1** – Olive Glen Apartments and Whispering Pines Apartments, NW 29th Court to NW 33rd Street;
- **CNE-E8** – Parkway United Methodist Church, NE 42nd Street to NE 44th Street;
- **CNE-E10** – Tivoli Park and Natura Neighborhoods, SW 10th Street to Hillsboro Boulevard; and,
- **CNE-W2** – Mizner Forest, SW 18th Street to SW 13th Place.

These noise barriers are expected to benefit approximately 357 residences, 248 of which are predicted to be impacted by this project. Also, the exterior area of one church will benefit from a noise barrier along this project. The FDOT is committed to the construction of feasible noise abatement measures at the locations where noise barriers have been recommended for further consideration during the final design phase, contingent upon the following conditions:

- *Detailed noise analyses during the final design process support the need for abatement;*
- *Reasonable cost analyses indicate that the economic cost of the barrier(s) will not exceed the cost reasonable criterion;*
- *Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed and any conflicts or issues resolved;*
- *Community input regarding desires, types, heights and locations of barriers has been solicited by the FDOT; and*
- *Any other mitigating circumstances found in Section 17-4.6.1 of FDOT's PD&E Manual have been analyzed.*

It is likely that the noise abatement measures for these locations will be constructed if found feasible based on the contingencies listed above. If, during the Final Design phase, any of the contingency conditions listed above cause abatement to no longer be considered reasonable or feasible for a given



location(s), such determination(s) will be made prior to requesting approval for construction advertisement. Commitments regarding the exact abatement measure locations, heights, and type (or approved alternatives) will be made during project reevaluation and at a time before the construction advertisement is approved.

The estimated cost to provide noise abatement for the following residential neighborhoods exceeded FDOT's reasonable cost criteria of \$42,000 per benefited site:

- **CNE-E6North** – Unnamed Neighborhood, NW 18th Court to NW 21st Court (\$161,588 per benefited site);
- **CNE-E9** – Unnamed Neighborhood, SW 15th Street to SW 10th Street (\$128,143 per benefited site); and,
- **CNE-E11** - Unnamed neighborhood, SW 18th Street to Royal Palm Boulevard (\$52,500 per benefited site).

The estimated cost to provide noise abatement for the following non-residential sites exceeded FDOT's reasonable cost criteria for special land use sites (see *Appendix D*):

- **CNE-E5** - Mitchell Moore Park; and,
- **CNE-E6Park** – Weaver Community Park.

It was not possible to provide a noise level reduction of at least 7.0 dB(A) for at least one site in the following CNEs:

- **CNE-E4** – Unnamed Neighborhood, Atlantic Boulevard to Martin Luther King Boulevard [5.6 dB(A) maximum noise level reduction];
- **CNE-E7** – Leisureville Apartments, Copans Road to NW 26th Street [6.8 dB(A) maximum noise level reduction]; and,
- **CNE-W3** – Blazing Star Preserve, West Camino Real to Palmetto Park Road [4.2 dB(A) maximum noise level reduction].

Therefore, noise barriers are not recommended for further consideration or construction at these locations. Based on the noise analyses performed to date, there are no apparent solutions available to mitigate the noise impacts at 174 residences and five special land use sites. The traffic noise impacts to these noise



sensitive sites are considered to be an unavoidable consequence of the project. At locations where existing shoulder-mounted noise barriers will be physically impacted by this project and it was determined to not be feasible and/or reasonable to replace them with new noise barriers, the existing noise barriers will be replaced in kind during project construction in order to maintain the FDOT's previous noise abatement commitments.



Table 6.1
Noise Barrier Evaluation Summary and Recommendations

General Location (Cross Streets)	Relative Location	Community/Site Name	Type of Noise Sensitive Site (Noise Abatement Criteria Activity Category)	Recommended Noise Barrier Conceptual Design	Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptors	Average (Maximum) Noise Reduction for Impacted Receptors [dB(A)]	Number of Impacted and Benefitted Receptors	Number of Not Impacted But Benefitted Receptors	Total Number of Benefitted Receptors	Average (Maximum) Noise Reduction for all Benefitted Receptors [dB(A)]	Estimated Cost	Estimated Cost/Site Benefitted	Optimal Noise Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefitted Receptor Site	Noise Barrier Recommended for Further Consideration and Community Input
Oakland Park Boulevard to Commercial Boulevard	East of I-95	Unnamed	Residential (Activity Category B) Church Interior (Activity Category D)	CD2-E1	Structure	8	960	577+00	586+40	57 Res. and Church Interior	2.7 (8.4)	23	5	28 Res.	6.9 (8.4)	\$1,129,200	\$40,329	Yes	Yes
					Shoulder	14	1,160	586+40	597+80										
					Shoulder	8	1,715	585+00	602+00										
Cypress Creek to Atlantic Boulevard	East of I-95	Laguna Pointe Apartments	Residential (Activity Category B)	CD3-E2	Structure	8	900	699+30	708+30	65	4.5 (8.6)	22	0	22	6.4 (8.6)	\$434,400	\$19,745	Yes	Yes
					Shoulder	14	520	708+30	713+40										
	East of I-95	Avondale Park, Oaks at Pompano Apartments, Unnamed neighborhood	Residential (Activity Category B) Pool (Activity Category C) Park (Activity Category C)	CD2-E3	Ground	20	1,945	759+60	776+30	31 Res., pool and park	6.2 (8.8)	27 Res. and park	8	35 Res. and park	7.7 (8.8)	\$1,167,000	\$33,343	Yes	Yes



Table 6.1
Noise Barrier Evaluation Summary and Recommendations

General Location (Cross Streets)	Relative Location	Community/Site Name	Type of Noise Sensitive Site (Noise Abatement Criteria Activity Category)	Recommended Noise Barrier Conceptual Design	Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptors	Average (Maximum) Noise Reduction for Impacted Receptors [dB(A)]	Number of Impacted and Benefitted Receptors	Number of Not Impacted But Benefitted Receptors	Total Number of Benefitted Receptors	Average (Maximum) Noise Reduction for all Benefitted Receptors [dB(A)]	Estimated Cost	Estimated Cost/Site Benefitted	Optimal Noise Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefitted Receptor Site	Noise Barrier Recommended for Further Consideration and Community Input
Atlantic Boulevard to Copans Road	East of I-95	Unnamed	Residential (Activity Category B)	CD2-E4	Shoulder	14	430	777+20	780+33	5	5.6 (5.6)	5	0	5	5.6 (5.6)	\$821,400	\$164,280	No	No
					Shoulder	14	850	785+51	794+00										
					Structure	8	290	778+00	780+90										
					Shoulder	14	510	780+90	786+00										
	East of I-95	Mitchell Moore Park	Park (Activity Category C)	CD3-E5	Shoulder	14	1,560	798+00	813+60	Park	7.0 (7.0)	Park	0	Park	7.0 (7.0)	\$2,239,800	See Appendix D	No	Yes
					Structure	8	1,240	813+60	826+00										
					Ground	20	1,950	802+79	822+30										
	East of I-95	Unnamed	Residential (Activity Category B)	CD3-E6South	Structure	8	900	826+00	835+00	22	4.1 (7.2)	22	0	22	6.1 (7.2)	\$909,000	\$41,318	Yes	Yes
					Ground	20	1,155	831+00	842+55										
	East of I-95	Weaver Community Park	Park (Activity Category C)	CD1-E6Park	Ground	22	3,360	834+00	868+00	Park	6.5 (7.0)	Park	0	Park	6.5 (7.0)	\$1,707,600	See Appendix D	No	Yes
	East of I-95	Unnamed	Residential (Activity Category B)	CD3-E6North	Shoulder	14	1,690	857+00	874+70	8	7.0 (7.0)	8	0	8	7.0 (7.0)	\$1,292,700	\$161,588	No	Yes
					Ground	20	780	860+00	868+00										
					Ground	22	610	868+00	874+60										
Copans Road to Sample Road	East of I-95	Leisureville Apartments	Residential (Activity Category B)	CD3-E7	Structure	8	1,220	888+00	900+20	56	4.4 (6.8)	14	0	14	6.8 (6.8)	\$743,400	\$53,100	No	No
					Ground	22	350	891+00	892+40										
	West of I-95	Olive Glen Apartments and Pool, Whispering Pines Apartments	Residential (Activity Category B) Pool (Activity Category C)	CD3-W1	Shoulder	14	1,935	915+00	935+00	58 Res. and pool	7.7 (10.1)	58 Res. and pool	60 Res.	118 Res. and pool	6.8 (10.1)	\$1,341,900	\$11,372	Yes	Yes
					Shoulder	14	1,260	932+20	945+00										



Table 6.1
Noise Barrier Evaluation Summary and Recommendations

General Location (Cross Streets)	Relative Location	Community/Site Name	Type of Noise Sensitive Site (Noise Abatement Criteria Activity Category)	Recommended Noise Barrier Conceptual Design	Barrier Type	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptors	Average (Maximum) Noise Reduction for Impacted Receptors [dB(A)]	Number of Impacted and Benefitted Receptors	Number of Not Impacted But Benefitted Receptors	Total Number of Benefitted Receptors	Average (Maximum) Noise Reduction for all Benefitted Receptors [dB(A)]	Estimated Cost	Estimated Cost/Site Benefitted	Optimal Noise Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefitted Receptor Site	Noise Barrier Recommended for Further Consideration and Community Input
Sample Road to SW 10 th Street	East of I-95	Parkway United Methodist Church	Church (Activity Category C)	CD1-E8	Ground	16	559	978+00	983+59	Play- ground	7.0 (7.0)	Play- grou nd	0	Play- grou nd	7.0 (7.0)	\$268,320	N/A	N/A	Yes
	East of I-95	Unnamed	Residential (Activity Category B)	CD1-E9	Ground	20	1,495	1044+00	1053+40	9	6.3 (7.5)	7	0	7	6.8 (8.1)	\$897,000	\$128,143	No	Yes
SW 10 th Street to Hillsboro Boulevard	East of I-95	Tivoli Park, Natura	Residential (Activity Category B)	CD3-E10	Ground	20	4,335	1060+50	1101+00	96	7.3 (9.8)	87	32 Res. and pool	119 Res. and pool	7.3 (9.8)	\$2,601,000	\$21,857	Yes	Yes
Hillsboro Boulevard to Palmetto Park Road	East of I-95	Unnamed	Residential (Activity Category B)	CD4-E11	Shoulder	14	1,725	1206+40	1223+30	6	5.2 (5.2)	6	15	21	6.2 (7.0)	\$1,102,500	\$52,500	No	Yes
					Shoulder	14	900	1215+60	1224+60										
	West of I-95	Mizner Forest	Residential (Activity Category B)	CD2-W2	Ground	14	1,285	1158+40	1171+09	9	7.2 (8.4)	9	4	13	6.7 (8.4)	\$539,700	\$41,515	Yes	Yes
	West of I-95	Blazing Star Preserve	Park (Activity Category C)	CD1-W3	Shoulder	14	500	1196+00	1201+00	Park	4.2 (4.2)	0	0	0	N/A	\$1,160,100	N/A	No	No
					Structure	8	100	1201+00	1202+00										
					Shoulder	14	2,205	1202+00	1224+00										

Note: SLU = Special Land Use Site



7.0 CONSTRUCTION NOISE AND VIBRATION

During construction of the project, there is the potential for noise impacts to be substantially greater than those resulting from normal traffic operations due to the heavy equipment typically used to build roadways. In addition, construction activities may result in vibration impacts. Therefore, early identification of potential noise/vibration sensitive sites along the project corridor is important in minimizing noise and vibration impacts. The project area does include residences, hotels, museums, parks, religious facilities and a cemetery that may be affected by noise and vibration associated with construction activities. Construction noise and vibration impacts to these sites will be minimized by adherence to the controls listed in the latest edition of the FDOT's *Standard Specifications for Road and Bridge Construction*. According to Section 335.02 of the Florida Statutes, the FDOT is exempt from compliance with local ordinances. However, it is the FDOT's policy is to follow the requirements of local ordinances to the extent that is considered reasonable. Also, the contractor will be instructed to coordinate with the project engineer and the District Noise Specialist should unanticipated noise or vibration issues arise during project construction.



8.0 COORDINATION WITH LOCAL OFFICIALS

Agency coordination to obtain noise-related information for this project occurred through the ETDM Programming Screening (ETDM #3330) and the Advance Notification process. The ETDM review occurred between May 21, 2004, and July 5, 2004, and the Programming Screen Summary Report was published on September 29, 2005. No comments were received on noise-related issues. The ETDM Programming Screen Summary Report has been included in *Appendix E*.

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 levels, will be provided to Broward and Palm Beach Counties. In addition, generalized future noise impact contours for properties in the immediate vicinity of the project have been developed for Noise Abatement Activity Categories B/C and E (i.e., residential/other sensitive land uses and sensitive commercial, respectively). These contours represent the approximate distance from the edge of the nearest proposed travel lane of I-95 to the limits of the area predicted to approach [i.e., within 1 dB(A)] or exceed the NAC in the Design Year 2040. These contours do not consider any shielding of noise provided by structures between the receiver and the proposed travel lanes. Contours were generally developed for portions of the project that are located away from significant ground features such as existing noise barriers. Within the project corridor, the distance between the proposed edge of the outside travel lane and the contour at various locations are presented in **Table 8.1**. To minimize the potential for incompatible land use, noise sensitive land uses should be located beyond this distance.



Table 8.1
Design Year (2040) Noise Impact Contour Distances

Location	Distance From Proposed Nearest Travel Lane to Noise Contour Line (Feet)	
	71 dB(A) – Activity Category E	66 dB(A) – Activity Category B/C
Between Andrews Avenue and Cypress Creek Road. Generally at-grade. Station 656+00. West Side.	180	370
Between McNab Road and SW 3 rd Street. Generally at-grade. Station 749+00. Both Sides.	305	520
Between Copans Road and Sample Road. Generally at-grade. Station 908+00. West Side.	265	480
Between Hillsboro Boulevard and Palmetto Park Road. Mainline lanes above-grade. Station 1210. West Side	90	285



9.0 REFERENCES

Florida Department of Transportation, "*Project Development and Environment Manual, Part 2, Chapter 17*", May 24 2011.

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.

Federal Highway Administration Report FHWA-HEP-10-025, "*Highway Traffic Noise: Analysis and Abatement Guidance*", June 2010 (revised December, 2010); 76 pages.

Florida Statute 335.17, "*State highway construction; means of noise abatement*". 1989; 1 page.

Florida Department of Transportation Policy, "*Noise Abatement*". Topic 000-360-005-f; Effective September 20, 2007; 1 page.

Federal Highway Administration Report Number FHWA-PD-96-046, "*Measurement of Highway-Related Noise*". Cynthia S.Y. Lee and Gregg Fleming; May, 1996; 206 pages.

Florida Department of Transportation, "*Standard Specifications for Road and Bridge Construction*". 2010; 996 pages.

Federal Highway Administration Report FHWA-HEP-06-015, "*FHWA Highway Construction Noise Handbook: Final Report*". August 2006; 185 pages.



Appendix A

Noise Receptor and Noise Barrier Location Maps



Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



Florida Department of Transportation, District IV
3400 West Commercial Boulevard
Fort Lauderdale, Florida 33309



State Road 9/Interstate 95
Project Development and Environment Study
From North of Oakland Park Boulevard (SR 816) to South of
Glades Road (SR 808) in Broward and Palm Beach Counties

NOISE STUDY REPORT

SHEET NO.

1 of 23



- LEGEND**
- MODELED NOISE RECEPTOR
 - PROPOSED ALTERNATIVE
 - RECOMMENDED NOISE BARRIER
 - FIELD MEASUREMENT SITE
 - EXISTING NOISE BARRIER
 - EXISTING NOISE BARRIER TO BE REPLACED IN KIND

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



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NOISE STUDY REPORT

SHEET NO.
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0 100 200 400
Feet



LEGEND

-  MODELED NOISE RECEPTOR
-  FIELD MEASUREMENT SITE
-  PROPOSED ALTERNATIVE
-  EXISTING NOISE BARRIER
-  RECOMMENDED NOISE BARRIER



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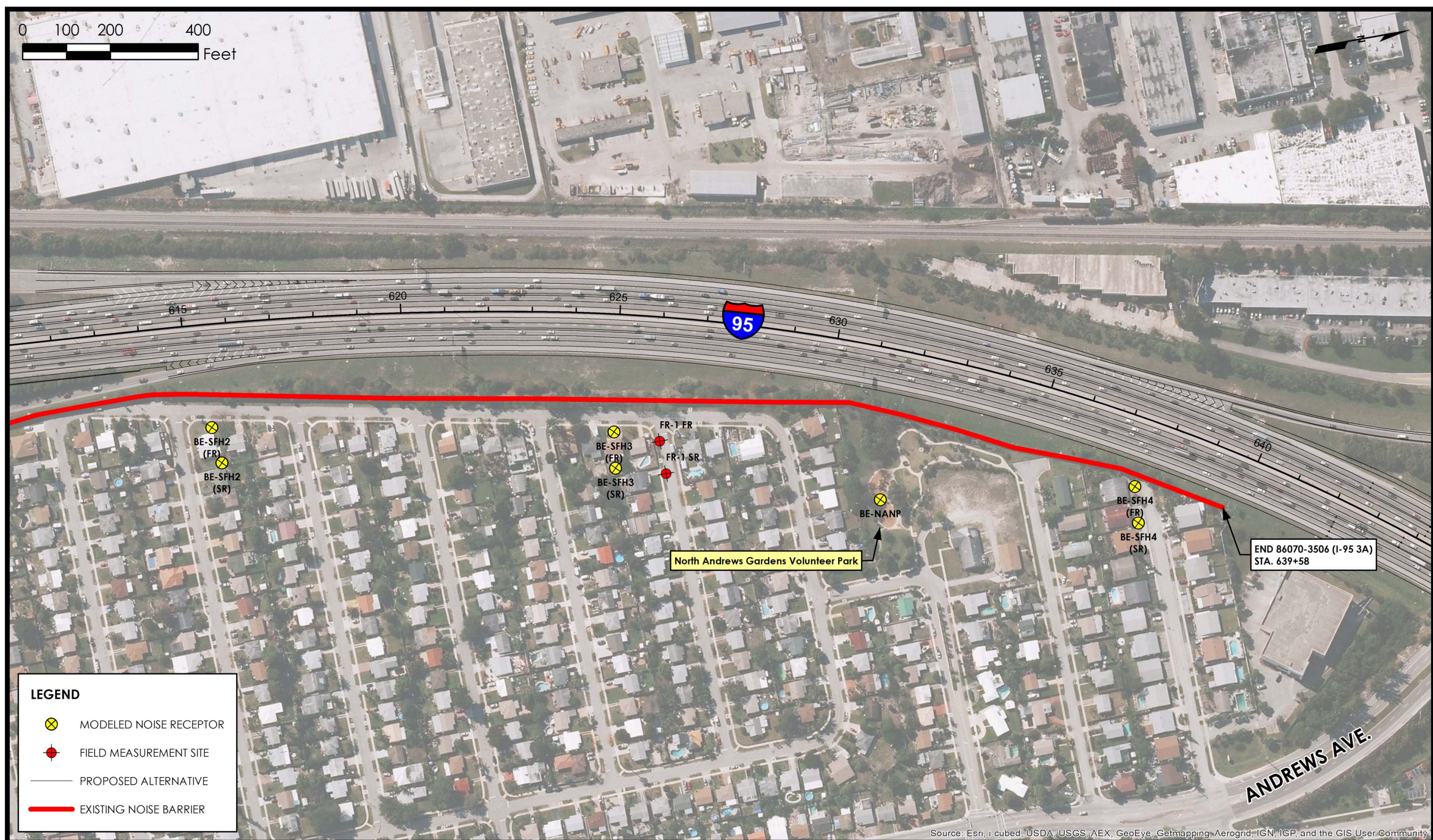


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NOISE STUDY REPORT

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LEGEND

- MODELED NOISE RECEPTOR
- FIELD MEASUREMENT SITE
- PROPOSED ALTERNATIVE
- EXISTING NOISE BARRIER

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



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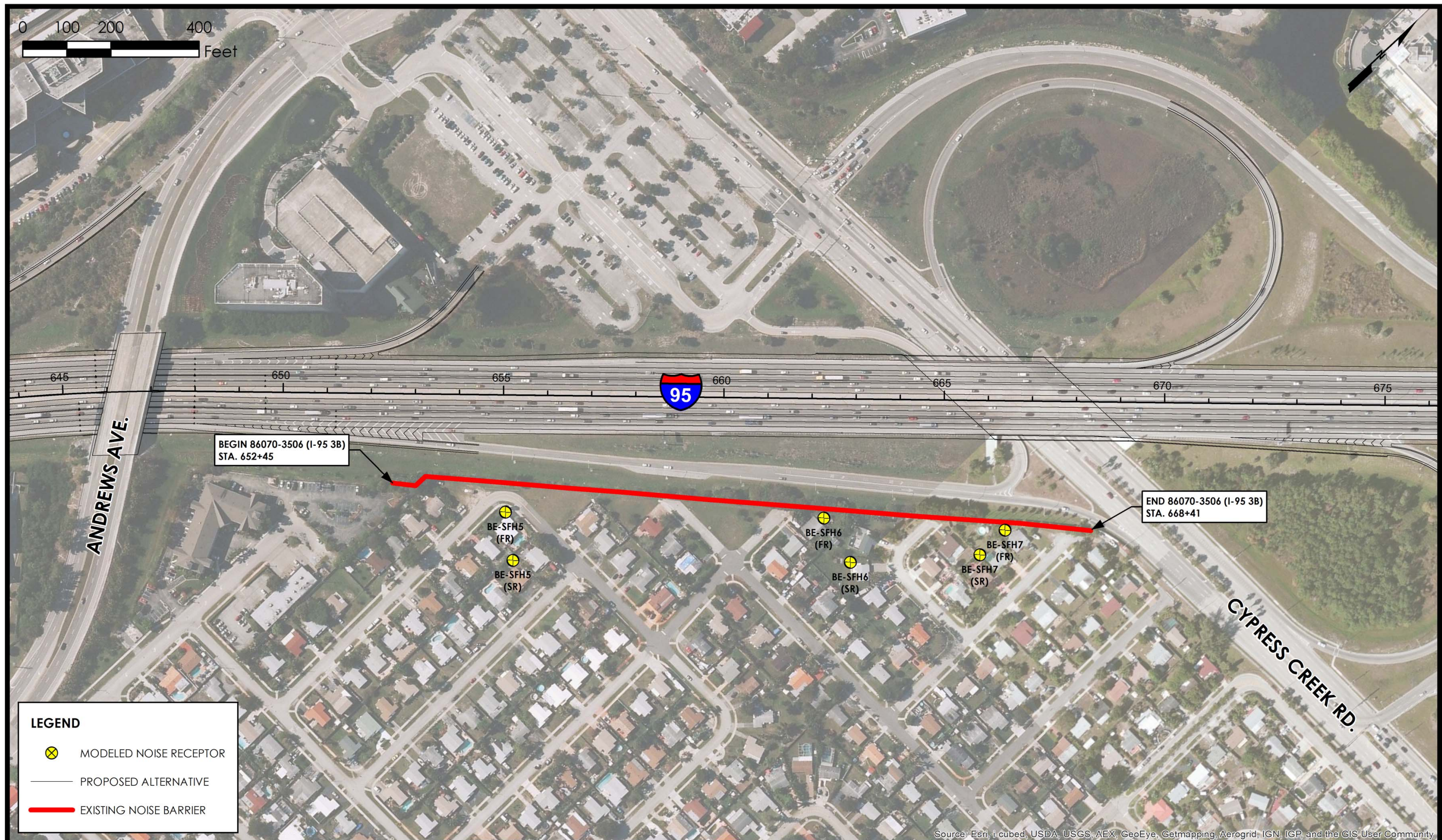


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SHEET NO.

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0 100 200 400 Feet



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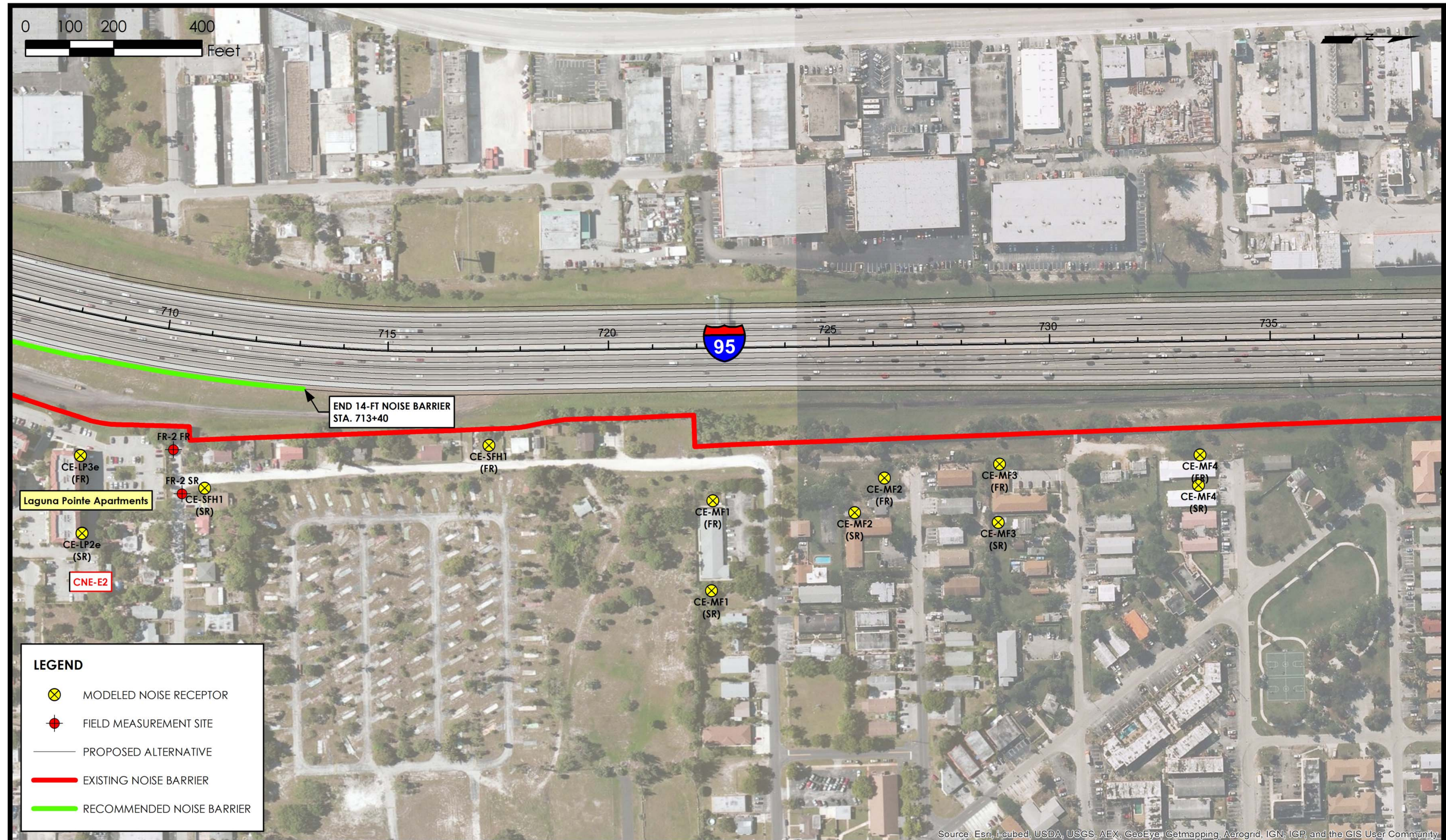
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NOISE STUDY REPORT

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0 100 200 400
Feet



Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



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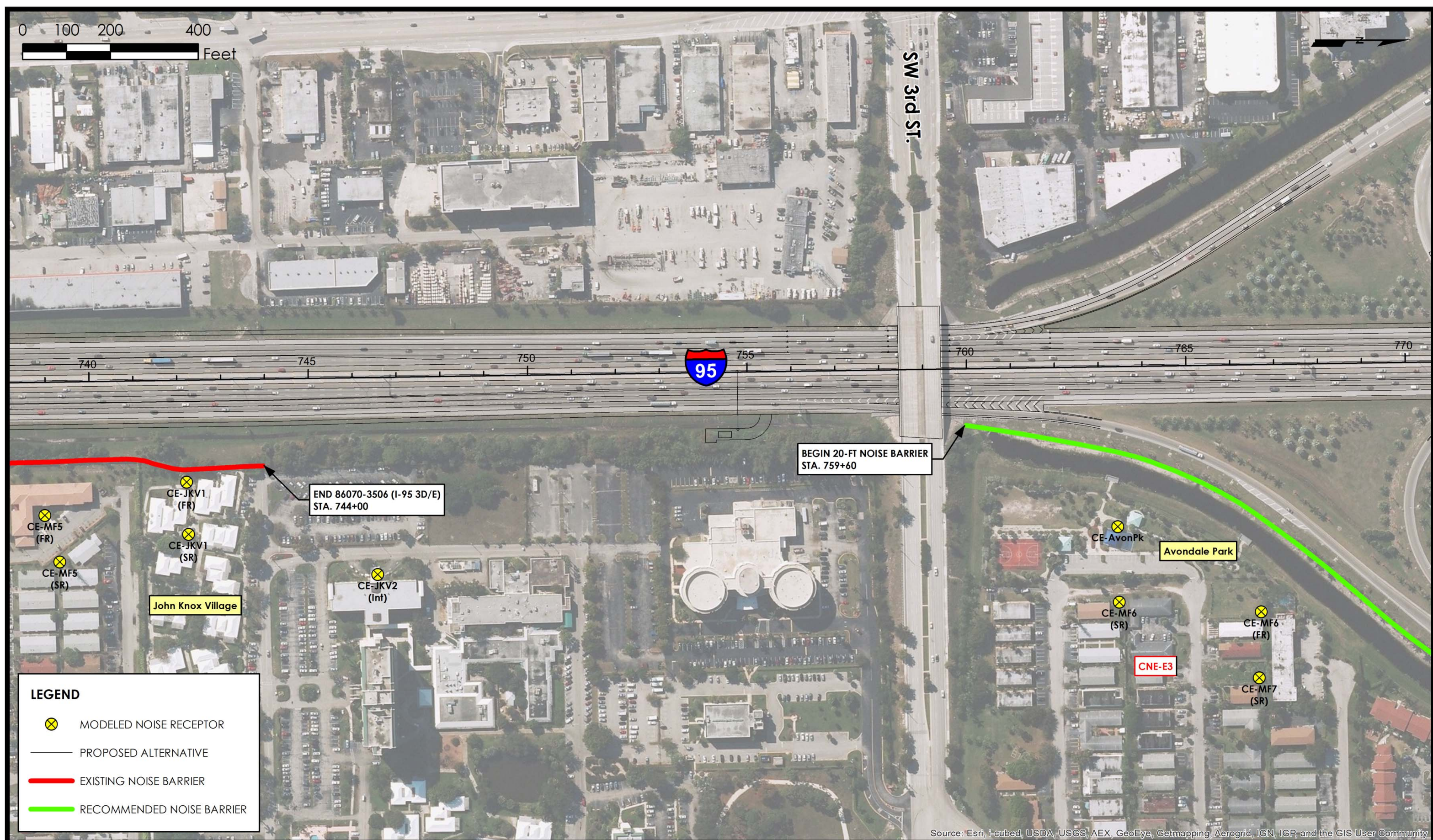


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NOISE STUDY REPORT

SHEET NO.

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LEGEND

- MODELED NOISE RECEPTOR
- PROPOSED ALTERNATIVE
- EXISTING NOISE BARRIER
- RECOMMENDED NOISE BARRIER

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



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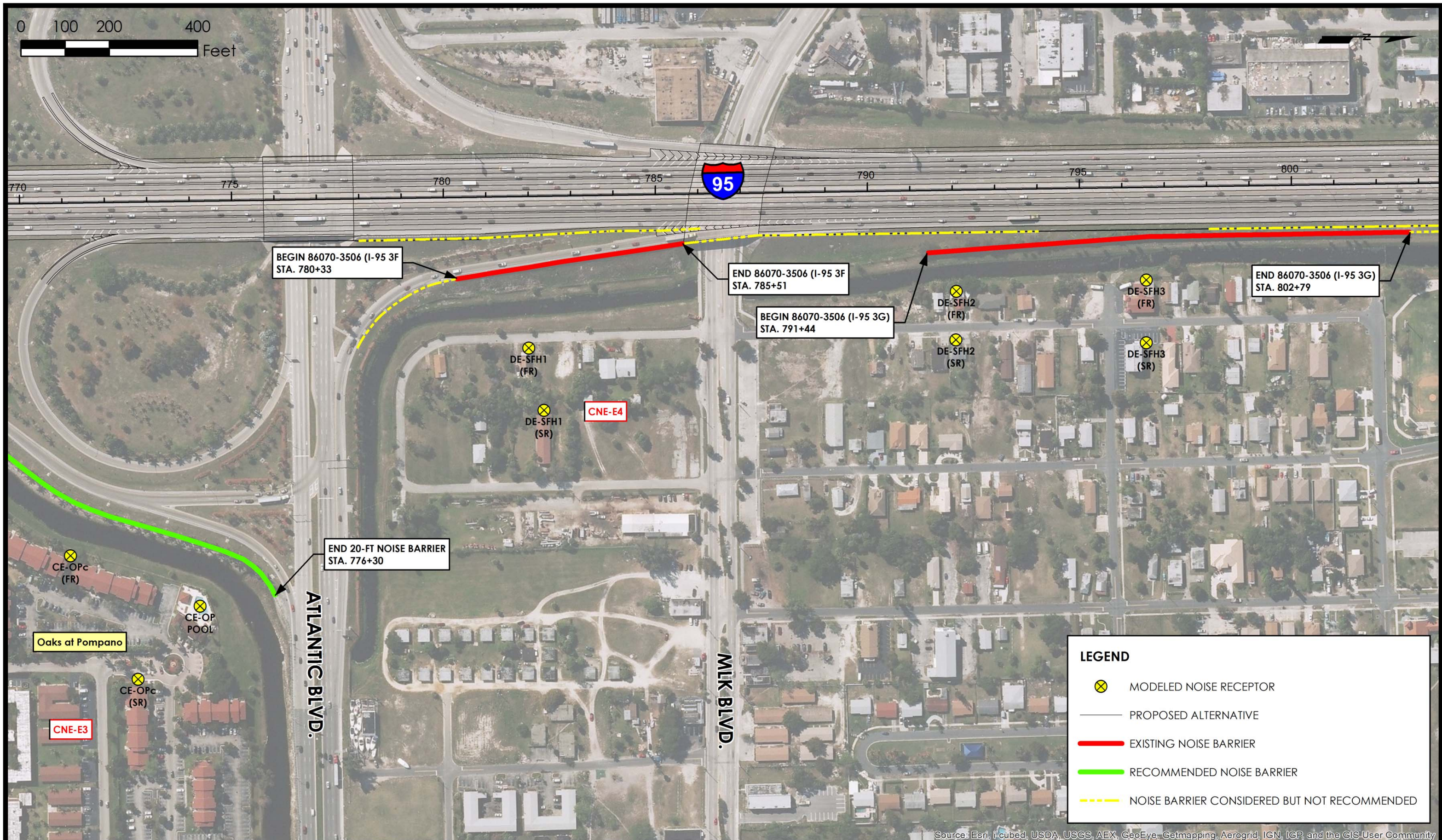


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Glades Road (SR 808) in Broward and Palm Beach Counties

NOISE STUDY REPORT

SHEET NO.
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0 100 200 400
Feet



Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, ICP, and the GIS User Community



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NOISE STUDY REPORT

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0 100 200 400
Feet



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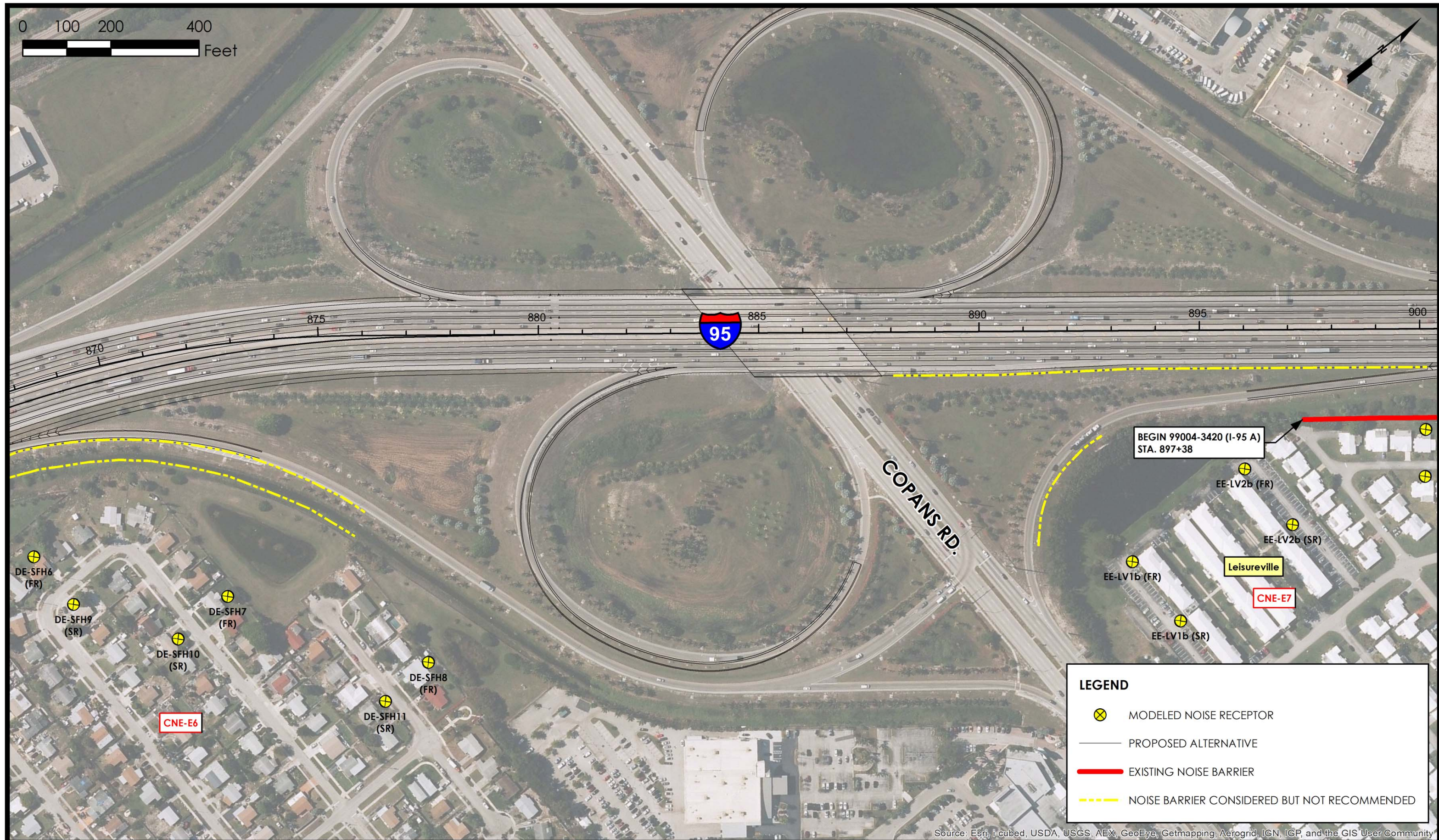
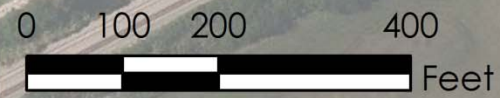


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NOISE STUDY REPORT

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Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



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LEGEND

- MODELED NOISE RECEPTOR
- FIELD MEASUREMENT SITE
- PROPOSED ALTERNATIVE
- EXISTING NOISE BARRIER
- RECOMMENDED NOISE BARRIER

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



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0 100 200 400 Feet

Spring Lake

FW-SL1 (SR)
FW-SL1 (FR)

FW-SL2 (SR)
FW-SL2 (FR)

FW-LI (SR)

FW-LI (FR)

Moran Family Center /
Women in Distress Shelter

FW-MFC

970

975

980

95

985

990

995

END 99004-3420 (I-95 D)
STA. 978+00

BEGIN 99004-3420 (I-95 D)
STA. 983+59

FE-TES

FE-SFH1 (FR)

FE-SFH1 (SR)

CNE-E8

FR-4 FR
FR-4 SR

FE-PUMC

FE-SFH2 (FR)

FE-SFH2 (SR)

Tedder Elementary School

Parkway United Methodist Church

FE-SFH3 (FR)

FE-SFH3 (SR)

LEGEND

- MODELED NOISE RECEPTOR
- FIELD MEASUREMENT SITE
- PROPOSED ALTERNATIVE
- EXISTING NOISE BARRIER
- RECOMMENDED NOISE BARRIER

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



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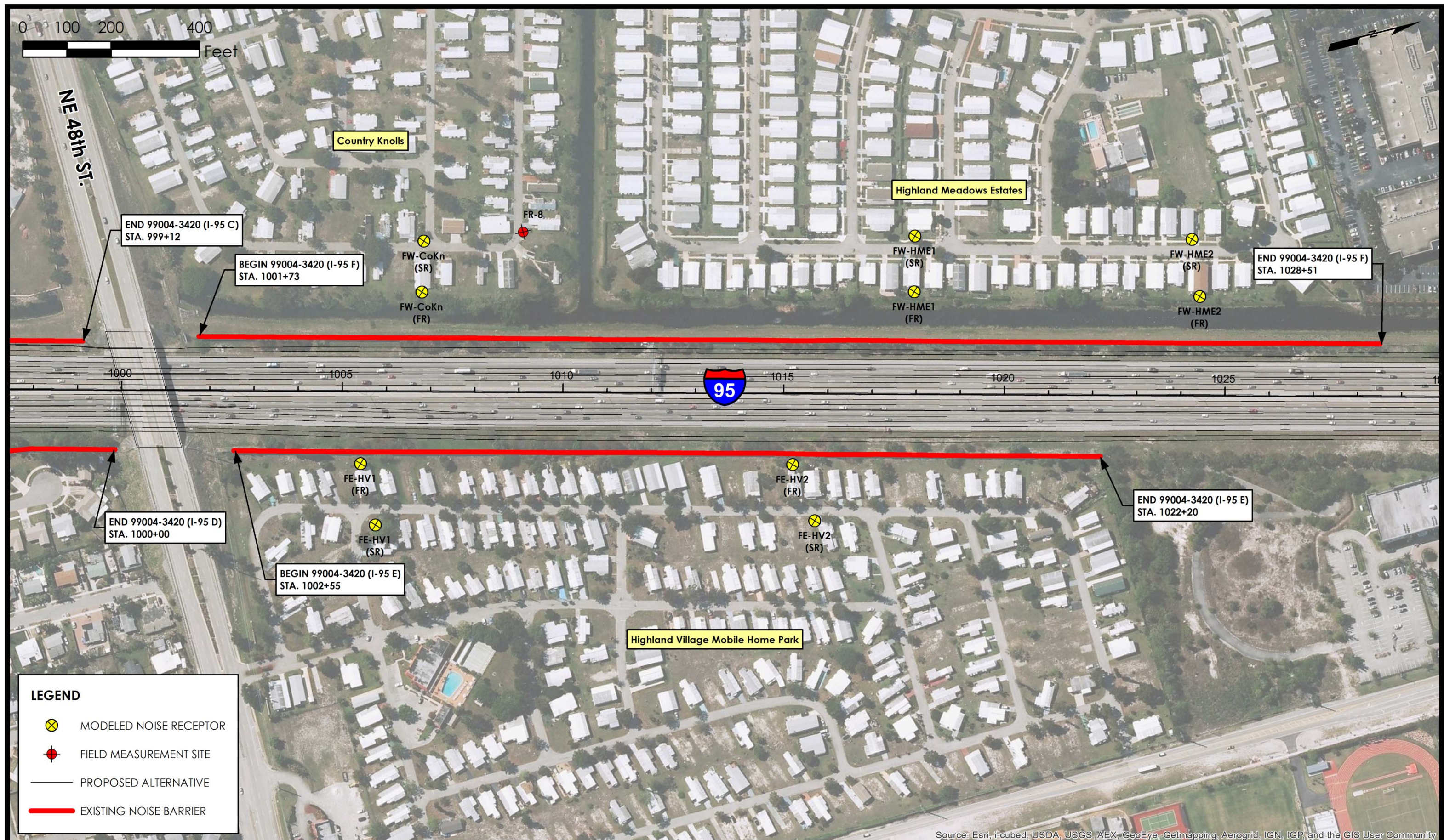


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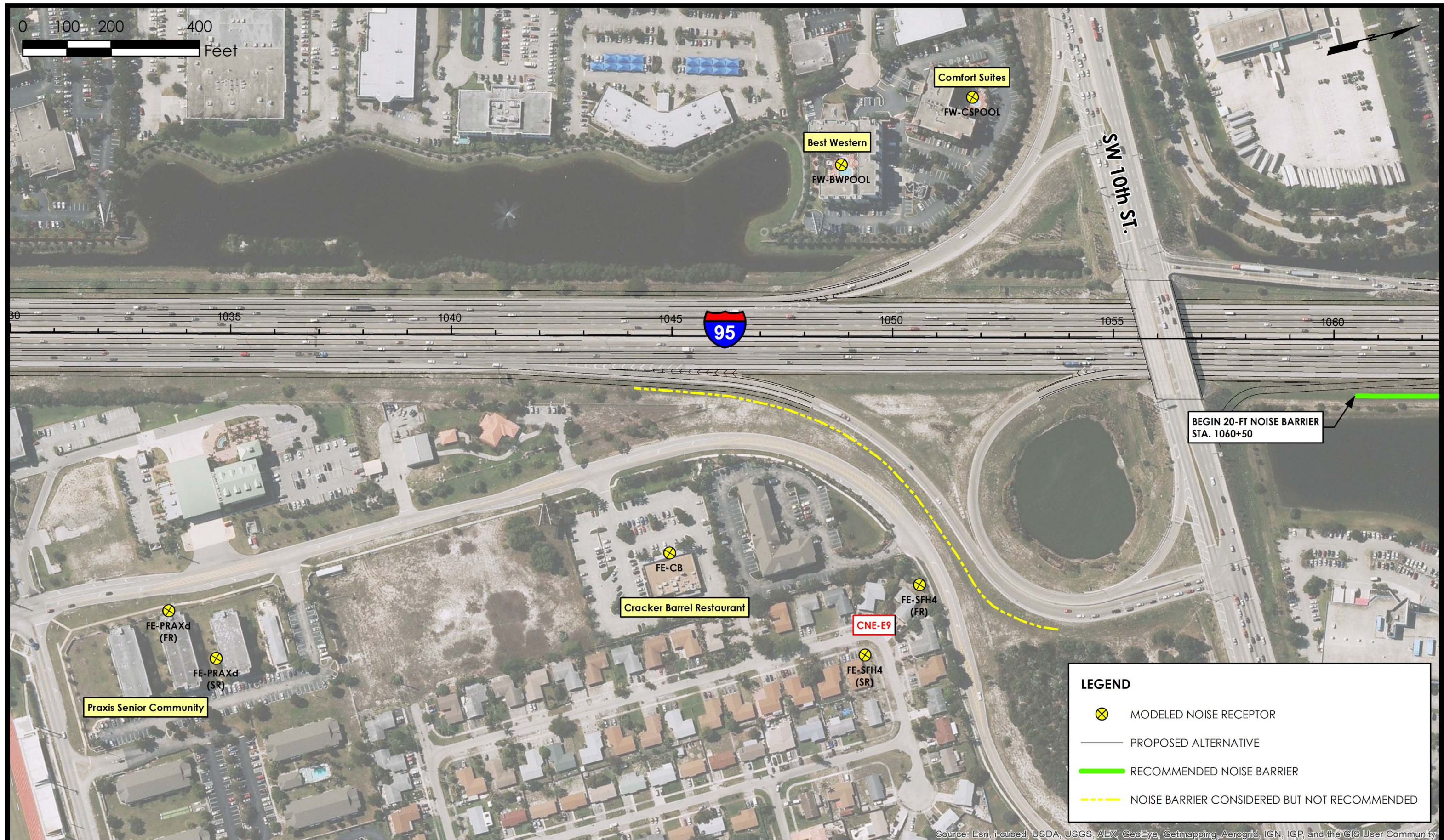


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0 100 200 400 Feet



LEGEND

-  MODELED NOISE RECEPTOR
-  PROPOSED ALTERNATIVE
-  RECOMMENDED NOISE BARRIER

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



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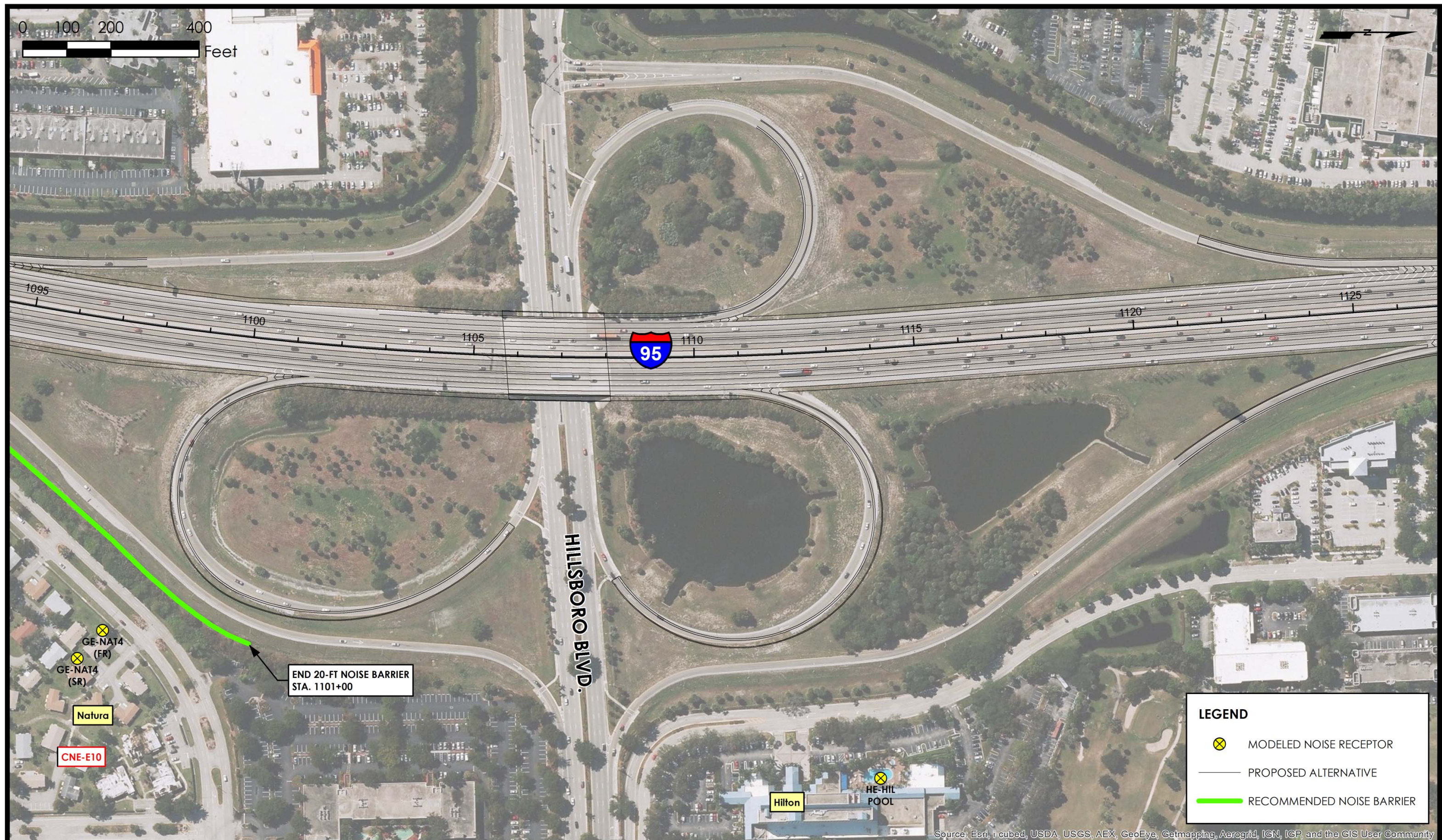


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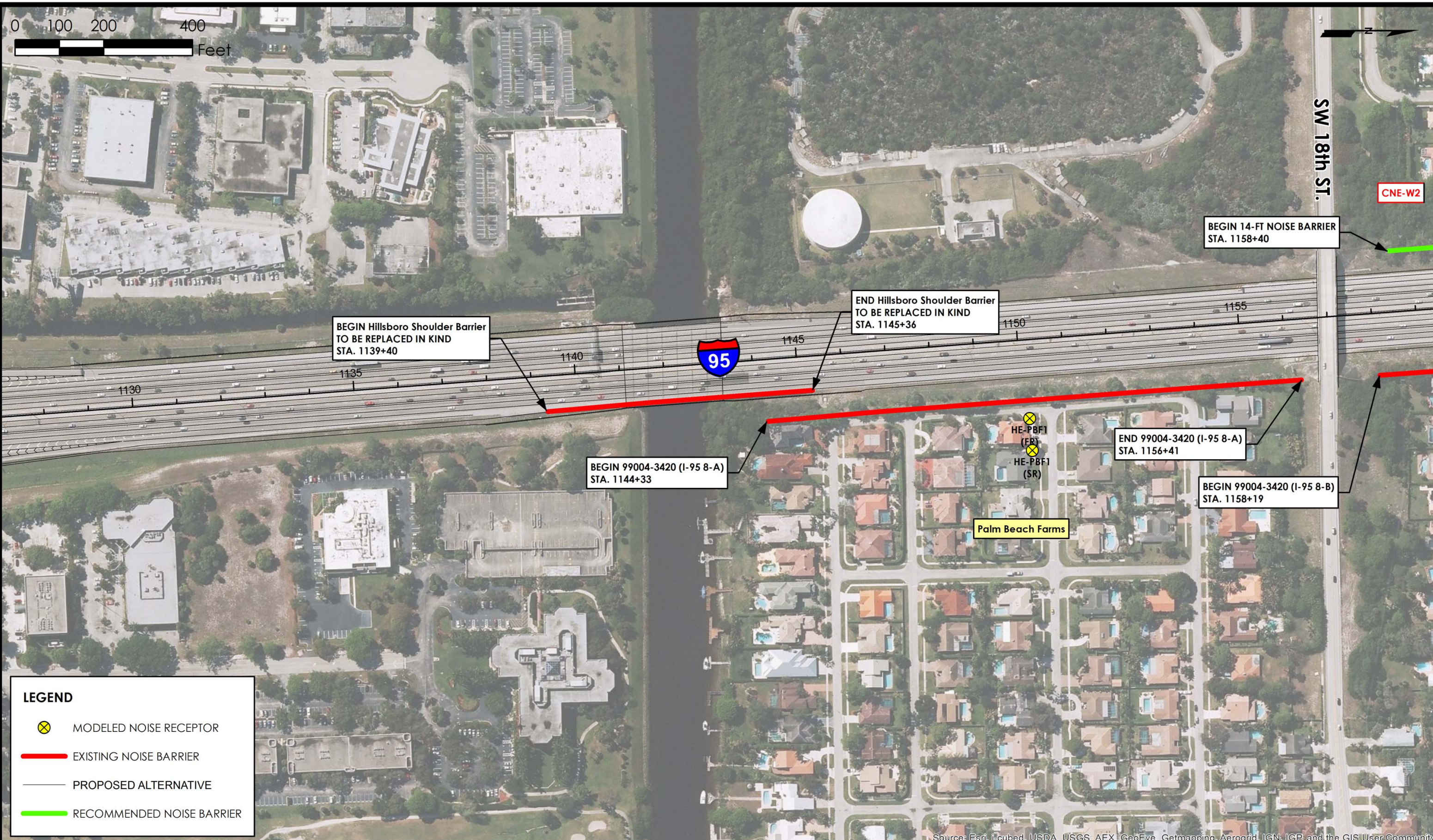


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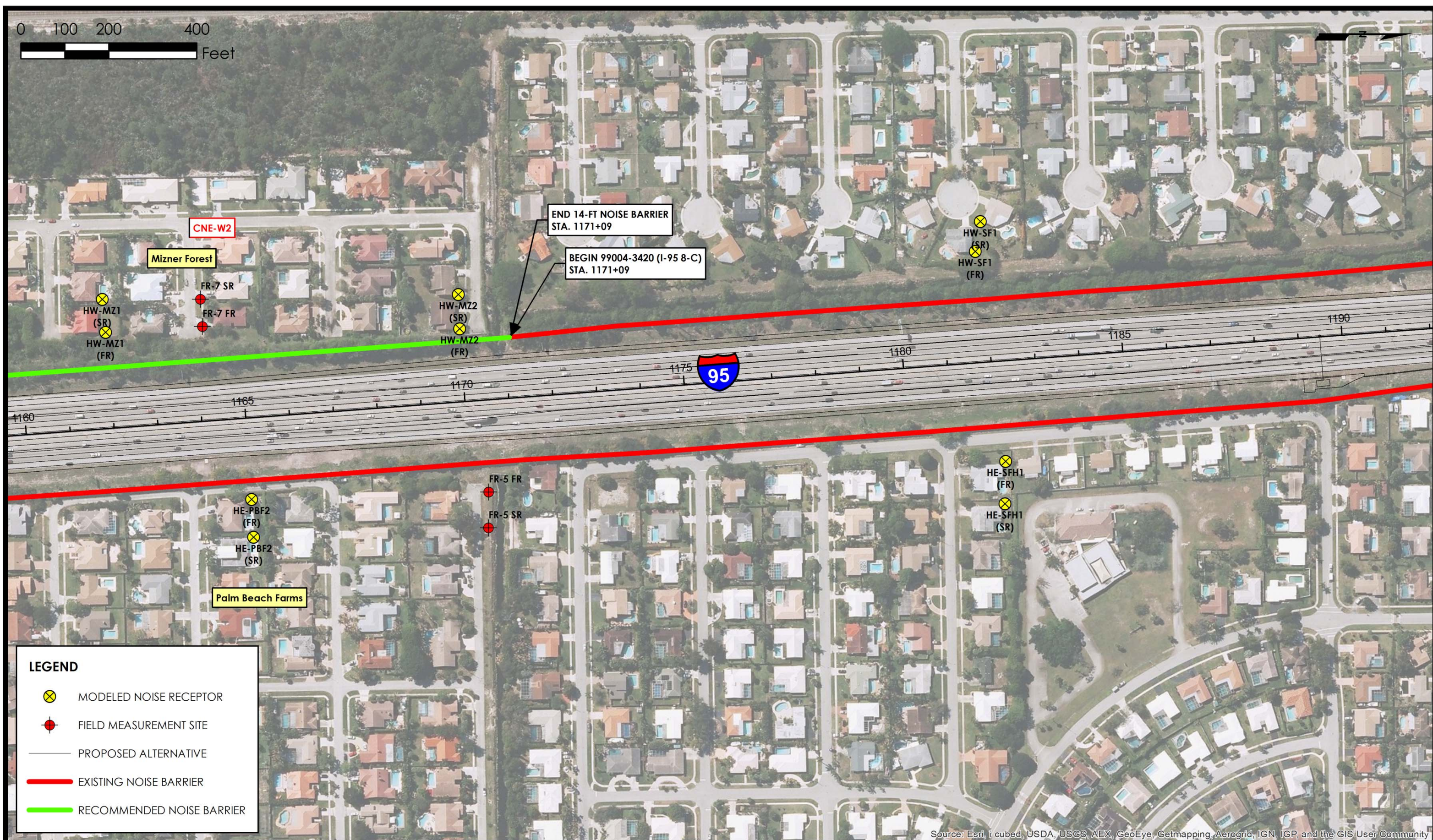
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LEGEND

- MODELED NOISE RECEPTOR
- FIELD MEASUREMENT SITE
- PROPOSED ALTERNATIVE
- EXISTING NOISE BARRIER
- RECOMMENDED NOISE BARRIER

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, AeroGrid, IGN, IGP, and the GIS User Community



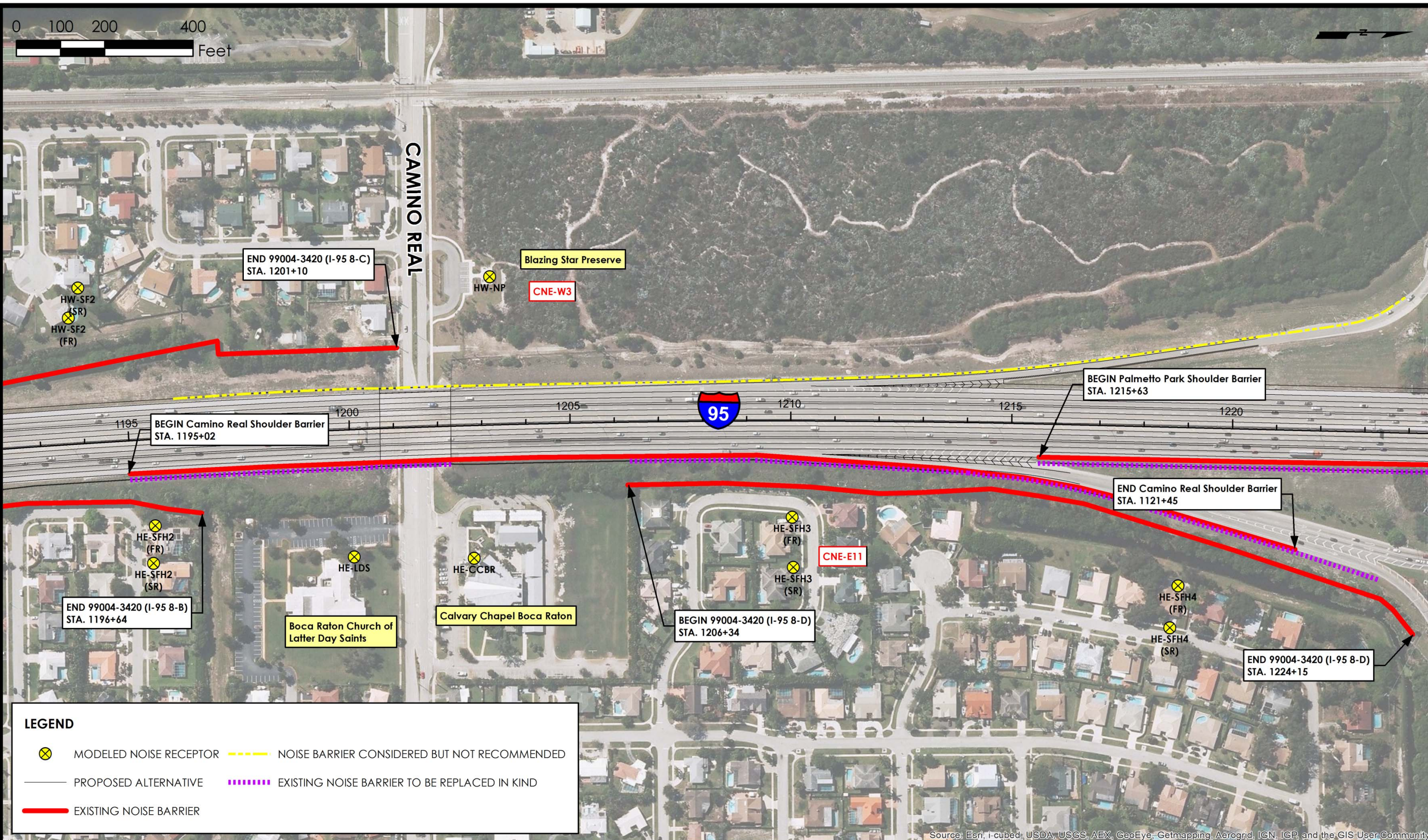
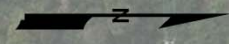
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LEGEND

- MODELED NOISE RECEPTOR
- NOISE BARRIER CONSIDERED BUT NOT RECOMMENDED
- PROPOSED ALTERNATIVE
- EXISTING NOISE BARRIER TO BE REPLACED IN KIND
- EXISTING NOISE BARRIER

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, ICP, and the GIS User Community



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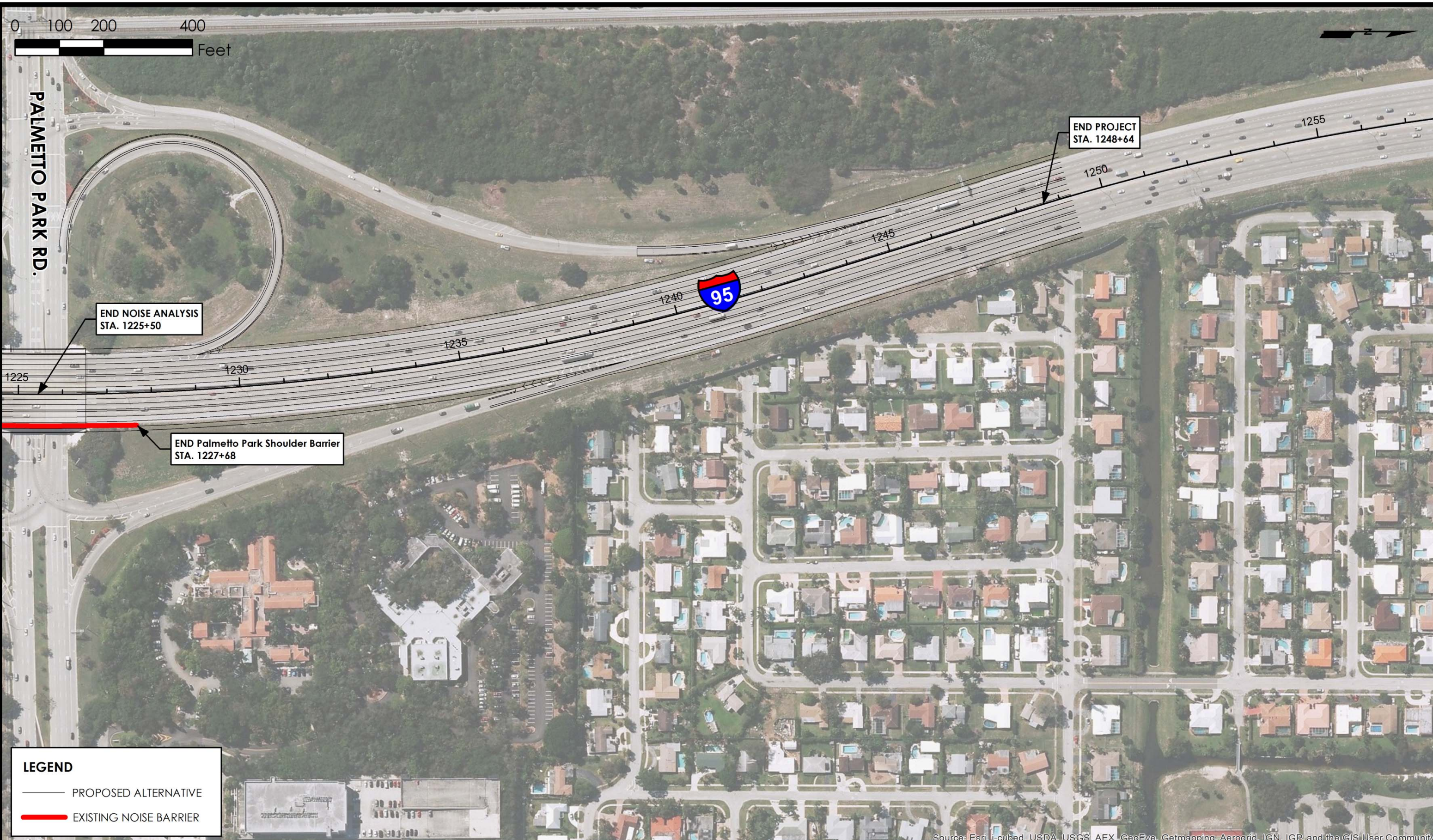


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NOISE STUDY REPORT

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Appendix B

TNM Traffic Data

Traffic Data Used in TNM Model			
Roadway Link	Existing (Hourly Volume)	Design Year No-Build (Hourly Volume)	Design Year Build (Hourly Volume)
Mainline Segments			
I-95 - General Use Lanes Only Oakland Park Boulevard to West Hillsboro Boulevard	6,080	6,080	4,580
I-95 - Auxiliary Lanes Only Oakland Park Boulevard to West Hillsboro Boulevard	1,000	1,000	1,000
I-95 Express Lane Only Oakland Park Boulevard to West Hillsboro Boulevard	N/A	N/A	3,320
I-95 - General Use Lanes Only West Hillsboro Boulevard to W Palmetto Park Road	6,080	6,080	4,580
I-95 - Auxiliary Lanes Only West Hillsboro Boulevard to W Palmetto Park Road	1,000	1,000	1,000
I-95 Express Lane Only West Hillsboro Boulevard to W Palmetto Park Road	N/A	N/A	3,320
Access Ramps			
West Commercial Boulevard Ramps All	1,340	1,340	1,340
East Cypress Creek Road Ramps All but SB Off-Ramp	1,340	1,340	1,340
East Cypress Creek Road Ramps SB Off-Ramp	2,680	2,680	2,680
West Atlantic Boulevard Ramps All	1,340	1,340	1,340
West Copans Road Ramps All	1,340	1,340	1,340
West Sample Road Ramps All	1,340	1,340	1,340
SW 10th Street Ramps All	1,340	1,340	1,340
West Hillsboro Boulevard Ramps All	1,340	1,340	1,340
West Palmetto Park Road Ramps All	1,340	1,340	1,340

Notes:
LOS C data from FDOT's Traffic tables for Generalized Peak Hour One-Way Volumes for Florida's Urbanized Areas

Traffic Data Used in TNM Model (Continued)			
Roadway Link	Existing (Hourly Volume)	Design Year No-Build (Hourly Volume)	Design Year Build (Hourly Volume)
Cross Streets/Arterials			
SR 845/Powerline Road All State Signalized Arterial-Class I Exclusive LTL, No Exclusive RTL	3,087	3087	3087
West Prospect Road All Non-State Signalized Arterial-Class II Non-State, Exclusive LTL, No Exclusive RTL	1,112	1112	1112
SR 870/West Commercial Boulevard All State Signalized Arterial-Class I Exclusive LTL, No Exclusive RTL	3,087	3087	3087
North Andrews Avenue All Non-State Signalized Arterial-Class II Non-State, Exclusive LTL, No Exclusive RTL	840	840	840
East Cypress Creek Road All Non-State Signalized Arterial-Class I Non-State, Exclusive LTL, No Exclusive RTL	2,793	2793	2793
West McNabb Road All Non-State Signalized Arterial-Class I Non-State, Exclusive LTL, No Exclusive RTL	2,793	2793	2793
SW 3rd Street/Racetrack Road All Non-State Signalized Arterial-Class I Non-State, Exclusive LTL, No Exclusive RTL	2,793	2793	2793
SR 814/West Atlantic Boulevard All State Signalized Arterial-Class I Exclusive LTL, No Exclusive RTL	3,087	3087	3087
Dr. Martin Luther King Boulevard All Non-State Signalized Arterial-Class II Non-State, Exclusive LTL, No Exclusive RTL	840	840	840
NW 15th Street All Non-State Signalized Arterial-Class II Non-State, Exclusive LTL, No Exclusive RTL	259	259	259
West Copans Road All Non-State Signalized Arterial-Class I Non-State, Exclusive LTL, No Exclusive RTL	2,793	2793	2793
SR 834/West Sample Road All State Signalized Arterial-Class I Exclusive LTL, No Exclusive RTL	3,087	3087	3087
NW 48th Street All Non-State Signalized Arterial-Class II Non-State, Exclusive LTL, No Exclusive RTL	1,815	1815	1815
SR 869/SW 10th Street All State Signalized Arterial-Class I Exclusive LTL, No Exclusive RTL	3,087	3087	3087
SR 810/West Hillsboro Boulevard All State Signalized Arterial-Class I Exclusive LTL, No Exclusive RTL	3,087	3087	3087
SW 18th Street All Non-State Signalized Arterial-Class II Non-State, Exclusive LTL, No Exclusive RTL	259	259	259
West Camino Real All Non-State Signalized Arterial-Class II Non-State, Exclusive LTL, No Exclusive RTL	694	694	694
West Palmetto Park Road All Non-State Signalized Arterial-Class I Non-State, Exclusive LTL, No Exclusive RTL	2,793	2793	2793

Notes:

LOS C data from FDOT's Traffic tables for Generalized Peak Hour One-Way Volumes for Florida's Urbanized Areas



Appendix C

Traffic Noise Model Results

Residential Receptors							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build Alt Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Oakland Park Blvd. to Commercial Blvd.							
AE-MFH1 (FR)	8	68.4	68.4	0.0	68.2	-0.2	8
AE-SFH1 (FR)	8	68.8	68.8	0.0	69.1	0.3	8
AE-SFH2 (FR)	14	64.1	64.1	0.0	66.9	2.8	14
AE-SFH3 (FR)	4	63.2	63.2	0.0	66.7	3.5	4
AE-SFH4 (FR)	9	63.7	63.7	0.0	67.9	4.2	9
AE-SFH5 (FR)	5	64.1	64.1	0.0	68.3	4.2	5
AE-SFH1 (SR)	12	64.0	64.0	0.0	64.7	0.7	
AE-SFH2 (SR)	8	60.0	60.0	0.0	63.5	3.5	
AE-SFH3 (SR)	4	61.9	61.9	0.0	65.2	3.3	
AE-SFH4 (SR)	9	61.3	61.3	0.0	66.5	5.2	9
AE-SFH5 (SR)	5	61.1	61.1	0.0	63.4	2.3	
AE-SFH6 (SR)	4	61.0	61.0	0.0	61.2	0.2	
Sum	90						57
Minimum		60.0	60.0	0.0	61.2	-0.2	
Maximum		68.8	68.8	0.0	69.1	5.2	
Average		63.5	63.5	0.0	66.0	2.5	
Residential Receptors							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build Alt Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Commercial Blvd. to Cypress Creek Rd.							
BE-SFH1 (FR)	4	61.3	61.3	0.0	60.7	-0.6	
BE-SFH2 (FR)	10	62.8	62.8	0.0	63.8	1.0	
BE-SFH3 (FR)	12	62.9	62.9	0.0	63.9	1.0	
BE-SFH4 (FR)	4	64.1	64.1	0.0	65.4	1.3	
BE-SFH5 (FR)	4	62.9	62.9	0.0	64.0	1.1	
BE-SFH6 (FR)	4	58.6	58.6	0.0	59.4	0.8	
BE-SFH7 (FR)	4	60.0	60.0	0.0	60.6	0.6	
BE-SFH1 (SR)	4	60.8	60.8	0.0	60.2	-0.6	
BE-SFH2 (SR)	6	58.9	58.9	0.0	59.7	0.8	
BE-SFH3 (SR)	7	58.5	58.5	0.0	59.3	0.8	
BE-SFH4 (SR)	3	62.6	62.6	0.0	64.0	1.4	
BE-SFH5 (SR)	3	60.6	60.6	0.0	61.7	1.1	
BE-SFH6 (SR)	3	60.9	60.9	0.0	61.8	0.9	
BE-SFH7 (SR)	3	62.1	62.1	0.0	63.5	1.4	
Sum	71						0
Minimum		58.5	58.5	0.0	59.3	-0.6	
Maximum		64.1	64.1	0.0	65.4	1.4	
Average		61.2	61.2	0.0	62.0	0.8	
Residential Receptors							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build Alt Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Cypress Creek Rd. to Atlantic Blvd.							
CE-HV1 (FR)	4	63.7	63.7	0.0	64.6	0.9	
CE-IP1a (FR)	4	67.6	67.6	0.0	67.1	-0.5	4
CE-IP1b (FR)	4	70.5	70.5	0.0	69.9	-0.6	4
CE-IP1c (FR)	4	73.0	73.0	0.0	72.0	-1.0	4
CE-IP1d (FR)	4	73.2	73.2	0.0	73.9	0.7	4
CE-IP1e (FR)	4	73.7	73.7	0.0	75.1	1.4	4
CE-IP2a (FR)	5	65.9	65.9	0.0	66.2	0.3	5
CE-IP2b (FR)	5	73.0	73.0	0.0	72.1	-0.9	5
CE-IP2c (FR)	5	73.9	73.9	0.0	74.0	0.1	5
CE-IP2d (FR)	5	74.3	74.3	0.0	75.7	1.4	5
CE-IP2e (FR)	5	74.8	74.8	0.0	76.1	1.3	5
CE-IP3 (FR)	3	63.4	63.4	0.0	64.2	0.8	
CE-IP3b (FR)	3	71.4	71.4	0.0	71.9	0.5	3
CE-IP3c (FR)	3	72.4	72.4	0.0	73.5	1.1	3
CE-IP3d (FR)	3	73.0	73.0	0.0	74.4	1.4	3
CE-IP3e (FR)	3	73.4	73.4	0.0	74.7	1.3	3
CE-SFH1 (FR)	7	61.9	61.9	0.0	63.4	1.5	
CE-MF1 (FR)	5	62.1	62.1	0.0	63.5	1.4	
CE-MF2 (FR)	2	61.9	61.9	0.0	63.3	1.4	
CE-MF3 (FR)	6	62.2	62.2	0.0	63.6	1.4	
CE-MF4 (FR)	7	62.5	62.5	0.0	64.0	1.5	
CE-MF5 (FR)	10	52.4	52.4	0.0	53.6	1.2	
CE-JKV1 (FR)	4	61.7	61.7	0.0	63.3	1.6	
CE-JKV2 (Int)	24	42.0	42.0	0.0	44.1	0.0	
CE-MF6 (FR)	10	66.1	66.1	0.0	67.7	1.6	10
CE-OPa (FR)	8	64.1	64.1	0.0	64.9	0.8	
CE-OPb (FR)	8	66.8	66.8	0.0	67.6	0.8	8
CE-OPc (FR)	4	67.6	67.6	0.0	68.4	0.8	4
CE-HV1 (SR)	4	60.2	60.2	0.0	61.3	1.1	
CE-IP1a (SR)	5	56.1	56.1	0.0	56.2	0.1	
CE-IP1b (SR)	5	58.1	58.1	0.0	58.1	0.0	
CE-IP1c (SR)	5	59.2	59.2	0.0	59.2	0.0	
CE-IP1d (SR)	5	59.7	59.7	0.0	59.8	0.1	
CE-IP1e (SR)	25	60.0	60.0	0.0	60.1	0.1	
CE-IP2a (SR)	2	61.4	61.4	0.0	62.5	1.1	
CE-IP2b (SR)	2	65.1	65.1	0.0	66.1	1.0	2
CE-IP2c (SR)	2	66.9	66.9	0.0	68.0	1.1	2
CE-IP2d (SR)	2	68.4	68.4	0.0	69.6	1.2	2
CE-IP2e (SR)	2	69.3	69.3	0.0	70.6	1.3	2
CE-SFH1 (SR)	1	63.1	63.1	0.0	63.9	0.8	
CE-MF1 (SR)	3	57.9	57.9	0.0	59.0	1.1	
CE-MF2 (SR)	8	60.7	60.7	0.0	61.9	1.2	
CE-MF3 (SR)	3	56.7	56.7	0.0	57.3	0.6	
CE-MF4 (SR)	7	57.5	57.5	0.0	58.1	0.6	
CE-MF5 (SR)	8	56.7	56.7	0.0	57.9	1.2	
CE-JKV1 (SR)	4	60.9	60.9	0.0	61.8	0.9	
CE-MF6 (SR)	9	66.3	66.3	0.0	67.8	1.5	9
CE-MF7 (SR)	9	55.3	55.3	0.0	56.4	1.1	
CE-OPa (SR)	8	61.3	61.3	0.0	61.8	0.5	
CE-OPb (SR)	8	63.4	63.4	0.0	63.8	0.4	
CE-OPc (SR)	4	64.2	64.2	0.0	64.6	0.4	
Sum	290						96
Minimum		42.0	42.0	0.0	44.1	-1.0	
Maximum		74.8	74.8	0.0	76.1	1.6	
Average		64.3	64.3	0.0	65.1	0.8	

Special Use Sites							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build Alt Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Oakland Park Blvd. to Commercial Blvd.							
AE-IPChurch (Int)	1	50.8	50.8	0.0	51.8	1.0	1
AE-NAGP	1	60.2	60.2	0.0	60.6	0.4	
AW-OPBP (FR)	1	64.5	64.5	0.0	65.7	1.2	
AW-OPBP (SR)	1	63.1	63.1	0.0	63.3	0.2	
Sum	3						1
Minimum		50.8	50.8	0.0	51.8	0.2	
Maximum		64.5	64.5	0.0	65.7	1.2	
Average		59.7	59.7	0.0	60.4	0.7	
Special Use Sites							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build Alt Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Commercial Blvd. to Cypress Creek Rd.							
BE-NANP	1	62.8	62.8	0.0	63.9	1.1	
Sum	1						0
Minimum		62.8	62.8	0.0	63.9	1.1	
Maximum		62.8	62.8	0.0	63.9	1.1	
Average		62.8	62.8	0.0	63.9	1.1	
Special Use Sites							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build Alt Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Cypress Creek Rd. to Atlantic Blvd.							
CE-WEST POOL	1	67.6	67.6	0.0	69.4	1.8	
CE-AvonPk	1	69.8	69.8	0.0	71.4	1.6	1
CE-OP POOL	1	66.3	66.3	0.0	66.6	0.3	1
Sum	3						2
Minimum		66.3	66.3	0.0	66.6	0.3	
Maximum		69.8	69.8	0.0	71.4	1.8	
Average		67.9	67.9	0.0	69.1	1.2	

Residential Receptors							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build Alt Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Atlantic Blvd. to Copans Rd.							
DE-SFH1 (FR)	5	66.2	66.2	0.0	67.1	0.9	5
DE-SFH2 (FR)	5	65.5	65.5	0.0	65.8	0.3	0
DE-SFH3 (FR)	7	63.5	63.5	0.0	64.4	0.9	0
DE-SFH4 (FR)	11	69.3	69.3	0.0	68.8	-0.5	11
DE-SFH5 (FR)	11	73.5	73.5	0.0	71.0	-2.5	11
DE-SFH6 (FR)	8	66.4	66.4	0.0	68.2	1.8	8
DE-SFH7 (FR)	4	64.4	64.4	0.0	65.7	1.3	
DE-SFH8 (FR)	4	63.1	63.1	0.0	64.1	1.0	
DE-SFH1 (SR)	2	64.8	64.8	0.0	65.0	0.2	
DE-SFH2 (SR)	5	63.4	63.4	0.0	63.7	0.3	
DE-SFH3 (SR)	7	59.9	59.9	0.0	60.9	1.0	
DE-MF1a (SR)	32	61.2	61.2	0.0	60.4	-0.8	
DE-MF1b (SR)	32	66.0	66.0	0.0	65.5	-0.5	
DE-SFH4 (SR)	8	62.5	62.5	0.0	62.4	-0.1	
DE-SFH5 (SR)	8	62.1	62.1	0.0	62.4	0.3	
DE-SFH6 (SR)	4	63.4	63.4	0.0	61.2	-2.2	
DE-SFH7 (SR)	12	67.1	67.1	0.0	64.0	-3.1	
DE-SFH8 (SR)	8	67.7	67.7	0.0	65.4	-2.3	
DE-SFH9 (SR)	6	61.5	61.5	0.0	62.8	1.3	
DE-SFH10 (SR)	4	60.8	60.8	0.0	61.8	1.0	
DE-SFH11 (SR)	4	59.4	59.4	0.0	60.2	0.8	
Sum	187						35
Minimum		59.4	59.4	0.0	60.2	-3.1	
Maximum		73.5	73.5	0.0	71.0	1.8	
Average		64.4	64.4	0.0	64.3	0.0	
Residential Receptors							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build Alt Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Copans Rd. to Sample Rd.							
EE-LV1a (FR)	14	67.6	67.6	0.0	67.8	0.2	14
EE-LV1b (FR)	14	69.3	69.3	0.0	69.8	0.5	14
EE-LV2a (FR)	14	63.0	63.0	0.0	64.0	1.0	
EE-LV2b (FR)	14	69.3	69.3	0.0	70.3	1.0	14
EE-LV3 (FR)	11	60.9	60.9	0.0	61.7	0.8	
EE-LV4 (FR)	14	61.3	61.3	0.0	62.1	0.8	
EE-LV5 (FR)	24	62.4	62.4	0.0	63.1	0.7	
EE-LV6 (FR)	8	63.2	63.2	0.0	63.9	0.7	
EE-LV7 (FR)	7	59.3	59.3	0.0	59.9	0.6	
EE-TP (FR)	17	59.7	59.7	0.0	60.3	0.6	
EE-MF1 (FR)	9	56.0	56.0	0.0	57.0	1.0	
EE-MF2 (FR)	18	57.3	57.3	0.0	58.0	0.7	
EE-LV1a (SR)	14	65.4	65.4	0.0	65.3	-0.1	
EE-LV1b (SR)	14	67.1	67.1	0.0	67.3	0.2	14
EE-LV2a (SR)	14	59.9	59.9	0.0	60.9	1.0	
EE-LV2b (SR)	14	64.4	64.4	0.0	65.4	1.0	
EE-LV3 (SR)	8	58.6	58.6	0.0	60.7	2.1	
EE-LV4 (SR)	11	59.7	59.7	0.0	60.5	0.8	
EE-LV5 (SR)	20	59.9	59.9	0.0	59.8	-0.1	
EE-LV6 (SR)	5	60.4	60.4	0.0	60.7	0.3	
EE-LV7 (SR)	5	61.0	61.0	0.0	60.5	-0.5	
EE-MF1 (SR)	10	55.9	55.9	0.0	56.8	0.9	
EE-MF2 (SR)	6	55.9	55.9	0.0	56.7	0.8	
EW-OG1a (FR)	14	57.0	57.0	0.0	58.1	1.1	
EW-OG1b (FR)	14	59.1	59.1	0.0	60.2	1.1	
EW-OG2a (FR)	11	59.6	59.6	0.0	60.6	1.0	
EW-OG2b (FR)	11	62.2	62.2	0.0	63.4	1.2	
EW-OG3a (FR)	10	70.3	70.3	0.0	71.9	1.6	10
EW-OG3b (FR)	10	74.5	74.5	0.0	75.7	1.2	10
EW-W1a (FR)	24	62.0	62.0	0.0	63.1	1.1	
EW-W1b (FR)	24	69.1	69.1	0.0	70.7	1.6	24
EW-OG1 (SR)	4	66.2	66.2	0.0	67.5	1.3	4
EW-OG2 (SR)	6	62.8	62.8	0.0	63.9	1.1	
EW-OG3 (SR)	8	61.8	61.8	0.0	62.8	1.0	
EW-OG4a (SR)	10	61.5	61.5	0.0	61.7	0.2	
EW-OG4b (SR)	10	64.9	64.9	0.0	66.1	1.2	10
EW-W1a (SR)	18	57.3	57.3	0.0	58.3	1.0	
EW-W1b (SR)	18	59.9	59.9	0.0	60.9	1.0	
Sum	477						114
Minimum		55.9	55.9	0.0	56.7	-0.5	
Maximum		74.5	74.5	0.0	75.7	2.1	
Average		62.3	62.3	0.0	63.1	0.8	

Special Use Sites							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build Alt Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Atlantic Blvd. to Copans Rd.							
DE-MMBB	1	69.4	69.4	0.0	67.3	-2.1	1
DE-MM Pool		64.4	64.4	0.0	65.6	1.2	
DE-BEHSBB		66.1	66.1	0.0	65.6	-0.5	
DE-HW CHURCH 1		66.2	66.2	0.0	63.7	-2.5	
DE-HW CHURCH 2		61.4	61.4	0.0	61.8	0.4	
DE-WPKBB	1	71.4	71.4	0.0	68.6	-2.8	1
DE-WPPAV		70.5	70.5	0.0	68.8	-1.7	
Sum	3						2
Minimum		61.4	61.4	0.0	61.8	-2.8	
Maximum		71.4	71.4	0.0	68.8	1.2	
Average		67.1	67.1	0.0	65.9	-1.1	
Special Use Sites							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build Alt Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Copans Rd. to Sample Rd.							
EW-OGPool	1	66.5	66.5	0.0	67.5	1.0	1
Sum	1						1
Minimum		66.5	66.5	0.0	67.5	1.0	
Maximum		66.5	66.5	0.0	67.5	1.0	
Average		66.5	66.5	0.0	67.5	1.0	

Residential Receptors							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build All Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Sample Rd. to SW 10th Street							
FE-SFH1 (FR)	8	62.8	62.8	0.0	64.0	1.2	
FE-SFH2 (FR)	10	62.1	62.1	0.0	64.6	2.5	
FE-SFH3 (FR)	7	61.3	61.3	0.0	63.3	2.0	
FE-HV1 (FR)	18	62.8	62.8	0.0	65.1	2.3	
FE-HV2 (FR)	12	62.5	62.5	0.0	65.2	2.7	
FE-PRAxa (FR)	12	55.8	55.8	0.0	60.2	4.4	
FE-PRAxb (FR)	12	60.9	60.9	0.0	63.6	2.7	
FE-PRAxc (FR)	12	62.8	62.8	0.0	64.8	2.0	
FE-PRAxd (FR)	12	63.4	63.4	0.0	65.7	2.3	
FE-SFH4 (FR)	9	66.3	66.3	0.0	68.8	2.5	9
FE-SFH1 (SR)	6	62.0	62.0	0.0	64.7	2.7	
FE-SFH2 (SR)	7	62.8	62.8	0.0	65.8	3.0	
FE-SFH3 (SR)	10	57.4	57.4	0.0	59.2	1.8	
FE-HV1 (SR)	14	59.8	59.8	0.0	61.2	1.4	
FE-HV2 (SR)	10	58.8	58.8	0.0	60.2	1.4	
FE-PRAxa (SR)	12	51.8	51.8	0.0	56.2	4.4	
FE-PRAxb (SR)	12	57.2	57.2	0.0	60.1	2.9	
FE-PRAxc (SR)	12	59.1	59.1	0.0	61.3	2.2	
FE-PRAxd (SR)	12	59.7	59.7	0.0	61.6	1.9	
FE-SFH4 (SR)	7	57.3	57.3	0.0	58.5	1.2	
FW-BL1 (FR)	7	58.8	58.8	0.0	59.6	0.8	
FW-BL2 (FR)	11	63.4	63.4	0.0	64.6	1.2	
FW-SL1 (FR)	9	61.8	61.8	0.0	63.5	1.7	
FW-SL2 (FR)	13	61.4	61.4	0.0	63.4	2.0	
FW-LI (FR)	5	62.3	62.3	0.0	64.4	2.1	
FW-CoKn (FR)	10	62.4	62.4	0.0	64.3	1.9	
FW-HME1 (FR)	19	62.6	62.6	0.0	64.4	1.8	
FW-HME2 (FR)	12	63.8	63.8	0.0	65.9	2.1	
FW-BL1 (SR)	7	58.2	58.2	0.0	59.0	0.8	
FW-BL2 (SR)	7	60.0	60.0	0.0	60.8	0.8	
FW-SL1 (SR)	10	58.8	58.8	0.0	60.2	1.4	
FW-SL2 (SR)	19	58.0	58.0	0.0	59.8	1.8	
FW-LI (SR)	5	57.9	57.9	0.0	59.8	1.9	
FW-CoKn (SR)	9	57.7	57.7	0.0	59.0	1.3	
FW-HME1 (SR)	9	56.8	56.8	0.0	58.0	1.2	
FW-HME2 (SR)	9	58.0	58.0	0.0	59.4	1.4	
Sum	375						9
Minimum		51.8	51.8	0.0	56.2	0.8	
Maximum		66.3	66.3	0.0	68.8	4.4	
Average		60.2	60.2	0.0	62.2	2.0	

Residential Receptors							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build All Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
SW 10th Street to Hillsboro Blvd.							
GE-TP1a (FR)	4	63.5	63.5	0.0	65.0	1.5	
GE-TP1b (FR)	4	70.0	70.0	0.0	71.3	1.3	4
GE-TP2a (FR)	4	65.6	65.6	0.0	67.6	2.0	4
GE-TP2b (FR)	4	72.8	72.8	0.0	74.5	1.7	4
GE-TP3a (FR) (Int)	8	65.8	65.8	0.0	68.0	2.2	8
GE-TP3b (FR) (Int)	8	71.9	71.9	0.0	73.8	1.9	8
GE-NAT1a (FR)	8	69.0	69.0	0.0	71.2	2.2	8
GE-NAT1b (FR)	4	71.1	71.1	0.0	72.7	1.6	4
GE-NAT1c (FR)	4	72.3	72.3	0.0	73.8	1.5	4
GE-NAT2a (FR)	4	65.4	65.4	0.0	68.7	3.3	4
GE-NAT2b (FR)	4	68.9	68.9	0.0	70.7	1.8	4
GE-NAT2c (FR)	4	69.9	69.9	0.0	71.5	1.6	4
GE-NAT3 (FR)	7	67.7	67.7	0.0	70.0	2.3	7
GE-NAT4 (FR)	5	65.9	65.9	0.0	67.1	1.2	5
GE-TP1a (SR)	12	60.5	60.5	0.0	62.3	1.8	
GE-TP1b (SR)	12	65.6	65.6	0.0	67.5	1.9	12
GE-NAT1a (SR)	8	59.3	59.3	0.0	61.9	2.6	
GE-NAT1b (SR)	4	62.8	62.8	0.0	64.4	1.6	
GE-NAT1c (SR)	4	66.3	66.3	0.0	68.1	1.8	4
GE-NAT2a (SR)	4	58.0	58.0	0.0	61.2	3.2	
GE-NAT2b (SR)	4	62.8	62.8	0.0	64.7	1.9	
GE-NAT2c (SR)	4	65.6	65.6	0.0	67.2	1.6	4
GE-NAT3 (SR)	8	62.9	62.9	0.0	66.0	3.1	8
GE-NAT4 (SR)	5	57.2	57.2	0.0	58.3	1.1	
Sum	137						96
Minimum		57.2	57.2	0.0	58.3	1.1	
Maximum		72.8	72.8	0.0	74.5	3.3	
Average		65.9	65.9	0.0	67.8	1.9	

Residential Receptors							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build All Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Hillsboro Blvd. to Palmetto Park Rd.							
HE-PBF1 (FR)	7	63.6	63.6	0.0	65.0	1.4	
HE-PBF2 (FR)	10	62.8	62.8	0.0	64.0	1.2	
HE-SFH1 (FR)	13	62.5	62.5	0.0	63.8	1.3	
HE-SFH2 (FR)	5	62.8	62.8	0.0	64.3	1.5	
HE-SFH3 (FR)	6	63.5	63.5	0.0	67.7	4.2	6
HE-SFH4 (FR)	10	60.9	60.9	0.0	65.3	4.4	
HE-PBF1 (SR)	7	60.1	60.1	0.0	61.2	1.1	
HE-PBF2 (SR)	10	58.5	58.5	0.0	59.6	1.1	
HE-SFH1 (SR)	6	57.2	57.2	0.0	58.4	1.2	
HE-SFH2 (SR)	5	61.5	61.5	0.0	63.1	1.6	
HE-SFH3 (SR)	5	59.4	59.4	0.0	64.7	5.3	
HE-SFH4 (SR)	10	57.5	57.5	0.0	60.7	3.2	
HW-MZ1 (FR)	3	69.9	69.9	0.0	71.1	1.2	3
HW-MZ2 (FR)	3	71.9	71.9	0.0	73.8	1.9	3
HW-SF1 (FR)	14	61.8	61.8	0.0	63.0	1.2	
HW-SF2 (FR)	13	61.9	61.9	0.0	63.4	1.5	
HW-MZ1 (SR)	4	64.5	64.5	0.0	65.5	1.0	
HW-MZ2 (SR)	3	67.5	67.5	0.0	69.0	1.5	3
HW-SF1 (SR)	10	58.4	58.4	0.0	59.6	1.2	
HW-SF2 (SR)	13	61.4	61.4	0.0	62.8	1.4	
Sum	157						15
Minimum		57.2	57.2	0.0	58.4	1.0	
Maximum		71.9	71.9	0.0	73.8	5.3	
Average		62.4	62.4	0.0	64.2	1.9	

Special Use Sites							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build All Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Sample Rd. to SW 10th Street							
FE-PH (Int)	1	45.2	45.2	0.0	45.8	0.6	
FE-BH	1	61.8	61.8	0.0	63.0	1.2	
FE-IES	1	61.8	61.8	0.0	63.5	1.7	
FE-PUMC	1	64.5	64.5	0.0	68.3	3.8	1
FE-CB	1	65.7	65.7	0.0	68.4	2.7	
FW-MFC	1	57.1	57.1	0.0	58.2	1.1	
FW-BWPOOL	1	59.8	59.8	0.0	61.4	1.6	
FW-CSPOOL	1	66.0	66.0	0.0	66.3	0.3	
Sum	8						1
Minimum		45.2	45.2	0.0	45.8	0.4	
Maximum		66.0	66.0	0.0	68.4	3.8	
Average		60.2	60.2	0.0	61.9	1.7	

Special Use Sites							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build All Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
SW 10th Street to Hillsboro Blvd.							
GE-TPPool	1	57.2	57.2	0.0	59.2	2.0	
Sum	1						0
Minimum		57.2	57.2	0.0	59.2	2.0	
Maximum		57.2	57.2	0.0	59.2	2.0	
Average		57.2	57.2	0.0	59.2	2.0	

Special Use Sites							
Receptor	Number of Noise Sensitive Sites	Existing Noise Level [dB(A)]	No-Build Noise Level [dB(A)]	Change from Existing [dB(A)]	Build All Noise Level [dB(A)]	Change from Existing [dB(A)]	Impacted
Hillsboro Blvd. to Palmetto Park Rd.							
HE-HIL POOL	1	61.5	61.5	0.0	62.7	1.2	
HE-LDS	1	39.6	39.6	0.0	42.6	3.0	
HE-CCBR	1	38.3	38.3	0.0	40.3	2.0	
HW-NP	1	65.0	65.0	0.0	66.2	1.2	1
Sum	4						1
Minimum		38.3	38.3	0.0	40.3	1.2	
Maximum		65.0	65.0	0.0	66.2	3.0	
Average		51.1	51.1	0.0	53.0	1.9	



Appendix D

Special Land Use Analysis

CNE-E5 - Mitchell Moore Park Special Land Use Reasonableness Matrix

Item	Criteria	Input		Units
		Actual Usage	Needed Usage	
1	Enter Length of Proposed Barrier	1950, 1560 and 1240	1950, 1560 and 1240	feet
2	Enter Height of Proposed Barrier	22, 14 and 8	22, 14 and 8	feet
3	Multiply item 1 by item 2	74,660	74,660	feet ²
4	Enter the average amount of time that a person stays at the site per visit	2	2	hours
5	Enter the average number of people that use this site per day that will receive at least 5 dB(A) benefit from abatement at the site	191	1575	persons
6	Multiply item 4 by item 5	381	3150	person-hours
7	Divide item 3 by item 6	195.74	23.70	feet ² /person-hours
8	Multiply item 7 by \$42,000	\$ 8,220,955	\$ 995,467	\$/person-hours/ft ²
9	Does item 8 exceed the "abatement cost factor" of: \$995,935/person-hour/ft ² ?	Yes	N/A	Yes/No
10	If item 9 is no, abatement is reasonable.	N/A	N/A	
11	If item 9 is yes, abatement is not reasonable.	N/A	N/A	

CNE-E6 - Weaver Community Park Special Land Use Reasonableness Matrix

Item	Criteria	Input		Units
		Actual Usage	Needed Usage	
1	Enter Length of Proposed Barrier	2510 and 850	2510 and 850	feet
2	Enter Height of Proposed Barrier	22 and 2	22 and 2	feet
3	Multiply item 1 by item 2	56,920	56,920	feet ²
4	Enter the average amount of time that a person stays at the site per visit	Unknown	2	hours
5	Enter the average number of people that use this site per day that will receive at least 5 dB(A) benefit from abatement at the site	Unknown	1201	persons
6	Multiply item 4 by item 5		2402	person-hours
7	Divide item 3 by item 6		23.70	feet ² /person-hours
8	Multiply item 7 by \$42,000	\$ -	\$ 995,271	\$/person-hours/ft ²
9	Does item 8 exceed the "abatement cost factor" of: \$995,935/person-hour/ft ² ?	Yes	N/A	Yes/No
10	If item 9 is no, abatement is reasonable.	N/A	N/A	
11	If item 9 is yes, abatement is not reasonable.	N/A	N/A	

*Requires adding 2 feet of height to the noise barrier proposed for CNE-E6South for a length of 850 feet.



Appendix E

ETDM Programming Screen Summary Report

ETDM Summary Report

Project #3330 - I-95 add lanes and reconstruct - Commercial to Glades

Finalized Programming Screen - Published on 09/29/2005

Printed on: 7/27/2012

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Introduction to Programming Screen Summary Report

The Programming Screen Summary Report shown below is a read-only version of information contained in the Programming Screen Summary Report generated by the ETDM Coordinator for the selected project after completion of the ETAT Programming Screen review. The purpose of the Programming Screen Summary Report is to summarize the results of the ETAT Programming Screen review of the project; provide details concerning agency comments about potential effects to natural, cultural, and community resources; and provide additional documentation of activities related to the Programming Phase for the project. Available information for a Programming Screen Summary Report includes:

- Screening Summary Report chart
- Project Description information (including a summary description of the project, a summary of public comments on the project, and community-desired features identified during public involvement activities)
- Purpose and Need information (including the Purpose and Need Statement and the results of agency reviews of the project Purpose and Need)
- Alternative-specific information, consisting of descriptions of each alternative and associated road segments; an overview of ETAT Programming Screen reviews for each alternative; and agency comments concerning potential effects and degree of effect, by issue, to natural, cultural, and community resources.
- Project Scope information, consisting of general project commitments resulting from the ETAT Programming Screen review, permits, and technical studies required (if any)
- Class of Action determined for the project
- Dispute Resolution Activity Log (if any)

The legend for the Degree of Effect chart is provided in an appendix to the report.

For complete documentation of the project record, also see the GIS Analysis Results Report published on the same date as the Programming Screen Summary Report.

#3330 I-95 add lanes and reconstruct - Commercial to Glades

District	District 4	Phase	Programming Screen
County	Broward	From	S. of SR 870/Commercial Blvd
Planning Organization	FDOT District 4	To	S. of Glades Road
Plan ID	4093591	Financial Management No.	
Federal Involvement	No federal involvement has been identified.		
Contact Information	Name: Richard Young Phone: 954-777-4323 E-mail: richard.young@dot.state.fl.us		
Snapshot Data From: Programming Screen Summary Report Published on 09/29/2005			

Overview

		Evaluation of Direct Effects																				
		Natural									Cultural		Community									
Legend <div>N/A N/A / No Involvement</div> <div>1 Enhanced</div> <div>2 Minimal to None (before 12/5/2005)</div> <div>3 Moderate</div> <div>4 Substantial</div> <div>5 Dispute Resolution (Programming)</div>	Air Quality	Coastal and Marine	Contaminated Sites	Farmlands	Floodplains	Infrastructure	Navigation	Special Designations	Water Quality and Quantity	Wetlands	Wildlife and Habitat	Historic and Archaeological Sites	Recreation Areas	Section 4(f) Potential	Aesthetics	Economic	Land Use	Mobility	Relocation	Social	Secondary and Cumulative Effects	
ETAT Review Period: 05/21/2004 - 07/05/2004. Published: 09/29/2005																						
Alternative #1				3	2					2	3	2	3	2	2	2	2	2	1	2	2	
From S. of SR 870/Commercial Blvd to S. of Glades Road																						

Purpose of and Need for

Purpose and Need Statement

System Linkage or Connectivity

This project consists of widening I-95 from eight lanes to ten lanes between the project limits, South of Commercial Blvd. in Broward County to South of Glades Road in Palm Beach County. The project is approximately 14.792 miles, extending from milepost 14.887 to milepost 25.362 in Broward and from MP 0.000 to MP 2.724 in Palm Beach. The functional classification of I-95 is urban principal arterial-interstate.

I-95 has interchange connections with major roads including Commercial Blvd., Cypress Creek Rd., Atlantic Blvd., Copans Rd., Sample Rd., SW 10th Street, Hillsboro Blvd and Palmetto Park Road. I-95 has direct access to the Sawgrass Expressway/SR 869 and I-595.

Federal, State & Local Authority

This PD & E project is included in the Five-Year Work Program. This project is included in the I-95 Master Plan, which was approved by the Broward County Metropolitan Planning Organization (MPO) in 2001. It is included in the MPO's 2025 Long Range Transportation Plan. FHWA approved the I-95 Master Plan in 1992.

Social Demands/Economic Development

Southeast Florida serves as the U.S. gateway to Latin America and the Caribbean, and is a prominent trade, tourism, and financial center. The container operations of the three South Florida Ports combined place it third in the nation behind Los Angeles and New York. I-95 is the major north-south transportation spine of the Atlantic Commerce Corridor and is depended upon to move people and goods within and beyond the region. Southeast Florida comprises over 5.2 million people, and is recognized as one of the most traffic-congested regions in the country. Population is expected to grow 33 percent to 6.8 million people by 2020, and to 7.6 million people by 2030. Growth in both freight and tourist visitors is expected to increase just as substantially.

I-95 is a major connector between Northern Broward County/Southern Palm Beach Counties and serves the Boca Raton Airport, Florida Atlantic University, Fort Lauderdale-Hollywood International Airport, Palm Beach International Airport, major shopping malls and business centers.

I-95 is located in the southeast Florida area, with a 5.3 percent population increase experienced in Broward County between 2000 and 2002.

Modal Interrelationships

There are currently no planned or programmed Congestion Management System (CMS) improvements.

Trucks comprise 7.9% of vehicles traveling along this corridor.

Palm Beach International Airport is located to the north of this project and the Fort Lauderdale International Airport is located to the south.

The South Florida Rail Corridor, which handles both passenger and freight traffic, borders I-95 on the west.

The Port Everglades Seaport is to the south and Port of Palm Beach is to the north.

Tri-Rail runs along I-95 and handles Mass Transit from Miami-Dade County to northern Palm beach County.

The I-95 High Occupancy Vehicle lanes are included within the project limits.

Capacity

I-95 currently is an eight-lane Interstate with a daily capacity of at 163,900 vehicles per day (vpd). Level of Service (LOS) E. The existing Annual Average Annual Daily Traffic (AADT) is 256,000 vpd, which is Level of Service F, or 56 percent over-capacity. The 2025 AADT for the proposed ten-lane expressway is 360,000, with a forecasted LOS of F.

Safety

We are not aware of any significant safety issues for this corridor. Revealed in the 2 year accident analysis, 1,015 vehicles were involved in rear end collisions which are attributed to heavy traffic congestion.

Hurricane Evacuation

The I-95 corridor is a hurricane evacuation route.

Project Description

Add two lanes (8 + 2) from from South of Commercial Blvd. to South of Glades Road in Palm Beach County.

Prices were derived from the Executive Summary 2025 FIHS Cost Feasible Plan(CFP)updated August 2003, 2003 present day cost.

Price includes project FM #'s 409359-1, 409359-2, 409359-3 and 409359-4.

Summary of Public Comments not available at this time

Additional Consistency Information

- Consistent with Air Quality Conformity.
- Consistent with Local Government Comp Plan.
- Consistent with MPO Goals and Objectives.

Lead Agency

Federal Highway Administration

Exempted Agencies

No exemptions have been assigned for this project.

Community Desired Features

No desired features have been entered into the database. This does not necessarily imply that none have been identified.

Communities Within 500 Feet

- 1800 Boca Raton

Purpose and Need Reviews

Agency	Acknowledgment	Review Date
FL Department of Environmental Protection	Understood	06/25/2004

FL Department of State	Understood	06/16/2004
Federal Highway Administration	Accepted	05/17/2005
Comments: Opportunities exist for exploring intermodal connections between I-95 airport rail and seaport facilities as a part of this project that may help relieve some congestion from short trips between the various modal facilities.		
National Marine Fisheries Service	Understood	07/03/2004
US Army Corps of Engineers	Understood	05/27/2004
US Fish and Wildlife Service	Understood	05/25/2004
The following organizations were notified but did not submit a review of the Purpose and Need:		
- Not Available. Contact the ETDM Help Desk for assistance.		

Alternative #1**Alternative Description**

From:	S. of SR 870/Commercial Blvd	To:	S. of Glades Road
Type:	Widening	Status:	ETAT Review Complete
Total Length:	14.792 mi.	Cost:	\$206,736,000.00
Modes:	Roadway	SIS:	Y

Segment Description(s)

Location and Length							
Segment No.	Name	Beginning Location	Ending Location	Length (mi.)	Roadway Id	BMP	EMP
	Interstate 95	Palm Beach/Broward CL	S. of Glades Road	2.724	93220000		
	Interstate 95	SR 870/Commercial Blvd	Palm Beach/Broward CL	10.475	86070000		

Jurisdiction and Class			
Segment No.	Jurisdiction	Urban Service Area	Functional Class
	FDOT	In	URBAN: Principal Arterial - Interstate
	FDOT	In	URBAN: Principal Arterial - Interstate

Base Conditions				
Segment No.	Year	AADT	Lanes	Config
	2000	152947	8	Lanes Freeway
	2001	256000	8	Lanes Freeway

Interim Plan				
Segment No.	Year	AADT	Lanes	Config

Needs Plan				
Segment No.	Year	AADT	Lanes	Config
	2025			
	2025			

Cost Feasible Plan				
Segment No.	Year	AADT	Lanes	Config
	2025	277400	10	Lanes Freeway
	2025	360000	10	Lanes Freeway

Funding Sources

No funding sources found.

Project Effects Overview

Issue	Degree of Effect	Organization	Date Reviewed
Natural			
Air Quality	No reviews recorded.		
Coastal and Marine	No reviews recorded.		
Contaminated Sites	3 Moderate	FL Department of Environmental Protection	06/25/2004
Farmlands	2 Minimal to None	Natural Resources Conservation Service	06/23/2004
Floodplains	No reviews recorded.		
Infrastructure	No reviews recorded.		
Navigation	No reviews recorded.		
Special Designations	No reviews recorded.		
Water Quality and Quantity	No reviews recorded.		
Wetlands	3 Moderate	National Marine Fisheries Service	07/03/2004
Wetlands	3 Moderate	US Army Corps of Engineers	05/27/2004
Wetlands	2 Minimal to None	US Fish and Wildlife Service	05/25/2004
Wildlife and Habitat	2 Minimal to None	US Fish and Wildlife Service	05/25/2004
Cultural			

Historic and Archaeological Sites	3	Moderate	Federal Highway Administration	05/17/2005
Historic and Archaeological Sites	3	Moderate	FL Department of State	06/16/2004
Recreation Areas	2	Minimal to None	Federal Highway Administration	05/17/2005
Section 4(f) Potential	2	Minimal to None	Federal Highway Administration	05/17/2005

Community

Aesthetics	2	Minimal to None	FDOT District 4	07/05/2004
Economic	2	Minimal to None	FDOT District 4	07/05/2004
Land Use	2	Minimal to None	FDOT District 4	07/05/2004
Land Use	2	Minimal to None	FL Department of Community Affairs	06/24/2004
Mobility	1	Enhanced	FDOT District 4	07/05/2004
Relocation	2	Minimal to None	FDOT District 4	07/05/2004
Social	2	Minimal to None	FDOT District 4	07/05/2004

Secondary and Cumulative

Secondary and Cumulative Effects No reviews recorded.

ETAT Reviews and Coordinator Summary: Natural Issues

Coordinator Summary: Air Quality Issue

No Summary Degree of Effect Found.

ETAT Reviews: Air Quality Issue: None found

The following organization(s) were expected to but did not submit a review of the Air Quality issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Coastal and Marine Issue

No Summary Degree of Effect Found.

ETAT Reviews: Coastal and Marine Issue: None found

The following organization(s) were expected to but did not submit a review of the Coastal and Marine issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Contaminated Sites Issue

3 Moderate assigned 12/16/2004 by FDOT District 1

Comments: FDEP review indicates potential effects to Contaminated Sites are moderate.

During the project development phase, a Contamination Screening Evaluation will be performed along the project rights-of-way. Projects that involve "dewatering" will be discouraged, due to potential spread of contamination.

ETAT Reviews: Contaminated Sites Issue: 1 found

3 Moderate assigned 06/25/2004 by Lindy McDowell, FL Department of Environmental Protection

Coordination Document: The "Coordination Document" option was not available at the time of the review.

Identified Resources and Level of Importance: None found.

Comments on Effects to Resources: It appears that there are three known contamination sites within one tenth of a mile of the proposed land widening. A Contamination Screening Evaluation similar to Phase I and Phase II Audits may need to be performed along the project rights-of-way considering the proximity to the contaminated sites. The Contamination Screening Evaluations should outline specific procedures that would be followed by the applicant in the event that drums, wastes, tanks or potentially contaminated soils are encountered during construction. Depending on the findings of the Contamination Screening Evaluations and the proximity to known contaminated sites, projects involving "dewatering" should be discouraged, since there is a potential to spread contamination to previously uncontaminated areas and affect contamination receptors, site workers and the public. In the event contamination is detected during construction, the Department needs to be notified and the FDOT may need to address the problem through additional assessment and remediation activities.

FDOT District 1 Feedback to FL Department of Environmental Protection's Review (07/28/2004): During the project development phase, a Contamination Screening Evaluation will be performed along the project rights-of-way. Projects that involve "dewatering" will be discouraged, due to potential spread of contamination.

The following organization(s) were expected to but did not submit a review of the Contaminated Sites issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Farmlands Issue

2 Minimal to None assigned 12/16/2004 by FDOT District 1

Comments: ETAT review by NRCS indicate potential effects to Farmlands are minimal to none.

ETAT Reviews: Farmlands Issue: 1 found

2 *Minimal to None* assigned 06/23/2004 by Warren Henderson, Natural Resources Conservation Service

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: None found.

Comments on Effects to Resources: There is no unique farmland in the project area.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Farmlands issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Floodplains Issue

No Summary Degree of Effect Found.

ETAT Reviews: Floodplains Issue: None found

The following organization(s) were expected to but did not submit a review of the Floodplains issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Infrastructure Issue

No Summary Degree of Effect Found.

ETAT Reviews: Infrastructure Issue: None found

The following organization(s) were expected to but did not submit a review of the Infrastructure issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Navigation Issue

No Summary Degree of Effect Found.

ETAT Reviews: Navigation Issue: None found

The following organization(s) were expected to but did not submit a review of the Navigation issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Special Designations Issue

No Summary Degree of Effect Found.

ETAT Reviews: Special Designations Issue: None found

The following organization(s) were expected to but did not submit a review of the Special Designations issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Water Quality and Quantity Issue

2 *Minimal to None* assigned 12/16/2004 by FDOT District 1

Comments: The proposed storm water facility design will include, at a minimum, the water quantity requirements for water quality impacts as required by SFWMD in Rule 40E-4.

ETAT Reviews: Water Quality and Quantity Issue: None found

The following organization(s) were expected to but did not submit a review of the Water Quality and Quantity issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Wetlands Issue

3 *Moderate* assigned 12/16/2004 by FDOT District 4

Comments: ETAT reviews indicate an inconsistency in terms of the potential degree of effect. Based on the review provided by the NMFS, USACOE and USFWS, the summary degree of effect to Wetlands was determined to be moderate.

During a telephone conversation on August 10, 2004 between Richard Young, Ann Broadwell and Patrick Webster of FDOT and Ken Huntington of ACOE it was agreed that the moderate degree of effect assigned to wetland impacts would be addressed by preparing a Wetland Evaluation Report addressing avoidance and minimization, and mitigation for unavoidable impacts, during the PD&E study.

During a telephone conversation on August 04, 2004 between Richard Young, Ann Broadwell and Patrick Webster of FDOT and Audra Livergood of NMFS it was agreed that an Essential Fish Habitat Report would not be required but that a Wetland Evaluation Report addressing avoidance and minimization and mitigation for unavoidable impacts would be prepared during the PD&E study based on the moderate level of effect assigned by the ACOE.

ETAT Reviews: Wetlands Issue: 3 found

3 *Moderate* assigned 07/03/2004 by Audra Livergood, National Marine Fisheries Service

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: The National Marine Fisheries Service (NOAA Fisheries) is primarily concerned about adverse impacts to wetland communities.

Comments on Effects to Resources: Based on our review of the GIS Analysis Results for wetlands, it appears that wetlands occur within close proximity to the project corridor. NOAA Fisheries recommends that adverse impacts to wetlands should be avoided or minimized. If wetlands are directly or indirectly impacted by the proposed project, compensatory mitigation that fully offsets unavoidable impacts to wetland resources should be provided.

Additional Comments (optional): If a Clean Water Act Section 404 permit from the Army Corps of Engineers is required for the proposed work, NOAA Fisheries may provide comments during our review of the permit application/public notice.

Coordinator Feedback: None

3 *Moderate* assigned 05/27/2004 by Kenneth Huntington, US Army Corps of Engineers

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: Based on previous experience in the project area, there are normally ditches/canals that parallel the interstate. These linear features will have to be identified for the Corps review process in addition to other wetlands within the corridor.

Comments on Effects to Resources: The Environmental Screening Tool's database indicates that the site may contain wetlands. The Corps will require: 1) a map showing all wetland impacts within the project corridor including any impacts to ditches/canals; 2) a description of all wetlands within the corridor; 3) a functional assessment of the wetlands proposed to be impacted. The project should be designed to minimize/avoid impacts to these resources to the greatest extent practicable. If impacts to wetlands occur, a mitigation plan should be prepared that fully compensates for the loss of wetland resources.

FDOT District 4 Feedback to US Army Corps of Engineers's Review (08/17/2004):

2 *Minimal to None* assigned 05/25/2004 by John Wrublik, US Fish and Wildlife Service

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: wetlands

Comments on Effects to Resources: The Service notes that the proposed project is located in a highly urbanized area and is not likely to significantly affect fish and wildlife. The database associated with environmental screening tool indicated that wetlands were recorded in the project corridor. If wetlands are found to occur within the project area, we recommend that resources be avoided to the greatest extent practicable. If impacts to wetlands are unavoidable, we recommend that the FDOT provides mitigation that fully compensates for the loss of wetland resources.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Wetlands issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Wildlife and Habitat Issue

2 *Minimal to None* assigned 12/16/2004 by FDOT District 1

Comments: USFWS review indicates potential effects to Wildlife and Habitat are minimal to none.

During a telephone conversation on August 4, 2004 between Richard Young, Ann Broadwell and Patrick Webster of FDOT and John Wrublik of the USFWS it was agreed that although the degree of effect assigned to wildlife and habitat was minimal to none, because the project is located within the Core Foraging Area of the protected Wood Stork an Endangered Species Technical Memorandum will be prepared to address potential impacts to that species and its foraging areas. In the event that additional listed species and their critical habitat are identified during the course of the study an Endangered Species Biological Assessment (ESBA) will be prepared.

ETAT Reviews: Wildlife and Habitat Issue: 1 found

2 *Minimal to None* assigned 05/25/2004 by John Wrublik, US Fish and Wildlife Service

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: federally listed species, fish and wildlife resources

Comments on Effects to Resources: The Service has reviewed our Geographic Information Systems (GIS) database for recorded locations of federally listed threatened and endangered species on or adjacent to the project study area. The GIS database is a compilation of data received from several sources. Active nesting colonies of the endangered wood stork (*Mycteria americana*) are located approximately 6.8 miles, 9.8 miles, 11.8 miles, and 14.7 miles northwest, and 10.7 miles west of the project corridor. Consequently, the project falls within the Core Foraging Areas ((CFA) i.e., within 18.6 miles) of these nesting colonies. The Service believes that the loss of wetlands within a CFA may reduce foraging opportunities for wood storks. To minimize adverse effects to the wood stork, the Service's draft Standard Local Operating Procedures for Endangered Species (SLOPES) request that the applicant replace wetlands lost due to the action. The compensation plan should include a temporal lag factor, if necessary, to ensure that wetlands provided as compensation adequately replace the wetland functions lost due to the project. Moreover, wetlands offered as compensation should be of the same hydroperiod, and located within the CFA of the affected wood stork colony. In some cases, the Service would accept wetlands compensation located outside the CFA of the affected wood stork nesting colony. Specifically, wetland credits purchased from a "Service Approved" mitigation bank located outside of the CFA would be acceptable to the Service, provided that the impacted wetlands occur within the permitted service area of the bank.

No other federally listed species were identified on your project site. The Service has not conducted a site inspection to verify species occurrence or validate the GIS results. However, we assume that listed species occur in suitable ecological communities and recommend site surveys to determine the presence or absence of listed species. Ecological communities suitable for listed species can be found in the species accounts in the South Florida Multi-Species Recovery Plan (1999). This document is available on the internet at http://verobeach.fws.gov/Programs/Recovery/esvb_recovery.html.

The Service notes that the proposed project is located in a highly urbanized area and is not likely to significantly affect fish and wildlife. The database associated with environmental screening tool indicated that wetlands were recorded in the project corridor. If wetlands are found to occur within the project area, we recommend that resources be avoided to the greatest extent practicable. If impacts to wetlands are unavoidable, we recommend that the FDOT provides mitigation that fully compensates for the loss of wetland resources.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Wildlife and Habitat issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

ETAT Reviews and Coordinator Summary: Cultural Issues

Coordinator Summary: Historic and Archaeological Sites Issue

3 Moderate assigned 12/16/2004 by FDOT District 1

Comments: ETAT review by SHPO and FHWA indicate potential effects to Historical and Archaeological Sites are moderate.

During the Project Development phase of this project, the FDOT will focus on the avoidance and minimization of impacts to the cited resources. A Cultural Resources Assessment Survey will be completed as part of the Project Development phase, which will capture any archaeological sites and historic properties in the project area.

ETAT Reviews: Historic and Archaeological Sites Issue: 2 found

3 Moderate assigned 05/17/2005 by Nahir Detizio, Federal Highway Administration

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: Cultural resources located in close proximity to the proposed project

Comments on Effects to Resources: Results from additional surveys performed should be sent to our office for our review. We can then coordinate with the State Historic Preservation Officer, and request concurrence in terms of eligibility for listing on the National Register of Historic Places, and the effects the proposed project may have on those resources.

Coordinator Feedback: None

3 Moderate assigned 06/16/2004 by Brian Yates, FL Department of State

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: Florida Site File Archaeological or Historic Sites
Archaeological or historic sites recorded in the Florida State Historic Preservation Office Master Site File
[Click here for more information about this data source.](#)

Buffer distance: 100 ft. (340.42 acres).

Site Type Acres Percent
Aboriginal boat 1.2 0.4

Analysis run 2004-05-12

Buffer distance: 200 ft. (679.69 acres).

Site Type Acres Percent
Aboriginal boat 2.5 0.4

Analysis run 2004-05-12

Buffer distance: 500 ft. (1704.92 acres).

Site Type Acres Percent
Aboriginal boat 9.3 0.5

Analysis run 2004-05-12

Buffer distance: 5280 ft. (19775.92 acres).

Site Type Acres Percent
Aboriginal boat 36.6 0.2
Campsite (prehistoric) 1.8 0
Other 1.9 0

Analysis run 2004-05-12

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Florida Site File Cemeteries
Historic cemeteries recorded in the Florida State Historic Preservation Office Master Site File
[Click here for more information about this data source.](#)

Buffer distance: 100 ft. (340.42 acres).

No features found

Analysis run 2004-05-12

Buffer distance: 200 ft. (679.69 acres).

No features found

Analysis run 2004-05-12

Buffer distance: 500 ft. (1704.92 acres).

No features found

Analysis run 2004-05-12

Buffer distance: 5280 ft. (19775.92 acres).

No features found

Analysis run 2004-05-12

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Florida Site File Historic Bridges

Historic Bridges recorded in the Florida State Historic Preservation Office Master Site File

[Click here for more information about this data source.](#)

Buffer distance: 100 ft. (340.42 acres).

No features found

Analysis run 2004-05-12

Buffer distance: 200 ft. (679.69 acres).

No features found

Analysis run 2004-05-12

Buffer distance: 500 ft. (1704.92 acres).

No features found

Analysis run 2004-05-12

Buffer distance: 5280 ft. (19775.92 acres).

Bridge Name Site ID

HILLSBORO CANAL BRIDGE PB08214

HILLSBORO CANAL BRIDGE BD03042

Analysis run 2004-05-12

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Florida Site File Historic Standing Structures

Historic Standing Structures recorded in the Florida State Historic Preservation Office Master Site File

[Click here for more information about this data source.](#)

Buffer distance: 100 ft. (340.42 acres).

No features found

Analysis run 2004-05-12

Buffer distance: 200 ft. (679.69 acres).

Structure Name Site ID

517 NW 10TH AVE BD02324

COHEN, W C & NETTIE HOUSE BD02325

Analysis run 2004-05-12

Buffer distance: 500 ft. (1704.92 acres).

Structure Name Site ID
BIRK, ALLIE M HOUSE BD02265
200 NW 10TH AVE BD02266
208 NW 10TH AVE BD02270
ERVIN, MAUD B HOUSE BD02274
WRIGHT, CARY BELLE HOUSE BD02304
128 NW 10TH AVE BD02272
CARTER, ANNA J HOUSE BD02322
517 NW 10TH AVE BD02324
COHEN, W C & NETTIE HOUSE BD02325

Analysis run 2004-05-12

Buffer distance: 5280 ft. (19775.92 acres).

Structure Name Site ID
PARRISH, LUCINDA T HOMES HOUSE BD02211
320 NW 16TH AVE BD02213
304 NW 16TH AVE BD02214
TURNER HOUSE BD02215
301 NW 16TH AVE BD02216
209 NW 16TH AVE BD02217
EVENS, MARY HOUSE BD02218
116 NW 16TH AVE BD02225
109 NW 16TH AVE BD02226
101 NW 16TH AVE BD02227
113 NW 16TH AVE BD02228
150 NW 17TH AVE BD02229
1536 NW 2ND ST BD02230
HAMILTON'S PHARMACY BD02237
122 N FLAGLER AVE BD02239
BAMBI, BONNIE DOG GROOMING BD02240
BEVILL BLDG BD02241
149 NW 16TH AVE BD02245
130 NW 16TH AVE BD02246
136 NW 16TH AVE BD02247
MCHENRY HOUSE #1 BD02248
MCHENRY HOUSE #2 BD02249
POMPANO MERCANTILE CO BD02258
BIRK, ALLIE M HOUSE BD02265
200 NW 10TH AVE BD02266
208 NW 10TH AVE BD02270
ERVIN, MAUD B HOUSE BD02274
700 NW 17TH TERR BD02297
1519 NW 2ND ST BD02298
RUSSELL, ELIJAH HOUSE BD02300
401 NW 4TH CT BD02301
408 NW 4TH CT BD02302
409 NW 4TH CT BD02303
DAVIS, H & FRANCES HOUSE BD02328
1620 HAMMONDVILLE RD BD02329
WARREN BROTHERS FERTILIZER BD02353
MUNFORD, LILLIE MAE HOUSE BD02414
WILCOX, JIMMIE & CECILIA HOUSE BD02415
ANDREWS, MARGARET & CARL HOUSE BD02417
WILLIAMS, MABEL HOUSE BD02569
POMPANO BEACH RACE TRACK, OLD BD02206
CYPRESS NOOK TAKE OUT RESTAURANT BD02220
POMPANO BEACH FIREHOUSE BD02242
POMPANO BEACH HISTORICAL SOCIETY MUSEUM BD02252
CITY PUMP HOUSE BD02255
POMPANO BEACH HISTORICAL SOCIETY MUSEUM BD02257
JONES QUARTERS BD02263
HAITIAN CATHOLIC CHURCH BD02269
FARMERS MANUFACTURING CO INC BD02271
WRIGHT, CARY BELLE HOUSE BD02304
JONES, MAELIZA HOUSE BD02412
CLARK, MARY HOUSE BD02413
WILSON, WILLIE MAE HOUSE BD02418

BLANC, GREGORY & CHRISTY HOUSE BD02184
KRAHOLIK, JOHN J & PATRICE W HOUSE BD02187
CAVOLINA, CHARLES & LEONORA T HOUSE BD02189
ALLISON, VIRGINIA ANN HOUSE BD02190
KATRA, ALLEN J & JULIE R HOUSE BD02195
SMITH, RUTH E HOUSE BD02196
400 NE 4TH ST BD02199
SMOAK, ADDIE G HOUSE BD02200
GOSSARD, FRANCES HOUSE BD02202
MCCLELLAN, DR GEORGE S OFFICE BD02203
MARINO, SAMUEL ARTHUR HOUSE BD02204
JONES HOUSE BD02205
DORMAN, J L & PEARL M HOUSE BD02208
HARMON, J COY & JOSEPHINE HOUSE BD02210
401 NW 16TH AVE BD02212
MEEKER, RUSLEY C HOUSE BD02221
25 SE 4TH TERR BD02222
15 SE 4TH TERR BD02223
ROLLE, TINA PEARL HOUSE BD02224
601 NW 6TH ST BD02232
WALTON HOTEL BD02233
BANK OF POMPANO BD02234
BAILEY HOTEL BD02235
KILGORE SEED BD02236
CAMPBELL, CAPTAIN HOUSE BD02243
UMM WORKSHOP BD02253
CURLEW WELL PUMP HOUSE BD02254
MICKLER HOUSE BD02256
212 NW 5TH AVE BD02260
1009 NW 3RD AVE BD02261
SWAIN, WILLIE HOUSE BD02262
25 NW 9TH AVE BD02264
200 NW 6TH AVE BD02267
ROLLE, CORNELIUS & ERNESTINE BD02268
128 NW 10TH AVE BD02272
ST MARIE, SALLY HOUSE BD02273
237 NW 11TH ST BD02275
521 NW 3RD AVE BD02276
WALLACE, EDNA HOUSE BD02277
612 NW 3RD AVE BD02278
805 NW 4TH AVE BD02279
HASKINS, LILA HOUSE BD02280
507 NW 6TH AVE BD02281
116 NW 6TH ST BD02282
509 NW 6TH AVE BD02283
120 NW 9TH ST BD02284
233 NW 10TH ST BD02285
225 NW 10TH ST BD02286
138 NW 10TH ST BD02287
117 NW 11TH ST BD02288
129 NW 11TH ST BD02289
SMITH HOUSE BD02290
141 NW 11TH ST BD02291
212 NW 11TH ST BD02292
GOODWIN HOUSE BD02293
227 NW 11TH ST BD02294
213 NW 11TH ST BD02295
307 NW 11TH ST BD02296
LANE, THOMAS HOUSE BD02299
EMORY, ANNIE HOUSE BD02305
317 NW 5TH ST BD02306
ADAMS, FRANKIE HOUSE BD02307
350 NW 4TH ST BD02308
THORTNON, GEORGE HOUSE BD02309
SANDS, CHARLES HOUSE BD02310
MARCH HOUSE BD02311
FOLSOLM, J & EVELYN HOUSE BD02312
JOHNSON, ALBERT HOUSE BD02313
633 NW 8TH AVE BD02314
GRANT HOUSE BD02315
BRYANT, LOUISE HOUSE BD02316
528 NW 8TH AVE BD02317
421 NW 8TH AVE BD02318
412 NW 8TH AVE BD02319

RAWLS, MABEL HOUSE BD02320
GASSETT, CHARLIE & BEATRICE ,JR HOUSE BD02321
CARTER, ANNA J HOUSE BD02322
ATKINS HOUSE BD02323
517 NW 10TH AVE BD02324
COHEN, W C & NETTIE HOUSE BD02325
JONES, R V HOUSE BD02330
BANKS, HADDIE HOUSE BD02332
MASONIC LODGE 263 BD02336
HOGAN HOUSE BD02342
407 NE 1ST ST BD02343
POMPANO LUMBER CO, OLD BD02352
500 NE 1ST AVE BD02354
HARDIN, CLIFFORD HOUSE BD02361
1009 N DIXIE HWY BD02362
CHRISTIAN PALLBEARERS SOCIETY #3 BD02367
MCCLELLAN, DR GEORGE HOUSE BD00111
FIRST UNITED METHODIST CHURCH BD00136
FDOT PROPERTY BD03028
BAILEY PROJECT BD03029
QUALITY APPLIANCES PROPERTY BD03030
TROYER PROPERTY BD03036
TROYER PROPERTY BD03037
SELDON PROPERTY BD03038
LEUNGS TRADING, INC. PROPERTY BD03175
POMPANO BEACH FARMERS MARKET BD02883
E MATTHEW LAIRD HOUSE PB00110
PINEBLOOM PB00111
ALAMANDA PB00112
LAVENDER HOUSE PB00113
AZEOLA PB00115
ROSEMARY PB00117
JOHN D WESSEL HOUSE PB00124
JAMES S HACKETT HOUSE PB00125
AIKEN, FRED C, HOUSE PB00126
JOHN P DEMARCHI HOUSE PB00127
GEORGE W DESHON HOUSE PB00128
C R SHAMEL HOUSE PB00129
DONALD C CAMPBELL HOUSE PB00130
AZALEA PB00131
AURELIA PB00132
NATHANIEL WEYL HOUSE PB00133
OLEANDER PB00134
PALOMA PB00135
HARRY A HOLMES HOUSE PB00116
ILEX PB00119
MANZANITA PB00120
C H MOHAUPT HOUSE PB00121
ARNOLD MACSPADDEN HOUSE PB00122
JAMES W MOZLEY PB00123
RONALD H MILLER HOUSE PB00137
SCL RAILROAD DEPOT BD00128
DEERFIELD SCHOOL BD03281
504 NW 15TH AVE. BD03227
95 NW 13TH AVE. BD03228
BRANNON'S ROOMING HOUSE BD00132
EWALO HOME BD00133
OLD KNEELAND HOME BD00113
ST PAUL'S METHODIST CHURCH BD00134

Analysis run 2004-05-12

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Greenways Project: Cultural and Historic Features
[Click here for more information about this data source.](#)

Buffer distance: 100 ft. (340.42 acres).

No features found

Analysis run 2004-05-12

Buffer distance: 200 ft. (679.69 acres).

No features found

Analysis run 2004-05-12

Buffer distance: 500 ft. (1704.92 acres).

No features found

Analysis run 2004-05-12

Buffer distance: 5280 ft. (19775.92 acres).

No features found

Analysis run 2004-05-12

Comments on Effects to Resources: Numerous resources exist within the 1-mile buffer distance. However, those resources within the 500-ft. buffer distance are most likely to be potentially affected by the proposed project. These resources include: BD00060 (Fort Lauderdale Canoe); and BD02265, BD02266, BD02270, BD02274, BD02304, BD02272, BD02322, BD02324, and BD02325 (all historic structures). Several of which were evaluated as eligible for listing in the National Register of Historic Places.

Additional Comments (optional): Some portions of the project area have been surveyed for historic resources. However, so areas have not. These areas should be identified and subject to a systematic cultural resources assessment survey prior to project construction. The results of the survey should be forwarded to our office for review and comment prior to any ground disturbing activities.

FDOT District 1 Feedback to FL Department of State's Review (07/28/2004): A Cultural Resources Assessment Survey will be completed as part of the Project Development phase, which will capture any historic properties in the project area.

The following organization(s) were expected to but did not submit a review of the Historic and Archaeological Sites issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Recreation Areas Issue

2 *Minimal to None* assigned 12/16/2004 by FDOT District 4

Comments: FHWA review indicates potential effects to recreation areas is minimal to none.

During the Project Development phase of the project, the FDOT will focus on avoidance and minimization on recreation areas. A Section 4 (f) Determination of Applicability may be completed as part of the Project Development Phase if there are any effects to recreational trails.

ETAT Reviews: Recreation Areas Issue: 1 found

2 *Minimal to None* assigned 05/17/2005 by Nahir Detizio, Federal Highway Administration

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: Recreational Trails intercepting or adjacent to the project.

Comments on Effects to Resources: Temporary and permanent effects should be evaluated as impacts may be subject to a Section 4(f) determination of applicability.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Recreation Areas issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Section 4(f) Potential Issue

2 *Minimal to None* assigned 12/16/2004 by FDOT District 4

Comments: FHWA review indicates potential effects to recreation areas is minimal to none.

During the Project Development phase of the project, the FDOT will focus on avoidance and minimization on recreation areas. A Section 4(f) Determination of Applicability may be completed as part of the Project Development Phase if there are any effects to recreational trails.

ETAT Reviews: Section 4(f) Potential Issue: 1 found

2 *Minimal to None* assigned 05/17/2005 by Nahir Detizio, Federal Highway Administration

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: Recreational Trails intercepting or adjacent to the project.

Comments on Effects to Resources: Temporary and permanent project impacts should be evaluated. A Section 4(f) determination of applicability might be required.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Section 4(f) Potential issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

ETAT Reviews and Coordinator Summary: Community Issues

Coordinator Summary: Aesthetics Issue

2 *Minimal to None* assigned 12/16/2004 by FDOT District 1

Comments: FDOT review indicates the degree of effect to Aesthetics is minimal to none.

ETAT Reviews: Aesthetics Issue: 1 found

2 *Minimal to None* assigned 07/05/2004 by Jorge Padron, FDOT District 4

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: None found.

Comments on Effects to Resources: This project will not have an impact on the aesthetic resources in this area.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Aesthetics issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Economic Issue

2 *Minimal to None* assigned 12/16/2004 by FDOT District 1

Comments: FDOT review indicates the degree of effect to Economics is minimal to none.

ETAT Reviews: Economic Issue: 1 found

2 *Minimal to None* assigned 07/05/2004 by Jorge Padron, FDOT District 4

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: Bus Transit Routes within 100 ft.: Bay Winds -Western Downtown Boca.

A variety of land uses are found adjacent to this project.

500 ft: Development REGIONAL Impact: Grocer Center

1 mile: Bus Transit Routes: PGG Mall to Town.

Air Transportation facilities and Airport Runways.

Amtrak Station.

Comments on Effects to Resources: I-95 is a major connector between Northern Broward County/Southern Palm Beach Counties and serves Boca Raton Airport, Florida Atlantic University, Fort Lauderdale-Hollywood International Airport, Palm Beach International Airport, major shopping malls and business centers. It seems that there will be no economic impacts to the resources identified by the GIS database with the Environmental Screening Tool.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Economic issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Land Use Issue

2 *Minimal to None* assigned 12/16/2004 by FDOT District 1

Comments: ETAT review indicates the degree of effect to land use is minimal to none.

ETAT Reviews: Land Use Issue: 2 found

2 *Minimal to None* assigned 07/05/2004 by Jorge Padron, FDOT District 4

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: Existing Land Use within 100 ft. of the project limits is 91.1% Roads and Highways, 5.1% fixed single family units, Multiple Dwelling Units (1% two stories or less), (0.8% three stories or less), and 0.2 Educational Facilities.

Comments on Effects to Resources: The project is compatible with the land use plans and local growth management policies and should no have any significant Land Use issues for this corridor.

Coordinator Feedback: None

2 *Minimal to None* assigned 06/24/2004 by Ken Metcalf, FL Department of Community Affairs

Coordination Document: *The "Coordination Document" option was not available at the time of the review.*

Identified Resources and Level of Importance: None found.

Comments on Effects to Resources: None found.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Land Use issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Mobility Issue

1 *Enhanced* assigned 12/16/2004 by FDOT District 1

Comments: FDOT review indicates the degree of effect to Mobility is enhanced.

ETAT Reviews: Mobility Issue: 1 found

1 Enhanced assigned 07/05/2004 by Jorge Padron, FDOT District 4

Coordination Document: The "Coordination Document" option was not available at the time of the review.

Identified Resources and Level of Importance: None found.

Comments on Effects to Resources: Due to the area's substantial growth in population and employment the widening of I-95 will improve the mobility of people and goods since I-95 is the major north-south transportation arterial within and beyond the region and also serves as a hurricane evacuation route.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Mobility issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Relocation Issue

2 Minimal to None assigned 12/16/2004 by FDOT District 1

Comments: FDOT review indicates the degree of effect to relocation is minimal to none.

ETAT Reviews: Relocation Issue: 1 found

2 Minimal to None assigned 07/05/2004 by Jorge Padron, FDOT District 4

Coordination Document: The "Coordination Document" option was not available at the time of the review.

Identified Resources and Level of Importance: None found.

Comments on Effects to Resources: The widening of I-95 will have no relocation impacts to business, communities, or residents in proximity to the project.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Relocation issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Coordinator Summary: Social Issue

2 Minimal to None assigned 12/16/2004 by FDOT District 1

Comments: FDOT review indicates the degree of effect to social is minimal to none. However, during the project development phase a more detailed Sociocultural effects evaluation and public involvement program will be conducted to identify community issues and concerns.

ETAT Reviews: Social Issue: 1 found

2 Minimal to None assigned 07/05/2004 by Jorge Padron, FDOT District 4

Coordination Document: The "Coordination Document" option was not available at the time of the review.

Identified Resources and Level of Importance: The following resources were identified within:

100ft: Rand Surgical Pavilion Corporation, Pompano Rehab & Nursing Center.

Petroleum Tanks located at Broward County School Board-Teeder ES and SDK Properties. Proposed Recreational Trails: Boca Raton Trails 2003.

Social Service facilities: Pompano Rehabilitation and Nursing Center.

Florida Site File Archeological or Historic Sites: 1.2 acres/ 0.4% Aboriginal boat.

200 ft: Petroleum Tanks located at several locations.

Bright Horizons, Tedder Elementary School, Tedder School.

Florida Site File Historic Standing Structures located within the project: 517 N.W. 10 Avenue, Cohen, WC & Nettie House.

500 ft: Petroleum Tanks located at several locations.

Prospect Road Railroad Station, Westside Park.

New Vistas Assisted Housing.

Solid Waste Facilities: Ft. Lauderdale Fiveash WPT Sludge Disposal.

Henderson Mental Health Center/The Summit.

The project may have some visual impacts on Greenways project: Multi-use Trails modified by public and private landowner's comments.

1 mile: North Broward Hospital, Humana Hospital Cypress, North ridge General Hospital. Several health, retirement, rehabilitation, and nursing facilities.

Fort Lauderdale Executive Airport, Pompano Beach Airpark, SET Helistop.

Historic Bridges: Hillsboro Canal Bridge.

Comments on Effects to Resources: According to the 2000 Census data by block groups (from 100ft. to 1 mile of the project) no negative social, community impacts or Title VI issues should be anticipated but as the project steps forward. A more intensely Sociocultural effects evaluation and public involvement should be done to identify community issues and concerns during the Project Development Phase.

Coordinator Feedback: None

The following organization(s) were expected to but did not submit a review of the Social issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

ETAT Reviews and Coordinator Summary: Secondary and Cumulative Issues

Coordinator Summary: Secondary and Cumulative Effects Issue

No Summary Degree of Effect Found.

ETAT Reviews: Secondary and Cumulative Effects Issue: None found

The following organization(s) were expected to but did not submit a review of the Secondary and Cumulative Effects issue for this alternative: Not Available. Contact the ETDM Help Desk for assistance.

Eliminated Alternatives

No eliminated alternatives present.

Project Scope

General Project Commitments

No General Project Commitments Found

Required Permits

Permit Name	Type	Review Date
Environmental Protection Agency Sole Source Aquifer Review	Federal	07/06/05
Environmental Resource Permit	Water	07/06/05
FDEP NPDES General Permit	Other	07/06/05
Section 404 Water Quality Certification	USACE	07/06/05

Required Technical Studies

Technical Study Name	Type	Review Date
Wetlands Evaluation Report	ENVIRONMENTAL	05/27/04
Cultural Resource Assessment	ENVIRONMENTAL	06/16/04
Contamination Screening Evaluation Report	ENVIRONMENTAL	06/25/04
Contamination Screening Evaluation Report	ENVIRONMENTAL	10/04/04
Wetlands Evaluation Report	ENVIRONMENTAL	10/04/04
Cultural Resource Assessment	ENVIRONMENTAL	10/04/04

Conditions: During a telephone conversation on August 4, 2004 between Richard Young, Ann Broadwell and Patrick Webster of FDOT and John Wrublik of the USFWS it was agreed that although the degree of effect assigned to wildlife and habitat was minimal to none, because the project is located within the Core Foraging Area of the protected Wood Stork an Endangered Species Technical Memorandum will be prepared to address potential impacts to that species and its foraging areas.

Endangered Species Technical Memorandum	Other	10/04/04
Design Traffic Technical Memorandum	ENGINEERING	07/06/05
Drainage/Pond Siting Report	ENGINEERING	07/06/05
Conceptual Design Roadway Plan Set	ENGINEERING	07/06/05
Typical Section Package	ENGINEERING	07/06/05
Value Engineering Information Report	ENGINEERING	07/06/05
Advance Notification/ICAR Package	ENVIRONMENTAL	07/06/05
Public Involvement Plan	ENVIRONMENTAL	07/06/05
Noise Study Report	ENVIRONMENTAL	07/06/05
Air Quality Report	ENVIRONMENTAL	07/06/05
Public Hearing Transcript	ENVIRONMENTAL	07/06/05
Project Development Summary Report	Other	07/06/05
Permits Application Package	Other	07/06/05
WQIE	Other	07/06/05

Class of Action

Class of Action Determination

Class of Action: Categorical Exclusion with **Lead Agency** Federal Highway Administration

Other Actions: None

Class of Action Signatures

ACCEPTED by Richard Young, FDOT ETDM Coordinator for FDOT District 4 on 08/17/2004

ACCEPTED by Nahir Detizio, Lead Agency ETAT Member for Federal Highway Administration on 11/05/2004

Dispute Resolution Activity Log

No Dispute Actions Found.

Project-Level Hardcopy Maps

No Project-Level Hardcopy Maps Available.

Appendices

Degree of Effect Legend

Legend			
Color Code	Meaning	ETAT	Public Involvement
N/A	Not Applicable / No Involvement	There is no presence of the issue in relationship to the project, or the issue is irrelevant in relationship to the proposed transportation action.	
0	None (after 12/5/2005)	The issue is present, but the project will have no impact on the issue; project has no adverse effect on ETAT resources; permit issuance or consultation involves routine interaction with the agency. The <i>None</i> degree of effect is new as of 12/5/2005.	No community opposition to the planned project. No adverse effect on the community.
1	Enhanced	Project has positive effect on the ETAT resource or can reverse a previous adverse effect leading to environmental improvement.	Affected community supports the proposed project. Project has positive effect.
2	Minimal	Project has little adverse effect on ETAT resources. Permit issuance or consultation involves routine interaction with the agency. Low cost options are available to address concerns.	Minimum community opposition to the planned project. Minimum adverse effect on the community.
2	Minimal to None (assigned prior to 12/5/2005)	Project has little adverse effect on ETAT resources. Permit issuance or consultation involves routine interaction with the agency. Low cost options are available to address concerns.	Minimum community opposition to the planned project. Minimum adverse effect on the community.
3	Moderate	Agency resources are affected by the proposed project, but avoidance and minimization options are available and can be addressed during development with a moderated amount of agency involvement and moderate cost impact.	Project has adverse effect on elements of the affected community. Public Involvement is needed to seek alternatives more acceptable to the community. Moderate community interaction will be required during project development.
4	Substantial	The project has substantial adverse effects but ETAT understands the project need and will be able to seek avoidance and minimization or mitigation options during project development. Substantial interaction will be required during project development and permitting.	Project has substantial adverse effects on the community and faces substantial community opposition. Intensive community interaction with focused Public Involvement will be required during project development to address community concerns.
5	Potential Dispute (Planning Screen)	Project may not conform to agency statutory requirements and may not be permitted. Project modification or evaluation of alternatives is required before advancing to the LRTP Programming Screen.	Community strongly opposes the project. Project is not in conformity with local comprehensive plan and has severe negative impact on the affected community.
5	Dispute Resolution (Programming Screen)	Project does not conform to agency statutory requirements and will not be permitted. Dispute resolution is required before the project proceeds to programming.	Community strongly opposes the project. Project is not in conformity with local comprehensive plan and has severe negative impact on the affected community.
	No ETAT Consensus	ETAT members from different agencies assigned a different degree of effect to this project, and the ETDM coordinator has not assigned a summary degree of effect.	
	No ETAT Reviews	No ETAT members have reviewed the corresponding issue for this project, and the ETDM coordinator has not assigned a summary degree of effect.	

GIS Analyses

Since there are so many GIS Analyses available for Project #3330 - I-95 add lanes and reconstruct - Commercial to Glades , they have not been included in this ETDM Summary Report. GIS Analyses, however, are always available for this project on the Public ETDM Website. Please click on the link below (or copy this link into your Web Browser) in order to view detailed GIS tabular information for this project:

<http://etdmpub.fl-a-etat.org/est/index.jsp?tpID=3330&startPageName=GIS%20Analysis%20Results>

Special Note: Please be sure that when the GIS Analysis Results page loads, the **Programming Screen Summary Report Published on 09/29/2005 Milestone** is selected. GIS Analyses snapshots have been taken for Project #3330 at various points throughout the project's life-cycle, so it is important that you view the correct snapshot.

Project Attachments

Note: Attachments are not included in this Summary Report, but can be accessed by clicking on the links below:

Date	Type	Size	Link / Description
	Ancillary Project Documentation	951 KB	http://etdmpub.fl-a-etat.org/est/servlet/blobViewer?blobID=69
	Photo	1.29 MB	http://etdmpub.fl-a-etat.org/est/servlet/blobViewer?blobID=148



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