

Noise Study Report

State Road 869 / SW 10th Street Connector

Project Development and Environment (PD&E) Study

SW 10th Street from Florida's Turnpike / Sawgrass
Expressway to West of I-95 (SR 869/Sawgrass Expressway MP
20.672 to MP 21.835 and SW 10th Street MP 0.00 to 1.922)

ETDM No.: 14291 / FAP No.: TBD

Financial Project ID No. 439891-1-22-02

Broward County, Florida



Prepared for:
FDOT District Four
3400 W. Commercial Blvd.
Ft. Lauderdale, FL 33309

April 2021

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated December 14, 2016 and executed by the Federal Highway Administration and FDOT.

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For the SR 869/SW 10th Street Connector PD&E Study
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1.0 Introduction

The Florida Department of Transportation (FDOT) is evaluating alternatives to improve SR 869 (SW 10th Street) from Sawgrass Expressway/Florida's Turnpike to west of I-95, a distance of approximately three miles. The project is in Broward County, Florida within the municipality of Deerfield Beach. **Figure 1.1.1** shows the limits of the SW 10th Street Connector PD&E Study. As part of this PD&E Study, a traffic noise study was performed. The traffic noise study was performed in accordance with the Federal Highway Administration's (FHWA) Noise Standard, Title 23 of the Code of Federal Regulations, Part 772 (23 CFR 772), Procedures for Abatement of Highway Traffic Noise and Construction Noise (July 13, 2010), the FDOT's PD&E Manual, Part 2, Chapter 18, Highway Traffic Noise (July 1, 2020), and FDOT's Traffic Noise Modeling and Analysis Practitioners Handbook (December 31, 2018).

The primary objectives of this noise study were to:

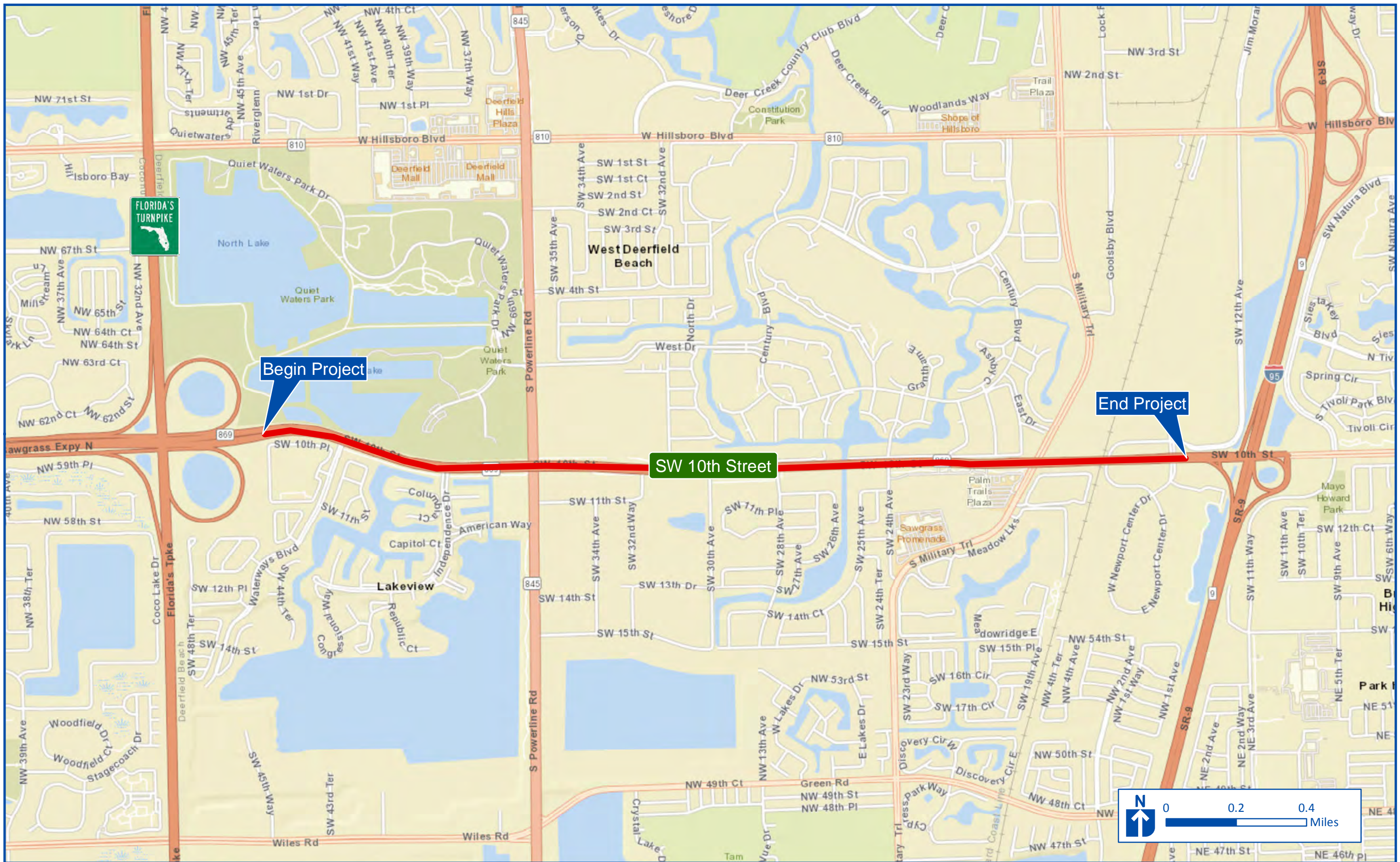
- Describe the existing site conditions including noise sensitive land uses within the project limits;
- Document the methodology used to conduct the noise assessment;
- Assess the significance of traffic noise levels on noise sensitive sites for the No-Build and Build Alternatives; and
- Evaluate abatement measures for those noise sensitive sites that, under the Build Alternatives, approach or exceed the Noise Abatement Criteria (NAC) set forth by the FDOT and FHWA or where a substantial increase occurs.

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

The purpose of this Noise Study Report is to present the findings of the traffic noise analysis. This report also provides technical documentation for the findings described in the project's Preliminary Engineering Report (PER) and Type 2 Categorical Exclusion Environmental Determination Form.

1.1 Project Description

SW 10th Street currently consists of six lanes (three in each direction) from Florida's Turnpike to SR 845 (Powerline Road), four lanes (two in each direction) from Powerline Road to east of Military Trail, and five lanes (two westbound and three eastbound) from west of Military



State Road 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike /
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Figure 1.1.1
 Project Location Map

Trail to I-95. This segment of SW 10th Street is functionally classified as a Divided Urban Principal Arterial and has posted speed limits of 45 miles per hour from Florida's Turnpike to Military Trail, and 40 miles per hour from Military Trail to I-95. The access management classification from Florida's Turnpike to Powerline Road is Class 1. East of Powerline Road, the access management classification is Class 3. The context classification from Florida's Turnpike to just east of Military Trail is Suburban Residential (C3R) and from just east of Military Trail to I-95 the context classification is Suburban Commercial (C3C).

Within the project area, SW 10th Street is an east-west principal arterial that connects three limited access facilities: Florida's Turnpike, Sawgrass Expressway, and I-95. SW 10th Street is part of the state's Strategic Intermodal System (SIS) and the National Highway System (NHS). In addition, SW 10th Street is designated as an evacuation route. In its existing condition, SW 10th Street from Sawgrass Expressway/Florida's Turnpike to I-95 is a missing link in the limited access roadway network. The project proposes to add a limited access facility alongside the existing arterial facility to close the gap and provide a continuous high-speed link while maintaining a separate arterial corridor for SW 10th Street.

The proposed improvements are expected to reduce the amount of traffic on Local SW 10th Street by allowing vehicles to bypass the local road network and utilize the limited access/managed lane facility. The ability to provide relief for local traffic is an objective of the improved connectivity between the three limited access facilities and is accomplished by providing dual systems (local access and limited access) within the existing SW 10th Street corridor. Improvements are planned for the interchange at the Sawgrass Expressway/Florida's Turnpike [Financial Project ID Number (FPID): 437153-1] to the west and I-95 at SW 10th Street interchange (FPID: 436964-1) to the east.

In this document, the term "managed lanes" is used to describe the proposed limited access connection between the existing limited access facilities of I-95 and the Sawgrass Expressway. Through this PD&E Study, the FDOT has determined that the managed lanes proposed in this study will not be tolled initially but will provide a high-speed connection to adjacent tolled express lanes on I-95 and the Sawgrass Expressway. The SW 10th Street managed lanes, also referred to as the "Connector Road" will not have semi-truck restrictions, which is a change in FDOT policy.

1.2 Purpose and Need

The purpose of this project is to improve regional connectivity by providing a separate limited access connection between the Sawgrass Expressway and I-95 which will increase capacity and improve existing operational and safety deficiencies along SW 10th Street between the

Sawgrass Expressway, Florida's Turnpike and I-95 while also improving the regional transportation network.

The primary need for this project is to improve system linkage, improve operational deficiencies, and safety on SW 10th Street, with secondary considerations for the needs of modal interrelationships, transportation demand, social demands and economic development, and emergency response/evacuation. The primary and secondary needs for the project are discussed in further detail below.

1.2.1 Project Status

The SW 10th Street Connector project is in the Broward Metropolitan Planning Organization (MPO) jurisdiction. The Broward MPO Transportation Improvement Program (TIP) Fiscal Year 2020 – 2024 Administrative Modification includes funding for the SW 10th Street Connector from Powerline Road to west of Military Trail Project for Preliminary Engineering, Right-of-Way, and Construction. The FDOT State Transportation Improvement Program (STIP) 2019 includes funding for Preliminary Engineering and Right-of-Way. Funding for a Design-Build method of delivery is included beyond year 2023. The FDOT SIS Adopted Five Year Plan includes funding for the SW 10th Street Connector from Powerline Road to west of Military Trail Project for Preliminary Engineering, Right-of-Way, and Construction. The Broward MPO Commitment 2045 Metropolitan Transportation Plan (MTP) also includes funding for Preliminary Engineering, Right-of-Way, and Construction.

The TIP and STIP have slightly different total funding amounts, \$443 million versus \$435 million, respectively. However, the 2020 STIP is anticipated to bring the total and breakdown per phase into alignment. However, the TIP, STIP, and MTP have different physical project limits than the proposed PD&E Study. The planning documents include SW 10th Street from Powerline Road to Military Trail whereas, this PD&E Study extends the limits along SW 10th Street from the Sawgrass Expressway/Florida's Turnpike to just west of I-95. The PD&E study limits originally matched the planning documents; however, the limits were extended in order to provide independent utility and a more logical termini for the project. The FDOT is coordinating with the Broward MPO to update the TIP and MTP to reflect the current study limits.

1.2.2 System Linkage

Within the project area, SW 10th Street is part of the state's SIS and the NHS. The SIS is an intermodal network of transportation facilities that are designed to provide the highest degree of mobility for people and goods traveling throughout Florida. The SIS is an integral piece of Florida's goal to enhance economic competitiveness and quality of life for its citizens and visitors. The NHS is a network of strategic highways within the United States, including

the Interstate Highway System and other roads serving major airports, ports, rail or truck terminals, railway stations, pipeline terminals and other strategic transport facilities.

The SW 10th Street corridor provides the opportunity for commuters and local residents to connect to three major limited access facilities: Florida's Turnpike, Sawgrass Expressway, and I-95. The ability to provide relief for local traffic is a component of the proposed connectivity improvements between the three limited access facilities by providing dual systems (Local Access and Limited Access) within the SW 10th Street right-of-way. These facilities are also on the regional freight network as identified in the March 2010 South Florida Regional Freight Plan (Project #269). Florida's Turnpike provides limited access north-south connectivity from Miami-Dade County to Orlando and connects to I-75 northwest of Orlando. The Sawgrass Expressway provides limited access connectivity from the I-75/I-595 Interchange to Florida's Turnpike and SW 10th Street Interchange. I-95 is the primary north-south interstate facility that links all major cities along the Atlantic Seaboard. This project introduces a new limited access connection between the Sawgrass Expressway and I-95 that provides regional connectivity by completing a missing link of the existing limited access network, while also providing congestion relief on the local facility and thus improving operational safety of all the facilities.

The SW 10th Street Connector PD&E Study has been advanced to move forward in coordination with the I-95 from SW 10th Street to Hillsboro Boulevard PD&E Study (FPID: 436964-1) to the east as well as the Sawgrass Expressway widening and interchange PD&E Study (FPID: 437153-1) to the west.

1.2.3 Transportation Demand

Transportation demand is evaluated based on current and historical traffic volumes and traffic characteristics such as turning movement counts, peaking, directional factors, ridership data, and bicycle and pedestrian activities. A need exists to improve local and regional traffic operations along the SW 10th Street corridor. Traffic volumes along SW 10th Street between the Sawgrass Expressway/Florida's Turnpike and I-95 have consistently increased over the past 15 years and are expected to continue to grow over the next 20 years. The 2016 Average Annual Daily Traffic (AADT) on SW 10th Street was as follows:

- Sawgrass Expressway/Florida's Turnpike to Powerline Road experienced an AADT of 38,000 vehicles per day (vpd);
- Powerline Road to Military Trail has an AADT of 46,000 vpd; and
- Military Trail to I-95 experienced an AADT of 54,000 vpd.

The existing traffic on SW 10th Street between Powerline Road and I-95 exceeds the capacity of a four-lane arterial roadway which can accommodate approximately 40,000 vpd. The

capacity of SW 10th Street from Sawgrass Expressway/Florida's Turnpike to Powerline Road is 60,000 vpd. With the anticipated growth and the combination of local traffic and those travelers going from one limited access facility to the next, this segment is expected to reach capacity before 2040.

Additionally, five intersections currently fall below acceptable Level of Service (LOS) targets (LOS D or better) during either the AM or PM peak during the existing conditions:

- SW 10th Street at Powerline Road operates at LOS F in both the AM and PM peak;
- SW 10th Street at SW 30th Avenue operates at LOS F in both the AM and PM peak;
- SW 10th Street at SW 24th Avenue operates at LOS F in both the AM and PM peak;
- SW 10th Street at Military Trail operates at LOS F in both the AM and PM peak; and
- SW 10th Street at the I-95 Northbound ramps operate at LOS D in the AM peak and LOS F in the PM peak.

These conditions are existing concerns and are projected to worsen in the future if no action is taken. Even with an assumed 10 percent travel time savings or reduction in delay from possible traffic signal optimization, the peak hour operations are not anticipated to operate at an acceptable LOS. Additional information on the existing and future traffic conditions can be found in the Project Traffic Analysis Report (PTAR), available under separate cover.

1.2.4 Social Demand and Economic Development

Social and economic demands on the SW 10th Street corridor will continue to increase as population and employment increase in Broward County, and the greater south Florida region. The University of Florida Bureau of Economic and Business Research (BEBR) high end estimate predicts Broward County's population will grow to 2.3 million by 2040, an increase of 34 percent from the year 2011. This regional population growth will increase travel demands on the SW 10th Street corridor. Due to the built-out nature of the local area surrounding the SW 10th Street corridor, the growth will occur in the region, necessitating connections between the limited access facilities.

Multiple residential developments and businesses are located along the SW 10th Street corridor; therefore, this project will consider livability issues as well as vehicular movement. Capacity improvements to SW 10th Street have previously not advanced to design and construction. However, the Broward MPO Board directed its staff to reach out to communities along the corridor and initiate a consensus building effort to evaluate the best way to accommodate the long-term traffic demands as well as the local community considerations. As part of this consensus-building effort, the Community Oversight Advisory Team (COAT), was assembled to represent the communities along the corridor, as well as throughout the greater north Broward County area, to identify the long-term opportunities and vision for

the corridor. The COAT developed recommendations for the corridor to be considered by the FDOT in evaluating improvements during the PD&E Study.

1.2.5 Modal Interrelationships

Currently, SW 10th Street has five-foot paved shoulders that are designated bicycle lanes in both directions. Existing sidewalks are located along SW 10th Street's eastbound and westbound lanes from Military Trail to I-95; however, from Waterways Boulevard to Military Trail, sidewalks are only present in the eastbound direction. No Broward County Transit (BCT) services are present along SW 10th Street. However, Military Trail and Powerline Road both have transit options, Tri-Rail and Broward County Bus Route No. 14, respectively. The City of Deerfield Beach has partnered with BCT to provide Express I and II routes which is a community bus service. Express I and II Bus Routes are available Monday through Friday from 8 a.m. to 4 p.m. Express Bus I Route utilizes SW 10th Street from the eastern project limits to Powerline Road. The Express I Route has one stop adjacent to the corridor - Stop 5 (Walmart). Express II Route utilizes SW 10th Street outside of the project limits. The Broward MPO assigned a LOS F to the bicycle, pedestrian, and transit services along SW 10th Street. Additionally, the 2045 SIS Multi-Modal Unfunded Needs Plan listed adding capacity to this segment of SW 10th Street as a needed improvement. The proposed improvements will provide future accommodations for bicyclist and pedestrians, and transit modes.

1.2.6 Traffic Safety

From 2012 to 2016, the SW 10th Street project corridor experienced a total of 896 crashes of which 342 were injury crashes and one was a fatal crash. The majority of crashes were rear end collisions accounting for 490 crashes, followed by angle collisions accounting for 102 crashes, and 97 sideswipe crashes. The total number of crashes has increased over the five-year period, with an average of 179 crashes per year. This project seeks to reduce congestion and improve operations, thus mitigating existing crash patterns. The project also aims to enhance corridor safety through the addition of improved bicycle/pedestrian features along Local SW 10th Street. Additional crash information and analysis is located in the PTAR, available under separate cover.

SW 10th Street, Florida's Turnpike, Sawgrass Expressway, and I-95 are part of the emergency evacuation network as designated by both the Florida Division of Emergency Management (FDEM) and Broward County. SW 10th Street moves traffic from the east to I-95, Florida's Turnpike, and the Sawgrass Expressway. The project is anticipated to improve emergency evacuation by enhancing capacity and connectivity to major arterials designated on the state evacuation route. Improved travel times would also result in improved emergency response for local residents and for transport to regional facilities. Broward County Fire and Rescue

Station 66 is located at 590 South Powerline Road, approximately 0.3 miles to the north of the study area.

1.3 Existing Conditions

1.3.1 Typical Sections

SW 10th Street is a four-lane to six-lane divided, urban principal arterial and is a designated SIS facility. Sidewalk is present on at least one-side of the road for the entire corridor. Bicycle lanes are sporadic along the corridor. The existing SW 10th Street typical sections are shown in **Figures 1.3.1, 1.3.2, 1.3.3** and **1.3.4** located at the end of this section.

SW 10th Street from the end of the Sawgrass Expressway to Powerline Road (~0.8 miles) typical section (see **Figure 1.3.1**) consists of:

- Three to four 12-foot travel lanes in each direction;
- Five-foot sidewalk on the south side of SW 10th Street starting east of Waterways Boulevard;
- Raised median varies from 30 to 65 feet; and
- Right-of-way width of 250 feet.

SW 10th Street from Powerline Road to Quiet Waters Business Park Entrance Road (~0.4 miles) typical section (see **Figure 1.3.2**) consists of:

- Three 12-foot travel lanes in each direction;
- Five-foot paved shoulders that serve as bicycle lanes in both directions;
- Six-foot sidewalk on both sides of SW 10th Street;
- 28-foot raised median; and
- Right-of-way width of 316 feet.

SW 10th Street from Quiet Waters Business Park Entrance Road to Military Trail (~1.1 miles) typical section (see **Figure 1.3.3**) consists of:

- Two 12-foot travel lanes in each direction;
- Five-foot paved shoulders that serve as bicycle lanes in both directions;
- Six-foot sidewalk on the south side of SW 10th Street;
- 16-foot raised median; and
- Right-of-way width that varies from 215 feet to 300 feet.

SW 10th Street from Military Trail to East Newport Center Drive (~0.4 miles) typical section (see **Figure 1.3.4**) consists of:

- Three 11-foot travel lanes in each direction;
- Three-foot paved shoulder;
- Five-foot curb-line sidewalk on both sides of SW 10th Street;
- Variable width raised median (15 feet to 26 feet); and
- Right-of-way width of approximately 250 feet.

Figure 1.3.1 Existing SW 10th Street Typical Section - Sawgrass Expressway to Powerline Road

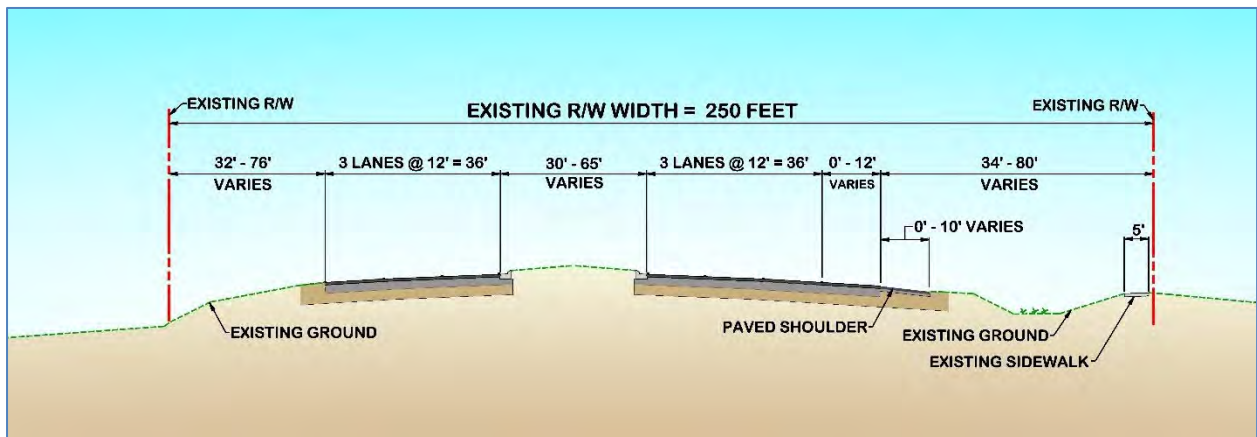


Figure 1.3.2 Existing SW 10th Street Typical Section - Powerline Road to Quiet Water Business Park Entrance Road

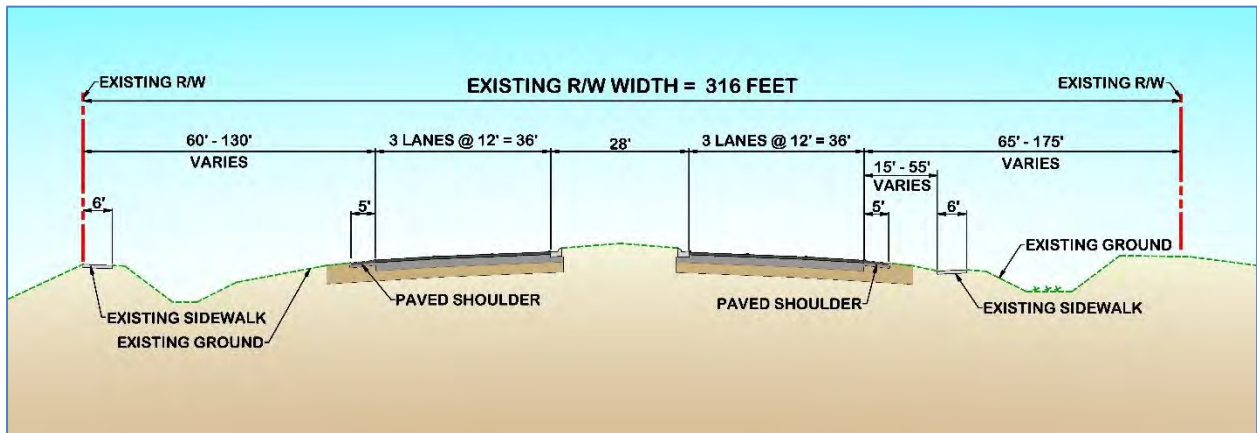


Figure 1.3.3 Existing SW 10th Street Typical Section - Quiet Water Business Park Entrance Road to Military Trail

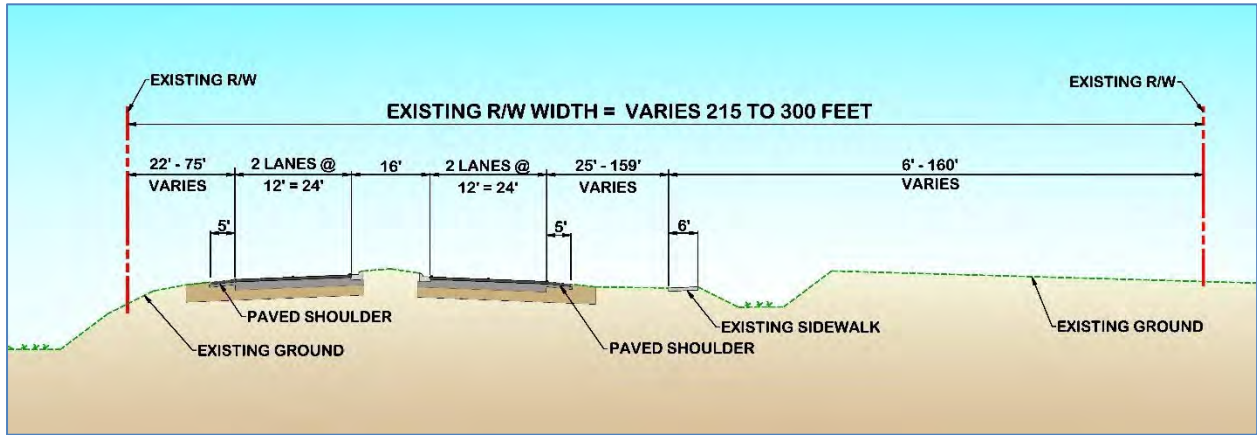
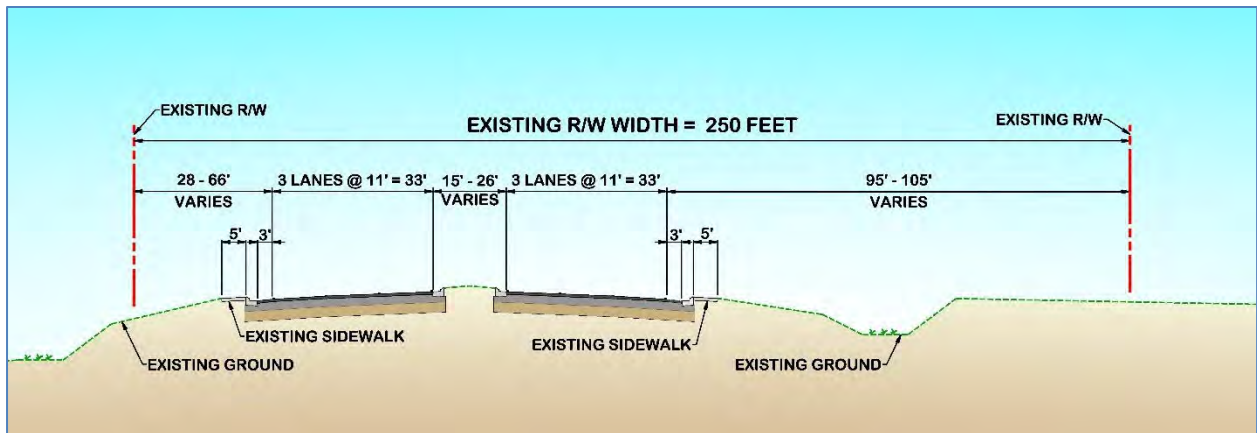


Figure 1.3.4 Existing SW 10th Street Typical Section - Military Trail to East Newport Center Drive



1.4 Project Alternatives

1.4.1 No Action Alternative

The No Action Alternative, as its name implies, retains the existing roadway characteristics. Under this scenario, the existing SW 10th Street corridor would not be improved and conditions would continue to deteriorate. The No Action Alternative has certain advantages and disadvantages. The advantages of the No Action Alternative include:

- No expenditure of public funds;
- No disruption or temporary impacts (air, noise, vibration, and travel patterns) due to construction activities; and
- No right-of-way acquisitions.

The disadvantages of the No Action Alternative include:

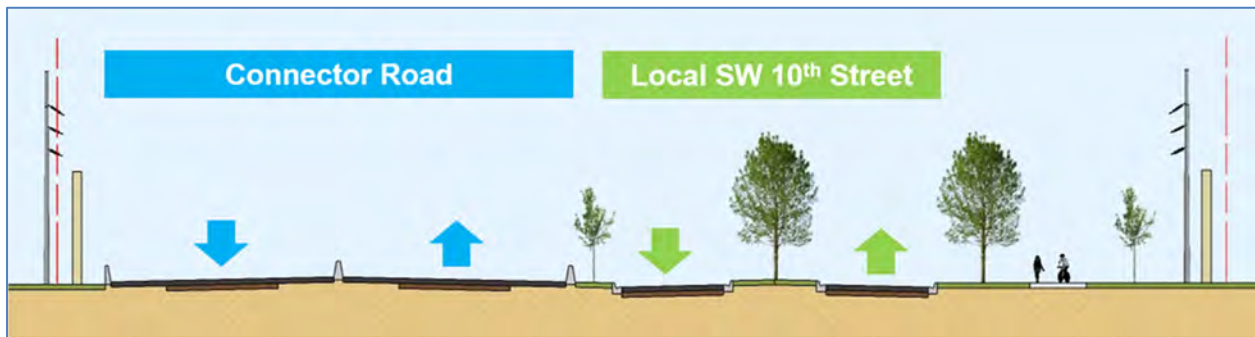
- Does not meet the project purpose and need;
- Increased vehicular congestion and delay, which leads to increased travel, time, and delay costs;
- Increased safety concerns;
- Increased emergency response and evacuation time; and
- Decreased air quality.

A noteworthy point is that the No Action Alternative assumes that the adjacent I-95 interchange improvements are implemented, including the proposed flyovers to and from I-95 and SW 10th Street. These flyovers will need to tie into existing SW 10th Street. This scenario would be difficult to implement due to the merging distance needed in advance of the local intersections. In addition, this option requires reconstruction of a portion of SW 10th Street just west of Military Trail to provide space for the ramp terminals and associated mechanical stabilized earth (MSE) walls for the rising flyover ramp profiles.

1.4.2 Build Alternatives

The SW 10th Street project is unique in that it seeks to provide a corridor featuring dual facilities: a four-lane, low-speed roadway serving the local community and a four-lane, high-speed limited access facility serving I-95 on the east and Sawgrass Expressway on the west, as shown in **Figure 1.4.1** below.

Figure 1.4.1: Dual Facilities in One Corridor



The Connector Road features two 12-foot lanes, 12-foot inside paved shoulders, and 12-foot paved outside shoulders in each direction separated by a center barrier wall. Barrier wall is also present along the edge of the paved outside shoulders. The Local SW 10th Street typical section features two 11-foot travel lanes in each direction, curb and gutter, a raised median, and a 12-foot wide shared use path.

Two Build Alternatives were presented at the Public Hearing. The fundamental difference between the alternatives is whether the two local access ramps just east of Powerline Road are present. The two alternatives are named: With Powerline Road Ramps Alternative (With Ramp Alternative), and Without Powerline Road Ramps Alternative (Without Ramp Alternative). Both alternatives include the typical section described above and have the following Local SW 10th Street ramp connections:

- Eastbound Egress Ramp – Vehicles traveling eastbound on the Connector Road can exit to Local SW 10th Street just prior to Newport Center; and
- Westbound Ingress Ramp – Vehicles traveling westbound on Local SW 10th Street and vehicles traveling eastbound on local SW 12th Avenue can access the Connector Lanes just east of the railroad.

The With Powerline Road Ramps Alternative also includes two additional connections:

- Westbound Egress Ramp – Vehicles traveling westbound on the Connector Road can exit to Local SW 10th Street just east of Powerline Road; and
- Eastbound Ingress Ramp – Vehicles traveling eastbound on Local SW 10th Street can access the Connector Road just east of Powerline Road.

The westbound egress ramp from the Connector Road to Local SW 10th Street is a left-hand exit that transitions below-grade to braid beneath the at-grade eastbound connector lanes. The westbound egress ramp is proposed to be a depressed ramp, to minimize the use of overpasses adjacent to residential properties. The Without Powerline Road ramp does not include the two above connections which leaves additional green space in the middle of the corridor near multiple residential neighborhoods.

Both Alternatives carry the managed lanes over Powerline Road and Military Trail and provide connections to and from the Sawgrass Expressway via a braided ramp with the westbound local lanes accessing the Sawgrass Expressway by passing over the eastbound Connector Road. The Connector Road also has connections to the I-95 express lanes and general purpose lanes in each direction. The ramp connections to I-95 are included in the I-95 from SW 10th Street to Hillsboro Boulevard PD&E Study (FPID: 436964-1-22-01). Section 6 of the PER contains a detailed description of both these alternatives. The preliminary roadway concept plan and profile sheets and the proposed typical sections for these alternatives can be found in the **PER** in **Appendix C** and **E**, respectively. For reference, the concept plans for the Build Alternatives with Powerline Road Ramps and without Powerline Road Ramps are included in **Appendix D (Sheets C-1 through C-14 and C-15 through C-28, respectively)**. The design concepts are also shown on the Noise Analysis Maps for each of the Build Alternatives (see **Figure 3.1-1** and **3.2-1**, in **Appendix B**).

2.0 Methodology

This study was conducted based on the methodology described in the FDOT's PD&E Manual, Part 2, Chapter 18, *Highway Traffic Noise* (July 1, 2020) and FDOT's Traffic Noise Modeling and Analysis Practitioners Handbook (December 31, 2018) and performed in accordance with Title 23 CFR Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (July 13, 2010). The noise study involved the following procedures:

- Field Measurement of Noise Levels and Noise Model Validation (see **Section 3.1**);
- Identification of Noise Sensitive Receptor Sites (see **Section 3.2**);
- Prediction of Existing and Future Noise Levels (see **Section 3.2**);
- Assessment of Traffic Noise Impacts (see **Section 3.2**); and
- Consideration of Noise Barriers as a Noise Abatement Measure (see **Sections 3.2.1 through 3.2.5**).

FHWA's Traffic Noise Model (TNM) Version 2.5 (February 2004) is the latest approved model and was used to predict existing and future traffic noise levels and to analyze the effectiveness of noise barriers, where warranted. This model estimates the acoustic intensity at noise sensitive receptor sites from a series of roadway segments (the source). Model-predicted noise levels are influenced by several factors, such as vehicle speed and distribution of vehicle types. Noise levels are also affected by characteristics of the source-to-receptor site path, including the effects of intervening barriers, structures (houses, trees, etc.), ground surface type (hard or soft), and topography.

Representative receptor sites were used as inputs to the TNM 2.5 to estimate noise levels associated with existing and future conditions within the project limits. These sites were chosen based on noise sensitivity, roadway proximity, anticipated impacts from the proposed project, and homogeneity (i.e., the site is representative of other nearby sites). For single-family residences, traffic noise levels were predicted at the edge of the dwelling unit closest to the nearest primary roadway. For other noise sensitive sites that may be impacted, traffic noise levels were predicted where the exterior activity occurs. For the prediction of interior noise levels, receptor sites were placed ten feet inside the building at the edge closest to the roadway. Building noise reduction factors identified in Table 18.3 in Part 2, Chapter 18 of the PD&E Manual and window conditions were used to estimate noise reduction due to the physical structure.

The following sections describe the noise metrics, traffic data, and noise abatement criteria used in this study, as well as the existing and future land uses within the project area.

2.1 Noise Metric

Noise levels documented in this report represent the hourly equivalent sound level [Leq(h)]. Leq(h) is the steady-state sound level, which contains the same amount of acoustic energy as the actual time-varying sound level over a 1-hour period. Leq(h) is measured in A-weighted decibels [dB(A)], which closely approximate the human frequency response. Sound levels of typical noise sources and environments are provided in **Table 2.1-1** as a frame of reference.

Table 2.1-1: Sound Levels of Typical Noise Sources and Environments

COMMON OUTDOOR ACTIVITIES	NOISE LEVEL dB(A)	COMMON INDOOR ACTIVITIES
Jet Fly-over at 1000 ft	---110---	Rock Band
Gas Lawn Mower at 3 ft	---100---	
Diesel Truck at 50 ft, at 50 mph	---90---	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noise Urban Area (Daytime)	---80---	Vacuum Cleaner at 10 ft Normal Speech at 3 ft
Gas Lawn Mower at 100 ft	---70---	Large Business Office Dishwasher Next Room
Commercial Area	---60---	
Heavy Traffic at 300 ft	---50---	Theater, Large Conference Room (Background) Library
Quiet Urban Daytime	---40---	Bedroom at Night, Concert Hall (Background)
Quiet Urban Nighttime	---30---	
Quiet Suburban Nighttime	---20---	
Quiet Rural Nighttime	---10---	
Lowest Threshold of Human Hearing	---0---	Lowest Threshold of Human Hearing

Source: California Dept. of Transportation Technical Noise Supplement, Oct. 1998, Page 18.

2.2 Traffic Data

The traffic data used in the noise analysis is from the State Road 869/SW 10th Street Connector PD&E Study Project Traffic Analysis Report (June 2020). The peak hour traffic volumes for the existing and the future design year (2040) conditions, as well as the LOS C volumes, are presented in **Table 2.2-1 (Appendix A)**. **Table 2.2-1** also summarizes the traffic data used in the prediction of traffic noise levels by vehicle type (cars, medium trucks, heavy trucks, buses, and motorcycles) for the Existing Conditions, the No Build Alternative, and the Build Alternative. The traffic volumes used to predict noise levels included the lesser of either the traffic capacity of the roadway at LOS C or the projected traffic demand of the

roadway. These traffic volumes can be expected to produce the loudest noise traffic conditions likely to occur during the design year.

2.3 Noise Abatement Criteria

The FHWA has established Noise Abatement Criteria (NAC) for land use activity categories, which are presented in **Table 2.3-1**. Maximum noise threshold levels, or criteria levels, have been established for five of the seven activity categories. These criteria determine when an impact occurs and when consideration of noise abatement is required. Noise abatement measures must be considered when predicted noise levels approach or exceed the NAC levels or when a substantial noise increase occurs. A substantial noise increase occurs 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 1.0 dB(A) of the FHWA criteria.

Noise sensitive receptor sites include properties where frequent exterior human use occurs and where a lowered noise level would be of benefit. This includes lands where serenity and quiet are of extraordinary significance such as The Tomb of the Unknown Soldier at Arlington National Cemetery (Activity Category A); residential land use (Activity Category B); a variety of nonresidential land uses not specifically covered in Category A or B including parks and recreational areas, medical facilities, schools, and places of worship (Activity Category C); and commercial and developed properties including offices, hotels, and restaurants with exterior areas of use (Activity 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, schools, and television studios (Activity Category D). Categories F and G, which include commercial and developed properties without exterior areas of use, do not have noise abatement criteria levels. Category F includes land uses such as industrial and retail facilities that are not considered noise sensitive. Category G includes undeveloped lands.

2.4 Noise Abatement Measures

When traffic noise associated with a proposed project is predicted to approach or exceed the NAC at a noise sensitive site, noise abatement measures must be considered in accordance with 23 CFR Part 772. 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, noise barriers must be long, continuous (i.e., no intermittent openings), and have sufficient height to block the

Table 2.3-1: Noise Abatement Criteria [Hourly A-Weighted Sound Level 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, amphitheatres, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	51	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E ²	72	71	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	-	-	-	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	-	-	-	Undeveloped lands that are not permitted.

(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.

path between the noise source and the receptor site. The FHWA's Analysis and Abatement Guidance (December 2010) indicates the ends of the noise barriers should, in general, extend in each direction four times as far as the distance from the receptor site to the noise barrier.

Other abatement measures that were considered but were determined not to be feasible or reasonable for this project include traffic management, alignment modification, and property acquisition. Traffic management measures such as traffic control devices, prohibition of certain vehicle types, time-use restriction for certain vehicle types, modified speed limits, and exclusive lane designation applied for the purpose of reducing traffic noise levels would impede the operational characteristics of this facility. The project corridor includes existing commercial and residential development on both sides of SW 10th Street. Shifting the alignments or modifications to the proposed alignments would directly impact these areas and result in substantial socio-economic effects and additional project costs. Acquisition of right-of-way from the noise sensitive properties impacted by the project would be more expensive and disruptive than the other noise abatement measures.

For noise abatement measures to be recommended for further consideration in the Final Design phase of the project, they must be determined to be both feasible and reasonable. A wide range of factors are used to evaluate the feasibility and reasonableness of noise abatement measures. Feasibility deals with engineering considerations, including the ability to construct a noise barrier using standard construction methods and techniques as well as with the ability to provide a reduction of at least 5 dB(A) to the impacted receptor sites. For example, given the topography of a location, can the minimum noise reduction [5.0 dB(A)] be achieved given certain access, drainage, utility, safety, and maintenance requirements? In addition, for a noise barrier to be considered acoustically feasible, at least two impacted receptor sites must achieve at least a 5 dB(A) reduction.

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 abatement, the amount of noise abatement benefit, and the consideration of the viewpoints of the impacted and benefited property owners and tenants. To be deemed reasonable, the noise barrier, or other noise abatement measure, needs to be equal to or below FDOT's reasonable cost criteria (described below), must attain FDOT's noise reduction design goal of 7 dB(A) at one or more benefited receptor sites, and must be supported by a majority of the property owners and tenants benefited by the proposed abatement measure.

The evaluation of noise barriers for impacted residential (Activity Category B) and non-residential areas (Activity Categories A, C, D, and E) are based on different methods and are evaluated separately. When determining the cost reasonableness of a conceptual noise barrier design for a residential area, \$42,000 per benefited receptor site is considered the

upper limit, using the standard construction cost of \$30.00 per square foot. A benefited receptor is defined as a noise sensitive site that will obtain a minimum of 5.0 dB(A) of noise reduction as a result of a specific noise abatement measure regardless of whether or not they are identified as impacted. Only benefited receptors are included in the calculation of reasonable cost for a particular noise abatement measure.

Noise barriers for non-residential areas are assessed using FDOT's "A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations (July 22, 2009)". The cost reasonableness of this method is based on the number of people (i.e., person-hours per day) benefited by a noise barrier under consideration. Using this methodology, to be considered cost reasonable, the cost of the noise barrier must have an Abatement Cost Factor less than \$995,935 per person-hour per square foot. The Abatement Cost Factor represents the upper limit of the cost per person-hour per square foot of noise barrier and does not represent any direct relation to real barrier construction costs such as dollar per square foot of a barrier. The derivation of the Abatement Cost Factor is based on the FDOT's reasonable cost criteria of equal to or less than \$42,000 per benefited receptor site.

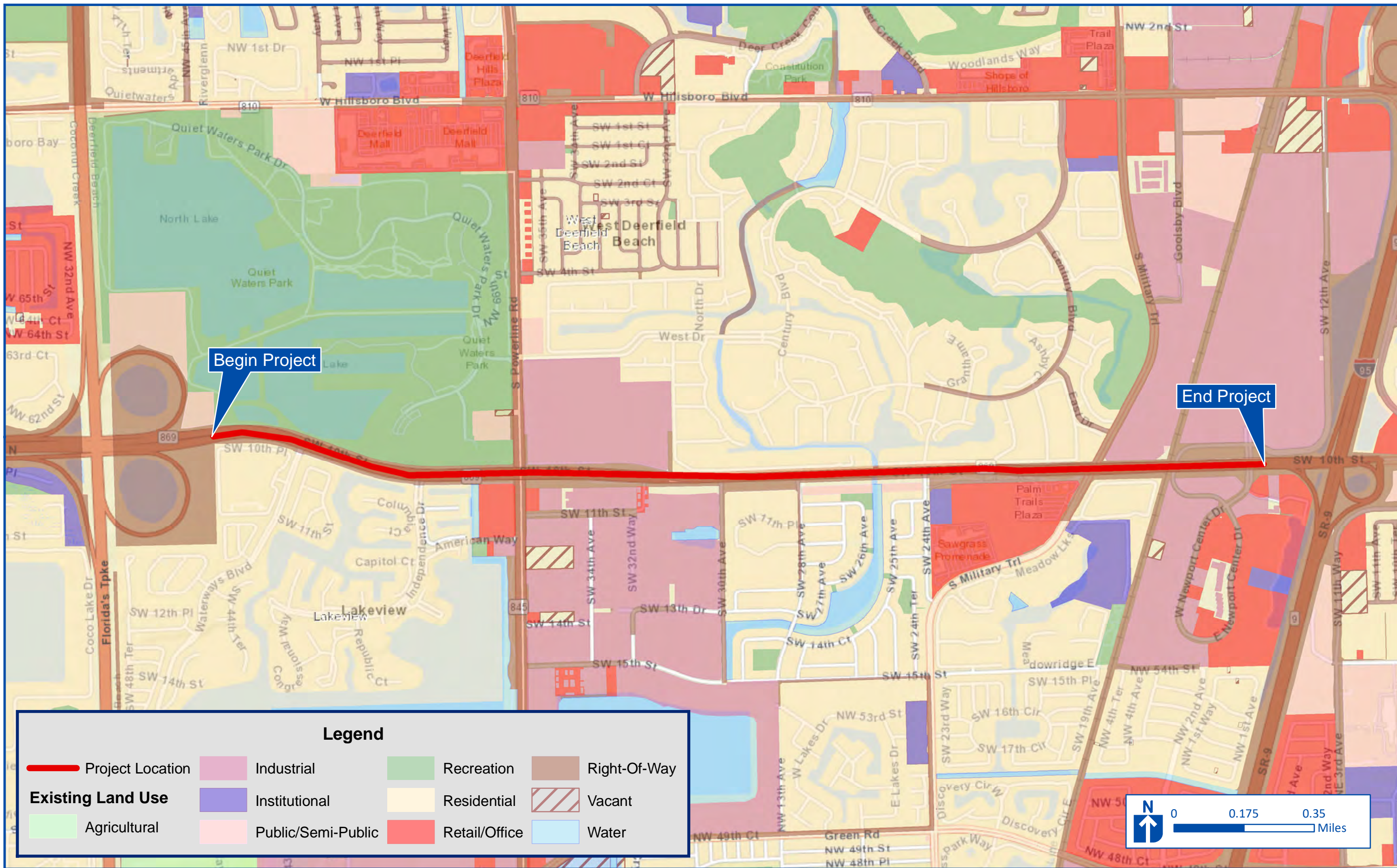
If the noise abatement measure has been determined to be reasonable and feasible, the viewpoint of the impacted and benefited property owners must be considered. During a PD&E Study, the viewpoint of benefited receptors (property owners/tenants) regarding noise abatement is gathered during workshops and at the Public Hearing. During the Final Design phase of the project, a more detailed process is implemented to include noise abatement workshops and/or public surveys, to determine the wishes of the benefited receptors. Each benefited receptor, including both the owner and resident, is given the opportunity to provide input regarding their desires to have the recommended noise abatement measure constructed. The goal of this process is to obtain a response for or against the noise barrier from a majority of benefited receptors (property owners and tenants) that respond to the survey. If not supported by a majority of the survey respondents, a noise barrier or abatement measure will not be deemed reasonable.

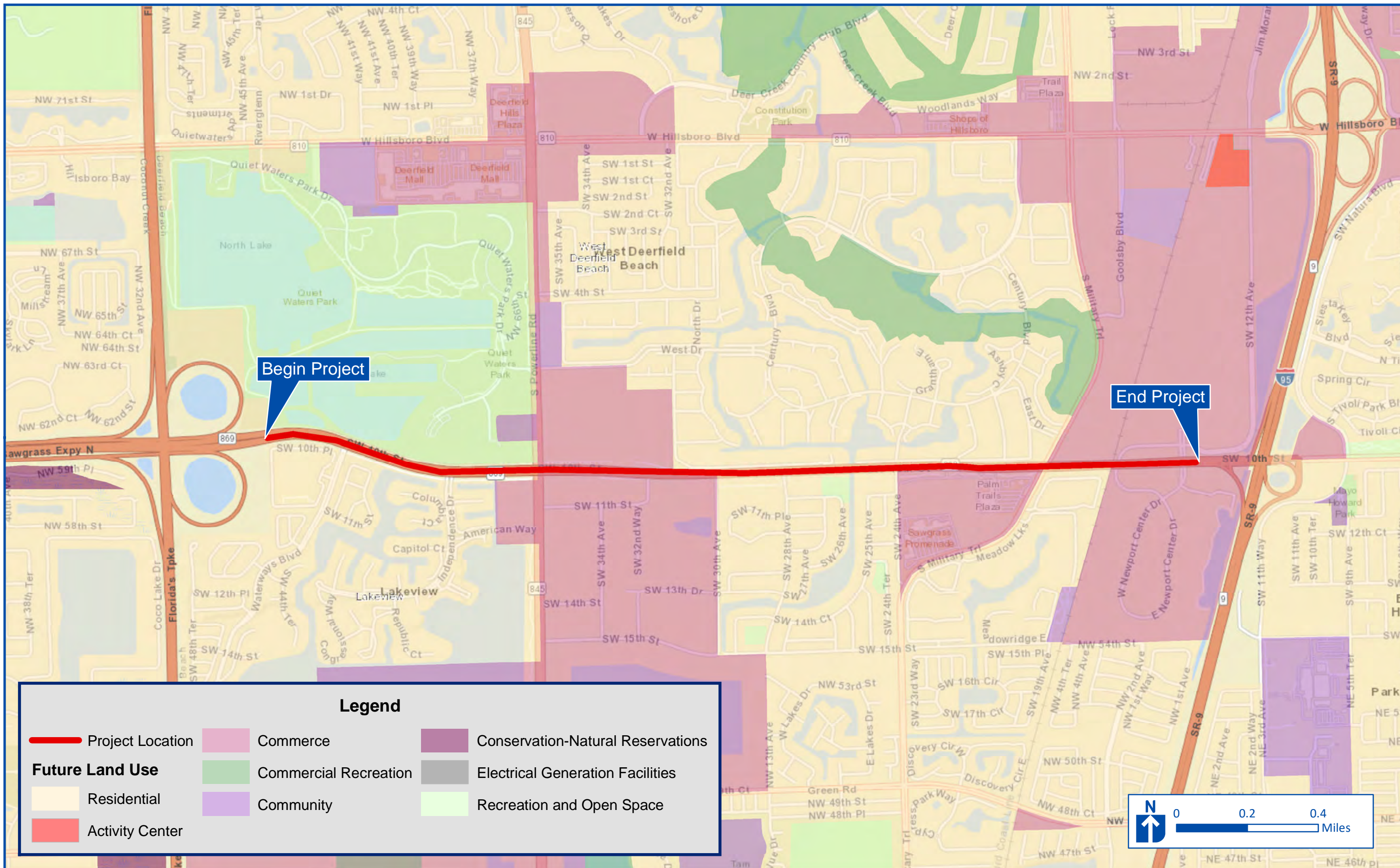
To facilitate the evaluation of noise barriers, contiguous noise sensitive areas were grouped together into common noise environments (CNEs). A CNE represents a group of impacted receptor sites of the same Activity Category that are exposed to similar noise sources and levels, traffic volumes, traffic mix, and speeds, and topographic features, that would benefit from the same noise barrier or noise barrier system (i.e., overlapping/continuous noise barriers). Generally, CNE's occur between two secondary noise sources, such as interchanges, intersections, and/or cross-roads, or where defined by ground features such as canals or rivers. In addition, the primary method for determining the cost of noise abatement involves a review of the cost per benefited receptor site for the construction of a noise barrier benefiting a single location or CNE (e.g., a subdivision or contiguous impact area).

2.5 Existing and Future Land Use

Existing and future land uses were reviewed to identify the potential noise sensitive receptor sites in the project area. The primary land uses in the project corridor east of Florida's Turnpike to Military Trail include residential (multi-family and single family), recreational, industrial, and commercial. Major residential developments include: The Enclave Apartments at Waterways, Waterways, Independence Bay, Freedom Square Condominiums, Century Village, Waterford Courtyards, and Crystal Heights Subdivision (Waterford Homes). Industrial development includes the Publix Distribution Center. Commercial development includes: the Sports Complex, Shell Gas Station, Med Care Pharmacy, Deerfield Storage, Quiet Waters Business Park, Public Storage, Walmart, Publix, Quorum Business Center, and the Newport Center. Recreational uses along the corridor include Quiet Waters Park and Crystal Heights Park. **Figure 2.5.1** shows the existing land use in the project corridor.

Broward County is mostly built-out in the study area with little undeveloped land in the project corridor. Therefore, significant changes in land use are not anticipated. The Broward County Future Land Use Maps are consistent with the existing land use in the study corridor. The corridor will be mostly residential (multi-family and single family) and commerce. In addition, the Broward County Future Land Use map shows Quiet Waters Park will remain Recreation/Open Space. **Figure 2.5.2** shows the Broward County Future Land Use.






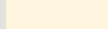





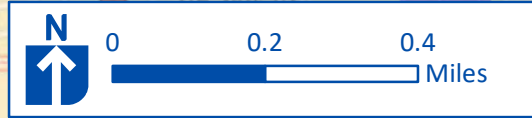


Begin Project

End Project

Legend

 Project Location	 Commerce	 Conservation-Natural Reservations
Future Land Use	 Commercial Recreation	 Electrical Generation Facilities
 Residential	 Community	 Recreation and Open Space
 Activity Center		



3.0 Traffic Noise Analysis

3.1 Model Validation

Noise measurements were collected at six representative locations representing 18 monitoring sites (MS1-1 through MS6-2) within the project limits to verify that TNM-predicted existing levels are representative of actual levels along SW 10th Street and to confirm that traffic noise is the main, or dominant, source. Noise measurements at these sites were taken on either April 18th, 2018, April 19th, 2018, July 24th, 2019, or July 25th, 2019. The locations of these monitoring sites are described in **Table 3.1-1**, and depicted in **Figure 3.2-1**, which is in **Appendix B**.

The noise level monitoring was completed using Larson-Davis Model 870 sound-level analyzers, in accordance with the methodology established by the FHWA and documented in Report Number FHWA-HEP-18-065, Noise Measurement Handbook - Final Report, June 2018. The A-weighted frequency scale was used and the sound meter was calibrated to 114 dB(A) using a Larson-Davis Model CA250 sound-level calibrator. Monitoring was conducted for three 10-minute intervals at each site with the microphone approximately five feet above the land surface. Weather conditions during the noise measurements were within acceptable ranges based on FHWA's established methodology. No precipitation occurred during the noise measurements resulting in dry pavement conditions.

Traffic information, such as the number of passenger cars and trucks, as well as, average speeds, were collected at the time of noise monitoring. A K15-K Doppler Radar Gun was used to obtain average operating speeds for cars, medium trucks, heavy trucks, buses, and motorcycles. Since all noise levels in this report are based on a 1-hour period, the field-recorded traffic volumes were adjusted upward to reflect hourly volumes. The dates, times, traffic data, and the measured noise levels are presented in **Table 3.1-1**.

Traffic noise was the dominant noise source at each of the monitoring sites. To verify the computer noise model, the TNM-predicted noise levels for Monitoring Sites MS1-1 through MS6-2 were compared to measured noise levels. When measured noise levels are within +/- 3.0 dB(A) of the computer-predicted levels, the model is considered validated. All 18 measured noise levels at the six monitoring locations were within +/- 3.0 dB(A) of the TNM-predicted levels (see **Table 3.1-1**). Because the TNM-predicted noise levels are within +/- 3.0 dB(A) of the measured noise levels, the model has been validated and is considered acceptable for predicting existing and future traffic noise levels along SW 10th Street. The average difference between TNM-predicted levels and the monitored levels was 0.4 dB(A).

Table 3.1-1: Noise Monitoring Data and TNM 2.5 Validation Results (Sheet 1 of 4)

General Information		Begin Time	End Time	Travel Lanes - SW 10 th Street	Distance to Nearest Traffic Lane (feet)	Cars		Medium Trucks		Heavy Trucks		Buses		Motorcycles		Monitored Leq (h) dB(A)	TNM Predicted Leq (h) dB(A)	Difference Leq (h) dB(A)	Predicted Levels Within +/- 3 dB(A) of Monitored Levels?
Monitor Site Identification Number	Monitoring Location / Station (Date)					Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)				
MS1-1	The Enclave Apartments at Waterways - Unit 101 / Station 50+90 (July 24, 2019)	1:55 PM	2:05 PM	Eastbound	185	756	57	45	52	48	50	6	50	---	---	61.3	59.6	-1.7	YES
				Westbound		876	53	24	35	18	48	---	---	---	---				
		2:05 PM	2:15 PM	Eastbound		996	61	48	52	42	53	---	---	---	---	60.9	60.8	-0.1	YES
				Westbound		1,446	49	36	50	24	55	---	---	6	49				
		2:15 PM	2:25 PM	Eastbound		1,308	56	66	52	12	49	---	---	---	---	61.4	59.9	-1.5	YES
				Westbound		1,074	50	24	55	36	44	---	---	---	---				
MS1-2	The Enclave Apartments at Waterways - Unit 201 / Station 61+30 (July 24, 2019)	1:55 PM	2:05 PM	Eastbound	185	756	57	45	52	48	50	6	50	---	---	64.7	64.6	-0.1	YES
				Westbound		876	53	24	35	18	48	---	---	---	---				
		2:05 PM	2:15 PM	Eastbound		996	61	48	52	42	53	---	---	---	---	64.6	66.1	1.5	YES
				Westbound		1,446	49	36	50	24	55	---	---	6	49				
		2:15 PM	2:25 PM	Eastbound		1,308	56	66	52	12	49	---	---	---	---	64.8	65.5	0.7	YES
				Westbound		1,074	50	24	55	36	44	---	---	---	---				
MS2-1	Waterways - 4243 SW 10 th Court / Station 73+60 (July 25, 2019)	9:02 AM	9:12 AM	Eastbound	110	1,194	51	24	45	12	45	---	---	---	---	60.2	59.9	-0.3	YES
				Westbound		1,764	48	60	39	6	39	---	---	6	48				
		9:12 AM	9:22 AM	Eastbound		1,086	52	60	50	12	46	6	58	---	---	59.9	60.7	0.8	YES
				Westbound		1,950	45	90	42	48	42	12	42	---	---				
		9:22 AM	9:32 AM	Eastbound		1,098	54	150	54	42	49	---	---	---	---	60.2	62.4	2.2	YES
				Westbound		2,070	48	126	43	18	46	12	53	6	45				
MS2-2	Waterways - 1000 SW 42 nd Avenue / Station 74+20 (July 24, 2019)	9:02 AM	9:12 AM	Eastbound	102	1,194	51	24	45	12	45	---	---	---	---	62.5	60.9	-1.6	YES
				Westbound		1,764	48	60	39	6	39	---	---	6	48				
		9:12 AM	9:22 AM	Eastbound		1,086	52	60	50	12	46	6	58	---	---	62.0	61.8	-0.2	YES
				Westbound		1,950	45	90	42	48	42	12	42	---	---				
		9:22 AM	9:32 AM	Eastbound		1,098	54	150	54	42	49	---	---	---	---	62.2	63.4	1.2	YES
				Westbound		2,070	48	126	43	18	46	12	53	6	45				
MS2-3	Waterways - 4243 SW 10 th Court / Station 73+70 (July 25, 2019)	9:02 AM	9:12 AM	Eastbound	172	1,194	51	24	45	12	45	---	---	---	---	57.2	55.6	-1.6	YES
				Westbound		1,764	48	60	39	6	39	---	---	6	48				
		9:12 AM	9:22 AM	Eastbound		1,086	52	60	50	12	46	6	58	---	---	57.3	56.6	-0.7	YES
				Westbound		1,950	45	90	42	48	42	12	42	---	---				
		9:22 AM	9:32 AM	Eastbound		1,098	54	150	54	42	49	---	---	---	---	57.6	58.1	0.5	YES
				Westbound		2,070	48	126	43	18	46	12	53	6	45				

Table 3.1-1: Noise Monitoring Data and TNM 2.5 Validation Results (Sheet 2 of 4)

General Information		Begin Time	End Time	Travel Lanes - SW 10 th Street	Distance to Nearest Traffic Lane (feet)	Cars		Medium Trucks		Heavy Trucks		Buses		Motorcycles		Monitored Leq (h) dB(A)	TNM Predicted Leq (h) dB(A)	Difference Leq (h) dB(A)	Predicted Levels Within +/- 3 dB(A) of Monitored Levels?
Monitor Site Identification Number	Monitoring Location / Station (Date)					Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)				
MS3-1	Independence Bay - North of 19 Columbia Court / Station 81+90 (July 25, 2019)	10:20 AM	10:30 AM	Eastbound	90	1,122	49	72	48	36	50	---	---	---	---	66.6	66.5	-0.1	YES
				Westbound		948	50	42	50	42	46	---	---	---	---				
		10:30 AM	10:40 AM	Eastbound		1,254	48	54	47	36	45	---	---	---	---	66.5	66.5	0.0	YES
				Westbound		1,260	50	42	50	42	46	---	---	---	---				
		10:40 AM	10:50 AM	Eastbound		1,296	49	84	45	12	45	---	---	---	---	66.0	66.0	0.0	YES
				Westbound		918	51	12	43	12	44	---	---	---	---				
MS3-2	Independence Bay - 19 Columbia Court / Station 81+90 (July 25, 2019)	10:20 AM	10:30 AM	Eastbound	230	1,122	49	72	48	36	50	---	---	---	---	61.4	61.8	0.4	YES
				Westbound		948	50	42	50	42	46	---	---	---	---				
		10:30 AM	10:40 AM	Eastbound		1,254	48	54	47	36	45	---	---	---	---	60.4	61.9	1.5	YES
				Westbound		948	50	42	50	42	46	---	---	---	---				
		10:40 AM	10:50 AM	Eastbound		1,296	49	84	45	12	12	---	---	---	---	59.2	61.2	2.0	YES
				Westbound		1,260	51	12	43	12	44	---	---	---	---				
MS3-3	Freedom Square Condominiums - 111/201 Freedom Court / Station 87+60 (July 25, 2019)	10:20 AM	10:30 AM	Eastbound	275	1,122	49	72	48	36	50	---	---	---	---	60.5	61.2	0.7	YES
				Westbound		948	50	42	50	42	46	---	---	---	---				
		10:30 AM	10:40 AM	Eastbound		1,254	48	54	47	36	45	---	---	---	---	59.5	61.4	1.9	YES
				Westbound		948	50	42	50	42	46	---	---	---	---				
		10:40 AM	10:50 AM	Eastbound		1,296	49	84	45	12	12	---	---	---	---	60.4	60.6	0.2	YES
				Westbound		1,260	51	12	43	12	44	---	---	---	---				
MS4-1	North of Waterford Courtyards / Station 129+40 (April 18, 2018)	4:34 PM	4:44 PM	Eastbound	75	1,548	46	36	43	36	46	---	---	6	46	65.8	67.9	2.1	YES
				Westbound		1,824	46	60	42	18	40	---	---	6	46				
		4:44 PM	4:54 PM	Eastbound		1,812	48	6	43	30	46	---	---	---	---	66.4	68.4	2.0	YES
				Westbound		1,680	46	48	42	30	40	---	---	18	46				
		4:54 PM	5:04 PM	Eastbound		1,638	49	18	43	36	46	---	---	6	49	67.2	68.7	1.5	YES
				Westbound		2,328	47	30	42	6	40	---	---	6	47				
MS4-2	North of Waterford Courtyards / Station 129+40 (April 18, 2018)	4:34 PM	4:44 PM	Eastbound	162	1,548	46	36	43	36	46	---	---	6	46	64.0	64.1	0.1	YES
				Westbound		1,824	46	60	42	18	40	---	---	6	46				
		4:44 PM	4:54 PM	Eastbound		1,812	48	6	43	30	46	---	---	---	---	64.5	64.5	0.0	YES
				Westbound		1,680	46	48	42	30	40	---	---	18	46				
		4:54 PM	5:04 PM	Eastbound		1,638	49	18	43	36	46	---	---	6	49	64.7	64.9	0.2	YES
				Westbound		2,328	47	30	42	6	40	---	---	6	47				

Table 3.1-1: Noise Monitoring Data and TNM 2.5 Validation Results (Sheet 3 of 4)

General Information		Begin Time	End Time	Travel Lanes - SW 10 th Street	Distance to Nearest Traffic Lane (feet)	Cars		Medium Trucks		Heavy Trucks		Buses		Motorcycles		Monitored Leq (h) dB(A)	TNM Predicted Leq (h) dB(A)	Difference Leq (h) dB(A)	Predicted Levels Within +/- 3 dB(A) of Monitored Levels?
Monitor Site Identification Number	Monitoring Location / Station (Date)					Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)				
MS5-1	Century Village Newport Building U First Floor Unit 1114 / Station 139+40 (April 18, 2018)	9:04 AM	9:14 AM	Eastbound	120	1,800	48	42	41	60	31	---	---	---	---	63.8	65.4	1.6	NO
				Westbound		1,056	46	66	44	36	42	6	42	6	42				
		9:14 AM	9:24 AM	Eastbound		2,058	48	48	41	42	31	6	42	---	---	65.2	65.1	-0.1	YES
				Westbound		984	46	60	44	24	42	---	---	---	---				
		9:24 AM	9:34 AM	Eastbound		1,824	48	54	41	78	31	---	---	---	---	65.6	65.5	-0.1	YES
				Westbound		1,212	46	102	44	6	42	6	46	---	---				
MS5-2	Century Village Newport Building U Second Floor Unit 2114 / Station 139+40 (April 18, 2018)	9:04 AM	9:14 AM	Eastbound	120	1,800	48	42	41	60	31	---	---	---	---	66.8	67.6	0.8	YES
				Westbound		1,056	46	66	44	36	42	6	42	6	42				
		9:14 AM	9:24 AM	Eastbound		2,058	48	48	41	42	31	6	42	---	---	67.8	67.5	-0.3	YES
				Westbound		984	46	60	44	24	42	---	---	---	---				
		9:24 AM	9:34 AM	Eastbound		1,824	48	54	41	78	31	---	---	---	---	68.0	67.8	-0.2	YES
				Westbound		1,212	46	102	44	6	42	6	46	---	---				
MS5-3	Century Village Newport Building U Third Floor Unit 3114 / Station 139+40 (April 18, 2018)	9:04 AM	9:14 AM	Eastbound	120	1,800	48	42	41	60	31	---	---	---	---	68.3	67.9	-0.4	YES
				Westbound		1,056	46	66	44	36	42	6	42	6	42				
		9:14 AM	9:24 AM	Eastbound		2,058	48	48	41	42	31	6	42	---	---	68.7	67.8	-0.9	YES
				Westbound		984	46	60	44	24	42	---	---	---	---				
		9:24 AM	9:34 AM	Eastbound		1,824	48	54	41	78	31	---	---	---	---	69.3	68.1	-1.2	YES
				Westbound		1,212	46	102	44	6	42	6	46	---	---				
MS5-4	Century Village Newport Building U Fourth Floor Unit 4114 / Station 139+40 (April 18, 2018)	9:04 AM	9:14 AM	Eastbound	120	1,800	48	42	41	60	31	---	---	---	---	69.7	67.8	-1.9	YES
				Westbound		1,056	46	66	44	36	42	6	42	6	42				
		9:14 AM	9:24 AM	Eastbound		2,058	48	48	41	42	31	6	42	---	---	69.0	67.7	-1.3	YES
				Westbound		984	46	60	44	24	42	---	---	---	---				
		9:24 AM	9:34 AM	Eastbound		1,824	48	54	41	78	31	---	---	---	---	70.4	68.1	-2.3	YES
				Westbound		1,212	46	102	44	6	42	6	46	---	---				

Table 3.1-1: Noise Monitoring Data and TNM 2.5 Validation Results (Sheet 4 of 4)

General Information		Begin Time	End Time	Travel Lanes - SW 10 th Street	Distance to Nearest Traffic Lane (feet)	Cars		Medium Trucks		Heavy Trucks		Buses		Motorcycles		Monitored Leq (h) dB(A)	TNM Predicted Leq (h) dB(A)	Difference Leq (h) dB(A)	Predicted Levels Within +/- 3 dB(A) of Monitored Levels?
Monitor Site Identification Number	Monitoring Location / Station (Date)					Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)	Vehicles per Hour	Speed (mph)				
MS6-1	North of Waterford Homes / Station 140+80 (April 19, 2018)	4:22 PM	4:32 PM	Eastbound	75	1,800	48	42	41	60	31	---	---	---	---	64.1	66.0	1.9	YES
				Westbound		1,056	46	66	44	36	42	6	42	6	42				
		4:32 PM	4:42 PM	Eastbound		2,058	48	48	41	42	31	6	42	---	---	63.4	65.9	2.5	YES
				Westbound		984	46	60	44	24	42	---	---	---	---				
		4:42 PM	4:52 PM	Eastbound		1,824	48	54	41	78	31	---	---	---	---	63.3	65.6	2.3	YES
				Westbound		1,212	46	102	44	6	42	6	46	---	---				

MS6-2	North of Waterford Homes / Station 140+80 (April 19, 2018)	4:22 PM	4:32 PM	Eastbound	175	1,800	48	42	41	60	31	---	---	---	---	59.2	61.3	2.1	YES
				Westbound		1,056	46	66	44	36	42	6	42	6	42				
		4:32 PM	4:42 PM	Eastbound		2,058	48	48	41	42	31	6	42	---	---	58.2	61.1	2.9	YES
				Westbound		984	46	60	44	24	42	---	---	---	---				
		4:42 PM	4:52 PM	Eastbound		1,824	48	54	41	78	31	---	---	---	---	58.0	60.7	2.7	YES
				Westbound		1,212	46	102	44	6	42	6	46	---	---				

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Minimum	57.2	55.6	-2.3
Maximum	70.4	68.7	2.9
Average Difference Between TNM 2.5 Predicted Levels and Monitored Levels			0.4

3.2 Predicted Noise Levels and Abatement Analysis

The project area includes noise sensitive land uses that will be potentially impacted by traffic noise associated with the project. These noise sensitive land uses include single and multi-family residences, education facility, medical facility, recreational areas, and restaurants with outdoor seating. Existing land uses within the project area, as categorized by FHWA's NAC Activity Categories and by the two Build Alternatives (With and Without Powerline Road Ramps), are depicted in **Figures 3.2.1 and 3.2.2 (Noise Analysis Maps)** in **Appendix B**. The locations of the representative sites are also presented in **Figures 3.2.1 and 3.2.2**. It should be noted that the land use information and receptor sites are the same in **Figures 3.2.1 and 3.2.2**. **Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results** in **Appendix C** describes and lists the representative noise sensitive receptor sites by general area, approximate location, and number of sites represented. Station numbers are also provided in **Table 3.2-1** to facilitate locating receptor sites on **Figures 3.2.1 and 3.2.2**. Each of the representative receptor sites was given a unique designation (e.g., CV1). The alphanumeric character(s) represents the location of the noise sensitive receptor site. The numerical value represents the unique/sequential receptor site number for that location (e.g., for Century Village, Receptor Sites CV1 through CV105 were used to designate the noise sensitive sites within this residential community). To distinguish non-residential from residential sites, the NAC Activity Category was added to the designation (e.g., CV11-C, representing a pool area within Century Village).

The predicted noise levels for the existing conditions, design year (2040) No-Build conditions, and for the two Build Alternatives (With and Without Powerline Road Ramps) are summarized in **Table 3.2-1** in **Appendix C**. To facilitate the impact analysis, the predicted noise levels for the noise sensitive areas/sites were summarized by roadway segments in **Table 3.2-1**. Predicted design year (2040) noise levels for the Build Alternatives were compared to the NAC and to existing conditions predicted levels to assess potential noise impacts associated with the proposed project. As identified in **Table 3.2-1** and summarized below in **Table 3.2-2**, traffic noise impacts occur and will require consideration of noise abatement measures (i.e., noise barriers) for both Build Alternatives. As presented below, although noise sensitive 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].

With the Build Alternative with Powerline Road Ramps, the proposed improvements are anticipated to impact 157 residences (NAC Activity Category B) and six non-residential receptor sites (NAC Activity Category C) along the project corridor that will require the consideration of noise abatement measures.

Table 3.2-2: Summary of Traffic Noise Impacts by Noise Sensitive Area

Location	Noise Sensitive Area	Build Alternative With Powerline Road Ramps		Build Alternative Without Powerline Road Ramps		CNE (Common Noise Environment) Designation (Report Section)
		Number of Impacted Sites		Number of Impacted Sites		
		Residential (NAC B)	Non-Residential (NAC C)	Residential (NAC B)	Non-Residential (NAC C)	
South of SW 10 th Street from Florida's Turnpike to Waterways Boulevard	The Enclave Apartments at Waterways	21	---	18	---	E1S (3.2.1)
South of SW 10 th Street from Waterways Boulevard to Powerline Road	Waterways Residential Community	11	---	11	---	E2S (3.2.2.)
	Independence Bay Residential Community	12	---	12	---	
	Freedom Square Condominiums	26	---	26	---	
North of SW 10 th Street from Florida's Turnpike to Powerline Road	Quiet Waters Park Trail	---	3	---	3	E3N (3.2.3)
South of SW 10 th Street from SW 30 th Avenue to SW 24 th Avenue	Waterford Courtyards Residential Community	9	---	9	---	E4S (3.2.4)
	Crystal Heights (Waterford Homes) Residential Community	13	---	13	---	
	Crystal Heights Park	---	1	---	1	
North of SW 10 th Street from West of SW 30 th Avenue to Military Trail	Century Village Residential Community	65	2	63	2	E5N (3.2.5)
Total Impacted Noise Sensitive Sites		157	6	152	6	---

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With the Build Alternative without Powerline Road Ramps, the proposed improvements are anticipated to impact 152 residences (NAC Activity Category B) and six non-residential receptor sites (NAC Activity Category C) along the project corridor that will require the consideration of noise abatement measures.

The location of the impacted sites [i.e., exceed 66 dB(A)] for each of the Build Alternatives are also shown as red dots on **Figures 3.2.1** and **3.2.2** in **Appendix B**. For both Build Alternatives, none of the NAC Activity Category D and E noise sensitive sites were predicted to experience design year (2040) traffic noise levels that exceeded the NAC (e.g., Receptor Site SFB1-D representing the interior of South Florida Bible College). It should be noted that some developed areas were not evaluated since they do not represent noise sensitive areas or were located beyond the expected area of traffic noise impacts. Only restaurants with outdoor seating represent sensitive commercial land uses; therefore, the restaurants along the corridor that do not have exterior seating were not evaluated. Multi-family residential developments without exterior areas of use such as patios, balconies, and community pools were not evaluated. Access hallways associated with multi-family residential developments are not considered noise sensitive.

As presented in **Table 3.2-2**, the number of impacted residential and non-residential sites are similar between the two Build Alternatives (i.e., 157/6 versus 152/6). The differences in the number of impacts and the predicted noise levels are related to the variations in traffic volumes and the roadway designs of the two Build Alternatives (see Concept Plans in **Appendix D**). The horizontal and vertical geometry of the proposed Connector Road and Local SW 10th Street of the two Build Alternatives are similar in some areas (e.g., west of Powerline Road) and are not in others areas (e.g., east of Powerline Road in the vicinity of the proposed on and off ramps). The design year (2040) traffic volumes along the Connector Road and Local SW 10th Street (i.e., higher/lower) also varies between the two Build Alternatives (see **Table 2.2-1** in **Appendix A**). The following sections (i.e., **3.2.1 through 3.2.5**) describe the predicted noise levels, impacts, and consideration of noise barriers for each of the noise sensitive areas impacted by traffic noise. The noise barrier analysis tables referenced in these sections are located at the end of **Section 3.2.5**.

3.2.1 South of SW 10th Street from Florida's Turnpike to Waterways Boulevard - The Enclave Apartments at Waterways (CNE-E1S)

The Enclave Apartments at Waterways is the only noise sensitive area located on the south side of SW 10th Street between Florida's Turnpike and Waterways Boulevard. The Enclave Apartments at Waterways include residential units with patios as well as second and third floor balconies that are exposed to traffic noise from SW 10th Street. An existing privacy wall extends the length of this community and is located between the north side of the apartment buildings and SW 10th Street. The height of this wall ranges from 6 feet to 7 feet.

One hundred twenty receptor sites (EA1 through EA120) were used to represent the noise sensitive sites within this community (see **Figure 3.2.1** or **Figure 3.2.2** in **Appendix B** and **Table 3.2-1** in **Appendix C**).

Predicted Noise Levels CNE-E1S

For the Build Alternative with Powerline Road Ramps, the predicted design year (2040) noise levels for the residences in Enclave Apartments range from 49.9 to 71.3 dB(A), approximately 2.5 dB(A) higher than existing levels (see **Table 3.2-1** in **Appendix C**). Twenty-one residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. Therefore, noise barriers were considered as a noise abatement measure at this location that is referred to as CNE-E1S.

For the Build Alternative without Powerline Road Ramps, the predicted design year (2040) noise levels for the residences in the Enclave Apartments range from 49.9 to 71.3 dB(A), approximately 2.4 dB(A) higher than existing levels. Eighteen residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. Therefore, noise barriers were considered as a noise abatement measure at this location that is referred to as CNE-E1S.

The predicted design year (2040) noise levels are similar for the Build Alternatives with and without Powerline Road Ramps. The average difference in noise levels is 0.1 dB(A) between the alternatives. The predicted noise levels and the number of impacts (i.e., 18) for the Build Alternative without Powerline Road Ramps is slightly lower than the Build Alternative with Powerline Road Ramps (i.e., 21).

Noise Barrier Analysis and Recommendations CNE-E1S

For the Build Alternative with Powerline Road Ramps, five ground mounted conceptual noise barrier designs of varying dimensions were evaluated along both the southern right-of-way line of Connector Road/Local SW 10th Street and the western property line of the community to reduce traffic noise levels at the 21 residences predicted to be impacted by design year

(2040) traffic noise. The proposed noise barrier alignment along the western property line of The Enclave Apartments will avoid conflicts with future Florida's Turnpike and Sawgrass Expressway interchange improvements. The results of the noise barrier analysis for this area are summarized in **Table 3.2.1-1**. Four of the five conceptual barrier designs evaluated meet both the minimum noise reduction design goal of 7 dB(A) for at least one benefited residence and the reasonable cost criteria of equal to or less than \$42,000 per benefited receptor site. Conceptual Barrier Design E1S-CD5 WR was determined to be the most feasible and cost reasonable for this community.

Conceptual Noise Barrier Design E1S-CD5 WR represents a 22-foot-tall ground mounted noise barrier. The barrier extends approximately 1,420 feet, from Station 56+80 to Station 68+00. The recommended noise barrier would benefit 55 residences, including all 21 impacted residences, and would provide an average noise reduction of 7.3 dB(A) at benefited receptor sites with a maximum reduction of 10.5 dB(A). The estimated construction cost of this conceptual barrier design is \$937,200, or \$17,040 per benefited receptor site.

If the Build Alternative with Powerline Road Ramps is chosen as the Preferred, Conceptual Noise Barrier Design E1S-CD5 WR is recommended for further consideration and public input during the Final Design phase. Conceptual Noise Barrier Design E1S-CD5 WR meets the FDOT's cost reasonableness criteria of equal to or less than \$42,000 per benefited receptor site and the noise reduction reasonableness criteria of 7 dB(A) at one or more benefited sites. This conceptual barrier design satisfies the reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety and constructability. The barrier design does not conflict or obstruct any existing, conforming, and legally permitted outdoor advertising signs. Additional noise barrier analysis will be performed during the Final Design phase to confirm the dimensions of the recommended noise barrier at this location. Final decisions on barrier dimensions are made during the Final Design phase of the project and after determining the support for noise barriers from the benefited noise sensitive sites.

For the Build Alternative without Powerline Road Ramps, five ground mounted conceptual noise barrier designs of varying dimensions were evaluated along the southern right-of-way line of Connector Road/Local SW 10th Street and the western property line of the community to reduce traffic noise levels at the 18 residences predicted to be impacted by design year (2040) traffic noise. The proposed noise barrier alignment along the western property line of The Enclave Apartments will avoid conflicts with future Florida's Turnpike and Sawgrass Expressway interchange improvements. The results of the noise barrier analysis for this area are summarized in **Table 3.2.1-2**. Four of the five conceptual barrier designs evaluated meet both the minimum noise reduction design goal of 7 dB(A) for at least one benefited residence and the reasonable cost criteria of equal to or less than \$42,000 per benefited

receptor site. Conceptual Barrier Design E1S-CD5 WOR was determined to be the most feasible and cost reasonable for this community.

Conceptual Noise Barrier Design E1S-CD5 WOR represents a 22-foot-tall ground mounted noise barrier segment. The barrier extends approximately 1,420 feet, from Station 56+80 to Station 68+60. The recommended noise barrier would benefit 53 residences, including all 18 impacted residences, and would provide an average noise reduction of 7.3 dB(A) at benefited receptor sites with a maximum reduction of 10.7 dB(A). The amount of noise reduction with and without the recommended noise barrier is presented in **Table 3.2.1-2**. The estimated construction cost of this conceptual barrier design is \$937,200, or \$17,683 per benefited receptor site.

If the Build Alternative without Powerline Road Ramps is chosen as the Preferred, Conceptual Noise Barrier Design E1S-CD5 WOR is recommended for further consideration and public input during the Final Design phase. Conceptual Noise Barrier Design E1S-CD5 WOR meets the FDOT's cost reasonableness criteria of equal to or less than \$42,000 per benefited receptor site and the noise reduction reasonableness criteria of 7 dB(A) at one or more benefited sites. This conceptual barrier design satisfies the reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety and constructability. The barrier design does not conflict or obstruct any existing, conforming, and legally permitted outdoor advertising signs. Additional noise barrier analysis will be performed during the Final Design phase to confirm the dimensions of the recommended noise barrier at this location. Final decisions on barrier dimensions are made during the Final Design phase of the project and after determining the support for noise barriers from the benefited noise sensitive sites.

Summary of Noise Barrier Recommendations for CNE-E1S (The Enclave Apartments)

As presented in **Tables 3.2.1-1** and **3.2.1-2**, the recommended Conceptual Noise Barrier Design E1S-CD5 WOR for the Build Alternative without Powerline Road Ramps has the same dimensions as recommended for the Build Alternative with Powerline Road Ramps (E1S-CD5 WR). Therefore, regardless of the Build Alternative chosen as the Preferred, the noise barrier recommendations are the same for this location (CNE-E1S - The Enclave Apartments at Waterways). The limits of the recommended conceptual noise barrier designs for the Build Alternatives with and without Powerline Road Ramps are presented in **Figures 3.2.1** and **3.2.2**, respectively. The predicted design year (2040) noise levels and the amount of noise reduction at each of the noise sensitive receptor sites for each of the recommended conceptual noise barrier designs for the two Build Alternatives are presented in **Table 3.2-1** in **Appendix C** (see **Sheets 1 through 4**).

3.2.2 South of SW 10th Street from Waterways Boulevard to Powerline Road – Waterways, Independence Bay, and Freedom Square Condominiums (CNE-E2S)

Three residential developments including Waterways, Independence Bay, and Freedom Square Condominiums are located on the south side of SW 10th Street between Waterways Boulevard and Powerline Road. These three residential developments have residences that are exposed to traffic noise from SW 10th Street. The Waterways is a multi-family development with townhomes with patios facing SW 10th Street. An existing privacy wall extends the length of this community and is located between the north side of the townhomes and SW 10th Street. The height of this wall ranges from 6 feet to 7 feet. Independence Bay development consists of single family homes. Freedom Square Condominiums is a multi-family development with residential units having either a patio or a second-floor balcony and a community pool (Receptor Site FSCP-C) that face towards SW 10th Street. A stormwater pond is located between SW 10th Street and the residences of Independence Bay and Freedom Square Condominiums.

Fifty receptor sites (WW1 through WW14; IBC1 through IBC16; and FSC101F through FSC306) were used to represent the 82 residential noise sensitive sites within these three communities (see **Figure 3.2.1** or **Figure 3.2.2** in **Appendix B** and **Table 3.2-1** in **Appendix C**).

Predicted Noise Levels CNE-E2S

For the Build Alternative with Powerline Road Ramps, the predicted design year (2040) noise levels for the residences in the Waterways development range from 58.2 to 66.7 dB(A), approximately 5.1 dB(A) higher than existing levels. Eleven residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. For the residences in the Independence Bay development, the predicted design year (2040) noise levels with this Build Alternative range from 55.6 to 67.2 dB(A), approximately 4.9 dB(A) higher than existing levels (see **Table 3.2-1**). Twelve residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. For the residences in the Freedom Square Condominiums development, the predicted design year (2040) noise levels with this Build Alternative range from 58.9 to 68.5 dB(A), approximately 4.4 dB(A) higher than existing levels (see **Table 3.2-1**). Twenty-six residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. Within these three residential communities, 49 residences are predicted to be to be impacted by design year (2040) noise levels with this Build Alternative. Therefore, noise barriers were considered as a noise abatement measure at this location that is referred to as CNE-E2S. Cross streets (i.e., Waterways Boulevard, and Independence Drive) limit the ability to have a continuous noise barrier at this location.

For the Build Alternative without Powerline Road Ramps, the predicted design year (2040) noise levels for the residences in the Waterways development range from 58.3 to 66.8 dB(A), approximately 5.2 dB(A) higher than existing levels. Eleven residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. For the residences in the Independence Bay development, the predicted design year (2040) noise levels with this Build Alternative range from 55.7 to 67.2 dB(A), approximately 5.2 dB(A) higher than existing levels (see **Table 3.2-1**). Twelve residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. For the residences in the Freedom Square Condominiums development, the predicted design year (2040) noise levels with this Build Alternative range from 58.9 to 68.5 dB(A), approximately 4.5 dB(A) higher than existing levels (see **Table 3.2-1**). Twenty-six residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. Within these three residential communities, 49 residences are predicted to be impacted by design year (2040) noise levels with this Build Alternative. Therefore, noise barriers were considered as a noise abatement measure at this location that is referred to as CNE-E2S. Cross streets (i.e., Waterways Boulevard, and Independence Drive) limit the ability to have a continuous noise barrier at this location.

The predicted design year (2040) noise levels are similar for the Build Alternatives with and without Powerline Road Ramps. The average difference in noise levels for the Waterways development is 0.1 dB(A) between the alternatives. The average difference in noise levels for the Independence Bay community is 0.3 dB(A) between the alternatives. The average difference in noise levels for the Freedom Square Condominiums is 0.1 dB(A) between the alternatives. The number of impacts for the Build Alternative without Powerline Road Ramps are the same as the Build Alternative with Powerline Road Ramps (i.e., 49).

Noise Barrier Analysis and Recommendations CNE-E2S

For the Build Alternative with Powerline Road Ramps, five ground mounted conceptual noise barrier designs of varying dimensions were evaluated along the southern right-of-way line of Connector Road/Local SW 10th Street to reduce traffic noise levels at the 49 residences predicted to be impacted by design year (2040) traffic noise. The results of the noise barrier analysis for this area are summarized in **Table 3.2.2-1**. All five conceptual barrier designs evaluated meet the minimum noise reduction design goal of 7 dB(A) for at least one benefited residence and meet the reasonable cost criteria of equal to or less than \$42,000 per benefited receptor site. Conceptual Barrier Design E2S-CD5 WR was determined to be the optimal conceptual noise barrier design for these communities.

Conceptual Barrier Design E2S-CD5 WR represents two 22-foot-tall ground mounted noise barrier segments. One of the segments is located west of Independence Drive and extends

approximately 1,540 feet, from Station 69+50 to Station 84+40. The second barrier segment is located east of Independence Drive and extends approximately 730 feet, from Station 85+40 to Station 92+60. The recommended noise barriers would benefit 53 residences, including 47 of the 49 impacted residences, and would provide an average noise reduction of 7.4 dB(A) at benefited receptor sites with a maximum reduction of 9.1 dB(A). Receptor Sites IBC9 and FSC301S located at the ends of the recommended noise barrier are not benefited. The estimated construction cost of this conceptual barrier design is \$1,498,200, or \$28,268 per benefited receptor site.

If the Build Alternative with Powerline Road Ramps is chosen as the Preferred, Conceptual Noise Barrier E2S-CD5 WR is recommended for further consideration and public input during the Final Design phase. Conceptual Noise Barrier Design E2S-CD5 WR meets the FDOT's cost reasonableness criteria of equal to or less than \$42,000 per benefited receptor site and the noise reduction reasonableness criteria of 7 dB(A) at one or more benefited sites. Except for potential conflicts with overhead electric utilities, this conceptual barrier design satisfies the reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety and constructability. The height of the noise barrier at this location could be affected by the overhead electric lines if they remain in place. Therefore, coordination with the overhead utility company will be required during the Final Design phase of the project to address potential conflicts and issues with constructing a noise barrier at this location. The barrier design does not conflict or obstruct any existing, conforming, and legally permitted outdoor advertising signs. Additional noise barrier analysis will be performed during the Final Design phase to confirm the dimensions of the recommended noise barrier at these locations. Final decisions on barrier dimensions are made during the Final Design phase of the project and after determining the support for noise barriers from the benefited noise sensitive sites.

For the Build Alternative without Powerline Road Ramps, five ground mounted conceptual noise barrier designs of varying dimensions were evaluated along the southern right-of-way line of Connector Road/Local SW 10th Street to reduce traffic noise levels at the 49 residences predicted to be impacted by design year (2040) traffic noise. The results of the noise barrier analysis for this area are summarized in **Table 3.2.2-2**. All five conceptual barrier designs evaluated meet the minimum noise reduction design goal of 7 dB(A) for at least one benefited residence and meet the reasonable cost criteria of equal to or less than \$42,000 per benefited receptor site. Conceptual Barrier Design E2S-CD5 WOR was determined to be the optimal conceptual noise barrier design for these communities.

Conceptual Barrier Design E2S-CD5 WOR represents two 22-foot-tall ground mounted noise barrier segments. One of the segments is located west of Independence Drive and extends approximately 1,540 feet, from Station 69+50 to Station 84+40. The second barrier segment

is located east of Independence Drive and extends approximately 730 feet, from Station 85+40 to Station 92+60. The recommended noise barrier would benefit 53 residences, including 47 of the 49 impacted residences, and would provide an average noise reduction of 7.3 dB(A) at benefited receptor sites with a maximum reduction of 9.1 dB(A). Receptor Sites IBC9 and FSC301S located at the ends of the recommended noise barrier are not benefited. The estimated construction cost of this conceptual barrier design is \$1,498,200, or \$28,268 per benefited receptor site.

If the Build Alternative without Powerline Road Ramps is chosen as the Preferred, Conceptual Noise Barrier E2S-CD5 WOR is recommended for further consideration and public input during the Final Design phase. Conceptual Noise Barrier Design E2S-CD5 WOR meets the FDOT's cost reasonableness criteria of equal to or less than \$42,000 per benefited receptor site and the noise reduction reasonableness criteria of 7 dB(A) at one or more benefited sites. Except for potential conflicts with overhead electric utilities, this conceptual barrier design satisfies the reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety and constructability. The height of the noise barrier at this location could be affected by the overhead electric lines if they remain in place. Therefore, coordination with the overhead utility company will be required during the Final Design phase of the project to address potential conflicts and issues with constructing a noise barrier at this location. The barrier design does not conflict or obstruct any existing, conforming, and legally permitted outdoor advertising signs. Additional noise barrier analysis will be performed during the Final Design phase to confirm the dimensions of the recommended noise barrier at these locations. Final decisions on barrier dimensions are made during the Final Design phase of the project and after determining the support for noise barriers from the benefited noise sensitive sites.

Summary of Noise Barrier Recommendations for CNE-E2S (Waterways, Independence Bay, and Freedom Square Condominiums)

As presented in **Tables 3.2.2-1** and **3.2.2-2**, the recommended Conceptual Noise Barrier Design E2S-CD5 WOR for the Build Alternative without Powerline Road Ramps has the same dimensions as recommended for the Build Alternative with Powerline Road Ramps (E2S-CD5 WR). Therefore, regardless of the Build Alternative chosen as the Preferred, the noise barrier recommendations are the same for this location (CNE-E2S – Waterways, Independence Bay, and Freedom Square Condominiums). The limits of the recommended conceptual noise barrier designs for the Build Alternatives with and without Powerline Road Ramps are presented in **Figures 3.2.1** and **3.2.2**, respectively. The predicted design year (2040) noise levels and the amount of noise reduction at each of the noise sensitive receptor sites for each of the recommended conceptual noise barrier designs for the two Build Alternatives are presented in **Table 3.2-1** in **Appendix C** (see **Sheets 5, 6, and 7**).

3.2.3 North of SW 10th Street from Florida's Turnpike to Waterways Boulevard - Quiet Waters Park (CNE-E3N)

The Quiet Waters Park is the only noise sensitive area located on the north side of SW 10th Street between the Florida's Turnpike and Waterways Boulevard. Quiet Waters Park is a 431.4-acre regional park owned and managed by Broward County Parks and Recreation. Amenities include a marina, mountain bike trails, cable skiing, fishing, campgrounds, nature trails, restrooms and showers, volleyball and basketball courts, food concessions, picnic shelters and open picnic areas, a park and campground office, a maintenance facility, and a butterfly and bird sanctuary building. Of these amenities, a series of recreational/mountain bike trails, a lake used for skiing, a water park (Splash Adventure), and the maintenance building are adjacent to the SW 10th Street corridor. The recreational areas adjacent to SW 10th Street represent the noise sensitive sites exposed to traffic noise from SW 10th Street.

Fourteen receptor sites (QWP Trail 1 through QWP14) were used to represent the noise sensitive recreation sites within the Quiet Waters Park (see **Figure 3.2.1** or **Figure 3.2.2** in **Appendix B** and **Table 3.2-1** in **Appendix C**).

Predicted Noise Levels CNE-E3N

For the Build Alternative with Powerline Road Ramps, the predicted design year (2040) noise levels range from 60.8 to 66.8 dB(A), approximately 2.4 dB(A) higher than existing levels. The three receptor sites are associated with recreational/bike trails (i.e., QWP Trail 1, 2, and 12) and are predicted to be impacted by design year (2040) noise levels with this Build Alternative. Therefore, noise barriers were considered as a noise abatement measure at this location that is referred to as CNE-E3N.

For the Build Alternative without Powerline Road Ramps, the predicted design year (2040) noise levels range from 60.8 to 66.8 dB(A), approximately 2.4 dB(A) higher than existing levels. The three receptor sites are associated with recreational/bike trails (i.e., QWP Trail 1, 2, and 12) and are predicted to be impacted by design year (2040) noise levels with this Build Alternative. Therefore, noise barriers were considered as a noise abatement measure at this location that is referred to as CNE-E3N.

The predicted design year (2040) noise levels are similar for the Build Alternatives with and without Powerline Road Ramps. The average noise levels are the same [i.e., 63.5 dB(A)] between the alternatives. The number of representative sites impacted with the Build Alternative without Powerline Road Ramps are the same (i.e., 3) as with the Build Alternative with Powerline Road Ramps.

Noise Barrier Analysis and Recommendations CNE-E3N

For the Build Alternative with Powerline Road Ramps, three ground mounted conceptual noise barrier designs of varying dimensions were evaluated along the northern right-of-way line of Connector Road/Local SW 10th Street to reduce traffic noise levels at the three receptor sites predicted to be impacted by design year (2040) traffic noise. The results of the noise barrier analysis for this area are summarized in **Table 3.2.3-1**. Two of the three conceptual noise barrier designs meet the minimum noise reduction design goal of 7 dB(A) for at least one benefited site and provide at least 5 dB(A) reduction to the impacted receptor sites.

Of the three conceptual barrier designs evaluated, E3N-CD2 WR is the lowest cost conceptual barrier design. Conceptual Noise Barrier Design E3N-CD2 WR represents a 20-foot-tall ground mounted noise barrier. The barrier extends approximately 1,030 feet, from Station 57+00 to Station 66+50. This barrier would benefit 100 percent of the impacted area, providing an average noise reduction of 6.0 dB(A) and a maximum noise reduction of 7.1 dB(A). The estimated construction cost of this conceptual barrier design is \$618,000.

The FDOT's special land use methodology was used to determine if the cost of Conceptual Noise Barrier Design E3N-CD2 WR would be reasonable, based on the level of activity expected at this facility. The required daily usage rate (i.e., person-hours per day) for E3N-CD2 WR is 869 persons per day, each spending a minimum of one hour along this trail adjacent to SW 10th Street (see **Table 3.2.3-2**). Since the impacted area represents short segments of the trail (~300 feet and ~100 feet), people are likely to move through this area and not congregate in the area exposed to high traffic noise levels. Consequently, it is not reasonable to assume that this area would experience this level of use on a typical day (i.e., 869 persons hours). Therefore, noise barriers are not considered cost reasonable at this location and are not recommended for further consideration at this location.

For the Build Alternative without Powerline Road Ramps, three ground mounted conceptual noise barrier designs of varying dimensions were evaluated along the northern right-of-way line of Connector Road/Local SW 10th Street to reduce traffic noise levels at the three receptor sites predicted to be impacted by design year (2040) traffic noise. The results of the noise barrier analysis for this area are summarized in **Table 3.2.3-3**. Two of the three conceptual noise barrier designs meet the minimum noise reduction design goal of 7 dB(A) for at least one benefited site and provide at least 5 dB(A) reduction to the impacted receptor sites.

Of the three conceptual barrier designs evaluated, E3N-CD2 WOR is the lowest cost conceptual barrier design. Conceptual Noise Barrier Design E3N-CD2 WOR represents a 20-foot-tall ground mounted noise barrier. The barrier extends approximately 1,030 feet, from Station 57+00 to Station 66+50. This barrier would benefit 100 percent of the impacted area,

providing an average noise reduction of 6.0 dB(A) and a maximum noise reduction of 7.2 dB(A). The estimated construction cost of this conceptual barrier design is \$618,000.

The FDOT's special land use methodology was used to determine if the cost of Conceptual Noise Barrier Design E3N-CD2 WOR would be reasonable, based on the level of activity expected at this facility. The required daily usage rate (i.e., person-hours per day) for E3N-CD2 WOR is 869 persons per day, each spending a minimum of one hour along this trail adjacent to SW 10th Street (see **Table 3.2.3-4**). Since the impacted area represents short segments of the trail (~300 feet and ~100 feet), people are likely to move through this area and not congregate in the area exposed to high traffic noise levels. Consequently, it is not reasonable to assume that this area would experience this level of use on a typical day (i.e., 869 persons hours). Therefore, noise barriers are not considered cost reasonable at this location and are not recommended for further consideration at this location

Summary of Noise Barrier Recommendations for CNE-E3SN (Quiet Waters Park)

Regardless of the Build Alternative selected, noise barriers are not recommended for further consideration at the impacted areas of Quiet Waters Park recreational trails (CNE-E3N) during the Final Design phase. As presented in **Tables 3.2.3-1** and **3.2.3-3** and **Figures 3.2.1** and **3.2.2**, noise barriers were not found to be cost reasonable for the either of the Build Alternatives (i.e., with and without Powerline Road Ramps). The usage of this trail was less than required to be cost reasonable.

3.2.4 South of SW 10th Street from SW 30th Avenue to SW 24th Avenue - Waterford Courtyards, Crystal Heights (Waterford Homes), and Crystal Heights Park (CNE-E4S)

Two residential developments including Waterford Courtyards and Crystal Heights Subdivision (Waterford Homes) and a community park (Crystal Heights Park) are located on the south side of SW 10th Street between SW 30th Avenue and SW 24th Avenue. The recreational areas (i.e., playground) of the park and the residences of these two residential developments are exposed to traffic noise from SW 10th Street. The Waterford Courtyards is a multi-family development with two-story dwelling units with both patios and balconies facing SW 10th Street. Crystal Heights Subdivision also referred to as Waterford Homes consists of single family homes. Crystal Heights Park is a 1.37-acre community park associated with the Crystal Heights subdivision. The park includes open grassed areas, a children's playground, covered picnic table with grill and an open-air picnic table.

One-hundred and two receptor sites were used to represent the residential and non-residential noise sensitive sites within these two communities (see **Figure 3.2.1** or **Figure 3.2.2** in **Appendix B** and **Table 3.2-1** in **Appendix C**). For Waterford Courtyards, 72 receptor sites were used to represent the 48 residences with patios and balconies adjacent to SW 10th Street (WC1 through WC48). For Crystal Heights, 32 receptor sites were used to represent the 29 residences adjacent to SW 10th Street (CH1 through CH32). One receptor site (i.e., CH33-C) was used to represent the recreational areas associated with Crystal Heights Park.

Predicted Noise Levels CNE-E4S

For the Build Alternative with Powerline Road Ramps, the predicted design year (2040) noise levels for the residences in the Waterford Courtyards development range from 51.5 to 72.2 dB(A), approximately 6.1 dB(A) higher than existing levels (see **Table 3.2-1**). The patios of nine residences and the balconies of 16 residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. The predicted noise levels for the balconies at these residences were provided for comparison purposes to the patio areas that were considered the area of frequent human use for these residences. The balconies were considered too small to represent areas of frequent human use compared to the first floor patios. Therefore, nine residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. For the residences within the Crystal Heights development, the predicted design year (2040) noise levels range from 56.6 to 68.0 dB(A), approximately 6.7 dB(A) higher than existing levels (see **Table 3.2-1**). Thirteen residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. The predicted design year (2040) noise levels for Crystal Heights Park (i.e., Receptor Site CH33-C) was 67.4 dB(A), approximately 7.6 dB(A) higher than existing levels. Therefore, the recreational areas of Crystal Heights Park

are predicted to be impacted by design year (2040) noise levels with this Build Alternative. Since the recreational areas of Crystal Heights Park and 22 residences (i.e., backyards and patios) in these two communities are predicted to be to be impacted by design year (2040) noise levels with the Build Alternative, noise barriers were considered as a noise abatement measure at this location that is referred to as CNE-E4S. Cross streets (i.e., SW 30th Avenue, SW 28th Avenue, and SW 24th Avenue) and the C-2 Canal in the vicinity of Station 145+00 limit the ability to have a continuous noise barrier at this location.

For the Build Alternatives without Powerline Road Ramps, the predicted design year (2040) noise levels for the residences in the Waterford Courtyards development range from 52.2 to 71.7 dB(A), approximately 6.0 dB(A) higher than existing levels (see **Table 3.2-1**). The patios of nine residences and the balconies of 16 residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. The predicted noise levels for the balconies at these residences were provided for comparison purposes to the patio areas that were considered the area of frequent human use for these residences. The balconies were considered too small to represent areas of frequent human use compared to the first floor patios. Therefore, nine residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. For the residences within the Crystal Heights development, the predicted design year (2040) noise levels range from 56.2 to 67.1 dB(A), approximately 6.1 dB(A) higher than existing levels (see **Table 3.2-1**). Thirteen residences within this community are predicted to be impacted by design year (2040) noise levels with this Build Alternative. The predicted design year (2040) noise levels for Crystal Heights Park (i.e., Receptor Site CH33-C) was 66.6 dB(A), approximately 6.8 dB(A) higher than existing levels. Therefore, the recreational areas of Crystal Heights Park are predicted to be impacted by design year (2040) noise levels with this Build Alternative. Since the recreational areas of Crystal Heights Park and 22 residence (i.e., backyards and patios) in these two communities are predicted to be to be impacted by design year (2040) noise levels with the Build Alternative, noise barriers were considered as a noise abatement measure at this location that is referred to as CNE-E4S. Cross streets (i.e., SW 30th Avenue, SW 28th Avenue, and SW 24th Avenue) and the C-2 Canal in the vicinity of Station 145+00 limit the ability to have a continuous noise barrier at this location.

The predicted design year (2040) noise levels are similar for the Build Alternatives with and without Powerline Road Ramps. At Waterford Courtyards, the average noise levels are the same [i.e., 63.5 dB(A)] between the Build Alternatives. The average difference in noise levels in the Crystal Heights development is 0.6 dB(A). The average difference in noise levels at the Crystal Heights Park is 0.8 dB(A). The number of residential and non-residential sites impacted with the Build Alternative with Powerline Road Ramps are the same (i.e., 23) as with the Build Alternative without Powerline Road Ramps.

Noise Barrier Analysis and Recommendations CNE-E4S

For the Build Alternative with Powerline Road Ramps, ten conceptual noise barrier designs of varying dimensions were evaluated to reduce traffic noise levels at the 22 residences and recreational area (Receptor Site CH33-C) predicted to be impacted by design year (2040) traffic noise. The results of the noise barrier analysis for this area are summarized in **Table 3.2.4-1**. Eight of the conceptual designs evaluated represent ground mounted noise barriers along the southern right-of-way line of Connector Road/Local SW 10th Street. At this location, the right-of-way line represents the optimal location for a noise barrier. However, construction of a noise barrier along the right-of-way line would require the removal of trees and an existing berm which may not be supported by the adjacent property owners. Therefore, two additional conceptual designs [i.e., E4S-CD9 WR(SH) and E4S-CD10 WR(SUP)] were evaluated as an alternative to constructing a noise barrier along the southern right-of-way line. Conceptual Design E4S-CD9 WR(SH) represents a shoulder mounted noise barrier along the Connector Road eastbound outside shoulder. Conceptual Design E4S-CD10 WR(SUP) represents a ground mounted noise barrier along the southside of the proposed shared use path.

Nine of the ten conceptual barrier designs evaluated meet the minimum noise reduction design goal of 7 dB(A) for at least one benefited residence and meet the reasonable cost criteria of equal to or less than \$42,000 per benefited receptor site. In addition, all conceptual barrier designs provided at least 5 dB(A) of noise reduction to the Crystal Heights Park. Crystal Heights Park represents a special land use but was not evaluated separately since it would be incidentally benefited by the noise barriers being evaluated for the impacted residences in Crystal Heights. Conceptual Barrier Design E4S-CD8 WR represents the optimal conceptual noise barrier design for these communities.

Conceptual Barrier Design E4S-CD8 WR represents three 22-foot-tall ground mounted noise barrier segments. One of the segments is located between SW 30th Avenue and SW 28th Avenue and extends approximately 960 feet, from Station 125+00 to Station 134+60. The second barrier segment is located between SW 28th Avenue and the west side of the C-2 Canal and extends approximately 930 feet, from Station 135+40 to Station 144+60. The third barrier segment is located between the east side of the C-2 Canal and SW 24th Avenue and extends approximately 550 feet, from Station 145+60 to Station 151+10. The recommended noise barrier would benefit Crystal Heights Park and 48 residences, including all 22 impacted residences, and would provide an average noise reduction of 9.4 dB(A) at benefited receptor sites with a maximum reduction of 13.8 dB(A). The estimated construction cost of this conceptual barrier design is \$1,610,400, or \$33,550 per benefited receptor site.

If the Build Alternative with Powerline Road Ramps is chosen as the Preferred, Conceptual Noise Barrier Design E4S-CD8 WR is recommended for further consideration and public input during the Final Design phase. Conceptual Noise Barrier Design E4S-CD8 WR meets the FDOT's cost reasonableness criteria of equal to or less than \$42,000 per benefited receptor site and the noise reduction reasonableness criteria of 7 dB(A) at one or more benefited sites. Except for potential conflicts with overhead electric utilities and possibly the maintenance area adjacent to the C-2 Canal, this conceptual barrier design satisfies the reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety and constructability. The height of the noise barrier at this location could be affected by the overhead electric lines if they remain in place. In addition, the C-2 Canal and maintenance access may limit the extent of the noise barriers in this area. Therefore, coordination with the overhead utility company and Broward County Water Control District will be required during the Final Design phase of the project to address potential conflicts and issues with constructing a noise barrier at this location. The barrier design does not conflict or obstruct any existing, conforming, and legally permitted outdoor advertising signs.

Additional noise barrier analysis will be performed during the Final Design phase to confirm the dimensions of the recommended noise barriers at this location. If during the Final Design Phase, Conceptual Noise Barrier Design E4S-CD8 WR is determined to not be feasible or reasonable, other alternatives will be evaluated [e.g., E4S-CD10 WR(SUP)] Final decisions on barrier dimensions are made during the Final Design phase of the project and after determining the support for noise barriers from the benefited noise sensitive sites.

For Build Alternative without Powerline Road Ramps, ten conceptual noise barrier designs of varying dimensions were evaluated to reduce traffic noise levels at the 20 residences and recreational area (Receptor Site CH33-C) predicted to be impacted by design year (2040) traffic noise. The results of the noise barrier analysis for this area are summarized in **Table 3.2.4-2**. Eight of the conceptual designs evaluated represent ground mounted noise barriers along the southern right-of-way line of Connector Road/Local SW 10th Street. At this location, the right-of-way line represents the optimal location for a noise barrier. However, construction of a noise barrier along the right-of-way line would require the removal of trees and an existing berm which may not be supported by the adjacent property owners. Therefore, two additional conceptual designs [i.e., E4S-CD9 WOR(SH) and E4S-CD10 WOR(SUP)] were evaluated as an alternative to constructing a noise barrier along the southern right-of-way line. Conceptual Design E4S-CD9 WOR(SH) represents a shoulder mounted noise barrier along the Connector Road eastbound outside shoulder. Conceptual Design E4S-CD10 WOR(SUP) represents a ground mounted noise barrier along the southside of the proposed shared use path.

Nine of the ten conceptual barrier designs evaluated meet the minimum noise reduction design goal of 7 dB(A) for at least one benefited residence and meet the reasonable cost criteria of equal to or less than \$42,000 per benefited receptor site. In addition, all conceptual barrier designs provided at least 5 dB(A) of noise reduction to the Crystal Heights Park. Crystal Heights Park represents a special land use but was not evaluated separately since it would be incidentally benefited by the noise barriers being evaluated for the impacted residences in Crystal Heights. Conceptual Barrier Design E4S-CD8 WOR represents the optimal conceptual noise barrier design for these communities.

Conceptual Barrier Design E4S-CD8 WOR represents three 22-foot-tall ground mounted noise barrier segments. One of the segments is located between SW 30th Avenue and SW 28th Avenue and extends approximately 960 feet, from Station 125+00 to Station 134+60. The second barrier segment is located between SW 28th Avenue and the west side of the C-2 Canal and extends approximately 930 feet, from Station 135+40 to Station 144+60. The third barrier segment is located between the east side of the C-2 Canal and SW 24th Avenue and extends approximately 550 feet, from Station 145+60 to Station 151+10. The recommended noise barrier would benefit Crystal Heights Park and 46 residences, including 21 of 22 impacted residences, and would provide an average noise reduction of 9.2 dB(A) at benefited receptor sites with a maximum reduction of 12.3 dB(A). Receptor Site WC1F located at the west end of the recommended noise barrier is not benefited. The estimated construction cost of this conceptual barrier design is \$1,610,400, or \$35,009 per benefited receptor site.

If the Build Alternative without Powerline Road Ramps is chosen as the Preferred, Conceptual Noise Barrier Design E4S-CD8 WOR is recommended for further consideration and public input during the Final Design phase. Conceptual Noise Barrier Design E4S-CD8 WOR meets the FDOT's cost reasonableness criteria of equal to or less than \$42,000 per benefited receptor site and the noise reduction reasonableness criteria of 7 dB(A) at one or more benefited sites. Except for potential conflicts with overhead electric utilities and possibly the maintenance area adjacent to the C-2 Canal, this conceptual barrier design satisfies the reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety and constructability. The height of the noise barrier at this location could be affected by the overhead electric lines if they remain in place. In addition, the C-2 Canal and maintenance access may limit the extent of the noise barriers in this area. Therefore, coordination with the overhead utility company and Broward County Water Control District will be required during the Final Design phase of the project to address potential conflicts and issues with constructing a noise barrier at this location. The barrier design does not conflict or obstruct any existing, conforming, and legally permitted outdoor advertising signs.

Additional noise barrier analysis will be performed during the Final Design phase to confirm the dimensions of the recommended noise barriers at these locations. If during the Final Design Phase, Conceptual Noise Barrier Design E4S-CD8 WOR is determined to not be feasible or reasonable, other alternatives will be evaluated [e.g., E4S-CD10 WOR(SUP)] Final decisions on barrier dimensions are made during the Final Design phase of the project and after determining the support for noise barriers from the benefited noise sensitive sites.

Summary of Noise Barrier Recommendations for CNE-E4S (Waterford Courtyards, Crystal Heights, and Crystal Heights Park)

As presented in **Tables 3.2.4-1** and **3.2.4-2**, the recommended Conceptual Noise Barrier Design E4S-CD8 WOR for the Build Alternative without Powerline Road Ramps has the same dimensions as recommended for the Build Alternative with Powerline Road Ramps (E4S-CD8 WR). Therefore, regardless of the Build Alternative chosen as the Preferred, the noise barrier recommendations are the same for this location (CNE-E4S - Waterford Courtyards, Crystal Heights Subdivision (Waterford Homes), and Crystal Heights Park). The limits of the recommended conceptual noise barrier designs for the Build Alternatives with and without Powerline Road Ramps are presented in **Figures 3.2.1** and **3.2.2**, respectively. The predicted design year (2040) noise levels and the amount of noise reduction at each of the noise sensitive receptor sites for each of the recommended conceptual noise barrier designs for the two Build Alternatives are presented in **Table 3.2-1** in **Appendix C** (see **Sheets 9 through 13**).

3.2.5 North of SW 10th Street from West of SW 30th Avenue to Military Trail - Century Village (CNE-E5N)

Century Village is the only noise sensitive area located on the north side of SW 10th Street between the entrance road to Quiet Waters Business Park and Military Trail. Century Village is a multi-family residential development with two-story and four-story residential buildings. Only the two-story buildings have patios and balconies that are exposed to traffic noise from SW 10th Street.

One hundred and five receptor sites (CV1 through CV105) were used to represent the 124 residences and seven non-residential noise sensitive sites within this community (see **Figure 3.2.1** or **Figure 3.2.2** in **Appendix B** and **Table 3.2-1** in **Appendix C**).

Predicted Noise Levels CNE-E5N

For the Build Alternative with Powerline Road Ramps, the predicted design year (2040) noise levels for residences and non-residential sites within the Century Village development range from 54.3 to 75.8 dB(A), approximately 2.7 dB(A) higher than existing levels. Sixty five residences and two of the non-residential receptor sites (i.e., C24-C and CV45-C both representing a park bench) within this community are predicted to be impacted by design year (2040) noise levels with the Build Alternative with Powerline Road Ramps. Therefore, noise barriers were considered as a noise abatement measure at this location that is referred to as CNE-E5N. Cross streets (i.e., Military Trail and the entrance road to Quiet Waters Business Park) limit the length of the noise barrier at this location. The C-2 Canal in the vicinity of Station 145+00 may limit the ability to have a continuous noise barrier at this location. In addition, due to insufficient right-of-way and potential conflicts with adjacent overhead electric lines, noise barriers currently are not considered feasible abatement measure along the western right-of-way line of Military Trail.

For the Build Alternative without Powerline Road Ramps, the predicted design year (2040) noise levels for residences and non-residential sites within the Century Village development range from 54.3 to 76.2 dB(A), approximately 2.4 dB(A) higher than existing levels. Sixty three residences and two of the non-residential receptor sites (i.e., C24-C and CV45-C both representing a park bench) within this community are predicted to be impacted by design year (2040) noise levels with the Build Alternative without Powerline Road Ramps. Therefore, noise barriers were considered as a noise abatement measure at this location that is referred to as CNE-E5N. Cross streets (i.e., Military Trail and the entrance road to Quiet Waters Business Park) limit the length of the noise barrier at this location. The C-2 Canal in the vicinity of Station 145+00 may limit the ability to have a continuous noise barrier at this location. In addition, due to insufficient right-of-way and potential conflicts with

adjacent overhead electric lines, noise barriers currently are not considered feasible abatement measure along the western right-of-way line of Military Trail.

The predicted design year (2040) noise levels are similar for the Build Alternatives with and without Powerline Road Ramps. The average difference in noise levels is 0.3 dB(A) between the alternatives. The predicted noise levels and the number of impacted sites (i.e., 65) for the Build Alternative without Powerline Road Ramps is slightly lower than the Build Alternative with Powerline Road Ramps (i.e., 67).

Noise Barrier Analysis and Recommendations CNE-E5N

For the Build Alternative with Powerline Road Ramps, eight conceptual noise barrier designs of varying dimensions were evaluated to reduce traffic noise levels at the 65 residences and two non-residential uses predicted to be impacted by design year (2040) traffic noise. All the conceptual barrier designs extend the limits of Century Village residential development along Connector Road/Local SW 10th Street. The conceptual barrier designs evaluated included a combination of ground mounted noise barriers along the northern Connector Road/Local SW 10th Street and western Military Trail right-of-way lines and a shoulder mounted noise barrier along the outside shoulder of the proposed westbound managed lanes in the vicinity of Military Trail. The two non-residential noise receptor sites (i.e., park benches) represent a special land use but were not evaluated separately since it would be incidentally benefited by the noise barriers being evaluated for the impacted residences in Century Village. The results of the noise barrier analysis for this area are summarized in **Table 3.2.5-1**. All eight conceptual barrier designs evaluated meet the minimum noise reduction design goal of 7 dB(A) for at least one benefited residence and meet the reasonable cost criteria of equal to or less than \$42,000 per benefited receptor site. Conceptual Barrier Design E5N-CD7 WR was determined to be the optimal conceptual noise barrier design for this community. However, there is insufficient right-of-way to construct a noise barrier along Military Trail and there are potential conflicts with overhead electric lines at this location. Therefore, E5N-CD7 WR is not considered feasible at this time. However, it is recommended for further evaluation in the Final Design phase since it represents the optimal conceptual noise barrier design at this location. An alternative design to E5N-CD7 WR is Conceptual Noise Barrier Design E5N-CD8 WR that does not include the ground mounted noise barrier segments along and adjacent to Military Trail. Therefore, E5N-CD8 WR is also recommended for further consideration during the Final Design phase.

Conceptual Noise Barrier Design E5N-CD8 WR includes a barrier system with two segments. One of the segments is proposed to be located along the northern Connector Road/Local SW 10th Street right-of-way line. Segment 1 represents a 22-foot tall ground mounted noise barrier that extends approximately 4,760 feet, from Station 118+40 to Station 166+00.

Segment 2 represents an 8-foot-tall shoulder mounted noise barrier that extends 1,300 feet from Station 165+00 to 178+00 and would be located along the proposed outside shoulder of the westbound managed lanes that will be elevated in the vicinity of Military Trail. The recommended noise barrier would benefit 88 residences including 55 of the 65 impacted residences and the two non-residential receptor sites. With this conceptual noise barrier design, the impacted receptor sites along the west side of Military Trail (e.g., CV91 through CV97) would not be benefited. The recommended noise barrier would provide an average noise reduction of 8.2 dB(A) at benefited receptor sites with a maximum reduction of 14.2 dB(A). The estimated construction cost of this conceptual barrier design is \$3,453,600 or \$39,245 per benefited receptor site.

For comparison to Conceptual Noise Barrier Design E5N-CD8 WR, E5N-CD7 WR includes a barrier system with multiple segments including three ground mounted barrier segments and an 8-foot-tall shoulder mounted noise barrier. Two of the ground mounted noise barrier segments are proposed to be located along the northern Connector Road/Local SW 10th Street right-of-way line. Segment 1 represents a 22-foot tall ground mounted noise barrier that extends approximately 4,760 feet, from Station 118+40 to Station 166+00. Segment 2 represents a 14-foot-tall ground mounted noise barrier that extends 60 feet, from Station 173+00 to Station 173+60. Segment 3 connects to Segment 2 and is located on the western right-of-way line of Military Trail and represents a 14-foot tall ground mounted noise barrier that extends 400 feet from Station 173+60 (1000+00) to Station 175+60 (1004+00). The 8-foot-tall shoulder mounted noise barrier extends 1,300 feet from Station 165+00 to Station 178+00 and would be located along the proposed outside shoulder of the westbound managed lanes that will be elevated in the vicinity of Military Trail. The recommended noise barrier would benefit 110 residences including all 65 impacted residences and the two non-residential receptor sites. The recommended noise barrier would provide an average noise reduction of 8.0 dB(A) at benefited receptor sites with a maximum reduction of 14.2 dB(A). The estimated construction cost of this conceptual barrier design is \$3,646,800 or \$33,153 per benefited receptor site. Due to insufficient right-of-way to construct a noise barrier along Military Trail and the potential conflicts with overhead electric lines, this conceptual noise barrier design is not considered feasible at this location. However, E5N-CD7 WR is recommended for further evaluation in the Final Design phase since it represents the optimal conceptual noise barrier design at this location.

If the Build Alternative with Powerline Road Ramps is chosen as the Preferred, both Conceptual Noise Barrier Designs E5N-CD7 WR and E5N-CD8 WR are recommended for further consideration and public input during the Final Design phase. Currently, E5N-CD7 WR is not considered feasible but is recommended since it represents the optional conceptual noise barrier at this location. Conceptual Noise Barrier Design E5N-CD8 WR is feasible at

this location and meets the FDOT's cost reasonableness criteria of equal to or less than \$42,000 per benefited receptor site and the noise reduction reasonableness criteria of 7 dB(A) at one or more benefited sites. Except for potential conflicts with overhead electric utilities and possibly with C-2 Canal, this conceptual barrier design satisfies the reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety and constructability. The height of the noise barriers at this location could be affected by the two overhead electric lines if they remain in place. In addition, the C-2 Canal and maintenance access may limit the ability to construct a continuous noise barrier in this area as recommended. Therefore, coordination with the overhead utility company and Broward County Water Control District will be required during the Final Design phase of the project to address potential conflicts and issues with constructing a noise barrier at this location. The barrier design does not conflict or obstruct any existing, conforming, and legally permitted outdoor advertising signs. Additional noise barrier analysis will be performed during the Final Design phase to confirm the dimensions of the recommended noise barriers at these locations. Final decisions on barrier dimensions are made during the Final Design phase of the project and after determining the support for noise barriers from the benefited noise sensitive sites.

For the Build Alternative without Powerline Road Ramps, eight conceptual noise barrier designs of varying dimensions were evaluated to reduce traffic noise levels at the 63 residences and two non-residential uses predicted to be impacted by design year (2040) traffic noise. All the conceptual barrier designs extend the limits of Century Village residential development. The conceptual barrier designs evaluated included a combination of ground mounted noise barriers along the northern Connector Road/Local SW 10th Street and western Military Trail right-of-way lines and a shoulder mounted noise barrier along the outside shoulder of the proposed westbound managed lanes in the vicinity of Military Trail. The two non-residential noise receptor sites (i.e., park benches) represent a special land use but were not evaluated separately since it would be incidentally benefited by the noise barriers being evaluated for the impacted residences in Century Village. The results of the noise barrier analysis for this area are summarized in **Table 3.2.5-2**. All eight conceptual barrier designs evaluated meet the minimum noise reduction design goal of 7 dB(A) for at least one benefited residence and meet the reasonable cost criteria of equal to or less than \$42,000 per benefited receptor site. Conceptual Barrier Design E5N-CD7 WOR was determined to be the optimal conceptual noise barrier design for this community. However, there is insufficient right-of-way to construct a noise barrier along Military Trail and there are potential conflicts with overhead electric lines at this location. Therefore, E5N-CD7 WOR is not considered feasible at this time. However, it is recommended for further evaluation in the Final Design phase since it represents the optimal conceptual noise barrier design. An alternative design to E5N-CD7 WOR is Conceptual Noise Barrier Design E5N-CD8 WOR that does not include the

ground mounted noise barrier segments along and adjacent to Military Trail. Therefore, E5N-CD8 WOR is also recommended for further consideration during the Final Design phase.

Conceptual Noise Barrier Design E5N-CD8 WOR includes a barrier system with two segments. One of the segments is proposed to be located along the northern Connector Road/Local SW 10th Street right-of-way line. Segment 1 represents a 22-foot tall ground mounted noise barrier that extends approximately 4,760 feet, from Station 118+40 to Station 166+00. Segment 2 represents an 8-foot-tall shoulder mounted noise barrier that extends 1,300 feet from Station 165+00 to Station 178+00 and would be located along the proposed outside shoulder of the westbound managed lanes that will be elevated in the vicinity of Military Trail. The recommended noise barrier would benefit 91 residences including 53 of the 63 impacted residences and the two non-residential receptor sites. With this conceptual noise barrier design, the impacted receptor sites along the west side of Military Trail (e.g., CV91 through CV97) would not be benefited. The recommended noise barrier would provide an average noise reduction of 8.3 dB(A) at benefited receptor sites with a maximum reduction of 14.2 dB(A). The estimated construction cost of this conceptual barrier design is \$3,453,600 or \$37,952 per benefited receptor site.

For comparison to Conceptual Noise Barrier Design E5N-CD8 WOR, E5N-CD7 WOR includes a barrier system with multiple segments including three ground mounted barrier segments and an 8-foot-tall shoulder mounted noise barrier. Two of the ground mounted noise barrier segments are proposed to be located along the northern Connector Road/Local SW 10th Street right-of-way line. Segment 1 represents a 22-foot tall ground mounted noise barrier that extends approximately 4,760 feet, from Station 118+40 to Station 166+00. Segment 2 represents a 14-foot-tall ground mounted noise barrier that extends 60 feet, from Station 173+00 to Station 173+60. Segment 3 connects to Segment 2 and is located on the western right-of-way line of Military Trail and represents a 14-foot tall ground mounted noise barrier that extends 400 feet from Station 173+60 (1000+00) to Station 175+60 (1004+00). The 8-foot-tall shoulder mounted noise barrier extends 1,300 feet from Station 165+00 to Station 178+00 and would be located along the proposed outside shoulder of the westbound managed lanes that will be elevated in the vicinity of Military Trail. The recommended noise barrier would benefit 113 residences including all 63 impacted residences and the two non-residential receptor sites. The recommended noise barrier would provide an average noise reduction of 8.1 dB(A) at benefited receptor sites with a maximum reduction of 14.2 dB(A). The estimated construction cost of this conceptual barrier design is \$3,646,800 or \$32,273 per benefited receptor site. Due to insufficient right-of-way to construct a noise barrier along Military Trail and the potential conflicts with overhead electric lines, this conceptual noise barrier design is not considered feasible at this location. However, E5N-CD7 WOR is

recommended for further evaluation in the Final Design phase since it represents the optimal conceptual noise barrier design at this location.

If the Build Alternative without Powerline Road Ramps is chosen as the Preferred, both Conceptual Noise Barrier Designs E5N-CD7 WOR and E5N-CD8 WOR are recommended for further consideration and public input during the Final Design phase. Currently, E5N-CD7 WOR is not considered feasible but is recommended since it represents the optional conceptual noise barrier at this location. Conceptual Noise Barrier E5N-CD8 WOR is feasible at this location and meets the FDOT's cost reasonableness criteria of equal to or less than \$42,000 per benefited receptor site and the noise reduction reasonableness criteria of 7 dB(A) at one or more benefited sites. Except for potential conflicts with overhead electric utilities and possibly with C-2 Canal, this conceptual barrier design satisfies the reasonableness and feasibility factors considered in the evaluation of noise abatement measures including safety and constructability. The height of the noise barriers at this location could be affected by the two overhead electric lines if they remain in place. In addition, the C-2 Canal and maintenance access may limit the ability to construct a continuous noise barrier in this area as recommended. Therefore, coordination with the overhead utility company and Broward County Water Control District will be required during the Final Design phase of the project to address potential conflicts and issues with constructing a noise barrier at this location. The barrier design does not conflict or obstruct any existing, conforming, and legally permitted outdoor advertising signs. Additional noise barrier analysis will be performed during the Final Design phase to confirm the dimensions of the recommended noise barriers at these locations. Final decisions on barrier dimensions are made during the Final Design phase of the project and after determining the support for noise barriers from the benefited noise sensitive sites.

Summary of Noise Barrier Recommendations for CNE-E5N (Century Village)

As presented in **Tables 3.2.5-1** and **3.2.5-2**, the recommended Conceptual Noise Barrier Design E5N-CD8 WOR for the Build Alternative without Powerline Road Ramps has the same dimensions as recommended for the Build Alternative with Powerline Road Ramps (E5N-CD8 WR). In addition, the other Conceptual Noise Barrier Designs E5N-CD7 WR and E5N-CD7 WOR recommended for further consideration in the Final Design phase have the same dimensions for the two Build Alternatives. Therefore, regardless of the Build Alternative chosen as the Preferred, the noise barrier recommendations are the same for this location (CNE-E5N – Century Village). The limits of the recommended conceptual noise barrier designs for the Build Alternatives with and without Powerline Road Ramps are presented in **Figures 3.2.1** and **3.2.2**, respectively. The predicted design year (2040) noise levels and the amount of noise reduction at each of the noise sensitive receptor sites for each

of the recommended conceptual noise barrier designs for the two Build Alternatives are presented in **Table 3.2-1** in **Appendix C** (see **Sheets 14 through 21**).

Table 3.2.1-1: Noise Barrier Analyses for Common Noise Environment CNE-E1S (The Enclave Apartments at Waterways) for Build Alternative With Powerline Road Ramps

Noise Sensitive Area (General Location/Station Range)	Conceptual Barrier Design Number	Barrier Type (Segment Name)	Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/Benefited Receptor Sites	Number of Benefited Receptor Sites/Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Conceptual Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal	Comments
The Enclave Apartments at Waterways/CNE-E1S (South of SW 10th Street and West of Waterways Boulevard/ Station 57+00 to Station 68+00)	E1S-CD1 WR	Ground Mounted	Southern Right-of-Way Line of SW 10 th Street and Western Property Line of The Enclave Apartments	14	1,420	56+80	68+60	21	5	7	12	5.7	6.6	\$596,400	\$49,700	NO	---
	E1S-CD2 WR	Ground Mounted	Southern Right-of-Way Line of SW 10th Street and Western Property Line of The Enclave Apartments	16	1,420	56+80	68+60	21	11	14	25	6.4	7.4	\$681,600	\$27,264	NO	---
	E1S-CD3 WR	Ground Mounted	Southern Right-of-Way Line of SW 10th Street and Western Property Line of The Enclave Apartments	18	1,420	56+80	68+60	21	16	21	37	6.5	8.4	\$766,800	\$20,724	YES	---
	E1S-CD4 WR	Ground Mounted	Southern Right-of-Way Line of SW 10th Street and Western Property Line of The Enclave Apartments	20	1,420	56+80	68+60	21	18	26	44	7.0	9.8	\$852,000	\$19,364	YES	---
	E1S-CD5 WR	Ground Mounted	Southern Right-of-Way Line of SW 10th Street and Western Property Line of The Enclave Apartments	22	1,420	56+80	68+60	21	21	34	55	7.3	10.5	\$937,200	\$17,040	YES	Represents the optimal Conceptual Noise Barrier Design (E1S-CD5 WR); Recommended for further consideration in the Final Design Phase and for public input

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 Represents the optimal conceptual noise barrier design and is recommended for further consideration in the Final Design Phase and public input.

Table 3.2.1-2: Noise Barrier Analyses for Common Noise Environment CNE-E1S (The Enclave Apartments at Waterways) for Build Alternative Without Powerline Ramps

Noise Sensitive Area (General Location/Station Range)	Conceptual Barrier Design Number	Barrier Type (Segment Name)	Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/Benefited Receptor Sites	Number of Benefited Receptor Sites/Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Conceptual Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal	Comments
The Enclave Apartments at Waterways/CNE-E1S (South of SW 10th Street and West of Waterways Boulevard/ Station 57+00 to Station 68+00)	E1S-CD1 WOR	Ground Mounted	Southern Right-of-Way Line of SW 10 th Street and Western Property Line of The Enclave Apartments	14	1,420	56+80	68+60	18	2	8	10	5.8	6.6	\$596,400	\$59,640	NO	---
	E1S-CD2 WOR	Ground Mounted	Southern Right-of-Way Line of SW 10th Street and Western Property Line of The Enclave Apartments	16	1,420	56+80	68+60	18	8	16	24	6.4	7.4	\$681,600	\$28,400	NO	---
	E1S-CD3 WOR	Ground Mounted	Southern Right-of-Way Line of SW 10th Street and Western Property Line of The Enclave Apartments	18	1,420	56+80	68+60	18	13	20	33	6.6	8.5	\$766,800	\$23,236	YES	---
	E1S-CD4 WOR	Ground Mounted	Southern Right-of-Way Line of SW 10th Street and Western Property Line of The Enclave Apartments	20	1,420	56+80	68+60	18	14	29	43	7.1	9.9	\$852,000	\$19,814	YES	---
	E1S-CD5 WOR	Ground Mounted	Southern Right-of-Way Line of SW 10th Street and Western Property Line of The Enclave Apartments	22	1,420	56+80	68+60	18	18	35	53	7.3	10.7	\$937,200	\$17,683	YES	Represents the optimal Conceptual Noise Barrier Design (E1S-CD5 WOR); Recommended for further consideration in the Final Design Phase and for public input

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Represents the optimal conceptual noise barrier design and is recommended for further consideration in the Final Design Phase and public input.

Table 3.2.2-1: Noise Barrier Analyses for Common Noise Environment CNE-E2S (Waterways, Independence Bay, and Freedom Square Communities) for Build Alternative With Powerline Road Ramps

Noise Sensitive Area (General Location/Station Range)	Conceptual Barrier Design Number	Barrier Type (Segment Name)	Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Conceptual Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal	Comments
Waterways, Independence Bay, Freedom Square Communities/CNE-E2S (South of SW 10 th Street and West of Waterways Boulevard/Station 70+00 to 92+00)	E2S-CD1 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street and West of Independence Drive	14	1,540	69+50	84+40	49	21	5	26	6.0	7.2	\$953,400	\$36,669	Yes	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street and East of Independence Drive	14	730	85+40	92+60										
	E2S-CD2 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street and West of Independence Drive	16	1,540	69+50	84+40	49	30	6	36	6.3	7.9	\$1,089,600	\$30,267	YES	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street and East of Independence Drive	16	730	85+40	92+60										
	E2S-CD3 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street and West of Independence Drive	18	1,540	69+50	84+40	49	40	6	46	6.6	8.3	\$1,225,800	\$26,648	Yes	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street and East of Independence Drive	18	730	85+40	92+60										
	E2S-CD4 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street and West of Independence Drive	20	1,540	69+50	84+40	49	47	6	53	7.0	8.7	\$1,362,000	\$25,698	YES	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street and East of Independence Drive	20	730	85+40	92+60										
	E2S-CD5 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street and West of Independence Drive	22	1,540	69+50	84+40	49	47	6	53	7.4	9.1	\$1,498,200	\$28,268	YES	Represents the optimal Conceptual Noise Barrier Design (E2S-CD5 WR); Recommended for further consideration in the Final Design Phase and for public input
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street and East of Independence Drive	22	730	85+40	92+60										

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 Represents the optimal conceptual noise barrier design and is recommended for further consideration in the Final Design Phase and public input.

Table 3.2.2-2: Noise Barrier Analyses for Common Noise Environment CNE-E2S (Waterways, Independence Bay, and Freedom Square Communities) for Build Alternative Without Powerline Road Ramps

Noise Sensitive Area (General Location/Station Range)	Conceptual Barrier Design Number	Barrier Type (Segment Name)	Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Conceptual Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal	Comments
Waterways, Independence Bay, Freedom Square Communities/CNE-E2S (South of SW 10 th Street and West of Waterways Boulevard/Station 70+00 to 92+00)	E2S-CD1 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street and West of Independence Drive	14	1,540	69+50	84+40	49	21	5	26	5.9	7.2	\$953,400	\$36,669	Yes	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street and East of Independence Drive	14	730	85+40	92+60										
	E2S-CD2 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street and West of Independence Drive	16	1,540	69+50	84+40	49	30	6	36	6.3	7.8	\$1,089,600	\$30,267	YES	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street and East of Independence Drive	16	730	85+40	92+60										
	E2S-CD3 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street and West of Independence Drive	18	1,540	69+50	84+40	49	38	6	44	6.6	8.3	\$1,225,800	\$27,859	Yes	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street and East of Independence Drive	18	730	85+40	92+60										
	E2S-CD4 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street and West of Independence Drive	20	1,540	69+50	84+40	49	47	6	53	6.9	8.7	\$1,362,000	\$25,698	YES	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street and East of Independence Drive	20	730	85+40	92+60										
	E2S-CD5 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street and West of Independence Drive	22	1,540	69+50	84+40	49	47	6	53	7.3	9.1	\$1,498,200	\$28,268	YES	Represents the optimal Conceptual Noise Barrier Design (E2S-CD5 WOR); Recommended for further consideration in the Final Design Phase and for public input
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street and East of Independence Drive	22	730	85+40	92+60										

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 Represents the optimal conceptual noise barrier design and is recommended for further consideration in the Final Design Phase and public input.

Table 3.2.3-1: Noise Barrier Analyses for Common Noise Environment CNE-E3N (Quiet Waters Park Recreational Trail) for Build Alternative With Powerline Road Ramps

Noise Barrier Descriptions						Total Estimated Cost	Maximum Noise Reduction dB(A)	Average Noise Reduction dB(A)	Percent of Impacted Area Benefited	Does Barrier Design Meet 7 dB(A) Reduction Goal At Any Site?	Does Barrier Design Provide 5 dB(A) Reduction For Entire Exterior Area of Use Impacted?	Usage Required to be Cost Reasonable (Person Hours per Day)	Actual Usage Likely to Exceed Required Usage to be Cost Reasonable	Does Barrier Design Meet FDOT's Noise Reduction and Cost Reasonableness Criteria?	Conceptual Noise Barrier Design Recommended for further Consideration and Public Input?
Noise Barrier Conceptual Design	Type	Height (Feet)	Length (feet)	Begin Station	End Station										
Quiet Waters Park Recreational Trail / CNE-E3N (North of SW 10 th Street and West of Powerline Road Station 56+00 to Station 66+00)															
E3N-CD1 WR	Ground Mounted	18	1,680	53+00	69+00	\$907,200	6.5	5.8	100%	NO	YES	1275	NO	NO	NO
E3N-CD2 WR	Ground Mounted	20	1,030	57+00	66+50	\$618,000	7.1	6.0	100%	YES	YES	869	NO	NO	NO
E3N-CD3 WR	Ground Mounted	22	980	57+40	66+50	\$646,800	7.8	6.1	100%	YES	YES	909	NO	NO	NO

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Table 3.2.3-2: Conceptual Noise Barrier Design - Usage Analysis for Quiet Waters Park Recreational Trail (CNE-E3N) for Build Alternative With Powerline Road Ramps

Item	Criteria	Actual Usage	Minimum Usage Required to Meet FDOT's Cost Reasonableness Criteria (Input Data)			Units
			Conceptual Noise Barrier Design Number			
			E3N-CD1 WR	E3N-CD2 WR	E3N-CD3 WR	
1	Enter Length of Proposed Noise Barrier	---	1,680	1030	980	feet
2	Enter Height of Proposed Noise Barrier	---	18	20	22	feet
3	Total Square Feet of Proposed Noise Barrier (Multiply item 1 by Item 2)	---	30,240	20,600	21,560	feet ²
4	Enter the average amount of time that a person stays at the site per visit	Unavailable	---	---	---	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	Unavailable	---	---	---	persons
6	Total Person Hours per Day Benefited by Noise Barrier (Multiply Item 4 by Item 5 - N/A) - Minimum Usage Required to Meet FDOT's Cost Reasonableness Criteria (Divide Item 3 by 7)	---	1,275	869	909	person-hours
7	Average Square Foot of Noise Barrier per Person Hour (Divide Item 3 by Item 6)	---	23.71	23.71	23.71	feet ² /person-hours
8	Cost per Person Hour per Square Foot of Noise Barrier (Multiply Item 7 by \$42,000)	N/A	\$995,935	\$995,935	\$995,935	\$/person-hours/ft ²
9	Does item 8 exceed the "abatement cost factor" of: \$995,935/person-hour/ft ² ?	N/A	No	No	No	Yes/No
10	If item 9 is no, abatement is cost reasonable.	N/A	N/A	N/A	N/A	---
11	If item 9 is yes, abatement is not cost reasonable.	N/A	N/A	N/A	N/A	---

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Source: FDOT Report - A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations (2009)

Table 3.2.3-3: Noise Barrier Analyses for Common Noise Environment CNE-E3N (Quiet Waters Park Recreational Trail) for Build Alternative Without Powerline Road Ramps

Noise Barrier Descriptions						Total Estimated Cost	Maximum Noise Reduction dB(A)	Average Noise Reduction dB(A)	Percent of Impacted Area Benefited	Does Barrier Design Meet 7 dB(A) Reduction Goal At Any Site?	Does Barrier Design Provide 5 dB(A) Reduction For Entire Exterior Area of Use Impacted?	Usage Required to be Cost Reasonable (Person Hours per Day)	Actual Usage Likely to Exceed Required Usage to be Cost Reasonable	Does Barrier Design Meet FDOT's Noise Reduction and Cost Reasonableness Criteria?	Conceptual Noise Barrier Design Recommended for further Consideration and Public Input?
Noise Barrier Conceptual Design	Type	Height (Feet)	Length (feet)	Begin Station	End Station										
Quiet Waters Park Recreational Trail / CNE-E3N (North of SW 10 th Street and West of Powerline Road Station 56+00 to Station 66+00)															
E3N-CD1 WOR	Ground Mounted	18	1,680	53+00	69+00	\$907,200	6.5	5.9	100%	NO	YES	1275	NO	NO	NO
E3N-CD2 WOR	Ground Mounted	20	1,030	57+00	66+50	\$618,000	7.2	6.0	100%	YES	YES	869	NO	NO	NO
E3N-CD3 WOR	Ground Mounted	22	980	57+40	66+50	\$646,800	7.9	6.2	100%	YES	YES	909	NO	NO	NO

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Table 3.2.3-4: Conceptual Noise Barrier Design - Usage Analysis for Quiet Waters Park Recreational Trail (CNE-E3N) for Build Alternative Without Powerline Road Ramps

Item	Criteria	Actual Usage	Minimum Usage Required to Meet FDOT's Cost Reasonableness Criteria (Input Data)			Units
			Conceptual Noise Barrier Design Number			
			E3N-CD1 WOR	E3N-CD2 WOR	E3N-CD3 WOR	
1	Enter Length of Proposed Noise Barrier	---	1,680	1,030	980	feet
2	Enter Height of Proposed Noise Barrier	---	18	20	22	feet
3	Total Square Feet of Proposed Noise Barrier (Multiply item 1 by Item 2)	---	30,240	20,600	21,560	feet ²
4	Enter the average amount of time that a person stays at the site per visit	Unavailable	---	---	---	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	Unavailable	---	---	---	persons
6	Total Person Hours per Day Benefited by Noise Barrier (Multiply Item 4 by Item 5 - N/A) - Minimum Usage Required to Meet FDOT's Cost Reasonableness Criteria (Divide Item 3 by 7)	---	1,275	869	909	person-hours
7	Average Square Foot of Noise Barrier per Person Hour (Divide Item 3 by Item 6)	---	23.71	23.71	23.71	feet ² /person-hours
8	Cost per Person Hour per Square Foot of Noise Barrier (Multiply Item 7 by \$42,000)	N/A	\$995,935	\$995,935	\$995,935	\$/person-hours/ft ²
9	Does item 8 exceed the "abatement cost factor" of: \$995,935/person-hour/ft ² ?	N/A	No	No	No	Yes/No
10	If item 9 is no, abatement is cost reasonable.	N/A	N/A	N/A	N/A	---
11	If item 9 is yes, abatement is not cost reasonable.	N/A	N/A	N/A	N/A	---

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Source: FDOT Report - A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations (2009)

Table 3.2.4-1: Noise Barrier Analyses for Common Noise Environment CNE-E4S (Waterford Courtyard and Crystal Heights/Waterford Homes Communities and Crystal Heights Park) for Build Alternative With Powerline Road Ramps

Noise Sensitive Area (General Location/Station Range)	Conceptual Barrier Design Number	Barrier Type (Segment Name)	Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Conceptual Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal	Comments
Waterford Courtyards, Crystal Heights/Waterford Homes, and Crystal Heights Park/CNE-E4S (South of SW 10th Street and East of SW 30th Avenue/Station 125+00 to Station 152+00)	E4S-CD1 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	8	960	125+00	134+60	22	0	0	0	5.7	5.7	\$585,600	---	No	Conceptual Barrier Design E4S-CD1 WR does not meet FDOT's Reasonable Cost Criteria or Noise Reduction Design Goal
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	8	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	8	550	145+60	151+10										
	E4S-CD2 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	10	960	125+00	134+60	22	16	3	19	5.7	7.4	\$732,000	\$38,526	Yes	Conceptual Barrier Design E4S-CD2 WR does not maximize the number of impacted and benefited receptor sites
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	10	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	10	550	145+60	151+10										
	E4S-CD3 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	12	960	125+00	134+60	22	20	14	34	7.0	8.8	\$878,400	\$25,835	Yes	Conceptual Barrier Design E4S-CD3 WR does not maximize the number of impacted and benefited receptor sites
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	12	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	12	550	145+60	151+10										
	E4S-CD4 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	14	960	125+00	134+60	22	20	14	34	7.9	9.7	\$1,024,800	\$30,141	Yes	Conceptual Barrier Design E4S-CD4 WR does not maximize the number of impacted and benefited receptor sites
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	14	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	14	550	145+60	151+10										
	E4S-CD5 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	16	960	125+00	134+60	22	20	16	35	8.3	11.2	\$1,171,200	\$33,463	Yes	Conceptual Barrier Design E4S-CD5 WR does not maximize the number of impacted and benefited receptor sites
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	16	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	16	550	145+60	151+10										
	E4S-CD6 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	18	960	125+00	134+60	22	20	18	38	8.5	12.0	\$1,317,600	\$34,674	Yes	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	18	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	18	550	145+60	151+10										
	E4S-CD7 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	20	960	125+00	134+60	22	21	25	46	8.9	12.8	\$1,464,000	\$31,826	Yes	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	20	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	20	550	145+60	151+10										
	E4S-CD8 WR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	22	960	125+00	134+60	22	22	26	48	9.4	13.8	\$1,610,400	\$33,550	Yes	Represents the optimal Conceptual Noise Barrier Design (E4S-CD8 WR); Recommended for further consideration in the Final Design Phase and for public input
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	22	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	22	550	145+60	151+10										
Alternative Conceptual Designs to be Considered if Construction of a Noise Barrier along the Southern Right-of-way Line is Determined not to be Feasible or Reasonable during the Final Design Phase																	
E4S-CD9 WR(SH)	Shoulder Mounted	Along Proposed Connector Road Eastbound Outside Shoulder	14	3,280	121+80	154+60	29*	27	26	53	6.3	9.0	\$1,377,600	\$25,992	Yes	Alternative conceptual design with noise barrier located along the Connector Road eastbound outside shoulder versus along the southern right-of-way line	
E4S-CD10 WR(SUP)	Ground Mounted (Segment 1)	Southside of Proposed Share Use Path	22	960	125+00	134+60	22	18	28	46	9.0	13.5	\$1,610,400	\$35,009	Yes	Alternative conceptual design with noise barrier located along the southside of the proposed shared use path versus along the southern right-of-way line	
	Ground Mounted (Segment 2)	Southside of Proposed Share Use Path	22	930	135+40	144+60											
	Ground Mounted (Segment 3)	Southside of Proposed Share Use Path	22	550	145+60	151+10											

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Represents the optimal conceptual noise barrier design and is recommended for further consideration in the Final Design Phase and public input.

Note: *Number of impacted receptor sites without the proposed 3-foot tall concrete barrier wall along the Connector Road eastbound outside shoulder.

Table 3.2.4-2: Noise Barrier Analyses for Common Noise Environment CNE-E4S (Waterford Courtyard and Crystal Heights/Waterford Homes Communities and Crystal Heights Park) for Build Alternative Without Powerline Road Ramps

Noise Sensitive Area (General Location/Station Range)	Conceptual Barrier Design Number	Barrier Type (Segment Name)	Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Conceptual Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal	Comments
Waterford Courtyards, Crystal Heights/Waterford Homes, and Crystal Heights Park/CNE-E4S (South of SW 10th Street and East of SW 30th Avenue/Station 125+00 to Station 152+00)	E4S-CD1 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	8	960	125+00	134+60	22	7	0	7	5.4	5.6	\$585,600	\$83,657	No	Conceptual Barrier Design E4S-CD1 WOR does not meet FDOT's Reasonable Cost Criteria or Noise Reduction Design Goal
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	8	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	8	550	145+60	151+10										
	E4S-CD2 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	10	960	125+00	134+60	22	17	14	31	6.0	7.1	\$732,000	\$23,613	Yes	Conceptual Barrier Design E4S-CD2 WOR does not maximize the number of impacted and benefited receptor sites
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	10	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	10	550	145+60	151+10										
	E4S-CD3 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	12	960	125+00	134+60	22	20	14	34	7.0	8.2	\$878,400	\$25,835	Yes	Conceptual Barrier Design E4S-CD3 WOR does not maximize the number of impacted and benefited receptor sites
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	12	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	12	550	145+60	151+10										
	E4S-CD4 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	14	960	125+00	134+60	22	20	14	34	7.7	9.2	\$1,024,800	\$30,141	Yes	Conceptual Barrier Design E4S-CD4 WOR does not maximize the number of impacted and benefited receptor sites
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	14	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	14	550	145+60	151+10										
	E4S-CD5 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	16	960	125+00	134+60	22	20	16	36	7.9	9.9	\$1,171,200	\$32,533	Yes	Conceptual Barrier Design E4S-CD5 WOR does not maximize the number of impacted and benefited receptor sites
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	16	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	16	550	145+60	151+10										
	E4S-CD6 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	18	960	125+00	134+60	22	21	23	44	8.1	10.7	\$1,317,600	\$29,945	Yes	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	18	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	18	550	145+60	151+10										
	E4S-CD7 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	20	960	125+00	134+60	22	21	25	46	8.6	11.3	\$1,464,000	\$31,826	Yes	---
		Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	20	930	135+40	144+60										
		Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	20	550	145+60	151+10										
E4S-CD8 WOR	Ground Mounted (Segment 1)	Southern Right-of-Way Line of SW 10 th Street	22	960	125+00	134+60	22	21	21	46	9.2	12.3	\$1,610,400	\$35,009	Yes	Represents the optimal Conceptual Noise Barrier Design (E4S-CD8 WOR); Recommended for further consideration in the Final Design Phase and for public input	
	Ground Mounted (Segment 2)	Southern Right-of-Way Line of SW 10 th Street	22	930	135+40	144+60											
	Ground Mounted (Segment 3)	Southern Right-of-Way Line of SW 10 th Street	22	550	145+60	151+10											
Alternative Conceptual Designs to be Considered if Construction of a Noise Barrier along the Southern Right-of-way Line is Determined not to be Feasible or Reasonable during the Final Design Phase																	
E4S-CD9 WOR(SH)	Shoulder Mounted	Along Proposed Connector Road Eastbound Outside Shoulder	14	3,400	121+00	155+00	25*	23	29	52	6.0	7.0	\$1,428,000	\$27,462	Yes	Alternative conceptual design with noise barrier located along the Connector Road eastbound outside shoulder versus along the southern right-of-way line	
E4S-CD8 WOR(SUP)	Ground Mounted (Segment 1)	Southside of Proposed Share Use Path	22	960	125+00	134+60	22	17	21	46	8.6	12.2	\$1,610,400	\$35,009	Yes	Alternative conceptual design with noise barrier located along the southside of the proposed shared use path versus along the southern right-of-way line	
	Ground Mounted (Segment 2)	Southside of Proposed Share Use Path	22	930	135+40	144+60											
	Ground Mounted (Segment 3)	Southside of Proposed Share Use Path	22	550	145+60	151+10											

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Represents the optimal conceptual noise barrier design and is recommended for further consideration in the Final Design Phase and public input.
 Note: *Number of impacted receptor sites without the proposed 3-foot tall concrete barrier wall along the Connector Road eastbound outside shoulder.

Table 3.2.5-1: Noise Barrier Analyses for Common Noise Environment CNE-E5N (Century Village Community) for Build Alternative With Powerline Road Ramps

Noise Sensitive Area (General Location/Station Range)	Conceptual Barrier Design Number	Barrier Type (Segment Name)	Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Conceptual Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal	Comments
Century Village/CNE-E5N (North of SW 10th Street and West of Military Trail/ Station 118+00 to Station 174+00)	E5N-CD1 WR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	14	4,560	118+40	164+00	65	61	35	96	6.5	11.0	\$2,492,400	\$25,963	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	14	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	14	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,600	162+00	178+00										
	E5N-CD2 WR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	16	4,560	118+40	164+00	65	62	39	101	6.9	11.0	\$2,742,000	\$27,149	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	14	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	14	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,500	163+40	178+00										
	E5N-CD3 WR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	16	4,560	118+40	164+00	65	62	39	101	7.0	11.7	\$2,769,600	\$27,422	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	16	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	16	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,500	163+00	178+00										
	E5N-CD4 WR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	18	4,660	118+40	165+00	65	64	40	104	7.5	12.7	\$3,124,800	\$30,046	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	18	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	18	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,500	163+00	178+00										
	E5N-CD5 WR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	20	4,660	118+40	165+00	65	65	43	108	7.9	13.5	\$3,408,000	\$31,556	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	20	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	20	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,400	164+00	178+00										
	E5N-CD6 WR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	22	4,760	118+40	166+00	65	65	45	110	8.3	14.2	\$3,757,200	\$34,156	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	22	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	22	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,300	165+00	178+00										
	E5N-CD7 WR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	22	4,760	118+40	166+00	65	65	45	110	8.0	14.2	\$3,646,800	\$33,153	Yes	Represents the optimal Conceptual Noise Barrier Design (E5N-CD7 WR) and recommended for further consideration in the Final Design Phase; However, Conceptual noise barrier design is not currently considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail; Feasibility will be further evaluated in the Final Design Phase
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	14	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	14	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,300	165+00	178+00										
E5N-CD8 WR	Ground Mounted	Northern Right-of-Way Line of SW 10 th Street	22	4,760	118+40	166+00	65	55	33	88	8.2	14.2	\$3,453,600	\$39,245	Yes	Represents the alternative optimal Conceptual Noise Barrier Design (E5N-CD8 WR); Recommended for further consideration in the Final Design Phase and for public input	
	Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,300	165+00	178+00											

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Represents the optimal conceptual noise barrier designs and are recommended for further consideration in the Final Design Phase.

Table 3.2.5-2: Noise Barrier Analyses for Common Noise Environment CNE-E5N (Century Village Community) for Build Alternative Without Powerline Road Ramps

Noise Sensitive Area (General Location/Station Range)	Conceptual Barrier Design Number	Barrier Type (Segment Name)	Barrier Location	Height (feet)	Length (feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Number of Impacted/ Benefited Receptor Sites	Number of Benefited Receptor Sites/ Not Impacted	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites dB(A)	Maximum Noise Reduction for all Benefited Receptor Sites dB(A)	Cost (\$30 per square foot)	Average Cost/Site Benefited	Conceptual Barrier Design Meets FDOT's Reasonable Noise Abatement Cost Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal	Comments
Century Village/CNE-E5N (North of SW 10th Street and West of Military Trail/ Station 118+00 to Station 174+00)	E5N-CD1 WOR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	14	4,560	118+40	164+00	63	60	36	96	6.7	10.7	\$2,468,400	\$25,713	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	14	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	14	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,500	163+00	178+00										
	E5N-CD2 WOR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	16	4,560	118+40	164+00	63	61	41	102	7.0	10.7	\$2,742,000	\$26,882	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	14	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	14	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,500	163+00	178+00										
	E5N-CD3 WOR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	16	4,560	118+40	164+00	63	61	41	102	7.1	11.6	\$2,769,600	\$27,153	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	16	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	16	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,500	163+00	178+00										
	E5N-CD4 WOR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	18	4,660	118+40	165+00	63	63	42	105	7.7	12.8	\$3,100,800	\$29,531	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	18	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	18	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,400	164+00	178+00										
	E5N-CD5 WOR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	20	4,660	118+40	165+00	63	63	45	108	8.1	13.7	\$3,408,000	\$31,556	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	20	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	20	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,400	164+00	178+00										
	E5N-CD6 WOR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	22	4,760	118+40	166+00	63	63	50	113	8.5	14.2	\$3,757,200	\$33,250	Yes	Conceptual noise barrier design is not considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail (Feasibility will be further evaluated in the Final Design Phase)
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	22	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	22	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,300	165+00	178+00										
	E5N-CD7 WOR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	22	4,760	118+40	166+00	63	63	50	113	8.1	14.2	\$3,646,800	\$32,273	Yes	Represents the optimal Conceptual Noise Barrier Design (E5N-CD7 WOR) and recommended for further consideration in the Final Design Phase; However, Conceptual noise barrier design is not currently considered feasible; Ground Mounted Noise Barrier Segments 2 and 3 are not be constructable due to insufficient right-of-way available along Military Trail; Feasibility will be further evaluated in the Final Design Phase
		Ground Mounted (Segment 2)	Northern Right-of-Way Line of SW 10 th Street	14	60	173+00	173+60										
		Ground Mounted (Segment 3)	Western Right-of-way Line of Military Trail	14	400	173+60 / 1000+00	175+60 / 1004+00										
		Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,300	165+00	178+00										
E5N-CD8 WOR	Ground Mounted (Segment 1)	Northern Right-of-Way Line of SW 10 th Street	22	4,760	118+40	166+00	63	53	38	91	8.3	14.2	\$3,453,600	\$37,952	Yes	Represents the alternative optimal Conceptual Noise Barrier Design (E5N-CD8 WOR); Recommended for further consideration in the Final Design Phase and for public input	
	Shoulder Mounted	Westbound Managed Lanes Along Outside Shoulder	8	1,300	165+00	178+00											

Represents the optimal conceptual noise barrier design and is recommended for further consideration in the Final Design Phase.

4.0 Conclusions

A traffic noise study was performed in accordance with 23 CFR 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise (July 13, 2010), the FDOT's PD&E Manual, Part 2, Chapter 18, Highway Traffic Noise (July 1, 2020), and FDOT's Traffic Noise Modeling and Analysis Practitioners Handbook (December 31, 2018).

Design year traffic (2040) noise levels for the Build Alternatives will approach or exceed the NAC at noise sensitive sites along the project corridor. With the Build Alternative with Powerline Road Ramps, the proposed improvements are anticipated to impact 157 residences (NAC Activity Category B) and six non-residential receptor sites (NAC Activity Category C) along the project corridor. With the Build Alternative without Powerline Road Ramps, the proposed improvements are anticipated to impact 152 residences (NAC Activity Category B) and six non-residential receptor sites (NAC Activity Category C) along the project corridor. Consequently, the feasibility and reasonableness of noise barriers were considered for those noise sensitive sites predicted to be impacted for each of the Build Alternatives.

Five separate CNEs were used to assess noise barriers for the noise sensitive sites that approach or exceed the NAC:

- E1S - Represents the impacted residences in the Enclave Apartments at Waterways (i.e., 21 residences with Powerline Road Ramps and 18 residences without Powerline Road Ramps);
- E2S - Represents the impacted residences in the Waterways, Independence Bay, and Freedom Square residential developments (i.e., 49 residences with and without Powerline Road Ramps);
- E3N - Represents two segments of a recreation trail within Quiet Waters Park (~300 feet and ~100 feet);
- E4S - Represents the impacted residences within the Waterford Courtyards and Crystal Heights Subdivision (Waterford Homes) Communities and a non-residential site (i.e., Crystal Heights Park) (i.e., 22 residences and one non-residential site with and without Powerline Road Ramps); and
- E5N - Represents the impacted residences and two non-residential sites (i.e., park benches) within Century Village (i.e., 65 residences and two non-residential sites with Powerline Road Ramps and 63 residences and two non-residential sites without Powerline Road Ramps).

Table 4-1 summarizes the results of the noise barrier analyses and recommendations for each of the locations where noise barriers were evaluated. For the two Build Alternatives, noise

Table 4-1: Noise Barrier Evaluation Summary (Sheet 1 of 2)

Noise Sensitive Area (General Location)/Common Noise Environment (CNE) Identification Number	Build Alternative	Optimal Conceptual Noise Barrier Design Identification	Noise Barrier Type	Height (Feet)	Length (Feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Maximum Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/Benefited Receptor Sites	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites	Estimated Cost (\$30.00 per square foot)	Average Cost per Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Noise Barrier Recommended for Further Consideration and Public Input?
East of Florida's Turnpike to Powerline Road																
The Enclave Apartments at Waterways (South of SW 10 th Street and West of Waterways Boulevard)/E1S	With Powerline Road Ramps	E1S-CD5 WR	Ground Mounted	22	1,420	56+80	68+60	21	10.5	21	55	7.3	\$937,200	\$17,040	YES	YES
	Without Powerline Road Ramps	E1S-CD5 WOR	Ground Mounted	22	1,420	56+80	68+60	18	10.7	18	53	7.3	\$937,200	\$17,683	YES	YES
Waterways, Independence Bay, and Freedom Square Communities (South of SW 10 th Street and East/ West of Independence Boulevard)/E2S	With Powerline Road Ramps	E2S-CD5 WR	Ground Mounted (Segment 1)	22	1,540	69+50	84+40	49	9.1	47	53	7.4	\$1,498,200	\$28,268	YES	YES
			Ground Mounted (Segment 2)	22	730	85+40	92+60									
	Without Powerline Road Ramps	E2S-CD5 WOR	Ground Mounted (Segment 1)	22	1540	69+50	84+40	49	9.1	47	53	7.3	\$1,498,200	\$28,268	YES	YES
			Ground Mounted (Segment 2)	22	730	85+40	92+60									
Quiet Waters Park Recreational Trail (North of SW 10 th Street and West of Power Line Road)/E3N	With Powerline Road Ramps	E3N-CD2 WR	Ground Mounted	20	1030	57+00	66+50	Special Land Use	7.1	---	---	---	\$618,000	---	NO (Usage of Recreational Trail Less Than Required to be Cost Reasonable)	NO
	Without Powerline Road Ramps	E3N-CD2 WOR	Ground Mounted	20	1030	57+00	66+50	Special Land Use	7.2	---	---	---	\$618,000	---	NO (Usage of Recreational Trail Less Than Required to be Cost Reasonable)	NO
Powerline Road to Military Trail																
Waterford Courtyards, Crystal Heights, and Crystal Heights Park (South of SW 10 th Street and East of SW 30 th Avenue)/E4S	With Powerline Road Ramps	E4S-CD8 WR	Ground Mounted (Segment 1)	22	960	125+00	134+60	22	13.8	22	48	9.4	\$1,610,400	\$33,550	YES	YES
			Ground Mounted (Segment 2)	22	930	135+40	144+60									
			Ground Mounted (Segment 3)	22	550	145+60	151+10									
	Without Powerline Road Ramps	E4S-CD8 WOR	Ground Mounted (Segment 1)	22	960	125+00	134+60	22	12.3	21	46	9.2	\$1,610,400	\$35,009	YES	YES
			Ground Mounted (Segment 2)	22	930	135+40	144+60									
			Ground Mounted (Segment 3)	22	550	145+60	151+10									

Table 4-1: Noise Barrier Evaluation Summary (Sheet 2 of 2)

Noise Sensitive Area (General Location)/Common Noise Environment (CNE) Identification Number	Build Alternative	Optimal Conceptual Noise Barrier Design Identification	Noise Barrier Type	Height (Feet)	Length (Feet)	Begin Station Number	End Station Number	Number of Impacted Receptor Sites	Maximum Noise Reduction for Impacted Receptor Sites dB(A)	Number of Impacted/Benefited Receptor Sites	Total Number of Benefited Receptor Sites	Average Noise Reduction for all Benefited Receptor Sites	Estimated Cost (\$30.00 per square foot)	Average Cost per Site Benefited	Does Optimal Barrier Design Meet FDOT's Reasonable Noise Abatement Criteria of \$42,000 per Benefited Receptor Site and 7.0 dB(A) Noise Reduction Design Goal?	Noise Barrier Recommended for Further Consideration and Public Input?
Century Village (North of SW 10th Street and West of Military Trail)/E5N	With Powerline Road Ramps	E5N-CD8 WR	Ground Mounted (Segment 1)	22	4,760	118+40	166+00	65	14.2	55	88	8.2	\$3,453,600	\$39,245	YES	YES
			Shoulder Mounted (Segment 2)	8	1,300	165+40	178+40									
	Without Powerline Road Ramps	E5N-CD8 WOR	Ground Mounted (Segment 1)	22	4,760	118+40	166+00	63	14.2	53	91	8.3	\$3,453,600	\$37,952	YES	YES
			Shoulder Mounted (Segment 2)	8	1,300	165+40	178+40									
Alternative Conceptual Noise Barrier Designs Recommendations for Common Noise Environment E5S (Currently Not Feasible due Insufficient Right-of-Way to Construct, will be Further Evaluated in the Final Design Phase)																
Century Village (North of SW 10th Street and West of Military Trail)/E5N	With Powerline Road Ramps	E5N-CD7 WR	Ground Mounted (Segment 1)	22	4,760	118+40	166+00	65	14.2	65	110	8.0	\$3,646,800	\$33,153	YES	YES
			Ground Mounted (Segment 2)	14	60	173+00	173+60									
			Ground Mounted (Segment 3)	14	400	173+60	175+60									
			Shoulder Mounted	8	1,300	165+00	178+00									
	Without Powerline Road Ramps	E5N-CD7 WOR	Ground Mounted (Segment 1)	22	4,760	118+40	166+00	63	14.2	63	113	8.1	\$3,646,800	\$32,273	YES	YES
			Ground Mounted (Segment 2)	14	60	173+00	173+60									
			Ground Mounted (Segment 3)	14	400	173+60	175+60									
			Shoulder Mounted	8	1,300	165+00	178+00									

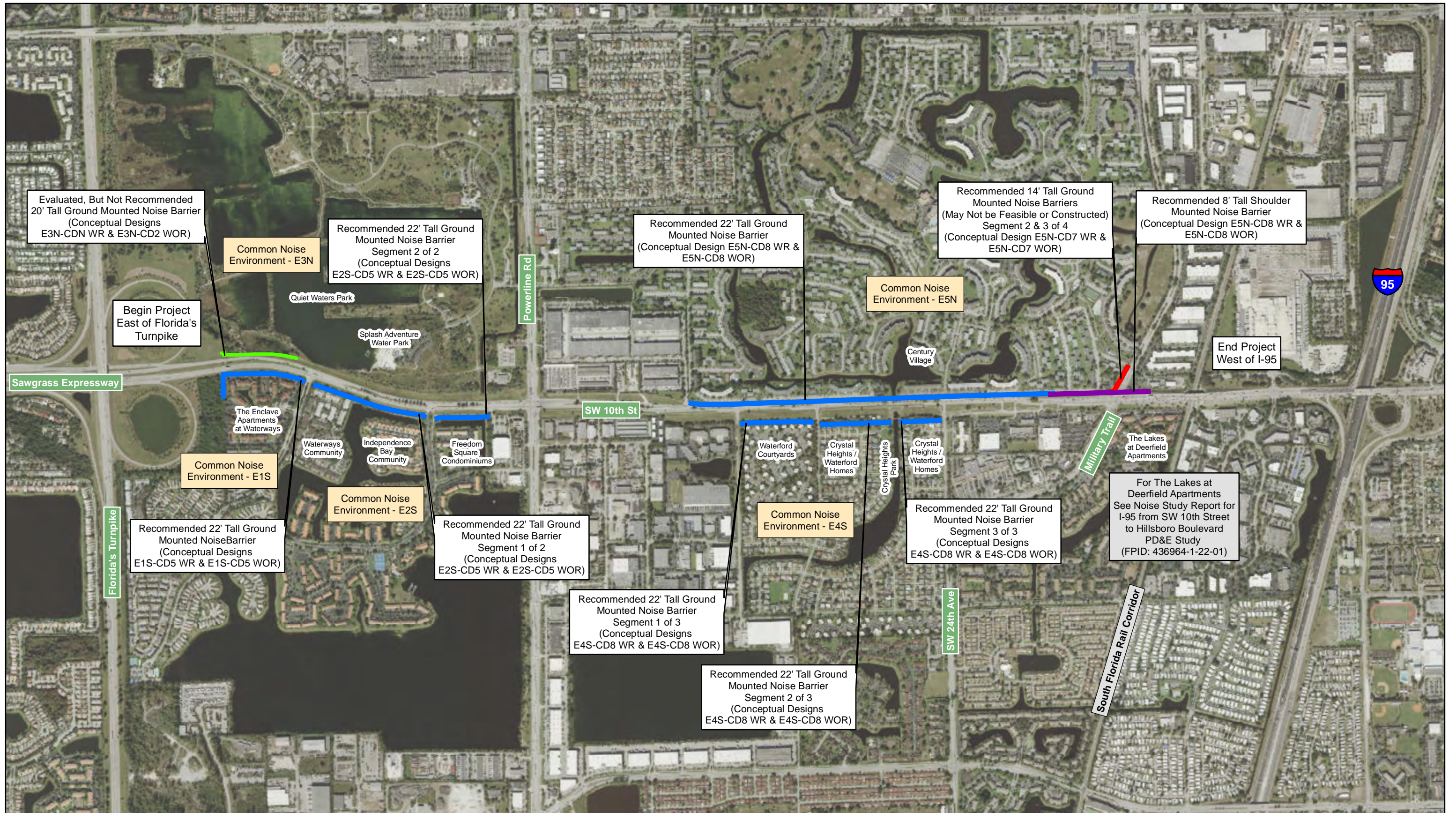
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barriers at four of the CNEs (E1S, E2S, E4S, and E5N) were determined to be feasible and cost reasonable and are recommended for further consideration during the Final Design phase and for public input. The locations of the recommended noise barriers are depicted on **Figure 4.1**. As presented in **Table 4-1**, the recommended conceptual noise barrier designs for the Build Alternative without Powerline Road Ramps have the same dimensions as recommended for the Build Alternative with Powerline Road Ramps. Therefore, regardless of the Build Alternative chosen as the Preferred, the noise barrier recommendations will be the same.

The cost per benefited site of the recommended conceptual noise barrier designs are within FDOT's noise barrier cost criteria of equal to or less than \$42,000 per benefited site and they will meet FDOT's noise reduction reasonableness criteria of 7 dB(A) at one or more benefited sites. For the Build Alternative with Powerline Road Ramps, the recommended noise barriers are expected to reduce traffic noise by at least 5 dB(A) at 244 residences including 145 of the 157 impacted residences. The estimated cost of the recommended barriers is \$7,499,400. For the Build Alternative without Powerline Road Ramps, the recommended noise barriers are expected to reduce traffic noise by at least 5 dB(A) at 243 residences including 139 of the 152 impacted residences. The estimated cost of the recommended barriers is \$7,499,400. Additional noise barrier analysis will be performed during the Final Design phase to confirm the dimensions of the recommended noise barriers at these locations. Final decisions on barrier dimensions are made during the Final Design phase of the project and after determining the support for noise barriers from the benefited noise sensitive sites.

For Century Village (CNE E5N), an alternative conceptual noise barrier design was recommended for further consideration for the two Build Alternatives. The dimensions and effectiveness of the alternative conceptual noise barrier design for each of the Build Alternatives are included at the end of **Table 4-1**. This conceptual noise barrier design represents the optimal noise barrier for Century Village. However, due to insufficient right-of-way and potential overhead electric lines, the ground mounted noise barrier segments along Military Trail are not considered feasible. However, this conceptual barrier design is recommended for further evaluation in the Final Design phase since it represents the optimal conceptual noise barrier design at this location. Compared to the recommended noise barrier design for Century Village, this design provides benefit to all the impacted sites in this community for both the Build Alternatives.


Noise barriers were not found to be cost reasonable at the Quiet Waters Park recreational trails (CNE-E3N) for either of the two Build Alternatives. The usage of this trail was less than required to be cost reasonable; therefore, a noise barrier is not recommended for further




 Florida Department of Transportation
 SR 869/SW 10th Street Connector PD&E Study
 From Florida's Turnpike /
 Sawgrass Expressway to West of I-95
 Financial Project ID: 439891-1-22-02
 Broward County, Florida
 DATE: SEPTEMBER 2020

Recommended Noise Barriers — Non Recommended Noise Barrier
Height
— 8
— 14
— 22

0 500 1,000 2,000
 Feet



WR - Build Alternative with Powerline Road Ramps
 WDR - Build Alternative without Powerline Road Ramps

Figure 4-1
 Noise Barrier
 Recommendation Map

consideration or construction at this location. Based on the noise analyses performed to date, there are no feasible solutions available to mitigate the noise impacts at this recreational area. Therefore, the traffic noise impacts associated with the two Build Alternatives at this recreational area would be an unavoidable consequence of the project.

Statement of Likelihood

FDOT is committed to the construction of feasible noise abatement measures at the noise impacted locations identified in **Table 4-1** and **Figure 4.1** upon the following conditions:

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

It is likely that the noise abatement measures for the identified 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.

5.0 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 because heavy equipment is 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 residential, commercial, and institutional land uses. 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. A reassessment of the project corridor for additional sites particularly sensitive to construction noise and/or vibration will be performed during design to ensure that impacts to such sites are minimized.

6.0 Community Coordination

Coordination with local agencies, community officials, and the public has been accomplished during the development of this project. Project stakeholders have had opportunity to comment on traffic noise associated with the proposed project at the Kick-off Meeting, the two Alternatives Public Meetings, the Project Update Webinars, and the Public Hearing. The Public and Agency Kick-off Meetings were held on November 15, 2017. The first Alternatives Public Meeting was held on April 24, 2018 and the second Alternatives Public Meeting was held on November 29, 2018. The Project Update Webinars were held on June 18, 2020, June 29, 2020, and July 1, 2020, via the GoToWebinar platform. A series of virtual and in-person Public Hearings were held between October 12, 2020 to October 15, 2020. A summary of all public involvement activities is included in the Comments and Coordination Reports and summarized in Section 5.0 Project Coordination & Public Involvement of the PER.

During the various public meetings, stakeholders expressed concerns with future traffic noise levels associated with the project and during construction. The public expressed concerns with the increase in noise levels associated with the project improvements that would shift the travel lanes/traffic closer to their residences/communities and from the increase in traffic volumes (e.g., Century Village, Waterford Courtyards, Waterford Homes, and Waterways communities). The public also had questions and comments related to noise barriers as an abatement measure, heights, effectiveness, and aesthetics. The public was generally supportive of noise barriers as a noise abatement measure. However, there were public comments that indicated that they prefer not to have noise barriers constructed in the vicinity of their property that would block their views.

To address the public's concerns and questions related to noise, information regarding traffic noise, construction noise, and abatement considerations were presented at each of these the public meetings. Prior to the Public Hearing, the public was informed that a noise study would be performed. In addition, the noise study evaluation process was presented and the public was informed that a Noise Study Report will be prepared and would be available for review prior to the Public Hearing. The results and recommendations of the Noise Study Report were presented at the Public Hearing.

During the meetings prior to the Public Hearing, noise barrier locations being evaluated were presented to obtain input from the public including the adjacent property owners. For those locations where noise barriers are determined to be warranted, the public was informed that FDOT would closely coordinate with those affected during the Design Phase of the project and that a noise barrier survey will be performed to obtain input from all stakeholders that would be benefited by the noise barrier. If greater than 50% of those surveyed desire a noise barrier, then it will be constructed. If the percentage is less than 50%, a barrier would not be

constructed. The public was also informed that the aesthetics of any barrier will be closely coordinated with those benefited by the barrier and the City of Deerfield Beach.

At the Public Hearing, the locations where noise barriers were warranted for further consideration and public input during the design phase were presented to the public in the form of exhibit boards. Photographic renderings of how noise barriers would look at specific locations including potential aesthetics treatment of noise barriers were presented at the Public Hearing. As summarized in **Section 4** Conclusions of this report, noise barriers are warranted at all the residential areas along SW 10th Street from Florida's Turnpike to Military Trail. As presented in **Table 4-1** of this report, the recommended conceptual noise barrier designs for the Build Alternative Without Powerline Road Ramps has the same dimensions as recommended for the Build Alternative With Powerline Road Ramps. Therefore, regardless of the Build Alternative chosen as the Preferred, the noise barrier recommendations will be the same. The public was also informed that final decisions on barrier dimensions are made during the Final Design phase of the project and after determining the support for noise barriers from the benefited noise sensitive sites.

To aid in promoting land use compatibility, a copy of the Noise Study Report, which provides information that can be used to protect future land development from becoming incompatible with anticipated traffic noise levels, will be provided to the City of Deerfield Beach and Broward County. In addition, generalized future noise impact contours for the properties in the immediate vicinity of the project have been developed for Noise Abatement Activity Categories B/C and E (i.e., residential and other sensitive land uses, and sensitive commercial land uses, respectively) for the two Build Alternatives. These contours represent the approximate distance from the edge of the nearest proposed travel lane of Connector Road/Local SW 10th Street to the limits of the area predicted to approach [i.e., within 1 dB(A)] or exceed the NAC in the design year (2040). The contours do not consider any shielding of noise provided by structures between the receptor sites and the proposed travel lanes. 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 6-1**. To minimize the potential for incompatible land use, noise sensitive land uses should be located beyond this distance.

Table 6-1: Design Year (2040) Noise Impact Contour Distances

Roadway Segment	Build Alternative With Powerline Road Ramps		Build Alternative Without Powerline Road Ramps	
	Distance from Proposed Nearest Travel Lane to Noise Contour (Feet)		Distance from Proposed Nearest Travel Lane to Noise Contour (Feet)	
	66 dB(A) - Activity Category B/C	71 dB(A) - Activity Category E	66 dB(A) - Activity Category B/C	71 dB(A) - Activity Category E
South of SW 10th Street from Florida's Turnpike to Waterways Boulevard	180	60	160	60
South of SW 10th Street from Waterways Boulevard to Independence Drive	230	60	230	60
South of SW 10th Street from Independence Drive to Military Trail	145	30	145	30
North of SW 10th Street from Florida's Turnpike to Waterways Boulevard	125	15	125	10
North of SW 10th Street from Waterways Boulevard to Powerline Road	155	15	155	20
North of SW 10th Street from Powerline Road to Military Trail	125	20	125	20

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7.0 References

- 23 CFR Part 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise", Federal Register, Vol. 75, No. 133, Tuesday, July 13, 2010; pages 39834-39839.
- Federal Highway Administration Report FHWA-HEP-10-025, "Highway Traffic Noise: Analysis and Abatement Guidance", June 2010 (revised December 2010); 76 pages.
- Federal Highway Administration Report FHWA-PD-96-009, "FHWA Traffic Noise Model, Version 1.0 User's Guide", January 1998; 192 pages + supplements.
- Federal Highway Administration Report FHWA-HEP-18-065, "Noise Measurement Handbook - Final Report", June 2018; 205 pages.
- Federal Highway Administration Report FHWA-HEP-06-015, "FHWA Highway Construction Noise Handbook: Final Report", August 2006; 185 pages.
- A Method to Determine Reasonableness and Feasibility of Noise Abatement at Special Use Locations, Roger L. Wayson and John M. MacDonald, University of Central Florida; Updated July 22, 2009; 64 pages.
- Florida Department of Transportation. "Noise Analysis", Part 2, Chapter 18. Project Development and Environment Manual, Florida Department of Transportation, Tallahassee, July 1, 2020.
- Florida Department of Transportation. "Design Manual" (Topic No. 625-000-002, Part 2, Section 264, Noise Walls and Perimeter Walls), January 1, 2019.
- Florida Department of Transportation "Standard Specifications for Road and Bridge Construction", August 2019.
- Florida Department of Transportation "Traffic Noise Modeling and Analysis Practitioners Handbook", December 31, 2018.

APPENDIX A

**Table 2.2-1: Traffic Data for SR/869 SW 10th Street
Connector PD&E Noise Study**

**TRAFFIC DATA FOR STATE ROAD (SR) 869/SW 10TH STREET CONNECTOR
PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) NOISE STUDY**

**FPID Number(s): 439891-1-22-02
Road Name: SW 10th Street (SR 869)**

Table 2.2-1: Traffic Data for Noise Modeling (Sheet 1 of 6) - Existing Conditions

Roadway Segment	Speed Limit	2016 Existing Traffic (vph) ¹		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks	Percent Medium Trucks	Percent Buses	Percent Motorcycles	Volume used in TNM	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM															
Eastbound / Northbound																		
Florida Turnpike Interchange Ramps	EB Sawgrass Expressway Ramp to NB FL Turnpike	35	1,920	1,390	1	1,220	1,920	1,220	2.64%	2.01%	0.84%	0.38%	1,220	1,148	32	25	10	5
	EB Sawgrass Expressway Ramp to EB SW 10th St	45	240	135	1	1,340	240	240	0.96%	0.73%	0.30%	0.38%	240	234	2	2	1	1
SW 10th St (SR 869)	EB Sawgrass Expressway Mainline to FL Turnpike Ramps	45	2,540	1,400	3	2,940	2,540	2,540	0.96%	0.73%	0.30%	0.38%	2,540	827	8	6	3	3
	FL Turnpike Ramps to Waterways Blvd	45	2,780	1,535	4	4,169	2,780	2,780	0.96%	0.73%	0.30%	0.38%	2,780	678	7	5	2	3
	Waterways Blvd to Independence Dr	45	3,105	1,635	4	4,169	3,105	3,105	0.96%	0.73%	0.30%	0.38%	3,105	757	8	6	2	3
	Independence Dr to Powerline Rd	45	3,155	1,665	3	3,087	3,155	3,087	0.96%	0.73%	0.30%	0.38%	3,087	1,004	10	8	3	4
	Powerline Rd to Quiet Waters Business Park Driveway	45	2,580	1,660	3	2,940	2,580	2,580	0.96%	0.73%	0.30%	0.38%	2,580	840	8	6	3	3
	Quiet Waters Business Park Driveway to SW 30th Ave	45	2,505	1,725	2	2,006	2,505	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	SW 30th Ave to SW 28th Ave	45	2,505	1,850	2	2,006	2,505	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	SW 28th Ave to SW 24th Ave	45	2,535	1,795	2	2,006	2,535	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	SW 24th Ave to South Florida Bible College Driveway	45	2,400	1,725	2	2,006	2,400	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	South Florida Bible College Driveway to Walmart Driveway	45	2,395	1,785	2	2,006	2,395	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	Walmart Driveway to S Military Trail	45	2,450	1,890	3	3,087	2,450	2,450	0.96%	0.73%	0.30%	0.38%	2,450	798	8	6	2	3
S Military Trail to E Newport Center Dr	40	3,085	1,950	3	2,940	3,085	2,940	0.96%	0.73%	0.30%	0.38%	2,940	957	9	7	3	4	
Powerline Rd (SR 845)	Northbound Approach to SW 10th St Intersection	45	1,660	1,880	3	3,087	1,880	1,880	0.73%	1.07%	0.20%	0.34%	1,880	612	5	7	1	2
S Military Trail	Northbound Approach to SW 10th St Intersection	40	1,495	1,015	2	1,805	1,495	1,495	0.63%	1.11%	0.27%	0.60%	1,495	727	5	9	2	5
Westbound / Southbound																		
S Military Trail	Southbound Approach to SW 10th St Intersection	40	1,215	1,440	2	1,805	1,440	1,440	0.63%	1.11%	0.27%	0.60%	1,440	700	5	8	2	5
Powerline Rd (SR 845)	Southbound Approach to SW 10th St Intersection	45	1,720	1,880	3	3,087	1,880	1,880	0.73%	1.07%	0.20%	0.34%	1,880	612	5	7	1	2
SW 10th St (SR 869)	E Newport Center Dr to S Military Trail	40	1,835	2,795	3	3,087	2,795	2,795	0.96%	0.73%	0.30%	0.38%	2,795	909	9	7	3	4
	S Military Trail to Walmart Driveway	45	1,670	2,590	2	1,910	2,590	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	Walmart Driveway to South Florida Bible College Driveway	45	1,615	2,530	2	1,910	2,530	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	South Florida Bible College Driveway to SW 24th Ave	45	1,580	2,505	2	1,910	2,505	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	SW 24th Ave to SW 28th Ave	45	1,605	2,535	2	1,910	2,535	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	SW 28th Ave to SW 30th Ave	45	1,715	2,525	2	1,910	2,525	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	SW 30th Ave to Quiet Waters Business Park Driveway	45	1,635	2,515	2	2,006	2,515	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	Quiet Waters Business Park Driveway to Powerline Rd	45	1,620	2,560	3	3,087	2,560	2,560	0.96%	0.73%	0.30%	0.38%	2,560	833	8	6	3	3
	Powerline Rd to Independence Dr	45	1,690	3,260	3	2,940	3,260	2,940	0.96%	0.73%	0.30%	0.38%	2,940	957	9	7	3	4
	Independence Dr to Waterways Blvd	45	1,700	3,205	3	2,940	3,205	2,940	0.96%	0.73%	0.30%	0.38%	2,940	957	9	7	3	4
	Waterways Blvd to FL Turnpike Ramps	45	1,730	2,925	3	2,940	2,925	2,925	0.96%	0.73%	0.30%	0.38%	2,925	952	9	7	3	4
FL Turnpike Ramps to Sawgrass Expressway Mainline Merge Point	45	1,500	2,590	2	1,910	2,590	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4	
Florida Turnpike Interchange Ramps	WB SW 10th St On Ramp to Lyons Rd	45	230	335	1	1,340	335	335	0.96%	0.73%	0.30%	0.38%	335	328	3	2	1	1
	NB FL Turnpike to WB Sawgrass Expressway	35	480	990	1	1,220	990	990	2.64%	2.01%	0.84%	0.38%	990	932	26	20	8	4

* LOS "C" volumes obtained from Table 7 of FDOT's Level of Service Handbook (2013) and HCM 2000 (Volume adjustments have been applied as appropriate)
¹ Volumes from Figure 2.15 - 2.20

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

Prepared By: Brian Kirkpatrick, P.E. Date: 7/24/2020
 Print Name

**TRAFFIC DATA FOR STATE ROAD (SR) 869/SW 10TH STREET CONNECTOR
PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) NOISE STUDY**

**FPID Number(s): 439891-1-22-02
Road Name: SW 10th Street (SR 869)**

Table 2.2-1: Traffic Data for Noise Modeling (Sheet 2 of 6) - No Build Conditions

Roadway Segment	Speed Limit	2040 No Build Traffic (vph) ¹		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks	Percent Medium Trucks	Percent Buses	Percent Motorcycles	Volume used in TNM	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM															
Eastbound / Northbound																		
Florida Turnpike Interchange Ramps	EB Sawgrass Expressway Ramp to NB FL Turnpike	35	---	---	1	1,220	---	1,220	2.64%	2.01%	0.84%	0.38%	1,220	1,148	32	25	10	5
	EB Sawgrass Expressway Ramp to EB SW 10th St	45	---	---	1	1,340	---	1,340	0.96%	0.73%	0.30%	0.38%	1,340	1,308	13	10	4	5
SW 10th St (SR 869)	EB Sawgrass Expressway Mainline to FL Turnpike Ramps	45	---	---	2	1,910	---	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	FL Turnpike Ramps to Waterways Blvd	45	5,570	3,010	4	4,169	5,570	4,169	0.96%	0.73%	0.30%	0.38%	4,169	1,017	10	8	3	4
	Waterways Blvd to Independence Dr	45	5,775	3,010	4	4,169	5,775	4,169	0.96%	0.73%	0.30%	0.38%	4,169	1,017	10	8	3	4
	Independence Dr to Powerline Rd	45	5,795	3,015	3	3,087	5,795	3,087	0.96%	0.73%	0.30%	0.38%	3,087	1,004	10	8	3	4
	Powerline Rd to Quiet Waters Business Park Driveway	45	4,075	2,835	3	2,940	4,075	2,940	0.96%	0.73%	0.30%	0.38%	2,940	957	9	7	3	4
	Quiet Waters Business Park Driveway to SW 30th Ave	45	4,000	2,890	2	2,006	4,000	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	SW 30th Ave to SW 28th Ave	45	3,975	2,970	2	2,006	3,975	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	SW 28th Ave to SW 24th Ave	45	4,120	2,995	2	2,006	4,120	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	SW 24th Ave to South Florida Bible College Driveway	45	3,965	2,905	2	2,006	3,965	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	South Florida Bible College Driveway to Walmart Driveway	45	2,115	1,610	2	2,006	2,115	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	Walmart Driveway to S Military Trail	45	2,115	1,650	3	3,087	2,115	2,115	0.96%	0.73%	0.30%	0.38%	2,115	688	7	5	2	3
	S Military Trail to E Newport Center Dr	40	2,685	1,950	3	2,940	2,685	2,685	0.96%	0.73%	0.30%	0.38%	2,685	873	9	7	3	3
Powerline Rd (SR 845)	Northbound Approach to SW 10th St Intersection	45	1,795	2,230	3	3,087	2,230	2,230	0.73%	1.07%	0.20%	0.34%	2,230	725	5	8	2	3
S Military Trail	Northbound Approach to SW 10th St Intersection	40	1,530	1,170	2	1,805	1,530	1,530	0.63%	1.11%	0.27%	0.60%	1,530	744	5	9	2	5
Westbound / Southbound																		
S Military Trail	Southbound Approach to SW 10th St Intersection	40	1,340	1,845	2	1,805	1,845	1,805	0.63%	1.11%	0.27%	0.60%	1,805	877	6	10	3	6
Powerline Rd (SR 845)	Southbound Approach to SW 10th St Intersection	45	1,780	2,835	3	3,087	2,835	2,835	0.73%	1.07%	0.20%	0.34%	2,835	923	7	10	2	3
SW 10th St (SR 869)	E Newport Center Dr to S Military Trail	40	3,040	4,080	3	3,087	4,080	3,087	0.96%	0.73%	0.30%	0.38%	3,087	1,004	10	8	3	4
	S Military Trail to Walmart Driveway	45	2,625	3,950	2	1,910	3,950	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	Walmart Driveway to South Florida Bible College Driveway	45	2,625	3,950	2	1,910	3,950	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	South Florida Bible College Driveway to SW 24th Ave	45	2,625	3,950	2	1,910	3,950	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	SW 24th Ave to SW 28th Ave	45	2,675	4,000	2	1,910	4,000	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	SW 28th Ave to SW 30th Ave	45	2,730	3,860	2	1,910	3,860	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
	SW 30th Ave to Quiet Waters Business Park Driveway	45	2,695	3,930	2	2,006	3,930	2,006	0.96%	0.73%	0.30%	0.38%	2,006	978	10	8	3	4
	Quiet Waters Business Park Driveway to Powerline Rd	45	2,680	3,980	3	3,087	3,980	3,087	0.96%	0.73%	0.30%	0.38%	3,087	1,004	10	8	3	4
	Powerline Rd to Independence Dr	45	2,820	5,780	3	2,940	5,780	2,940	0.96%	0.73%	0.30%	0.38%	2,940	957	9	7	3	4
	Independence Dr to Waterways Blvd	45	2,960	5,750	3	2,940	5,750	2,940	0.96%	0.73%	0.30%	0.38%	2,940	957	9	7	3	4
	Waterways Blvd to FL Turnpike Ramps	45	3,010	5,570	3	2,940	5,570	2,940	0.96%	0.73%	0.30%	0.38%	2,940	957	9	7	3	4
	FL Turnpike Ramps to Sawgrass Expressway Mainline Merge Point	45	---	---	2	1,910	---	1,910	0.96%	0.73%	0.30%	0.38%	1,910	932	9	7	3	4
Florida Turnpike Interchange Ramps	WB SW 10th St On Ramp to Lyons Rd	45	---	---	1	1,340	---	1,340	0.96%	0.73%	0.30%	0.38%	1,340	1,308	13	10	4	5
	NB FL Turnpike to WB Sawgrass Expressway	35	---	---	1	1,220	---	1,220	2.64%	2.01%	0.84%	0.38%	1,220	1,148	32	25	10	5

* LOS "C" volumes obtained from Table 7 of FDOT's Level of Service Handbook (2013) and HCM 2000 (Volume adjustments have been applied as appropriate)

¹ Volumes from Figure 5.13 - 5.17

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

Prepared By: Brian Kirkpatrick, P.E. Date: 7/24/2020
Print Name

**TRAFFIC DATA FOR STATE ROAD (SR) 869/SW 10TH STREET CONNECTOR
PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) NOISE STUDY**

**FPID Number(s): 439891-1-22-02
Road Name: SW 10th Street (SR 869)**

Table 2.2-1: Traffic Data for Noise Modeling (Sheet 3 of 6) - 2040 Build Conditions (Local Lanes) with Powerline Road Ramps

Roadway Segment	Speed Limit	2040 Build Traffic (vph) ¹		LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks	Percent Medium Trucks	Percent Buses	Percent Motorcycles	Volume used in TNM	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM														
Eastbound / Northbound																	
Florida Turnpike Interchange Ramps	EB Sawgrass Expressway Ramp to NB FL Turnpike	35	1,220	1,220	1,220	1,220	2.64%	2.01%	0.84%	0.38%	1,220	1,148	32	25	10	5	
	EB Sawgrass Expressway Ramp to EB SW 10th St	45	1,340	1,340	1,340	1,340	2.00%	1.40%	0.60%	0.38%	1,340	1,281	27	19	8	5	
Local lanes on SW 10th St (SR 869)	EB Sawgrass Expressway Mainline to SW 10th St Local Lanes/Connector Lanes Split	60	3,970	3,970	3,970	3,970	2.00%	1.40%	0.60%	0.38%	3,970	949	20	14	6	4	
	SW 10th St Local Lanes/Connector Lanes Split to Sawgrass Ramp	45	1,910	1,910	1,910	1,910	2.00%	1.40%	0.60%	0.38%	1,910	912	19	14	6	4	
	Sawgrass Ramp to Waterways Blvd	45	2,710	1,920	3,087	2,710	2,710	2.00%	1.30%	0.70%	0.40%	2,710	863	18	12	6	4
	Waterways Blvd to Independence Dr	45	2,935	1,900	3,087	2,935	2,935	1.80%	1.30%	0.70%	0.40%	2,935	936	18	13	7	4
	Independence Dr to Powerline Rd	45	2,955	1,855	3,087	2,955	2,955	1.80%	1.30%	0.70%	0.40%	2,955	943	18	13	7	4
	Powerline Rd to SW 30th Ave	45	710	725	1,910	725	725	1.70%	1.10%	0.70%	0.40%	725	348	6	4	3	2
	SW 10th On Ramp to Connector Lanes	45	910	1,150	2,006	1,150	1,150	1.80%	1.00%	0.70%	0.40%	1,150	551	11	6	4	3
	SW 30th Ave to SW 28th Ave	45	700	805	2,006	805	805	1.50%	1.00%	0.70%	0.40%	805	388	6	4	3	2
	SW 28th Ave to SW 24th Ave	45	750	740	2,006	750	750	1.30%	1.30%	0.70%	0.40%	750	360	5	5	3	2
	SW 24th Ave (W. Driveway)	45	710	760	2,006	760	760	1.30%	1.10%	0.70%	0.40%	760	366	5	4	3	2
	W. Driveway to E. Driveway	45	670	795	2,006	795	795	1.10%	1.20%	0.70%	0.40%	795	383	5	5	3	2
	E. Driveway to S Military Trail	45	670	835	2,006	835	835	0.80%	1.20%	0.70%	0.40%	835	404	4	5	3	2
	S Military Trail to Connector Lanes Off Ramp	45	1,395	1,150	1,910	1,395	1,395	1.10%	1.20%	0.70%	0.40%	1,395	673	8	9	5	3
	Connector Lanes Off Ramp to E Newport Center Dr	45	2,455	1,900	3,087	2,455	2,455	1.70%	1.30%	0.70%	0.40%	2,455	784	14	11	6	3
Powerline Rd (SR 845)	Northbound Approach to SW 10th St Intersection	45	1,810	2,240	3,087	2,240	2,240	1.50%	0.80%	0.70%	0.40%	2,240	722	11	6	5	3
Powerline Rd (SR 845)	Northbound North of SW 10th St Intersection	45	2,890	2,095	3,087	2,890	2,890	1.70%	1.10%	0.70%	0.40%	2,890	925	16	11	7	4
S Military Trail	Northbound Approach to SW 10th St Intersection	40	1,520	1,260	1,805	1,520	1,520	0.63%	1.11%	0.27%	0.60%	1,520	739	5	9	2	5
Westbound / Southbound																	
S Military Trail	Southbound Approach to SW 10th St Intersection	40	1,330	1,885	1,805	1,885	1,805	0.63%	1.11%	0.27%	0.60%	1,805	877	6	10	3	6
Powerline Rd (SR 845)	Southbound Approach to SW 10th St Intersection	45	1,920	2,370	3,087	2,370	2,370	1.40%	0.70%	0.70%	0.40%	2,370	764	11	6	6	3
Powerline Rd (SR 845)	Southbound South of SW 10th St Intersection	45	2,305	1,555	3,087	2,305	2,305	1.70%	1.00%	0.70%	0.40%	2,305	739	13	8	5	3
Local lanes on SW 10th St (SR 869)	I-95 Ramps to Newport Center Drive	45	2,565	1,810	3,087	2,565	2,565	3.00%	1.20%	0.70%	0.40%	2,565	810	26	10	6	3
	Newport Center Drive to Military Trail	45	1,195	1,375	3,087	1,375	1,375	1.90%	1.20%	0.70%	0.40%	1,375	438	9	6	3	2
	S Military Trail to SW 24th Ave	45	770	1,180	1,910	1,180	1,180	2.30%	1.20%	0.70%	0.40%	1,180	562	14	7	4	3
	SW 24th Ave to SW 28th Ave	45	770	1,180	1,910	1,180	1,180	2.50%	1.30%	0.70%	0.40%	1,180	560	15	8	4	3
	SW 28th Ave to SW 30th Ave	45	960	1,125	1,910	1,125	1,125	2.00%	1.30%	0.70%	0.40%	1,125	536	12	8	4	3
	Connector Lanes Off Ramp to SW 10th	35	990	620	730	990	730	2.50%	1.20%	0.70%	0.40%	730	346	9	5	3	2
	SW 30th Ave to Industrial Park Access	45	1,935	1,865	2,006	1,935	1,935	1.30%	1.10%	0.70%	0.40%	1,935	933	13	11	7	4
	Industrial Park Access to Powerline Rd	45	1,920	1,910	1,910	1,920	1,910	1.60%	1.10%	0.70%	0.40%	1,910	917	16	11	7	4
	Powerline Rd to Independence Dr	45	1,750	2,850	2,940	2,850	2,850	1.60%	0.90%	0.70%	0.40%	2,850	915	15	9	7	4
	Independence Dr to Waterways Blvd	45	1,790	2,870	2,940	2,870	2,870	1.60%	1.00%	0.70%	0.40%	2,870	921	15	10	7	4
Florida Turnpike Interchange Ramps	Waterways Blvd to WB Sawgrass	45	1,920	2,710	2,940	2,710	2,710	1.60%	1.00%	0.70%	0.40%	2,710	870	14	9	6	4
	WB SW 10th St On Ramp to Lyons Rd	45	1,340	1,340	1,340	1,340	1,340	1.30%	1.20%	0.50%	0.38%	1,340	1,295	17	16	7	5
	NB FL Turnpike to WB Sawgrass Expressway	35	1,220	1,220	1,220	1,220	1,220	2.64%	2.01%	0.84%	0.38%	1,220	1,148	32	25	10	5

* LOS "C" volumes obtained from Table 7 of FDOT's Level of Service Handbook (2013) and HCM 2000 (Volume adjustments have been applied as appropriate)

¹ Volumes from Figure 3.1.5 Build Alternative* No Toll with Trucks in Connector Lanes; No Volumes for cells in blue, assuming LOS C Volumes

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

Prepared By: Brian Kirkpatrick, P.E. Date: 7/24/2020
Print Name

**TRAFFIC DATA FOR STATE ROAD (SR) 869/SW 10TH STREET CONNECTOR
PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) NOISE STUDY**

FPID Number(s): 439891-1-22-02
Road Name: SW 10th Street (SR 869)

Table 2.2-1: Traffic Data for Noise Modeling (Sheet 4 of 6) - 2040 Build Conditions (Connector Lanes) with Powerline Road Ramps

Roadway Segment	2040 Build Traffic (vph) ¹		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks	Percent Medium Trucks	Percent Buses	Percent Motorcycles	Volume used in TNM	Total Cars	Total Heavy Trucks	Total Medium Trucks	Total Buses	Total Motorcycles	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
	AM	PM																				
Eastbound / Northbound																						
Connector Lanes along SW 10th St (SR 869)	Diverge from SW 10th St to Waterways Blvd	3,530	1,710	2	3,020	3,530	3,020	2.00%	1.30%	0.70%	0.40%	3,020	2,888	60	39	21	12	1,443	30	20	11	6
	Waterways Blvd to Independence Dr	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	2,888	60	39	21	12	1,443	30	20	11	6
	Independence Dr to Powerline Rd	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	2,888	60	39	21	12	1,443	30	20	11	6
	Powerline Rd to Connector Lanes On Ramp	3,530	1,710	2	3,020	3,530	3,020	2.00%	1.30%	0.70%	0.40%	3,020	2,888	60	39	21	12	1,443	30	20	11	6
	Connector Lanes On Ramp from SW 10th St	4,440	2,860	2	3,020	4,440	3,020	2.00%	1.30%	0.70%	0.40%	3,020	2,888	60	39	21	12	1,443	30	20	11	6
	EB On Ramp at SW 30th Ave	3,630	2,280	1	1,340	3,630	1,340	2.00%	1.30%	0.70%	0.40%	1,340	1,282	27	17	9	5	1,282	27	17	9	5
	SW 30th Ave to SW 28th Ave	4,440	2,860	2	3,020	4,440	3,020	2.00%	1.30%	0.70%	0.40%	3,020	2,888	60	39	21	12	1,443	30	20	11	6
	SW 28th Ave to SW 24th Ave	4,440	2,860	2	3,020	4,440	3,020	2.00%	1.30%	0.70%	0.40%	3,020	2,888	60	39	21	12	1,443	30	20	11	6
	SW 24th Ave to W. Driveway	4,440	2,860	2	3,020	4,440	3,020	2.00%	1.30%	0.70%	0.40%	3,020	2,888	60	39	21	12	1,443	30	20	11	6
	W. Driveway to E. Driveway	4,440	2,860	2	3,020	4,440	3,020	2.00%	1.30%	0.70%	0.40%	3,020	2,888	60	39	21	12	1,443	30	20	11	6
	EB Off Ramp to Military Trail	1,060	750	1	1,340	1,060	1,060	2.00%	1.30%	0.70%	0.40%	1,060	1,014	21	14	7	4	1,014	21	14	7	4
	Walmart Driveway to S Military Trail	2,260	1,120	2	3,020	2,260	2,260	2.00%	1.30%	0.70%	0.40%	2,260	2,161	45	29	16	9	1,079	23	15	8	5
	East of Off Ramp to S Military Trail to System Ramps at S. Florida Rail/CSX Railroad	3,380	2,110	2	3,020	3,380	3,020	2.00%	1.30%	0.70%	0.40%	3,020	2,888	60	39	21	12	1,443	30	20	11	6
	System to System Ramp (to SB I-95)	590	220	1	1,450	590	590	2.00%	1.30%	0.70%	0.40%	590	564	12	8	4	2	564	12	8	4	2
System to System Ramp (to NB I-95)	1,670	900	1	1,450	1,670	1,450	2.00%	1.30%	0.70%	0.40%	1,450	1,386	29	19	10	6	1,386	29	19	10	6	
Westbound / Southbound																						
Connector Lanes along SW 10th St (SR 869)	System to System Ramp (from SB I-95)	760	1,130	1	1,450	1,130	1,130	0.90%	0.90%	0.70%	0.40%	1,130	1,097	10	10	8	5	1,097	10	10	8	5
	System to System Ramp (from NB I-95)	260	650	1	1,450	650	650	0.90%	0.90%	0.70%	0.40%	650	630	6	6	5	3	630	6	6	5	3
	E Newport Center Dr to WB On Ramp West of Newport Center	1,020	1,780	2	3,020	1,780	1,780	0.90%	0.90%	0.70%	0.40%	1,780	1,729	16	16	12	7	864	8	8	6	4
	Loop Ramp from SW 12th Ave	30	190	1	1,220	190	190	0.90%	0.90%	0.70%	0.40%	190	184	2	2	1	1	184	2	2	1	1
	WB On Ramp West of Newport Center	1,260	1,580	1	1,340	1,580	1,340	0.90%	0.90%	0.70%	0.40%	1,340	1,302	12	12	9	5	1,302	12	12	9	5
	WB On Ramp West of Newport Center to Military Trail	1,830	2,730	2	3,020	2,730	2,730	0.90%	0.90%	0.70%	0.40%	2,730	2,650	25	25	19	11	1,323	13	13	10	6
	Military Trail to E. Driveway	2,700	4,150	2	3,020	4,150	3,020	0.90%	0.90%	0.70%	0.40%	3,020	2,933	27	27	21	12	1,465	14	14	11	6
	E. Driveway to W. Driveway	2,700	4,150	2	3,020	4,150	3,020	0.90%	0.90%	0.70%	0.40%	3,020	2,933	27	27	21	12	1,465	14	14	11	6
	W. Driveway to SW 24th Ave	2,700	4,150	2	3,020	4,150	3,020	0.90%	0.90%	0.70%	0.40%	3,020	2,933	27	27	21	12	1,465	14	14	11	6
	WB Off Ramp at SW 24th Ave	990	620	1	1,340	990	990	1.40%	1.40%	0.60%	0.38%	990	952	14	14	6	4	952	14	14	6	4
	SW 24th Ave to SW 28th Ave	1,710	3,530	2	3,020	3,530	3,020	0.90%	0.90%	0.70%	0.40%	3,020	2,933	27	27	21	12	1,465	14	14	11	6
	SW 28th Ave to SW 30th Ave	1,710	3,530	2	3,020	3,530	3,020	0.90%	0.90%	0.70%	0.40%	3,020	2,933	27	27	21	12	1,465	14	14	11	6
	SW 30th Ave to Powerline Rd	1,710	3,530	2	3,020	3,530	3,020	0.90%	0.90%	0.70%	0.40%	3,020	2,933	27	27	21	12	1,465	14	14	11	6
	Powerline Rd to Independence Dr	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	2,933	27	27	21	12	1,465	14	14	11	6
	Independence Dr to Waterways Blvd	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	2,933	27	27	21	12	1,465	14	14	11	6
Waterways Blvd to Merge with SW 10th St Local Lanes	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	2,933	27	27	21	12	1,465	14	14	11	6	

* LOS "C" volumes obtained from Table 7 of FDOT's Level of Service Handbook (2013) and HCM 2000 (Volume adjustments have been applied as appropriate)

¹ Volumes from Figure 3.1.5 Build Alternative* No Toll with Trucks in Connector Lanes

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

Prepared By: Brian Kirkpatrick, P.E.
Print Name

Date: 7/24/2020

**TRAFFIC DATA FOR STATE ROAD (SR) 869/SW 10TH STREET CONNECTOR
PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) NOISE STUDY**

**FPID Number(s): 439891-1-22-02
Road Name: SW 10th Street (SR 869)**

Table 2.2-1: Traffic Data for Noise Modeling (Sheet 5 of 6) - 2040 Build Conditions (Local Lanes) with Powerline Road Ramps

Roadway Segment	Speed Limit	2040 Build Traffic (vph) ¹		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks	Percent Medium Trucks	Percent Buses	Percent Motorcycles	Volume used in TNM	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
		AM	PM															
Eastbound / Northbound																		
Florida Turnpike Interchange Ramps	EB Sawgrass Expressway Ramp to NB FL Turnpike	35	---	---	1	1,220	---	1,220	2.64%	2.01%	0.84%	0.38%	1,220	1,148	32	25	10	5
	EB Sawgrass Expressway Ramp to EB SW 10th St	45	---	---	1	1,340	---	1,340	2.00%	1.40%	0.60%	0.38%	1,340	1,281	27	19	8	5
Local lanes on SW 10th St (SR 869)	EB Sawgrass Expressway Mainline to SW 10th St Local Lanes/Connector Lanes Split	60	---	---	4	3,970	---	3,970	2.00%	1.40%	0.60%	0.38%	3,970	949	20	14	6	4
	SW 10th St Local Lanes/Connector Lanes Split to Sawgrass Ramp	45	---	---	2	1,910	---	1,910	2.00%	1.40%	0.60%	0.38%	1,910	912	19	14	6	4
	Sawgrass Ramp to Waterways Blvd	45	2,610	1,350	3	3,087	2,610	2,610	2.00%	1.30%	0.70%	0.40%	2,610	833	17	11	6	3
	Waterways Blvd to Independence Dr	45	2,835	1,330	3	3,087	2,835	2,835	1.80%	1.30%	0.70%	0.40%	2,835	905	17	12	7	4
	Independence Dr to Powerline Rd	45	2,855	1,285	3	3,087	2,855	2,855	1.80%	1.30%	0.70%	0.40%	2,855	912	17	12	7	4
	Powerline Rd to SW 30th Ave	45	1,520	1,305	2	1,910	1,520	1,520	1.70%	1.10%	0.70%	0.40%	1,520	729	13	9	6	3
	SW 30th Ave to SW 28th Ave	45	1,510	1,385	2	2,006	1,510	1,510	1.70%	1.20%	0.70%	0.40%	1,510	724	13	9	6	3
	SW 28th Ave to SW 24th Ave	45	1,560	1,320	2	2,006	1,560	1,560	1.50%	1.20%	0.70%	0.40%	1,560	749	12	10	6	3
	SW 24th Ave to South Florida Bible College Driveway	45	1,520	1,340	2	2,006	1,520	1,520	1.50%	1.30%	0.70%	0.40%	1,520	729	12	10	6	3
	South Florida Bible College Driveway to Walmart Driveway	45	1,480	1,375	2	2,006	1,480	1,480	1.50%	1.30%	0.70%	0.40%	1,480	711	11	10	5	3
	Walmart Driveway to S Military Trail	45	1,480	1,415	2	2,006	1,480	1,480	1.40%	1.30%	0.70%	0.40%	1,480	711	11	10	5	3
	S Military Trail to Connector Lanes Off Ramp	45	2,205	1,730	2	1,910	2,205	1,910	1.60%	1.30%	0.70%	0.40%	1,910	915	16	13	7	4
	Connector Lanes Off Ramp to E Newport Center Dr	45	2,695	2,050	3	3,087	2,695	2,695	1.70%	1.30%	0.70%	0.40%	2,695	861	15	12	6	4
Powerline Rd (SR 845)	Northbound Approach to SW 10th St Intersection	45	1,810	2,240	3	3,087	2,240	2,240	1.50%	0.80%	0.70%	0.40%	2,240	722	11	6	5	3
Powerline Rd (SR 845)	Northbound North of SW 10th St Intersection	45	2,890	2,095	3	3,087	2,890	2,890	1.70%	1.10%	0.70%	0.40%	2,890	925	16	11	7	4
S Military Trail	Northbound Approach to SW 10th St Intersection	40	1,520	1,260	2	1,805	1,520	1,520	0.63%	1.11%	0.27%	0.60%	1,520	739	5	9	2	5
Westbound / Southbound																		
S Military Trail	Southbound Approach to SW 10th St Intersection	40	1,330	1,885	2	1,805	1,885	1,805	0.63%	1.11%	0.27%	0.60%	1,805	877	6	10	3	6
Powerline Rd (SR 845)	Southbound Approach to SW 10th St Intersection	45	1,920	2,370	3	3,087	2,370	2,370	1.40%	0.70%	0.70%	0.40%	2,370	764	11	6	6	3
Powerline Rd (SR 845)	Southbound South of SW 10th St Intersection	45	2,305	1,555	3	3,087	2,305	2,305	1.70%	1.00%	0.70%	0.40%	2,305	739	13	8	5	3
Local lanes on SW 10th St (SR 869)	E Newport Center Dr to Connector Lanes On Ramp	45	2,035	2,605	3	3,087	2,605	2,605	3.00%	1.20%	0.70%	0.40%	2,605	823	26	10	6	3
	Connector Lanes On Ramp to S Military Trail	45	1,775	2,195	3	3,087	2,195	2,195	3.00%	1.20%	0.70%	0.40%	2,195	693	22	9	5	3
	S Military Trail to Walmart Driveway	45	1,415	2,060	2	1,910	2,060	1,910	2.50%	1.20%	0.70%	0.40%	1,910	908	24	12	7	4
	Walmart Driveway to South Florida Bible College Driveway	45	1,415	2,060	2	1,910	2,060	1,910	2.50%	1.20%	0.70%	0.40%	1,910	908	24	12	7	4
	South Florida Bible College Driveway to SW 24th Ave	45	1,415	2,060	2	1,910	2,060	1,910	2.50%	1.20%	0.70%	0.40%	1,910	908	24	12	7	4
	SW 24th Ave to SW 28th Ave	45	1,350	2,000	2	1,910	2,000	1,910	2.50%	1.30%	0.70%	0.40%	1,910	907	24	13	7	4
	SW 28th Ave to SW 30th Ave	45	1,540	1,945	2	1,910	1,945	1,910	2.30%	1.30%	0.70%	0.40%	1,910	909	22	13	7	4
	SW 30th Ave to Industrial Park Access	45	1,525	2,065	2	2,006	2,065	2,006	2.10%	1.20%	0.70%	0.40%	2,006	959	21	12	7	4
	Industrial Park Access to Powerline Rd	45	1,510	2,110	2	1,910	2,110	1,910	2.50%	1.30%	0.70%	0.40%	1,910	907	24	13	7	4
	Powerline Rd to Independence Dr	45	1,340	3,050	3	2,940	3,050	2,940	1.90%	0.90%	0.70%	0.40%	2,940	941	19	9	7	4
	Independence Dr to Waterways Blvd	45	1,380	3,070	3	2,940	3,070	2,940	1.90%	1.00%	0.70%	0.40%	2,940	940	19	10	7	4
	Waterways Blvd to Merge with Connector Lanes	45	1,510	2,910	3	2,940	2,910	2,910	1.80%	1.10%	0.70%	0.40%	2,910	931	17	11	7	4
	Merge with Connector Lanes to FL Turnpike Ramps	35	3,190	5,590	4	1,610	5,590	1,610	1.30%	1.20%	0.50%	0.38%	1,610	389	5	5	2	2
FL Turnpike Ramps to Sawgrass Expressway Mainline Merge Point	35	---	---	3	1,170	---	1,170	1.30%	1.20%	0.50%	0.38%	1,170	377	5	5	2	1	
Florida Turnpike Interchange Ramps	WB SW 10th St On Ramp to Lyons Rd	45	---	---	1	1,340	---	1,340	1.30%	1.20%	0.50%	0.38%	1,340	1,295	17	16	7	5
	NB FL Turnpike to WB Sawgrass Expressway	35	---	---	1	1,220	---	1,220	2.64%	2.01%	0.84%	0.38%	1,220	1,148	32	25	10	5

* LOS "C" volumes obtained from Table 7 of FDOT's Level of Service Handbook (2013) and HCM 2000 (Volume adjustments have been applied as appropriate)
¹ Volumes from Figure 3.1.5 Build Alternative* No Toll with Trucks in Connector Lanes; No Volumes for cells in blue, assuming LOS C Volumes

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

Prepared By: Brian Kirkpatrick, P.E. Date: 7/24/2020

Print Name

**TRAFFIC DATA FOR STATE ROAD (SR) 869/SW 10TH STREET CONNECTOR
PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) NOISE STUDY**

**FPID Number(s): 439891-1-22-02
Road Name: SW 10th Street (SR 869)**

Table 2.2-1: Traffic Data for Noise Modeling (Sheet 6 of 6) - 2040 Build Conditions (Connector Lanes) without Powerline Road Ramps

Roadway Segment	2040 Build Traffic (vph) ¹		Number of Lanes	LOS C Volume*	Highest Peak Volume	Volume used in TNM	Percent Heavy Trucks	Percent Medium Trucks	Percent Buses	Percent Motorcycles	Volume used in TNM	Cars per lane	Heavy Trucks per lane	Medium Trucks per Lane	Buses per lane	Motorcycles per lane	
	AM	PM															
Eastbound / Northbound																	
Connector Lanes along SW 10th St (SR 869)	Diverge from SW 10th St to Waterways Blvd	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	1,443	30	20	11	6
	Waterways Blvd to Independence Dr	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	1,443	30	20	11	6
	Independence Dr to Powerline Rd	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	1,443	30	20	11	6
	Powerline Rd to Connector Lanes On Ramp	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	1,443	30	20	11	6
	Connector Lanes On Ramp to SW 30th Ave	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	1,443	30	20	11	6
	SW 30th Ave to SW 28th Ave	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	1,443	30	20	11	6
	SW 28th Ave to SW 24th Ave	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	1,443	30	20	11	6
	SW 24th Ave to South Florida Bible College Driveway	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	1,443	30	20	11	6
	South Florida Bible College Driveway to Walmart Driveway	3,630	2,280	2	3,020	3,630	3,020	2.00%	1.30%	0.70%	0.40%	3,020	1,443	30	20	11	6
	EB Off Ramp to Military Trail	490	320	1	1,340	490	490	2.00%	1.30%	0.70%	0.40%	490	469	10	6	3	2
	East of Off Ramp to S Military Trail to System Ramps at S. Florida Rail/CSX Railroad	3,140	1,960	2	3,020	3,140	3,020	2.00%	1.30%	0.70%	0.40%	3,020	1,443	30	20	11	6
	System to System Ramp (to SB I-95)	590	220	1	1,450	590	590	2.00%	1.30%	0.70%	0.40%	590	564	12	8	4	2
System to System Ramp (to NB I-95)	1,670	900	1	1,450	1,670	1,450	2.00%	1.30%	0.70%	0.40%	1,450	1,386	29	19	10	6	
Westbound / Southbound																	
Connector Lanes along SW 10th St (SR 869)	System to System Ramp (from SB I-95)	760	1,130	1	1,450	1,130	1,130	0.90%	0.90%	0.70%	0.40%	1,130	1,097	10	10	8	5
	System to System Ramp (from NB I-95)	260	650	1	1,450	650	650	0.90%	0.90%	0.70%	0.40%	650	630	6	6	5	3
	E Newport Center Dr to WB On Ramp West of Newport Center	1,020	1,780	2	3,020	1,780	1,780	0.90%	0.90%	0.70%	0.40%	1,780	864	8	8	6	4
	Loop Ramp from SW 12th Ave	30	190	1	1,220	190	190	0.90%	0.90%	0.70%	0.40%	190	184	2	2	1	1
	WB On Ramp West of Newport Center	1,260	1,580	1	1,340	1,580	1,340	0.90%	0.90%	0.70%	0.40%	1,340	1,302	12	12	9	5
	WB On Ramp West of Newport Center to Military Trail	1,830	2,730	2	3,020	2,730	2,730	0.90%	0.90%	0.70%	0.40%	2,730	1,323	13	13	10	6
	Military Trail to Walmart Driveway	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	1,465	14	14	11	6
	Walmart Driveway to South Florida Bible College Driveway	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	1,465	14	14	11	6
	South Florida Bible College Driveway to SW 24th Ave	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	1,465	14	14	11	6
	SW 24th Ave to SW 28th Ave	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	1,465	14	14	11	6
	SW 28th Ave to SW 30th Ave	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	1,465	14	14	11	6
	SW 30th Ave to Powerline Rd	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	1,465	14	14	11	6
	Powerline Rd to Independence Dr	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	1,465	14	14	11	6
	Independence Dr to Waterways Blvd	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	1,465	14	14	11	6
Waterways Blvd to Merge with SW 10th St Local Lanes	2,120	3,330	2	3,020	3,330	3,020	0.90%	0.90%	0.70%	0.40%	3,020	1,465	14	14	11	6	

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* LOS "C" volumes obtained from Table 7 of FDOT's Level of Service Handbook (2013) and HCM 2000 (Volume adjustments have been applied as appropriate)

¹ Volumes from Figure 3.1.5 Build Alternative* No Toll with Trucks in Connector Lanes

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

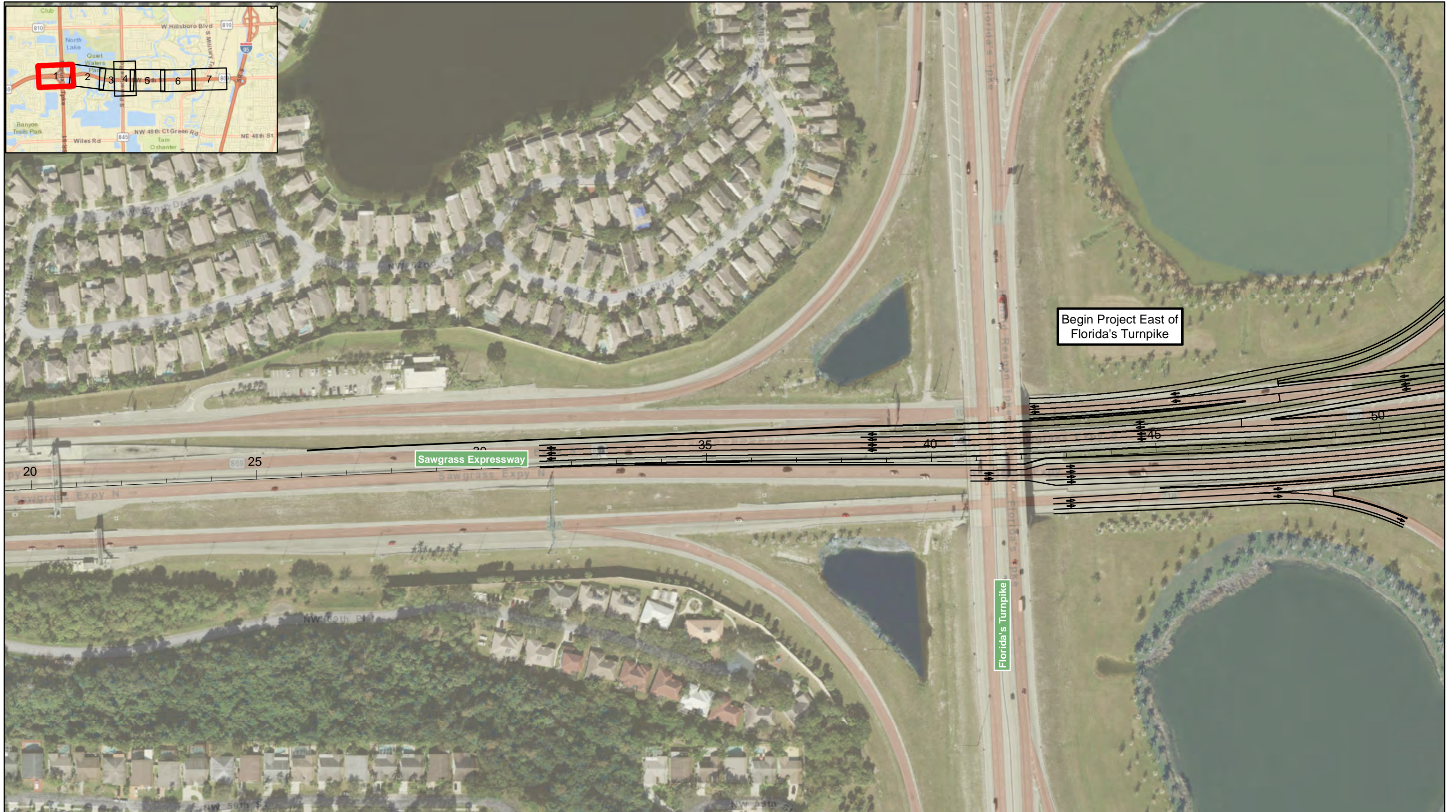
Prepared By: Brian Kirkpatrick, P.E.
Print Name

Date: 7/24/2020

APPENDIX B

Figure 3.2.1: Noise Analysis Map (With Power Line Road Ramps)

Figure 3.2.2: Noise Analysis Map (Without Power Line Road Ramps)



Begin Project East of Florida's Turnpike

Sawgrass Expressway

Florida's Turnpike



Florida Department of Transportation
 SR 869/SW 10th Street Connector PD&E Study
 From Florida's Turnpike /
 Sawgrass Expressway to West of I-95
 Financial Project ID: 439891-1-22-02
 Broward County, Florida
 DATE: SEPTEMBER 2020

X Noise Monitoring Sites
Predicted Noise Levels
 ● < 66.0 dB(A)
 ● > 66.0 dB(A)

Recommended Noise Barriers
Height
 8 Feet
 14 Feet
 22 Feet

Land Use by Noise Activity Category
 B: Residential
 C: Other Sensitive Land Use
 D: Institutional (Interior)

E: Sensitive Commercial
 F: Non-Sensitive Commercial
 G: Vacant

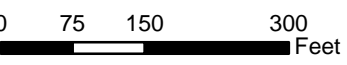
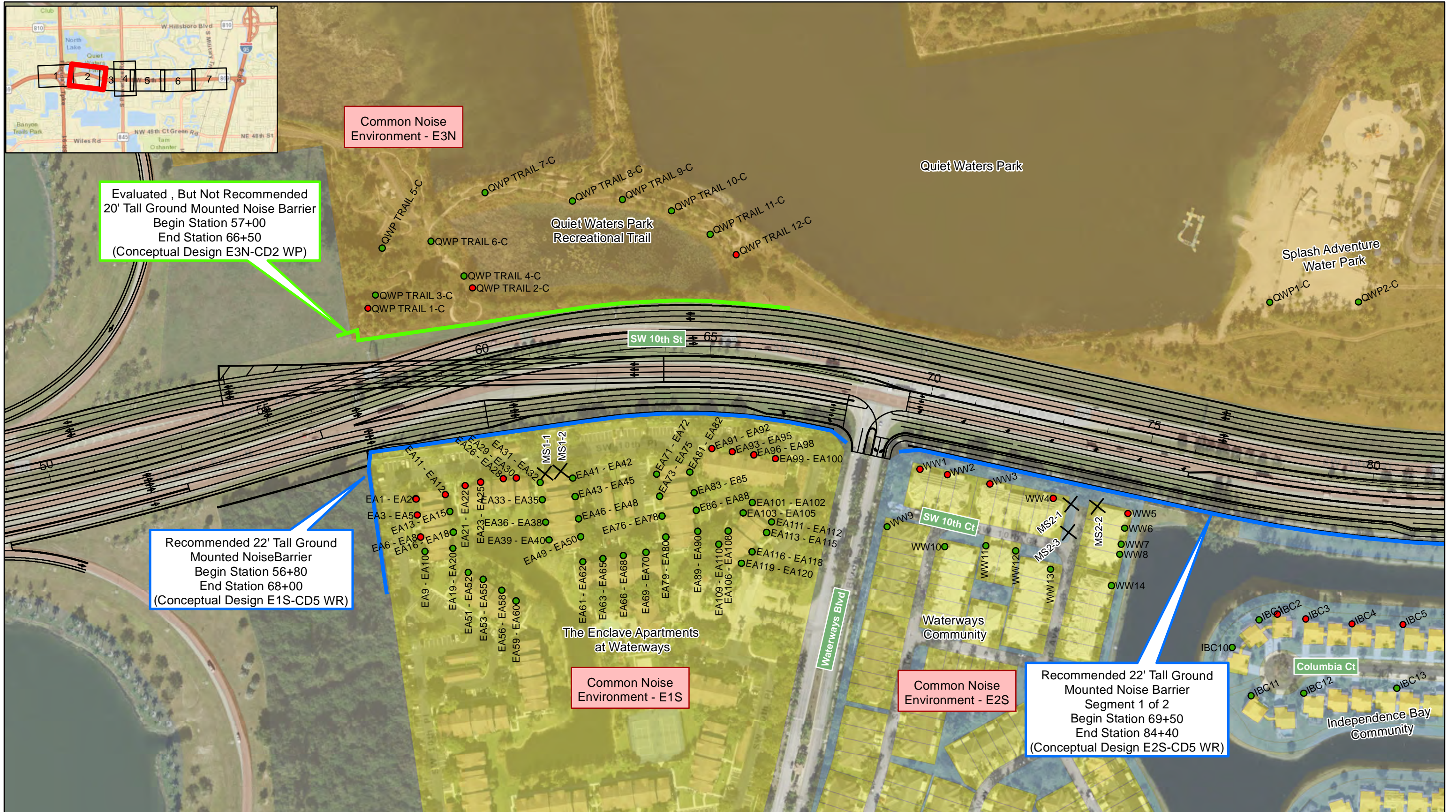


Figure 3.2.1
 Sheet 1 of 7
 Noise Analysis Map (With
 Powerline Road Ramps)



Florida Department of Transportation
SR 869/SW 10th Street Connector PD&E Study
From Florida's Turnpike /
Sawgrass Expressway to West of I-95
Financial Project ID: 439891-1-22-02
Broward County, Florida
DATE: SEPTEMBER 2020

X Noise Monitoring Sites

Predicted Noise Levels
● < 66.0 dB(A)
● > 66.0 dB(A)

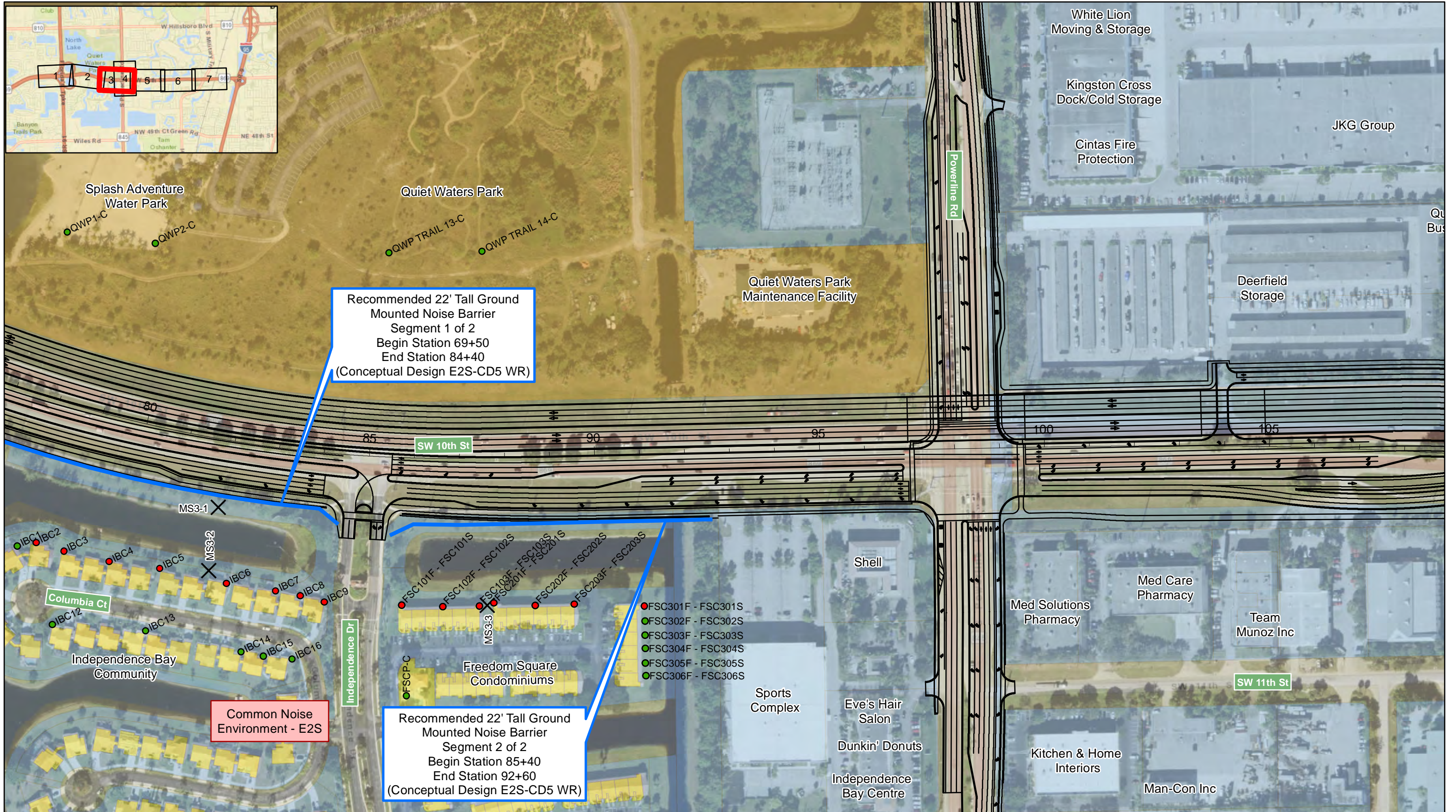
Non Recommended Noise Barrier
Recommended Noise Barriers
Height
8 Feet
14 Feet
22 Feet

Proposed Design Concept
Land Use by Noise Activity Category
B: Residential
C: Other Sensitive Land Use
D: Institutional (Interior)

E: Sensitive Commercial
F: Non-Sensitive Commercial
G: Vacant
0 75 150 300 Feet



Figure 3.2.1
Sheet 2 of 7
Noise Analysis Map (With
Powerline Road Ramps)



Recommended 22' Tall Ground Mounted Noise Barrier
 Segment 1 of 2
 Begin Station 69+50
 End Station 84+40
 (Conceptual Design E2S-CD5 WR)

Recommended 22' Tall Ground Mounted Noise Barrier
 Segment 2 of 2
 Begin Station 85+40
 End Station 92+60
 (Conceptual Design E2S-CD5 WR)

Common Noise Environment - E2S



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X Noise Monitoring Sites

Predicted Noise Levels
 ● < 66.0 dB(A)
 ● > 66.0 dB(A)

Non Recommended Noise Barrier

Recommended Noise Barriers
Height
 8 Feet
 14 Feet
 22 Feet

Proposed Design Concept

Land Use by Noise Activity Category
 B: Residential
 C: Other Sensitive Land Use
 D: Institutional (Interior)

E: Sensitive Commercial
 F: Non-Sensitive Commercial
 G: Vacant

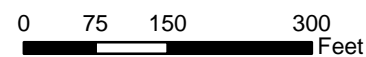
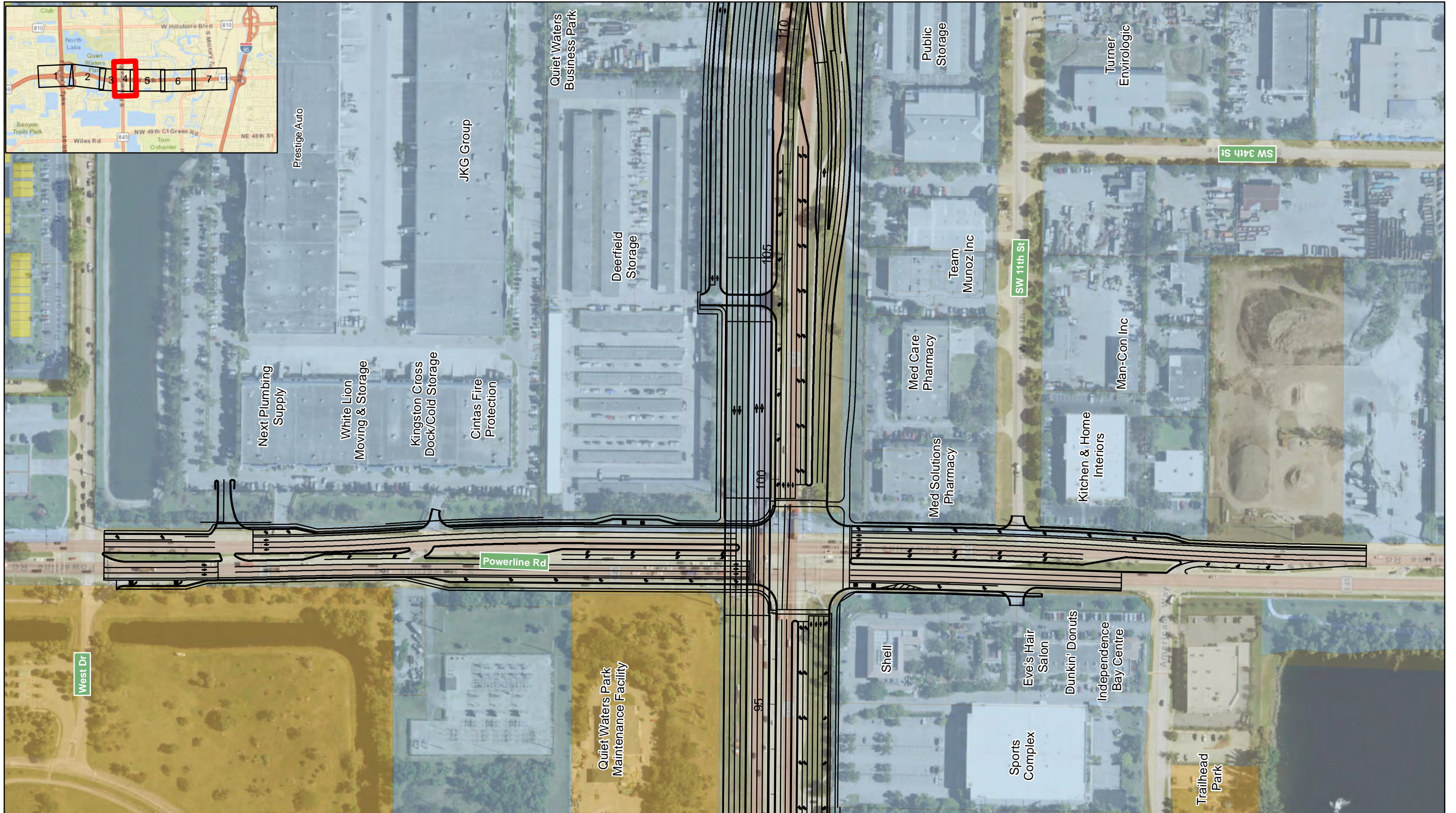


Figure 3.2.1
 Sheet 3 of 7
 Noise Analysis Map (With
 Powerline Road Ramps)



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X Noise Monitoring Sites
Predicted Noise Levels
 ● < 66.0 dB(A)
 ● > 66.0 dB(A)

Recommended Noise Barriers
Height
 ■ 8 Feet
 ■ 14 Feet
 ■ 22 Feet

Land Use by Noise Activity Category
 ■ B: Residential
 ■ C: Other Sensitive Land Use
 ■ D: Institutional (Interior)

Proposed Design Concept
 — Non Recommended Noise Barrier
 — Proposed Design Concept

Land Use by Noise Activity Category
 ■ E: Sensitive Commercial
 ■ F: Non-Sensitive Commercial
 ■ G: Vacant

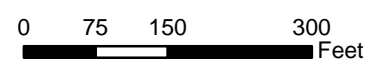
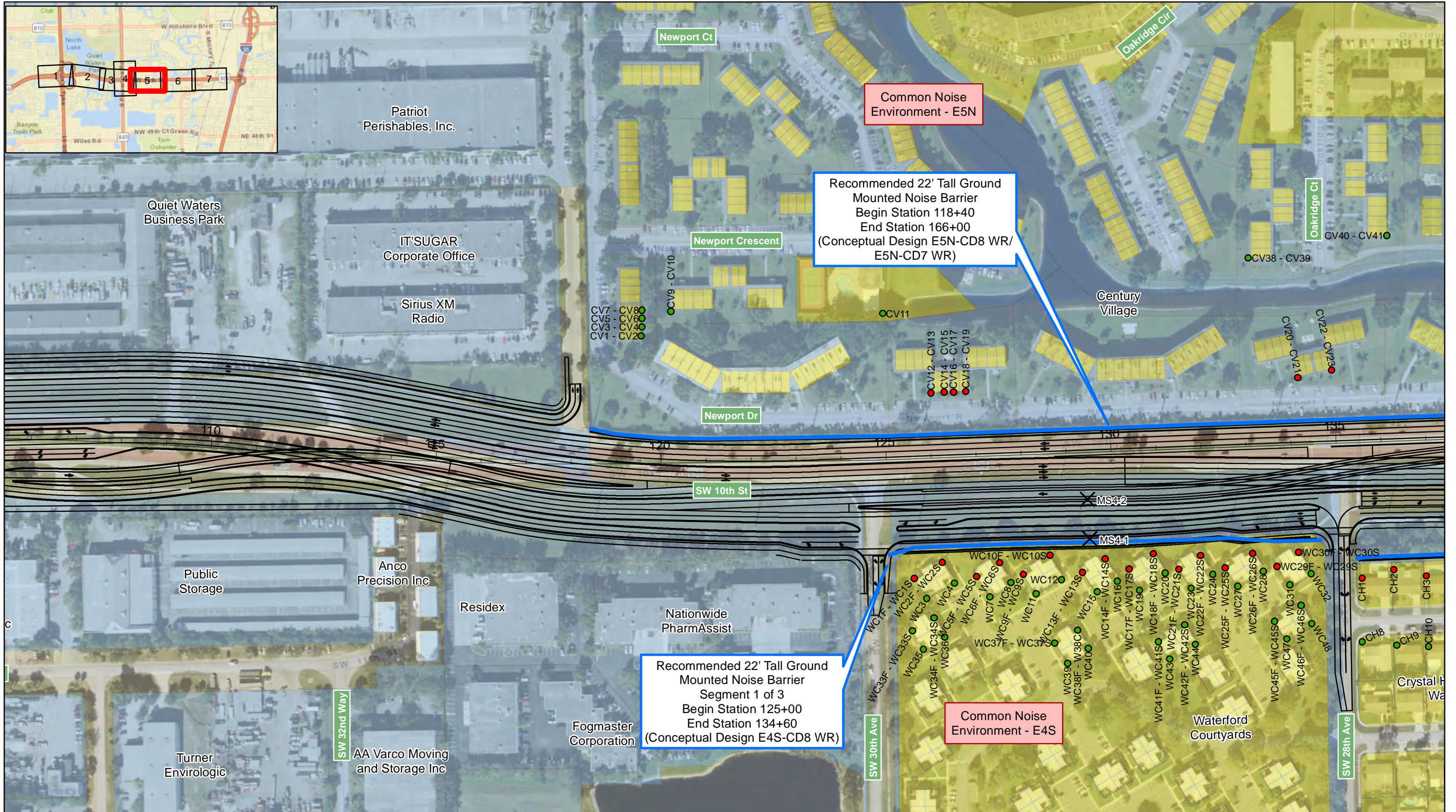


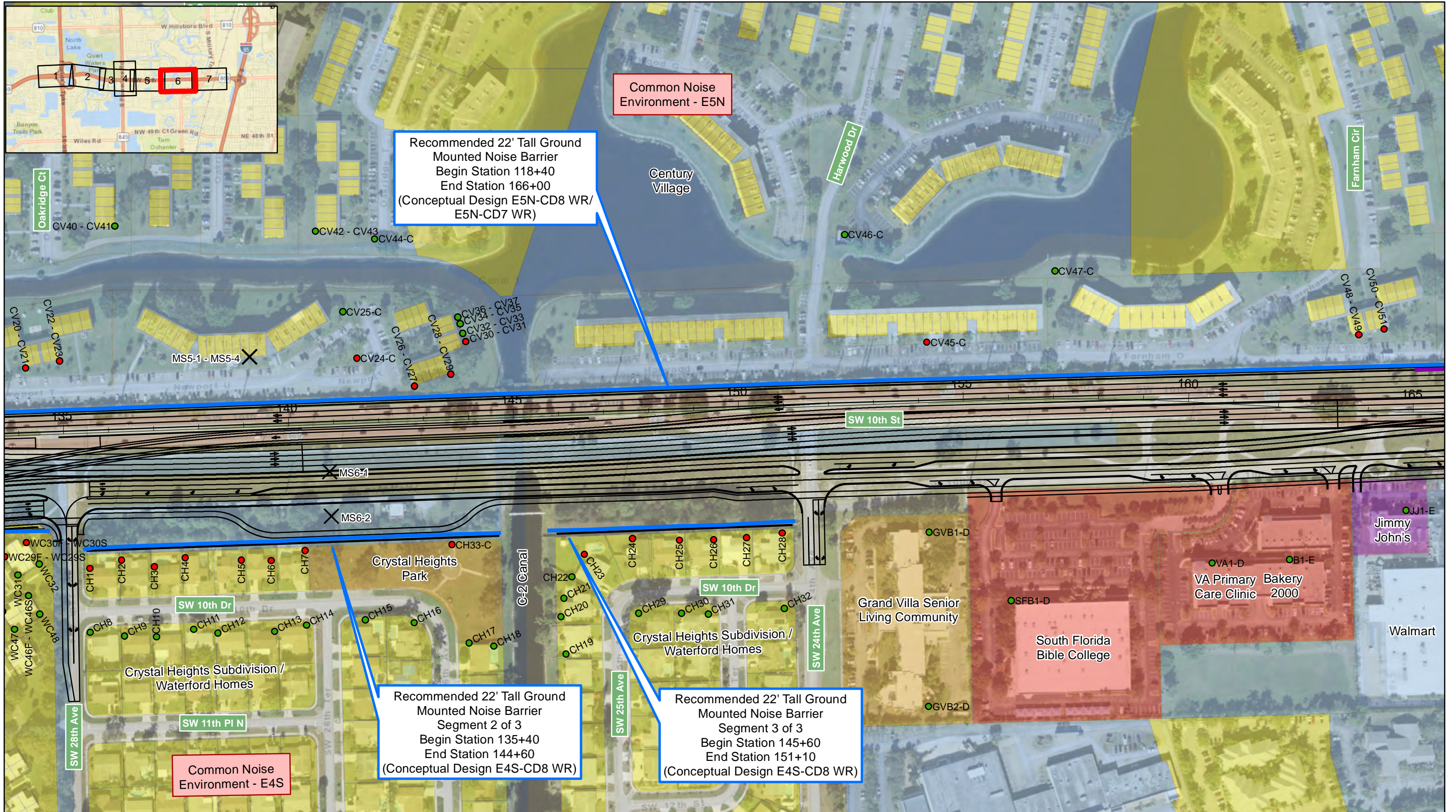
Figure 3.2.1
 Sheet 4 of 7
 Noise Analysis Map (With
 Powerline Road Ramps)



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Figure 3.2.1
 Sheet 5 of 7
 Noise Analysis Map (With
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Noise Monitoring Sites X

Predicted Noise Levels

- < 66.0 dB(A)
- > 66.0 dB(A)

Recommended Noise Barriers

Height

- 8 Feet
- 14 Feet
- 22 Feet

Proposed Design Concept

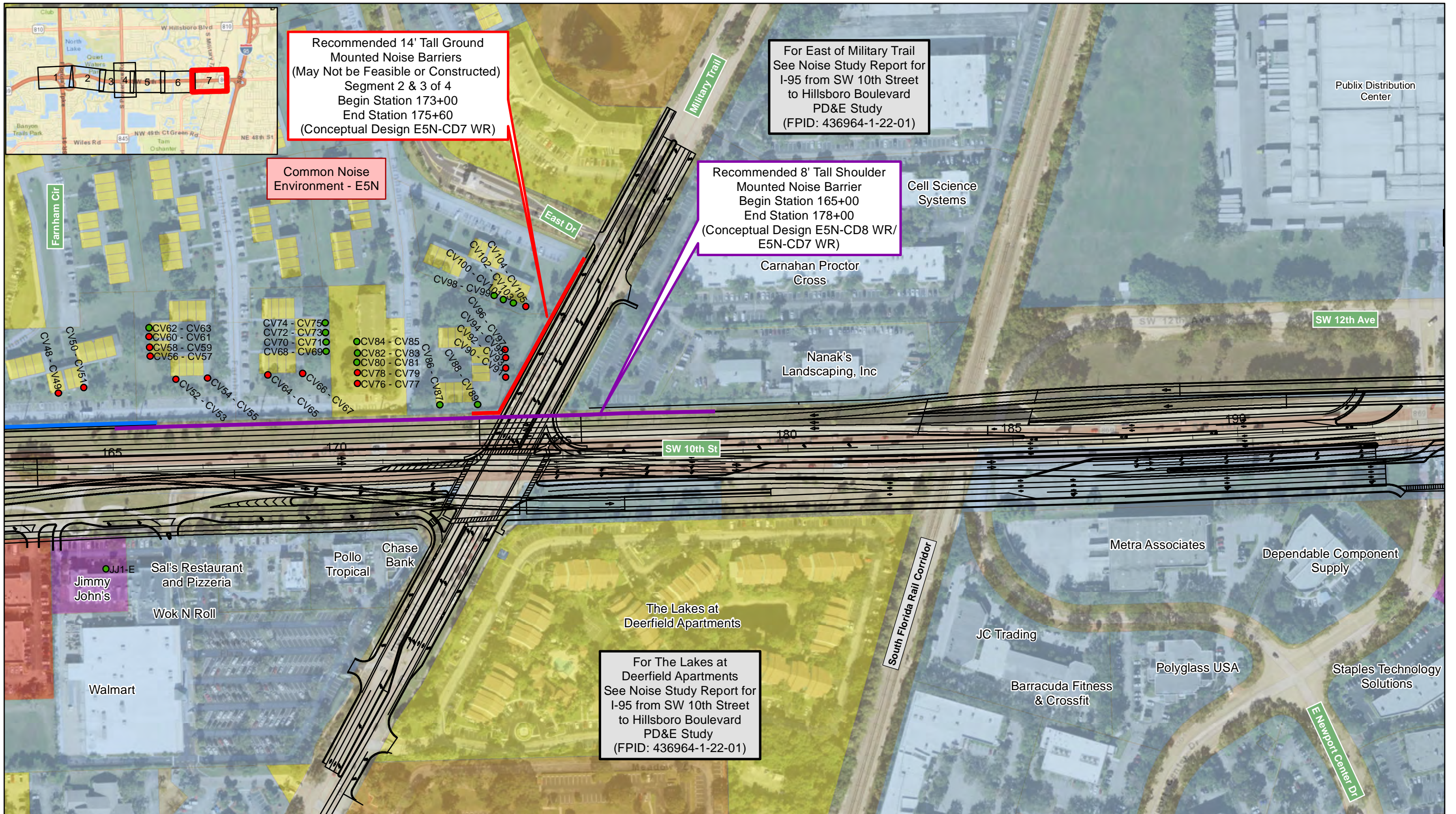
- Non Recommended Noise Barrier
- Proposed Design Concept

Land Use by Noise Activity Category

- B: Residential
- C: Other Sensitive Land Use
- D: Institutional (Interior)
- E: Sensitive Commercial
- F: Non-Sensitive Commercial
- G: Vacant

0 75 150 300 Feet

Figure 3.2.1
 Sheet 6 of 7
 Noise Analysis Map (With
 Powerline Road Ramps)



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X Noise Monitoring Sites

Predicted Noise Levels

- < 66.0 dB(A)
- > 66.0 dB(A)

— Non Recommended Noise Barrier

Recommended Noise Barriers

- 8 Feet
- 14 Feet
- 22 Feet

— Proposed Design Concept

Land Use by Noise Activity Category

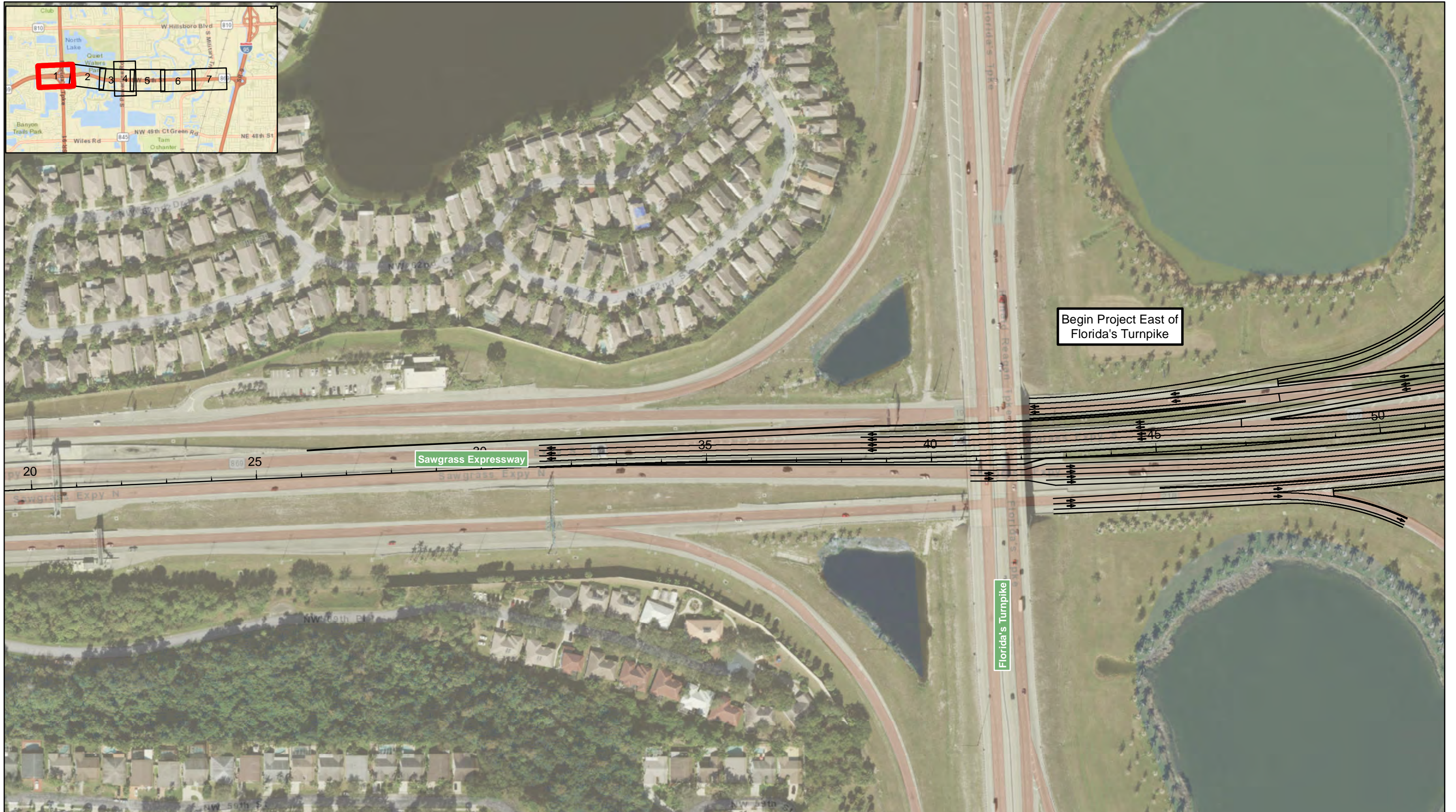
- B: Residential
- C: Other Sensitive Land Use
- D: Institutional (Interior)

Scale

0 75 150 300 Feet



Figure 3.2.1
 Sheet 7 of 7
 Noise Analysis Map (With
 Powerline Road Ramps)



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X Noise Monitoring Sites

Predicted Noise Levels

- < 66.0 dB(A)
- > 66.0 dB(A)

Recommended Noise Barriers
 Height

- 8
- 14
- 22

Non Recommended Noise Barrier — Proposed Design Concept

Land Use by Noise Activity Category

- B: Residential
- C: Other Sensitive Land Use
- D: Institutional (Interior)

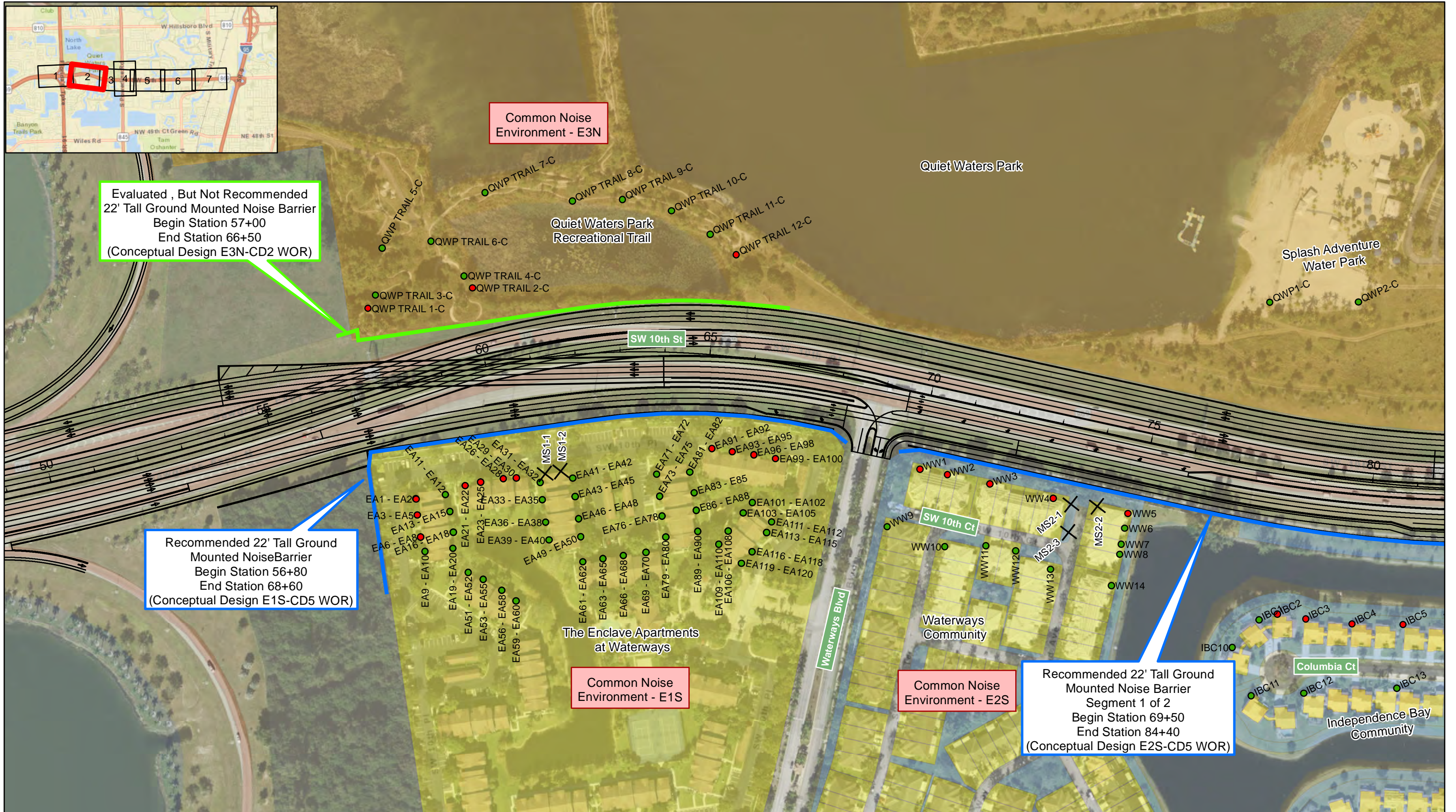
E: Sensitive Commercial

- F: Non-Sensitive Commercial
- G: Vacant

0 75 150 300 Feet



Figure 3.2.2
 Sheet 1 of 7
 Noise Analysis Map
 (Without Powerline Road
 Ramps)



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Noise Monitoring Sites
 X

Predicted Noise Levels
 ● < 66.0 dB(A)
 ● > 66.0 dB(A)

Non Recommended Noise Barrier
 —

Proposed Design Concept
 —

Recommended Noise Barriers
Height
 ● 8
 ● 14
 ● 22

Land Use by Noise Activity Category

● B: Residential
 ● C: Other Sensitive Land Use
 ● D: Institutional (Interior)

● E: Sensitive Commercial
 ● F: Non-Sensitive Commercial
 ● G: Vacant

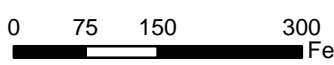
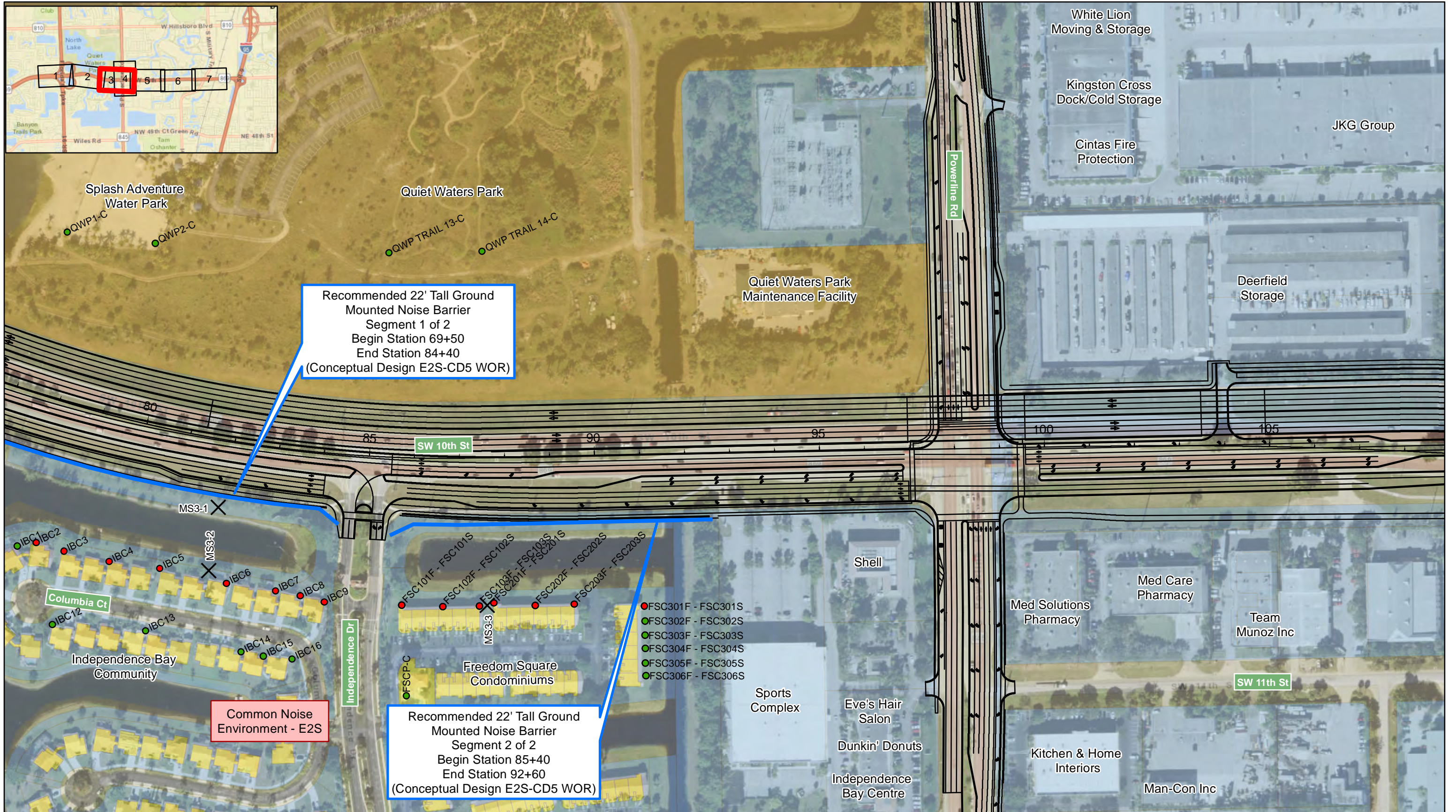


Figure 3.2.2
 Sheet 2 of 7
 Noise Analysis Map
 (Without Powerline Road
 Ramps)



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✕ Noise Monitoring Sites
 Predicted Noise Levels
 ● < 66.0 dB(A)
 ● > 66.0 dB(A)

— Non Recommended Noise Barrier
 — Proposed Design Concept
Recommended Noise Barriers
Height
 8
 14
 22

Land Use by Noise Activity Category
 B: Residential
 C: Other Sensitive Land Use
 D: Institutional (Interior)
 E: Sensitive Commercial
 F: Non-Sensitive Commercial
 G: Vacant

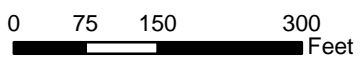
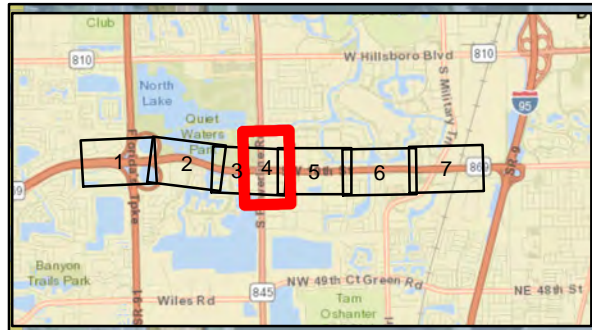
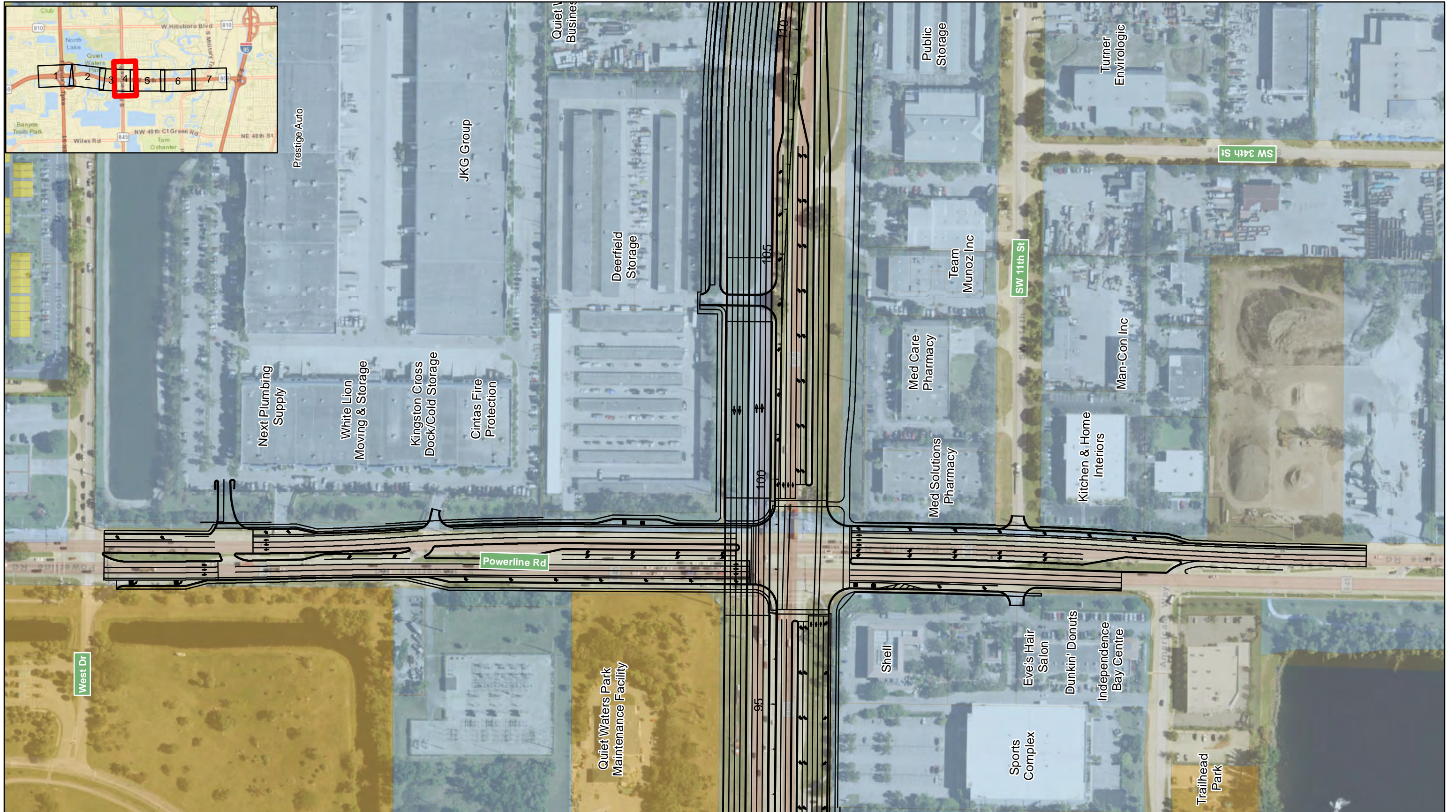


Figure 3.2.2
 Sheet 3 of 7
 Noise Analysis Map
 (Without Powerline Road
 Ramps)



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✕ Noise Monitoring Sites
Predicted Noise Levels
 ● < 66.0 dB(A)
 ● > 66.0 dB(A)

— Non Recommended Noise Barrier — Proposed Design Concept
Recommended Noise Barriers
Height
 ● 8
 ● 14
 ● 22

Land Use by Noise Activity Category
 ● B: Residential
 ● C: Other Sensitive Land Use
 ● D: Institutional (Interior)

● E: Sensitive Commercial
 ● F: Non-Sensitive Commercial
 ● G: Vacant

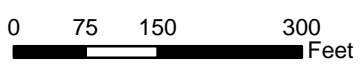
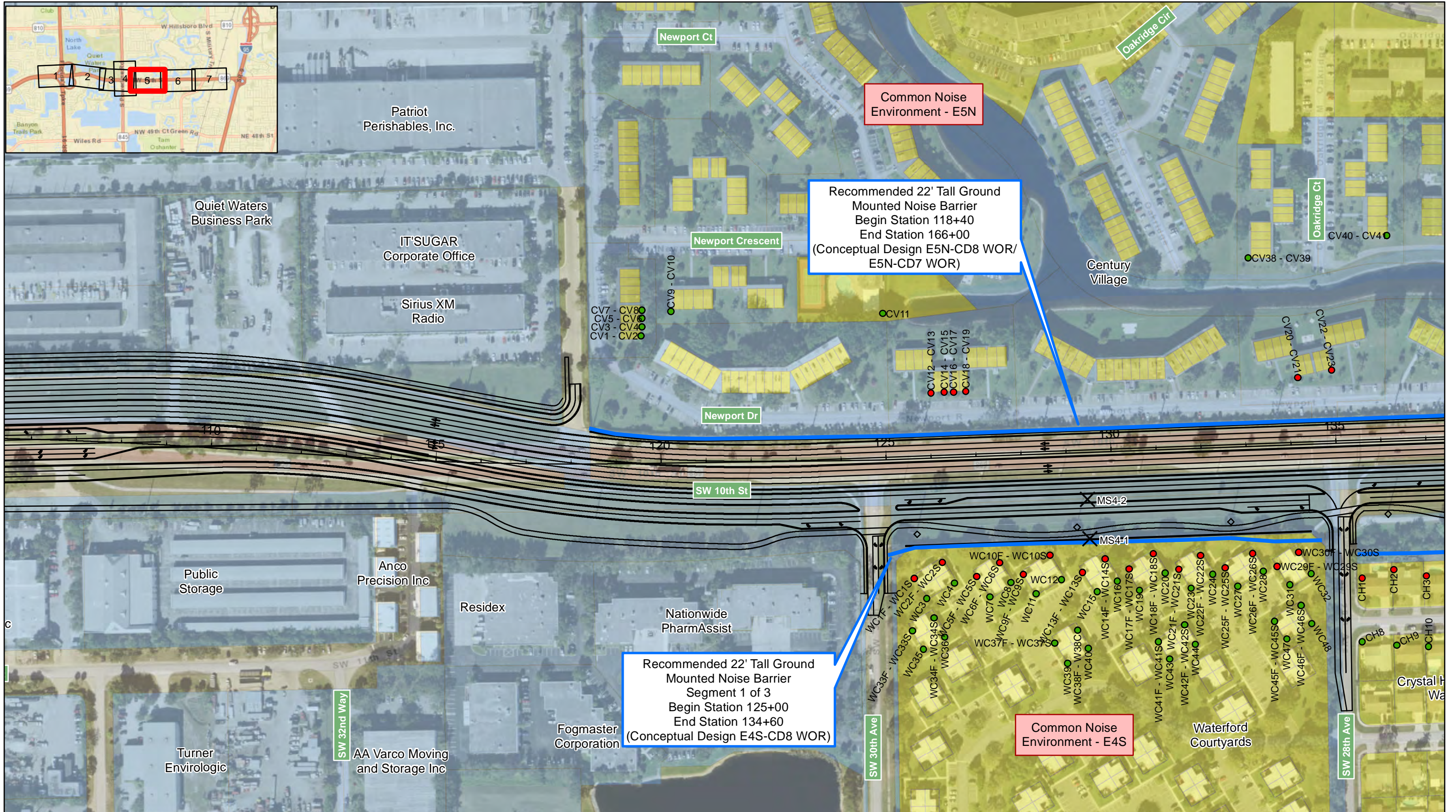


Figure 3.2.2
 Sheet 4 of 7
 Noise Analysis Map
 (Without Powerline Road
 Ramps)



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✕ Noise Monitoring Sites
 Predicted Noise Levels
 ● < 66.0 dB(A)
 ● > 66.0 dB(A)

— Non Recommended Noise Barrier
 — Proposed Design Concept
Recommended Noise Barriers
Height
 8
 14
 22

Land Use by Noise Activity Category
 B: Residential
 C: Other Sensitive Land Use
 D: Institutional (Interior)
 E: Sensitive Commercial
 F: Non-Sensitive Commercial
 G: Vacant

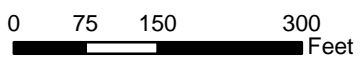
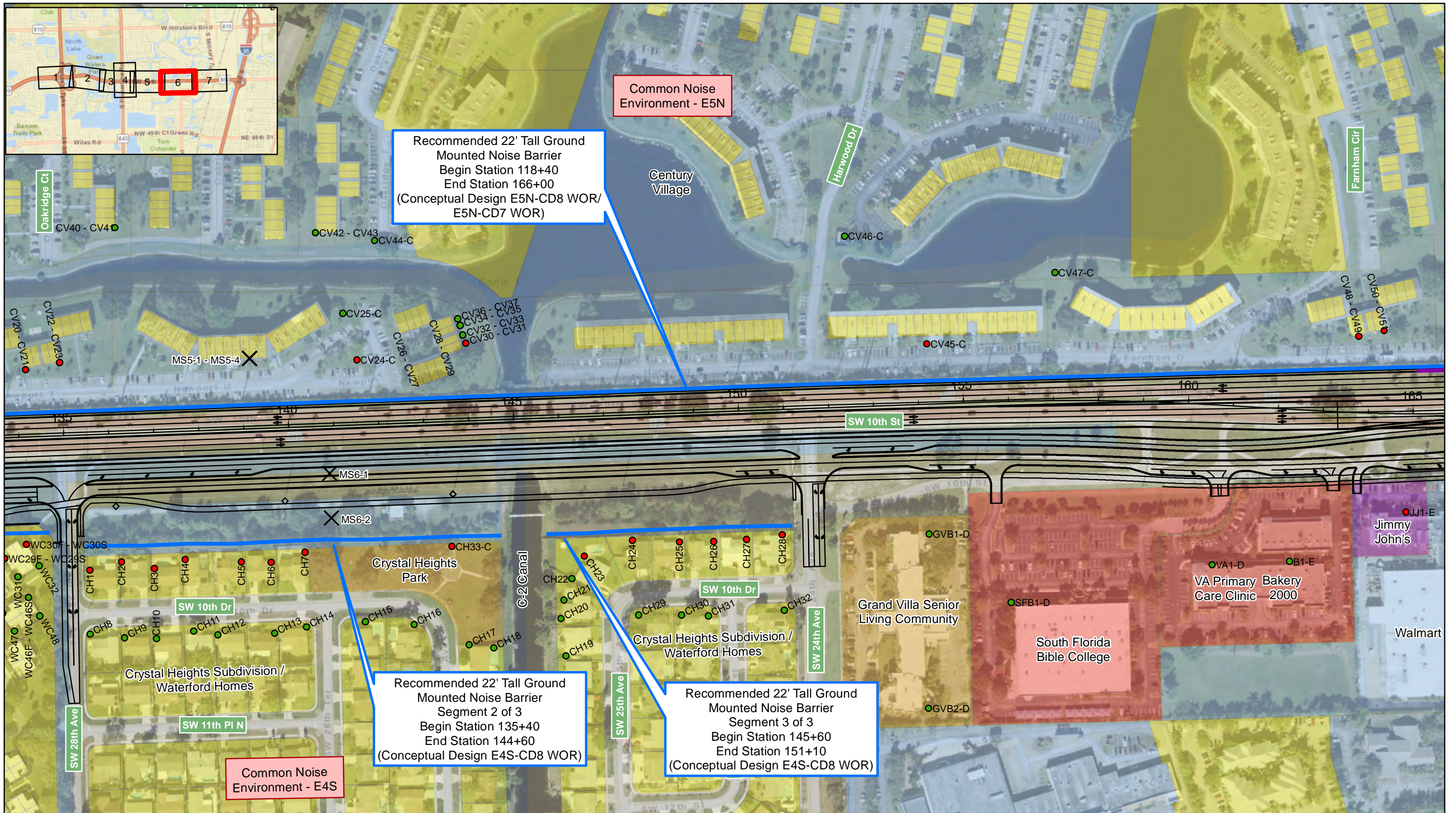


Figure 3.2.2
 Sheet 5 of 7
 Noise Analysis Map
 (Without Powerline Road
 Ramps)



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X Noise Monitoring Sites

Predicted Noise Levels

- < 66.0 dB(A)
- > 66.0 dB(A)

Non Recommended Noise Barrier

Recommended Noise Barriers

- Height 8
- Height 14
- Height 22

Proposed Design Concept

Land Use by Noise Activity Category

- B: Residential
- C: Other Sensitive Land Use
- D: Institutional (Interior)

E: Sensitive Commercial

F: Non-Sensitive Commercial

G: Vacant

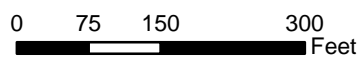
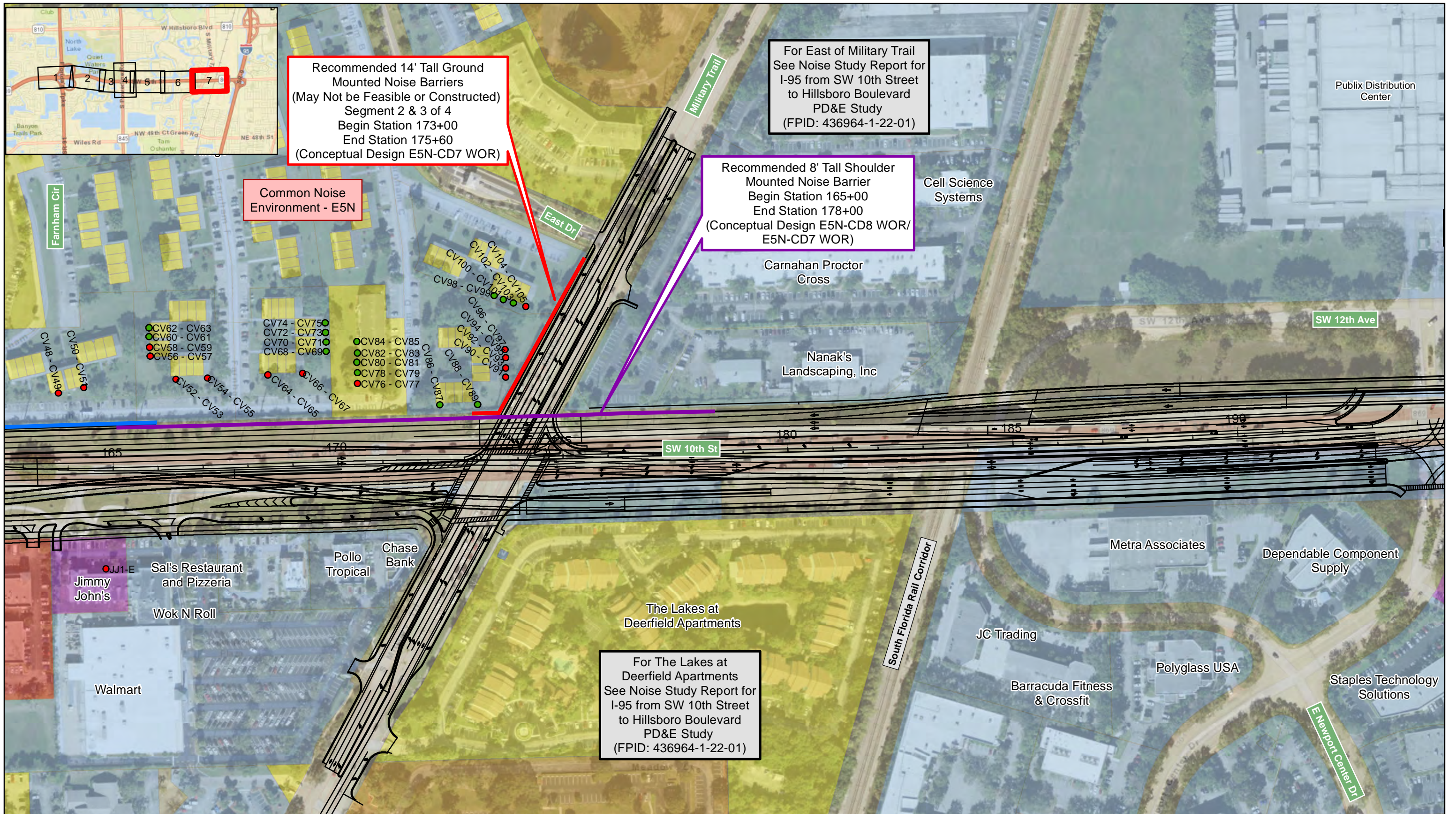


Figure 3.2.2
 Sheet 6 of 7
 Noise Analysis Map
 (Without Powerline Road
 Ramps)



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Noise Monitoring Sites
X
Predicted Noise Levels
● < 66.0 dB(A)
● > 66.0 dB(A)

Recommended Noise Barriers
Height
8
14
22

Proposed Design Concept
—
Land Use by Noise Activity Category
B: Residential
C: Other Sensitive Land Use
D: Institutional (Interior)
E: Sensitive Commercial
F: Non-Sensitive Commercial
G: Vacant

0 75 150 300 Feet



Figure 3.2.2
Sheet 7 of 7
Noise Analysis Map
(Without Powerline Road
Ramps)

APPENDIX C

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 1 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
South of SW 10 th Street between Florida's Turnpike and Powerline Road - The Enclave at Waterways Apartments [Residential NAC B Exterior - 66 dB(A)] Common Noise Environment E1S (see Figure 3.3.1 Sheet 2)																	
Noise Abatement Recommendations for Common Noise Environment E1S														22-Foot Tall Ground Mounted Noise Barrier (Conceptual Design E1S-CD5 WR)		22-Foot Tall Ground Mounted Noise Barrier (Conceptual Design E1S-CD5 WOR)	
EA1	First Row First Floor Multi-Family Residence - Patio	1	57+50	61.2	62.7	66.3	66.0	Approaches	Approaches	1.5	3.6	3.3	-0.3	57.4	8.9	57.1	8.9
EA2	First Row Second Floor Multi-Family Residence - Balcony	1	57+50	65.4	66.9	69.0	68.8	Exceeds	Exceeds	1.5	2.1	1.9	-0.2	58.5	10.5	58.1	10.7
EA3	Second Row First Floor Multi-Family Residence - Patio	1	57+50	59.6	61.1	64.4	64.2	Below	Below	1.5	3.3	3.1	-0.2	54.9	9.5	54.5	9.7
EA4	Second Row Second Floor Multi-Family Residence - Balcony	1	57+50	62.6	64.3	67.1	67.0	Exceeds	Exceeds	1.7	2.8	2.7	-0.1	56.7	10.4	56.5	10.5
EA5	Second Row Third Floor Multi-Family Residence - Balcony	1	57+50	64.2	66.0	68.6	68.5	Exceeds	Exceeds	1.8	2.6	2.5	-0.1	62.6	6.0	62.5	6.0
EA6	Second Row First Floor Multi-Family Residence - Patio	1	57+30	58.7	60.1	63.2	63.0	Below	Below	1.4	3.1	2.9	-0.2	53.8	9.4	53.5	9.5
EA7	Second Row Second Floor Multi-Family Residence - Balcony	1	57+30	61.0	62.7	65.7	65.6	Below	Below	1.7	3.0	2.9	-0.1	55.9	9.8	55.7	9.9
EA8	Second Row Third Floor Multi-Family Residence - Balcony	1	57+30	62.8	64.4	67.1	66.9	Exceeds	Approaches	1.6	2.7	2.5	-0.2	62.0	5.1	61.9	5.0
EA9	Second Row First Floor Multi-Family Residence - Patio	1	57+00	58.0	59.4	62.3	62.1	Below	Below	1.4	2.9	2.7	-0.2	53.5	8.8	53.3	8.8
EA10	Second Row Second Floor Multi-Family Residence - Balcony	1	57+00	60.3	61.9	64.8	64.7	Below	Below	1.6	2.9	2.8	-0.1	55.5	9.3	55.4	9.3
EA11	Second Row First Floor Multi-Family Residence - Patio	1	58+20	57.4	58.7	63.4	62.9	Below	Below	1.3	4.7	4.2	-0.5	55.3	8.1	55.0	7.9
EA12	Second Row Second Floor Multi-Family Residence - Balcony	1	58+20	64.1	65.4	66.2	65.8	Approaches	Below	1.3	0.8	0.4	-0.4	57.0	9.2	56.7	9.1
EA13	Second Row First Floor Multi-Family Residence - Patio	1	58+30	52.5	53.6	57.9	57.1	Below	Below	1.1	4.3	3.5	-0.8	49.7	8.2	49.0	8.1
EA14	Second Row Second Floor Multi-Family Residence - Balcony	1	58+30	58.4	59.5	60.4	59.8	Below	Below	1.1	0.9	0.3	-0.6	51.8	8.6	51.1	8.7
EA15	Second Row Third Floor Multi-Family Residence - Balcony	1	58+30	60.4	61.6	63.3	62.9	Below	Below	1.2	1.7	1.3	-0.4	53.9	9.4	53.0	9.9
EA16	Second Row First Floor Multi-Family Residence - Patio	1	58+30	49.8	50.9	55.3	54.5	Below	Below	1.1	4.4	3.6	-0.8	49.3	6.0	48.9	5.6
EA17	Second Row Second Floor Multi-Family Residence - Balcony	1	58+30	53.9	54.8	56.9	56.1	Below	Below	0.9	2.1	1.3	-0.8	50.3	6.6	49.8	6.3
EA18	Second Row Third Floor Multi-Family Residence - Balcony	1	58+30	56.8	58.0	59.6	59.2	Below	Below	1.2	1.6	1.2	-0.4	52.8	6.8	52.3	6.9
EA19	Second Row First Floor Multi-Family Residence - Patio	1	58+10	48.5	49.5	53.8	53.1	Below	Below	1.0	4.3	3.6	-0.7	48.9	4.9	48.5	4.6
EA20	Second Row Second Floor Multi-Family Residence - Balcony	1	58+10	52.1	53.0	55.3	54.6	Below	Below	0.9	2.3	1.6	-0.7	49.7	5.6	49.3	5.3
EA21	First Row First Floor Multi-Family Residence - Patio	1	58+60	60.8	62.2	66.2	66.0	Approaches	Approaches	1.4	4.0	3.8	-0.2	58.0	8.2	57.8	8.2
EA22	First Row Second Floor Multi-Family Residence - Balcony	1	58+60	66.3	67.7	68.9	68.7	Exceeds	Exceeds	1.4	1.2	1.0	-0.2	59.8	9.1	59.7	9.0
EA23	First Row First Floor Multi-Family Residence - Patio	1	59+50	60.7	62.1	66.2	65.9	Approaches	Below	1.4	4.1	3.8	-0.3	58.2	8.0	58.0	7.9
EA24	First Row Second Floor Multi-Family Residence - Balcony	1	59+50	66.3	67.7	68.8	68.6	Exceeds	Exceeds	1.4	1.1	0.9	-0.2	59.9	8.9	59.8	8.8
EA25	First Row Third Floor Multi-Family Residence - Balcony	1	59+50	67.2	68.6	71.2	71.0	Exceeds	Exceeds	1.4	2.6	2.4	-0.2	62.7	8.5	62.5	8.5
EA26	First Row First Floor Multi-Family Residence - Patio	1	59+50	60.4	61.8	65.2	65.1	Below	Below	1.4	3.4	3.3	-0.1	58.3	6.9	58.2	6.9
EA27	First Row Second Multi-Family Residence - Balcony	1	59+50	66.1	67.5	68.4	68.2	Exceeds	Exceeds	1.4	0.9	0.7	-0.2	59.8	8.6	59.8	8.4
EA28	First Row Third Floor Multi-Family Residence - Balcony	1	59+50	67.1	68.5	71.0	70.8	Exceeds	Exceeds	1.4	2.5	2.3	-0.2	62.3	8.7	62.2	8.6
EA29	First Row First Floor Multi-Family Residence - Patio	1	60+20	60.6	61.9	66.0	65.8	Approaches	Below	1.3	4.1	3.9	-0.2	59.4	6.6	59.3	6.5
EA30	First Row Second Floor Multi-Family Residence - Balcony	1	60+20	66.1	67.5	68.4	68.2	Exceeds	Exceeds	1.4	0.9	0.7	-0.2	60.0	8.4	60.0	8.2
EA31	First Row First Floor Multi-Family Residence - Patio	1	60+90	56.2	57.4	62.2	61.8	Below	Below	1.2	4.8	4.4	-0.4	54.6	7.6	54.4	7.4

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 2 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
EA32	First Row Second Floor Multi-Family Residence - Balcony	1	60+90	62.7	64.0	64.5	64.1	Below	Below	1.3	0.5	0.1	-0.4	56.3	8.2	56.0	8.1
EA33	Second Row First Floor Multi-Family Residence - Patio	1	60+90	51.9	52.9	57.4	57.1	Below	Below	1.0	4.5	4.2	-0.3	50.9	6.5	50.7	6.4
EA34	Second Row Second Floor Multi-Family Residence - Balcony	1	60+90	58.1	59.3	59.6	59.3	Below	Below	1.2	0.3	0.0	-0.3	52.8	6.8	52.7	6.6
EA35	Second Row Third Floor Multi-Family Residence - Balcony	1	60+90	59.3	60.4	62.6	62.3	Below	Below	1.1	2.2	1.9	-0.3	54.8	7.8	54.7	7.6
EA36	Second Row First Floor Multi-Family Residence - Patio	1	60+90	49.8	50.8	54.9	54.7	Below	Below	1.0	4.1	3.9	-0.2	50.1	4.8	49.9	4.8
EA37	Second Row Second Floor Multi-Family Residence - Balcony	1	60+90	54.4	55.4	56.4	56.3	Below	Below	1.0	1.0	0.9	-0.1	51.1	5.3	51.0	5.3
EA38	Second Row Third Floor Multi-Family Residence - Balcony	1	60+90	56.1	57.1	59.0	58.9	Below	Below	1.0	1.9	1.8	-0.1	53.6	5.4	53.5	5.4
EA39	Second Row First Floor Multi-Family Residence - Patio	1	60+90	48.8	49.7	53.5	53.4	Below	Below	0.9	3.8	3.7	-0.1	49.6	3.9	49.3	4.1
EA40	Second Row Second Floor Multi-Family Residence - Balcony	1	61+60	52.2	53.0	54.9	54.8	Below	Below	0.8	1.9	1.8	-0.1	50.6	4.3	50.4	4.4
EA41	First Row First Floor Multi-Family Residence - Patio	1	61+60	57.3	58.4	62.4	62.5	Below	Below	1.1	4.0	4.1	0.1	57.0	5.4	57.3	5.2
EA42	First Row Second Floor Multi-Family Residence - Balcony	1	61+60	63.4	64.6	64.4	64.4	Below	Below	1.2	-0.2	-0.2	0.0	58.4	6.0	58.6	5.8
EA43	Second Row First Floor Multi-Family Residence - Patio	1	61+60	55.5	56.5	60.5	60.6	Below	Below	1.0	4.0	4.1	0.1	55.7	4.8	56.0	4.6
EA44	Second Row Second Floor Multi-Family Residence - Balcony	1	61+60	60.7	61.7	62.3	62.3	Below	Below	1.0	0.6	0.6	0.0	57.3	5.0	57.6	4.7
EA45	Second Row Third Floor Multi-Family Residence - Balcony	1	61+60	62.6	63.7	64.7	64.7	Below	Below	1.1	1.0	1.0	0.0	58.8	5.9	59.0	5.7
EA46	Second Row First Floor Multi-Family Residence - Patio	1	61+60	52.6	53.7	58.7	58.8	Below	Below	1.1	5.0	5.1	0.1	56.3	2.4	56.4	2.4
EA47	Second Row Second Floor Multi-Family Residence - Balcony	1	61+60	57.2	58.1	60.5	60.6	Below	Below	0.9	2.4	2.5	0.1	56.6	3.9	56.9	3.7
EA48	Second Row Third Floor Multi-Family Residence - Balcony	1	61+60	60.8	62.0	61.7	61.8	Below	Below	1.2	-0.3	-0.2	0.1	57.6	4.1	57.9	3.9
EA49	Second Row First Floor Multi-Family Residence - Patio	1	61+60	50.8	51.8	57.1	57.2	Below	Below	1.0	5.3	5.4	0.1	55.3	1.8	55.4	1.8
EA50	Second Row Second Floor Multi-Family Residence - Balcony	1	61+60	55.0	55.8	59.2	59.3	Below	Below	0.8	3.4	3.5	0.1	55.9	3.3	56.2	3.1
EA51	Second Row First Floor Multi-Family Residence - Patio	1	62+40	53.0	54.0	55.1	54.9	Below	Below	1.0	1.1	0.9	-0.2	51.8	3.3	51.7	3.2
EA52	Second Row Second Floor Multi-Family Residence - Balcony	1	62+40	55.2	56.2	57.8	57.6	Below	Below	1.0	1.6	1.4	-0.2	53.1	4.7	53.0	4.6
EA53	Second Row First Floor Multi-Family Residence - Patio	1	62+90	52.7	53.8	54.7	54.5	Below	Below	1.1	0.9	0.7	-0.2	51.8	2.9	51.7	2.8
EA54	Second Row Second Floor Multi-Family Residence - Balcony	1	62+90	54.7	55.8	57.5	57.3	Below	Below	1.1	1.7	1.5	-0.2	53.0	4.5	52.9	4.4
EA55	Second Row Third Floor Multi-Family Residence - Balcony	1	62+90	56.1	57.2	59.2	59.1	Below	Below	1.1	2.0	1.9	-0.1	56.2	3.0	56.1	3.0
EA56	Second Row First Floor Multi-Family Residence - Patio	1	63+40	52.4	53.5	54.3	54.1	Below	Below	1.1	0.8	0.6	-0.2	52.1	2.2	52.0	2.1
EA57	Second Row Second Floor Multi-Family Residence - Balcony	1	63+40	54.3	55.5	57.6	57.5	Below	Below	1.2	2.1	2.0	-0.1	53.4	4.2	53.3	4.2
EA58	Second Row Third Floor Multi-Family Residence - Balcony	1	63+40	55.6	56.7	59.3	59.2	Below	Below	1.1	2.6	2.5	-0.1	56.1	3.2	56.0	3.2
EA59	Second Row First Floor Multi-Family Residence - Patio	1	63+90	52.3	53.4	54.4	54.3	Below	Below	1.1	1.0	0.9	-0.1	52.1	2.3	52.0	2.3
EA60	Second Row Second Floor Multi-Family Residence - Balcony	1	63+90	54.3	55.5	57.8	57.8	Below	Below	1.2	2.3	2.3	0.0	54.3	3.5	54.2	3.6
EA61	Second Row First Floor Multi-Family Residence - Patio	1	61+60	50.3	51.2	56.1	56.2	Below	Below	0.9	4.9	5.0	0.1	54.7	1.4	54.8	1.4
EA62	Second Row Second Floor Multi-Family Residence - Balcony	1	61+60	53.6	54.5	58.0	58.1	Below	Below	0.9	3.5	3.6	0.1	55.5	2.5	55.7	2.4
EA63	Second Row First Floor Multi-Family Residence - Patio	1	62+00	50.4	51.4	56.7	56.8	Below	Below	1.0	5.3	5.4	0.1	53.3	3.4	53.5	3.3
EA64	Second Row Second Floor Multi-Family Residence - Balcony	1	62+00	53.4	54.2	58.1	58.3	Below	Below	0.8	3.9	4.1	0.2	55.7	2.4	56.0	2.3
EA65	Second Row Third Floor Multi-Family Residence - Balcony	1	62+00	58.2	59.2	60.1	60.2	Below	Below	1.0	0.9	1.0	0.1	56.8	3.3	57.0	3.2

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 3 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
EA66	Second Row First Floor Multi-Family Residence - Patio	1	62+50	50.1	51.1	56.1	56.2	Below	Below	1.0	5.0	5.1	0.1	54.5	1.6	54.7	1.5
EA67	Second Row Second Floor Multi-Family Residence - Balcony	1	62+50	53.3	54.1	58.0	58.2	Below	Below	0.8	3.9	4.1	0.2	56.0	2.0	56.3	1.9
EA68	Second Row Third Floor Multi-Family Residence - Balcony	1	62+50	58.4	59.4	60.4	60.5	Below	Below	1.0	1.0	1.1	0.1	57.1	3.3	57.3	3.2
EA69	Second Row First Floor Multi-Family Residence - Patio	1	63+00	49.9	50.8	56.1	56.2	Below	Below	0.9	5.3	5.4	0.1	54.1	2.0	54.3	1.9
EA70	Second Row Second Floor Multi-Family Residence - Balcony	1	63+00	53.2	54.0	58.0	58.0	Below	Below	0.8	4.0	4.0	0.0	55.4	2.6	55.6	2.4
EA71	First Row First Floor Multi-Family Residence - Patio	1	63+50	56.6	57.9	62.6	62.5	Below	Below	1.3	4.7	4.6	-0.1	56.6	6.0	56.7	5.8
EA72	First Row Second Floor Multi-Family Residence - Balcony	1	63+50	62.5	63.7	64.4	64.3	Below	Below	1.2	0.7	0.6	-0.1	58.7	5.7	58.9	5.4
EA73	Second Row First Floor Multi-Family Residence - Patio	1	63+50	54.0	55.0	59.9	59.8	Below	Below	1.0	4.9	4.8	-0.1	56.8	3.1	56.9	2.9
EA74	Second Row Second Floor Multi-Family Residence - Balcony	1	63+50	59.1	60.2	61.7	61.6	Below	Below	1.1	1.5	1.4	-0.1	57.2	4.5	57.3	4.3
EA75	Second Row Third Floor Multi-Family Residence - Balcony	1	63+50	61.5	62.7	63.8	63.6	Below	Below	1.2	1.1	0.9	-0.2	58.4	5.4	58.5	5.1
EA76	Second Row First Floor Multi-Family Residence - Patio	1	63+50	51.7	52.7	57.8	57.8	Below	Below	1.0	5.1	5.1	0.0	56.7	1.1	56.8	1.0
EA77	Second Row Second Floor Multi-Family Residence - Balcony	1	63+50	56.2	57.1	59.9	59.9	Below	Below	0.9	2.8	2.8	0.0	56.4	3.5	56.5	3.4
EA78	Second Row Third Floor Multi-Family Residence - Balcony	1	63+50	60.0	61.2	61.6	61.4	Below	Below	1.2	0.4	0.2	-0.2	57.0	4.6	57.1	4.3
EA79	Second Row First Floor Multi-Family Residence - Patio	1	63+50	49.9	50.8	56.4	56.5	Below	Below	0.9	5.6	5.7	0.1	54.6	1.8	54.8	1.7
EA80	Second Row Second Floor Multi-Family Residence - Balcony	1	63+50	54.3	55.1	58.2	58.2	Below	Below	0.8	3.1	3.1	0.0	55.1	3.1	55.2	3.0
EA81	First Row First Floor Multi-Family Residence - Patio	1	64+20	54.3	55.3	57.7	57.9	Below	Below	1.0	2.4	2.6	0.2	52.0	5.7	52.3	5.6
EA82	First Row Second Floor Multi-Family Residence - Balcony	1	64+20	61.1	62.3	60.0	60.1	Below	Below	1.2	-2.3	-2.2	0.1	55.0	5.0	55.4	4.7
EA83	Second Row First Floor Multi-Family Residence - Patio	1	64+20	52.0	53.0	55.7	55.9	Below	Below	1.0	2.7	2.9	0.2	52.0	3.7	52.2	3.7
EA84	Second Row Second Floor Multi-Family Residence - Balcony	1	64+20	56.8	57.8	57.0	57.1	Below	Below	1.0	-0.8	-0.7	0.1	53.9	3.1	54.2	2.9
EA85	Second Row Third Floor Multi-Family Residence - Balcony	1	64+20	59.0	60.1	59.1	59.2	Below	Below	1.1	-1.0	-0.9	0.1	56.6	2.5	56.8	2.4
EA86	Second Row First Floor Multi-Family Residence - Patio	1	64+20	50.5	51.4	54.1	54.3	Below	Below	0.9	2.7	2.9	0.2	51.3	2.8	51.5	2.8
EA87	Second Row Second Floor Multi-Family Residence - Balcony	1	64+20	54.1	54.9	55.4	55.5	Below	Below	0.8	0.5	0.6	0.1	53.5	1.9	53.6	1.9
EA88	Second Row Third Floor Multi-Family Residence - Balcony	1	64+20	56.9	57.9	56.9	57.0	Below	Below	1.0	-1.0	-0.9	0.1	55.3	1.6	55.5	1.5
EA89	Second Row First Floor Multi-Family Residence - Patio	1	64+20	48.2	49.1	51.9	52.0	Below	Below	0.9	2.8	2.9	0.1	49.3	2.6	49.5	2.5
EA90	Second Row Second Floor Multi-Family Residence - Balcony	1	64+20	51.3	52.1	52.4	52.6	Below	Below	0.8	0.3	0.5	0.2	50.5	1.9	50.8	1.8
EA91	First Row First Floor Multi-Family Residence - Patio	1	65+40	61.1	62.2	65.2	65.3	Below	Below	1.1	3.0	3.1	0.1	59.6	5.6	59.6	5.7
EA92	First Row Second Floor Multi-Family Residence - Balcony	1	65+40	67.9	69.1	69.4	69.4	Exceeds	Exceeds	1.2	0.3	0.3	0.0	62.4	7.0	62.6	6.8
EA93	First Row First Floor Multi-Family Residence - Patio	1	65+90	60.9	61.9	65.0	65.0	Below	Below	1.0	3.1	3.1	0.0	59.5	5.5	59.5	5.5
EA94	First Row Second Floor Multi-Family Residence - Balcony	1	65+90	67.8	68.9	69.2	69.2	Exceeds	Exceeds	1.1	0.3	0.3	0.0	62.5	6.7	62.6	6.6
EA95	Second Row Third Floor Multi-Family Residence - Balcony	1	65+90	68.4	69.5	71.2	71.2	Exceeds	Exceeds	1.1	1.7	1.7	0.0	65.1	6.1	65.3	5.9
EA96	First Row First Floor Multi-Family Residence - Patio	1	66+40	60.8	61.8	65.0	65.0	Below	Below	1.0	3.2	3.2	0.0	59.6	5.4	59.7	5.3
EA97	First Row Second Floor Multi-Family Residence - Balcony	1	66+40	67.8	68.9	69.3	69.3	Exceeds	Exceeds	1.1	0.4	0.4	0.0	62.8	6.5	62.9	6.4
EA98	First Row Third Floor Multi-Family Residence - Balcony	1	66+40	68.4	69.5	71.3	71.3	Exceeds	Exceeds	1.1	1.8	1.8	0.0	65.2	6.1	65.4	5.9
EA99	First Row First Floor Multi-Family Residence - Patio	1	66+90	60.7	61.7	64.9	65.0	Below	Below	1.0	3.2	3.3	0.1	59.8	5.1	59.8	5.2

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 9 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative			
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design			
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)		
South of SW 10 th Street between Powerline Road and South Military Trail - Waterford Courtyards [Residential NAC B Exterior - 66 dB(A)] Common Noise Environment E4S (see Figure 3.3.1 Sheet 5)																			
														Noise Barrier Recommendations for Common Noise Environment E4S		22-Foot Tall Ground Mounted Noise Barrier (Conceptual Design E4S-CD5 WR)		22-Foot Tall Ground Mounted Noise Barrier (Conceptual Design E4S-CD5 WOR)	
WC1F	First Row First Floor Multi-Family Residence - Patio	1	125+60	60.8	60.8	66.1	66.2	Approaches	Approaches	0.0	5.3	5.4	0.1	61.0	5.1	62.0	4.2		
WC1S	First Row Second Floor Multi-Family Residence - Balcony	0	125+60	63.1	63.1	69.0	68.8	Exceeds	Exceeds	0.0	5.9	5.7	-0.2	64.1	4.9	64.8	4.0		
WC2F	First Row First Floor Multi-Family Residence - Patio	1	126+40	62.9	62.9	69.4	68.7	Exceeds	Exceeds	0.0	6.5	5.8	-0.7	56.0	13.4	59.2	9.5		
WC2S	First Row Second Floor Multi-Family Residence - Balcony	0	126+40	65.0	65.0	71.9	71.7	Exceeds	Exceeds	0.0	6.9	6.7	-0.2	59.7	12.2	61.4	10.3		
WC3	First Row First Floor Multi-Family Residence - Balcony	1	125+90	54.5	54.6	60.2	60.8	Below	Below	0.1	5.6	6.2	0.6	59.3	0.9	60.2	0.6		
WC4	First Row First Floor Multi-Family Residence - Balcony	1	126+50	59.3	59.3	63.7	64.2	Below	Below	0.0	4.4	4.9	0.5	53.8	9.9	54.3	9.9		
WC5F	First Row First Floor Multi-Family Residence - Patio	1	127+00	59.3	59.3	64.0	64.4	Below	Below	0.0	4.7	5.1	0.4	53.8	10.2	54.3	10.1		
WC5S	First Row Second Floor Multi-Family Residence - Balcony	0	127+00	61.8	61.8	67.7	67.5	Exceeds	Exceeds	0.0	5.9	5.7	-0.2	59.0	8.7	59.6	7.9		
WC6F	First Row First Floor Multi-Family Residence - Patio	1	127+50	62.5	62.5	68.4	68.2	Exceeds	Exceeds	0.0	5.9	5.7	-0.2	56.3	12.1	56.9	11.3		
WC6S	First Row Second Floor Multi-Family Residence - Balcony	0	127+50	64.8	64.8	71.3	71.6	Exceeds	Exceeds	0.0	6.5	6.8	0.3	59.7	11.6	59.4	12.2		
WC7	First Row First Floor Multi-Family Residence - Patio	1	127+30	51.5	51.5	57.4	58.0	Below	Below	0.0	5.9	6.5	0.6	51.6	5.8	52.1	5.9		
WC8	First Row First Floor Multi-Family Residence - Patio	1	128+90	58.7	58.7	63.3	63.8	Below	Below	0.0	4.6	5.1	0.5	53.4	9.9	53.8	10.0		
WC9F	First Row First Floor Multi-Family Residence - Patio	1	128+00	60.2	60.2	64.7	65.1	Below	Below	0.0	4.5	4.9	0.4	54.3	10.4	54.6	10.5		
WC9S	First Row Second Floor Multi-Family Residence - Balcony	0	128+00	62.5	62.5	68.1	68.0	Exceeds	Exceeds	0.0	5.6	5.5	-0.1	58.5	9.6	58.7	9.3		
WC10F	First Row First Floor Multi-Family Residence - Patio	1	128+60	62.6	62.6	69.0	68.4	Exceeds	Exceeds	0.0	6.4	5.8	-0.6	56.0	13.0	56.9	11.5		
WC10S	First Row Second Floor Multi-Family Residence - Balcony	0	128+60	64.9	64.9	71.7	71.3	Exceeds	Exceeds	0.0	6.8	6.4	-0.4	59.6	12.1	59.0	12.3		
WC11	First Row First Floor Multi-Family Residence - Patio	1	128+30	52.1	52.1	57.0	57.5	Below	Below	0.0	4.9	5.4	0.5	51.1	5.9	51.5	6.0		
WC12	First Row First Floor Multi-Family Residence - Patio	1	128+90	58.2	58.2	63.8	64.2	Below	Below	0.0	5.6	6.0	0.4	53.9	9.9	54.3	9.9		
WC13F	First Row First Floor Multi-Family Residence - Patio	1	129+40	59.2	59.2	63.9	64.2	Below	Below	0.0	4.7	5.0	0.3	53.6	10.3	53.9	10.3		
WC13S	First Row Second Floor Multi-Family Residence - Balcony	0	129+40	61.6	61.6	67.4	67.3	Exceeds	Exceeds	0.0	5.8	5.7	-0.1	58.3	9.1	58.4	8.9		
WC14F	First Row First Floor Multi-Family Residence - Patio	1	129+90	61.8	61.8	68.5	68.0	Exceeds	Exceeds	0.0	6.7	6.2	-0.5	55.6	12.9	56.3	11.7		
WC14S	First Row Second Floor Multi-Family Residence - Balcony	0	129+90	64.4	64.4	71.4	70.8	Exceeds	Exceeds	0.0	7.0	6.4	-0.6	59.6	11.8	59.1	11.7		
WC15	First Row First Floor Multi-Family Residence - Patio	1	129+80	51.2	51.2	55.8	56.1	Below	Below	0.0	4.6	4.9	0.3	50.0	5.8	50.3	5.8		
WC16	First Row First Floor Multi-Family Residence - Patio	1	130+10	56.4	56.4	62.8	63.1	Below	Below	0.0	6.4	6.7	0.3	53.0	9.8	53.2	9.9		
WC17F	First Row First Floor Multi-Family Residence - Patio	1	130+50	59.2	59.2	64.9	65.1	Below	Below	0.0	5.7	5.9	0.2	54.0	10.9	54.5	10.6		
WC17S	First Row Second Floor Multi-Family Residence - Balcony	0	130+50	62.0	62.0	68.5	68.1	Exceeds	Exceeds	0.0	6.5	6.1	-0.4	58.7	9.8	58.4	9.7		
WC18	First Row First Floor Multi-Family Residence - Patio	1	130+90	62.0	62.0	69.6	68.7	Exceeds	Exceeds	0.0	7.6	6.7	-0.9	55.8	13.8	56.8	11.9		
WC18S	First Row Second Floor Multi-Family Residence - Balcony	0	130+90	64.7	64.7	72.2	71.4	Exceeds	Exceeds	0.0	7.5	6.7	-0.8	60.2	12.0	59.5	11.9		
WC19	First Row First Floor Multi-Family Residence - Patio	1	130+70	52.5	52.5	57.2	57.5	Below	Below	0.0	4.7	5.0	0.3	51.3	5.9	51.4	6.1		
WC20	First Row First Floor Multi-Family Residence - Patio	1	131+20	57.3	57.3	64.4	64.2	Below	Below	0.0	7.1	6.9	-0.2	53.6	10.8	53.7	10.5		
WC21F	First Row First Floor Multi-Family Residence - Patio	1	131+50	57.4	57.4	63.8	63.8	Below	Below	0.0	6.4	6.4	0.0	53.3	10.5	53.4	10.4		
WC21S	First Row Second Floor Multi-Family Residence - Balcony	0	131+50	60.6	60.6	67.3	66.9	Exceeds	Approaches	0.0	6.7	6.3	-0.4	58.8	8.5	58.5	8.4		

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 10 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
WC22F	First Row First Floor Multi-Family Residence - Patio	1	132+00	61.5	61.5	68.7	68.1	Exceeds	Exceeds	0.0	7.2	6.6	-0.6	55.9	12.8	56.6	11.5
WC22S	First Row Second Floor Multi-Family Residence - Balcony	0	132+00	64.3	64.3	71.7	70.7	Exceeds	Exceeds	0.0	7.4	6.4	-1.0	60.1	11.6	59.7	11.0
WC23	First Row First Floor Multi-Family Residence - Patio	1	131+90	51.1	51.1	56.9	57.4	Below	Below	0.0	5.8	6.3	0.5	51.0	5.9	51.3	6.1
WC24	First Row First Floor Multi-Family Residence - Patio	1	132+20	57.8	57.8	64.8	64.4	Below	Below	0.0	7.0	6.6	-0.4	53.9	10.9	54.1	10.3
WC25F	First Row First Floor Multi-Family Residence - Patio	1	132+50	58.9	58.9	65.8	65.5	Below	Below	0.0	6.9	6.6	-0.3	54.7	11.1	54.7	10.8
WC25S	First Row Second Floor Multi-Family Residence - Balcony	0	132+50	62.3	62.3	69.2	68.4	Exceeds	Exceeds	0.0	6.9	6.1	-0.8	59.4	9.8	59.0	9.4
WC26F	First Row First Floor Multi-Family Residence - Patio	1	133+10	62.0	62.0	69.5	68.7	Exceeds	Exceeds	0.0	7.5	6.7	-0.8	56.7	12.8	57.6	11.1
WC26S	First Row Second Floor Multi-Family Residence - Balcony	0	133+10	64.6	64.7	72.2	71.1	Exceeds	Exceeds	0.1	7.5	6.4	-1.1	60.7	11.5	60.3	10.8
WC27	First Row First Floor Multi-Family Residence - Patio	1	132+90	50.7	50.7	58.2	58.1	Below	Below	0.0	7.5	7.4	-0.1	51.7	6.5	51.6	6.5
WC28	First Row First Floor Multi-Family Residence - Patio	1	133+40	57.3	57.3	64.4	64.0	Below	Below	0.0	7.1	6.7	-0.4	53.8	10.6	53.8	10.2
WC29F	First Row First Floor Multi-Family Residence - Patio	1	133+70	57.1	57.1	64.4	63.9	Below	Below	0.0	7.3	6.8	-0.5	53.4	11.0	53.5	10.4
WC29S	First Row Second Floor Multi-Family Residence - Balcony	0	133+70	60.6	60.6	67.9	66.8	Exceeds	Approaches	0.0	7.3	6.2	-1.1	59.7	8.2	59.1	7.7
WC30F	First Row First Floor Multi-Family Residence - Patio	1	134+20	61.7	61.7	69.2	68.4	Exceeds	Exceeds	0.0	7.5	6.7	-0.8	59.6	9.6	60.6	7.8
WC30S	First Row Second Floor Multi-Family Residence - Balcony	0	134+20	64.4	64.4	71.9	70.7	Exceeds	Exceeds	0.0	7.5	6.3	-1.2	63.6	8.3	63.6	7.1
WC31	First Row First Floor Multi-Family Residence - Patio	1	134+00	51.0	51.0	58.3	57.9	Below	Below	0.0	7.3	6.9	-0.4	53.3	5.0	51.9	6.0
WC32	First Row First Floor Multi-Family Residence - Patio	1	134+50	58.9	58.9	65.7	65.1	Below	Below	0.0	6.8	6.2	-0.6	62.5	3.2	61.9	3.2
WC33F	Second Row First Floor Multi-Family Residence - Patio	1	125+60	55.9	55.9	60.4	61.2	Below	Below	0.0	4.5	5.3	0.8	59.1	1.3	59.9	1.3
WC33S	Second Row Second Floor Multi-Family Residence - Balcony	0	125+60	58.8	58.9	63.5	64.2	Below	Below	0.1	4.6	5.3	0.7	62.4	1.1	63.0	1.2
WC34F	Second Row First Floor Multi-Family Residence - Patio	1	126+10	55.2	55.2	60.1	60.5	Below	Below	0.0	4.9	5.3	0.4	57.9	2.2	58.3	2.2
WC34S	Second Row Second Floor Multi-Family Residence - Balcony	0	126+10	58.1	58.1	63.2	63.6	Below	Below	0.0	5.1	5.5	0.4	61.6	1.6	62.0	1.6
WC35	Second Row First Floor Multi-Family Residence - Patio	1	125+90	52.1	52.2	56.6	57.4	Below	Below	0.1	4.4	5.2	0.8	56.5	0.1	57.3	0.1
WC36	Second Row First Floor Multi-Family Residence - Patio	1	126+40	52.1	52.1	56.7	57.2	Below	Below	0.0	4.6	5.1	0.5	52.1	4.6	52.4	4.8
WC37F	Second Row First Floor Multi-Family Residence - Patio	1	128+60	52.3	52.3	57.0	57.8	Below	Below	0.0	4.7	5.5	0.8	52.8	4.2	54.2	3.6
WC37S	Second Row Second Floor Multi-Family Residence - Balcony	0	128+60	55.2	55.2	59.9	60.9	Below	Below	0.0	4.7	5.7	1.0	56.6	3.3	57.6	3.3
WC38F	Second Row First Floor Multi-Family Residence - Patio	1	129+30	53.1	53.1	58.2	58.7	Below	Below	0.0	5.1	5.6	0.5	53.4	4.8	53.8	4.9
WC38S	Second Row Second Floor Multi-Family Residence - Balcony	0	129+30	56.1	56.1	60.9	61.5	Below	Below	0.0	4.8	5.4	0.6	57.3	3.6	57.7	3.8
WC39	Second Row First Floor Multi-Family Residence - Patio	1	128+90	47.1	47.2	52.7	53.5	Below	Below	0.1	5.5	6.3	0.8	51.6	1.1	52.3	1.2
WC40	Second Row First Floor Multi-Family Residence - Patio	1	129+50	51.4	51.4	56.7	57.0	Below	Below	0.0	5.3	5.6	0.3	52.0	4.7	52.6	4.4
WC41F	Second Row First Floor Multi-Family Residence - Patio	1	131+10	51.4	51.5	56.9	57.5	Below	Below	0.1	5.4	6.0	0.6	52.0	4.9	53.2	4.3
WC41S	Second Row Second Floor Multi-Family Residence - Balcony	0	131+10	55.0	55.0	60.5	60.7	Below	Below	0.0	5.5	5.7	0.2	57.0	3.5	57.1	3.6
WC42F	Second Row First Floor Multi-Family Residence - Patio	1	131+60	52.1	52.2	58.6	58.9	Below	Below	0.1	6.4	6.7	0.3	53.7	4.9	54.2	4.7
WC42S	Second Row Second Floor Multi-Family Residence - Balcony	0	131+60	55.7	55.7	62.0	61.8	Below	Below	0.0	6.3	6.1	-0.2	57.8	4.2	57.9	3.9
WC43	Second Row First Floor Multi-Family Residence - Patio	1	131+30	45.9	45.9	51.5	52.2	Below	Below	0.0	5.6	6.3	0.7	49.6	1.9	50.5	1.7
WC44	Second Row First Floor Multi-Family Residence - Patio	1	131+90	49.8	49.8	56.5	56.6	Below	Below	0.0	6.7	6.8	0.1	52.3	4.2	52.4	4.2
WC45F	Second Row First Floor Multi-Family Residence - Patio	1	133+70	51.1	51.1	57.6	57.9	Below	Below	0.0	6.5	6.8	0.3	52.1	5.5	52.7	5.2

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 12 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
South of SW 10 th Street between Powerline Road and South Military Trail - Crystal Heights/Waterford Homes [Residential NAC B Exterior - 66 dB(A)] / [Recreational NAC C Exterior - 66 dB(A)] Common Noise Environment E4S Continued (see Figure 3.3.1 Sheet 6)																	
Noise Barrier Recommendations for Common Noise Environment E4S														22-Foot Tall Ground Mounted Noise Barrier (Conceptual Design E4S-CD5 WR)		22-Foot Tall Ground Mounted Noise Barrier (Conceptual Design E4S-CD5 WOR)	
CH1	First Row Residence	1	135+50	59.8	59.8	66.6	66.1	Approaches	Approaches	0.0	6.8	6.3	-0.5	61.2	5.4	60.7	5.4
CH2	First Row Residence	1	136+20	60.4	60.4	67.5	66.7	Exceeds	Approaches	0.0	7.1	6.3	-0.8	55.6	11.9	56.3	10.4
CH3	First Row Residence	1	137+00	60.0	60.0	67.0	66.1	Exceeds	Approaches	0.0	7.0	6.1	-0.9	56.1	10.9	56.3	9.8
CH4	First Row Residence	1	137+80	60.5	60.5	67.7	66.6	Exceeds	Approaches	0.0	7.2	6.1	-1.1	55.7	12.0	56.3	10.3
CH5	First Row Residence	1	138+90	60.0	60.0	67.1	66.2	Exceeds	Approaches	0.0	7.1	6.2	-0.9	56.2	10.9	56.4	9.8
CH6	First Row Residence	1	139+50	59.9	59.9	67.0	66.2	Exceeds	Approaches	0.0	7.1	6.3	-0.8	56.4	10.6	56.6	9.6
CH7	First Row Residence	1	140+30	60.2	60.2	67.5	66.7	Exceeds	Approaches	0.0	7.3	6.5	-0.8	55.1	12.4	55.8	10.9
CH8	Second Row Residence	1	135+50	53.4	53.4	59.5	59.4	Below	Below	0.0	6.1	6.0	-0.1	56.7	2.8	56.5	2.9
CH9	Second Row Residence	1	136+20	51.7	51.7	57.6	57.6	Below	Below	0.0	5.9	5.9	0.0	54.8	2.8	54.1	3.5
CH10	Second Row Residence	1	137+00	50.8	50.8	56.8	56.6	Below	Below	0.0	6.0	5.8	-0.2	54.1	2.7	53.2	3.4
CH11	Second Row Residence	1	137+90	50.5	50.5	56.6	56.2	Below	Below	0.0	6.1	5.7	-0.4	54.2	2.4	53.7	2.5
CH12	Second Row Residence	1	138+40	50.9	50.9	57.1	56.6	Below	Below	0.0	6.2	5.7	-0.5	54.6	2.5	54.2	2.4
CH13	Second Row Residence	1	139+50	52.7	52.7	59.0	58.5	Below	Below	0.0	6.3	5.8	-0.5	54.2	4.8	53.8	4.7
CH14	Second Row Residence	1	140+30	54.1	54.1	60.4	60.0	Below	Below	0.0	6.3	5.9	-0.4	54.2	6.2	54.1	5.9
CH15	Second Row Residence	1	141+80	56.1	56.1	62.4	62.0	Below	Below	0.0	6.3	5.9	-0.4	55.6	6.8	55.3	6.7
CH16	Second Row Residence	1	142+80	56.0	56.0	62.3	61.9	Below	Below	0.0	6.3	5.9	-0.4	56.1	6.2	55.9	6.0
CH17 & CH18	Second Row Residence (West Side CH17)	1	144+00	54.7	54.7	61.8	61.3	Below	Below	0.0	7.1	6.6	-0.5	57.0	4.8	56.5	4.8
	(East Side CH18)	---	144+50	54.4	54.4	61.4	61.0	Below	Below	0.0	7.0	6.6	-0.4	57.2	4.2	56.8	4.2
CH19	Second Row Residence	1	146+10	52.5	52.5	59.1	58.7	Below	Below	0.0	6.6	6.2	-0.4	56.5	2.6	56.1	2.6
CH20 & CH21	Second Row Residence (South Side CH 20)	---	146+00	54.1	54.1	60.8	60.2	Below	Below	0.0	6.7	6.1	-0.6	57.5	3.3	57.0	3.2
	(North Side CH 21)	1	146+10	56.0	56.0	63.2	62.4	Below	Below	0.0	7.2	6.4	-0.8	58.8	4.4	58.3	4.1
CH22 & CH 23	First Row Residence (West Side CH22)	---	146+20	57.2	57.2	64.4	63.6	Below	Below	0.0	7.2	6.4	-0.8	59.4	5.0	58.7	4.9
	(East Side CH23)	1	146+50	59.8	59.8	66.9	66.0	Approaches	Approaches	0.0	7.1	6.2	-0.9	58.9	8.0	58.4	7.6
CH24	First Row Residence	1	147+50	60.4	60.4	68.0	67.1	Exceeds	Exceeds	0.0	7.6	6.7	-0.9	56.2	11.8	55.5	11.6
CH25	First Row Residence	1	148+70	60.3	60.3	67.6	66.8	Exceeds	Approaches	0.0	7.3	6.5	-0.8	56.4	11.2	56.1	10.7
CH26	First Row Residence	1	149+40	60.7	60.7	67.4	66.6	Exceeds	Approaches	0.0	6.7	5.9	-0.8	56.5	10.9	56.1	10.5
CH27	First Row Residence	1	150+10	61.1	61.1	67.3	66.7	Exceeds	Approaches	0.0	6.2	5.6	-0.6	57.1	10.2	56.5	10.2
CH28	First Row Residence	1	160+00	61.2	61.3	67.3	66.7	Exceeds	Approaches	0.1	6.0	5.4	-0.6	61.0	6.3	60.0	6.7
CH29	Second Row Residence	1	147+80	51.4	51.5	58.4	57.7	Below	Below	0.1	6.9	6.2	-0.7	53.4	5.0	53.0	4.7
CH30	Second Row Residence	1	148+70	51.1	51.1	57.5	57.0	Below	Below	0.0	6.4	5.9	-0.5	54.1	3.4	53.6	3.4

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 13 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
CH31	Second Row Residence	1	149+30	51.1	51.1	57.4	57.0	Below	Below	0.0	6.3	5.9	-0.4	55.0	2.4	54.5	2.5
CH32	Second Row Residence	1	160+00	55.1	55.1	60.0	59.5	Below	Below	0.0	4.9	4.4	-0.5	59.0	1.0	58.5	1.0
CH33-C	Recreational - Park	1 (Special Land Use)	143+70	59.8	59.8	67.4	66.6	Exceeds	Approaches	0.0	7.6	6.8	-0.8	55.0	12.4	56.5	10.1
Minimum				50.5	50.5	56.6	56.2	---	---	0.0	4.9	4.4	-1.1	53.4	1.0	53.0	1.0
Maximum				61.2	61.3	68.0	67.1	---	---	0.1	7.6	6.8	0.0	61.2	12.4	60.7	11.6
Average				56.3	56.3	63.0	62.4	---	---	0.0	6.7	6.1	-0.6	56.4	6.6	56.1	6.3
Total Number of Residential / Recreational Sites Equal to or Greater than 66.0 dB(A)				0 / 0	0 / 0	1 / 13	1 / 13	---	---	---	---	---	---	---	---	---	---
South of SW 10 th Street between Powerline Road and South Military Trail (see Figure 3.3.1 Sheets 6 and 7)																	
GVB1	Renaissance Nursing Home [NAC C - Exterior 66 dB(A)]	1	154+10	61.0	61.0	65.7	65.6	Below	Below	0.0	4.7	4.6	-0.1	---	---	---	---
GVB2	Renaissance Hotel [NAC C - Exterior 66 dB(A)]	1	154+10	49.2	49.4	56.3	54.4	Below	Below	0.2	6.9	5.2	-1.9	---	---	---	---
SFB1	South Florida Bible College [NAC C - Exterior 66 dB(A)]	1	156+00	57.9	57.9	61.9	61.4	Below	Below	0.0	4.0	3.5	-0.5	---	---	---	---
VA1	VA Outpatient Clinic [NAC D - Interior 51 dB(A)]	1	160+50	59.0	59.1	62.7	62.4	Below	Below	0.1	3.6	3.4	-0.3	---	---	---	---
B1	Bakery 2000 [NAC E - Exterior 71 dB(A)]	1	162+30	52.3	52.9	58.6	57.1	Below	Below	0.6	5.7	4.8	-1.5	---	---	---	---
JJ1	Jimmy John's [NAC E - Exterior 71 dB(A)]	1	164+90	63.7	63.7	66.9	66.9	Below	Below	0.0	3.2	3.2	0.0	---	---	---	---

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 14 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
North of SW 10 th Street between Powerline Road and South Military Trail - Century Village [Residential NAC B Exterior - 66 dB(A)] / [Recreational NAC C Exterior - 66 dB(A)] Common Noise Environment E5N (see Figure 3.3.1 Sheets 5, 6, and 7)																	
Noise Barrier Recommendations for Common Noise Environment E5S														22-Foot Tall Ground Mounted Noise Barrier and 8-Foot Tall Shoulder Mounted Noise Barrier - Conceptual Design E5N-CD8 WR		22-Foot Tall Ground Mounted Noise Barrier and 8-Foot Tall Shoulder Mounted Noise Barrier - Conceptual Design E5N-CD8 WOR	
CV1	Second Row First Floor Multi-Family Residence - Patio	1	119+60	55.7	55.6	59.9	59.5	Below	Below	-0.1	4.3	3.9	-0.4	52.2	7.7	52.2	7.3
CV2	Second Row Second Floor Multi-Family Residence - Balcony	1	119+60	58.8	58.7	64.1	61.9	Below	Below	-0.1	5.4	3.2	-2.2	52.4	11.7	52.4	9.5
CV3	Second Row First Floor Multi-Family Residence - Patio	1	119+60	53.4	53.3	57.6	57.0	Below	Below	-0.1	4.3	3.7	-0.6	48.3	9.3	48.3	8.7
CV4	Second Row First Floor Multi-Family Residence - Patio	1	119+60	56.3	56.3	61.6	59.4	Below	Below	0.0	5.3	3.1	-2.2	50.0	11.6	50.0	9.4
CV5	Second Row Second Floor Multi-Family Residence - Balcony	1	119+60	51.8	51.8	56.0	55.4	Below	Below	0.0	4.2	3.6	-0.6	47.8	8.2	47.8	7.6
CV6	Second Row Second Floor Multi-Family Residence - Balcony	1	119+60	54.6	54.6	59.6	57.9	Below	Below	0.0	5.0	3.3	-1.7	49.4	10.2	49.4	8.5
CV7	Second Row First Floor Multi-Family Residence - Patio	1	119+60	50.7	50.6	54.9	54.3	Below	Below	-0.1	4.3	3.7	-0.6	47.5	7.4	47.5	6.8
CV8	Second Row Second Floor Multi-Family Residence - Balcony	1	119+60	53.3	53.3	58.4	56.7	Below	Below	0.0	5.1	3.4	-1.7	49.1	9.3	49.1	7.6
CV9	Second Row First Floor Multi-Family Residence - Patio	1	120+10	51.9	51.9	56.1	56.0	Below	Below	0.0	4.2	4.1	-0.1	54.1	2.0	54.1	1.9
CV10	Second Row Second Floor Multi-Family Residence - Balcony	2	120+10	54.9	54.9	60.5	58.4	Below	Below	0.0	5.6	3.5	-2.1	57.5	3.0	57.5	0.9
CV11-C	Recreational - Pool	1 (Special Land Use)	125+00	54.8	54.8	57.8	58.3	Below	Below	0.0	3.0	3.5	0.5	50.5	7.3	50.5	7.8
CV12	First Row First Floor Multi-Family Residence - Patio	1	126+00	67.0	67.0	68.2	68.7	Exceeds	Exceeds	0.0	1.2	1.7	0.5	58.5	9.7	58.5	10.2
CV13	First Row Second Floor Multi-Family Residence - Balcony	1	126+00	68.3	68.3	71.7	71.8	Exceeds	Exceeds	0.0	3.4	3.5	0.1	60.0	11.7	60.0	11.8
CV14	First Row First Floor Multi-Family Residence - Patio	1	126+30	67.0	67.0	68.1	68.7	Exceeds	Exceeds	0.0	1.1	1.7	0.6	58.5	9.6	58.5	10.2
CV15	First Row Second Floor Multi-Family Residence - Balcony	1	126+30	68.3	68.3	71.6	71.8	Exceeds	Exceeds	0.0	3.3	3.5	0.2	60.0	11.6	60.0	11.8
CV16	First Row First Floor Multi-Family Residence - Patio	1	126+50	67.1	67.1	68.1	68.8	Exceeds	Exceeds	0.0	1.0	1.7	0.7	58.5	9.6	58.5	10.3
CV17	First Row Second Floor Multi-Family Residence - Balcony	1	126+50	68.3	68.3	71.6	71.9	Exceeds	Exceeds	0.0	3.3	3.6	0.3	59.9	11.7	59.9	12.0
CV18	First Row First Floor Multi-Family Residence - Patio	1	126+90	67.1	67.1	68.1	68.7	Exceeds	Exceeds	0.0	1.0	1.6	0.6	58.5	9.6	58.5	10.2
CV19	First Row Second Floor Multi-Family Residence - Balcony	1	126+90	68.3	68.3	71.6	71.9	Exceeds	Exceeds	0.0	3.3	3.6	0.3	59.9	11.7	59.9	12.0
CV20	First Row First Floor Multi-Family Residence - Patio	2	134+10	65.9	65.9	67.5	68.3	Exceeds	Exceeds	0.0	1.6	2.4	0.8	58.3	9.2	58.3	10.0
CV21	First Row Second Floor Multi-Family Residence - Balcony	2	134+10	68.1	68.1	71.5	71.6	Exceeds	Exceeds	0.0	3.4	3.5	0.1	59.9	11.6	59.9	11.7
CV22	First Row First Floor Multi-Family Residence - Patio	2	134+90	65.3	65.2	66.7	67.7	Approaches	Exceeds	-0.1	1.5	2.5	1.0	57.9	8.8	57.9	9.8
CV23	First Row Second Floor Multi-Family Residence - Balcony	2	134+90	67.4	67.4	70.7	70.8	Exceeds	Exceeds	0.0	3.3	3.4	0.1	59.1	11.6	59.1	11.7
CV24-C	Recreational - Bench	1 (Special Land Use)	141+50	65.2	65.2	66.0	66.7	Approaches	Approaches	0.0	0.8	1.5	0.7	57.1	8.9	57.1	9.6
CV25-C	Recreational - Bench	1 (Special Land Use)	141+20	59.0	59.0	62.2	63.0	Below	Below	0.0	3.2	4.0	0.8	53.9	8.3	53.9	9.1
CV26	First Row First Floor Multi-Family Residence - Patio	2	142+90	70.7	70.6	70.0	70.4	Exceeds	Exceeds	-0.1	-0.6	-0.2	0.4	59.0	11.0	59.0	11.4
CV27	First Row Second Floor Multi-Family Residence - Balcony	2	142+90	71.5	71.4	75.8	76.2	Exceeds	Exceeds	-0.1	4.4	4.8	0.4	61.7	14.1	61.7	14.5
CV28	First Row First Floor Multi-Family Residence - Patio	2	143+70	68.3	68.2	68.7	69.0	Exceeds	Exceeds	-0.1	0.5	0.8	0.3	58.8	9.9	58.8	10.2
CV29	First Row Second Floor Multi-Family Residence - Balcony	2	143+70	70.2	70.1	74.4	74.8	Exceeds	Exceeds	-0.1	4.3	4.7	0.4	60.2	14.2	60.2	14.6
CV30	Second Row First Floor Multi-Family Residence - Patio	1	144+00	62.0	62.0	64.7	65.1	Below	Below	0.0	2.7	3.1	0.4	55.8	8.9	55.8	9.3
CV31	Second Row Second Floor Multi-Family Residence - Balcony	1	144+00	64.8	64.8	66.9	67.0	Approaches	Exceeds	0.0	2.1	2.2	0.1	57.5	9.4	57.5	9.5

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 15 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
CV32	Second Row First Floor Multi-Family Residence - Patio	1	133+90	60.0	60.0	63.1	63.6	Below	Below	0.0	3.1	3.6	0.5	54.9	8.2	54.9	8.7
CV33	Second Row Second Floor Multi-Family Residence - Balcony	1	133+90	62.9	62.9	65.3	65.3	Below	Below	0.0	2.4	2.4	0.0	56.7	8.6	56.7	8.6
CV34	Second Row First Floor Multi-Family Residence - Patio	1	133+80	58.8	58.8	62.8	62.5	Below	Below	0.0	4.0	3.7	-0.3	54.1	8.7	54.1	8.4
CV35	Second Row Second Floor Multi-Family Residence - Balcony	1	133+80	61.8	61.7	64.8	64.2	Below	Below	-0.1	3.1	2.5	-0.6	55.8	9.0	55.8	8.4
CV36	Second Row First Floor Multi-Family Residence - Patio	1	133+70	57.9	57.9	61.5	61.9	Below	Below	0.0	3.6	4.0	0.4	53.6	7.9	53.6	8.3
CV37	Second Row Second Floor Multi-Family Residence - Balcony	1	133+70	60.9	60.9	63.6	63.5	Below	Below	0.0	2.7	2.6	-0.1	55.1	8.5	55.1	8.4
CV38	Second Row First Floor Multi-Family Residence - Patio	1	133+00	50.0	50.0	54.3	54.7	Below	Below	0.0	4.3	4.7	0.4	49.0	5.3	49.0	5.7
CV39	Second Row Second Floor Multi-Family Residence - Balcony	1	133+00	51.8	51.8	56.5	56.2	Below	Below	0.0	4.7	4.4	-0.3	50.2	6.3	50.2	6.0
CV40	Second Row First Floor Multi-Family Residence - Patio	1	136+20	51.4	51.4	54.7	55.0	Below	Below	0.0	3.3	3.6	0.3	49.4	5.3	49.4	5.6
CV41	Second Row Second Floor Multi-Family Residence - Balcony	1	136+20	53.2	53.2	56.9	56.7	Below	Below	0.0	3.7	3.5	-0.2	50.7	6.2	50.7	6.0
CV42	Second Row First Floor Multi-Family Residence - Patio	1	140+60	51.7	51.7	56.0	56.3	Below	Below	0.0	4.3	4.6	0.3	50.5	5.5	50.5	5.8
CV43	Second Row Second Floor Multi-Family Residence - Balcony	1	140+60	53.5	53.5	57.7	57.7	Below	Below	0.0	4.2	4.2	0.0	51.6	6.1	51.6	6.1
CV44-C	Recreational - Bench	1 (Special Land Use)	142+00	54.3	54.3	58.2	58.3	Below	Below	0.0	3.9	4.0	0.1	51.7	6.5	51.7	6.6
CV45-C	Recreational -Bench	1 (Special Land Use)	154+20	67.4	67.4	69.0	68.5	Exceeds	Exceeds	0.0	1.6	1.1	-0.5	59.4	9.6	59.4	9.1
CV46-C	Recreational - Bench	1 (Special Land Use)	152+40	51.9	51.9	56.7	56.2	Below	Below	0.0	4.8	4.3	-0.5	51.8	4.9	51.8	4.4
CV47-C	Recreational - Bench	1 (Special Land Use)	157+00	54.6	54.5	59.1	58.3	Below	Below	-0.1	4.6	3.8	-0.8	52.0	7.1	52.0	6.3
CV48	First Row First Floor Multi-Family Residence - Patio	2	164+90	65.4	65.4	72.8	72.0	Exceeds	Exceeds	0.0	7.4	6.6	-0.8	60.7	12.1	60.7	11.3
CV49	First Row Second Floor Multi-Family Residence - Balcony	2	164+90	67.3	67.3	73.7	73.1	Exceeds	Exceeds	0.0	6.4	5.8	-0.6	65.2	8.5	65.2	7.9
CV50	First Row First Floor Multi-Family Residence - Patio	2	164+50	65.1	65.1	71.1	70.5	Exceeds	Exceeds	0.0	6.0	5.4	-0.6	61.4	9.7	61.4	9.1
CV51	First Row Second Floor Multi-Family Residence - Balcony	2	164+50	66.9	66.9	73.3	72.7	Exceeds	Exceeds	0.0	6.4	5.8	-0.6	65.5	7.8	65.5	7.2
CV52	First Row Second Floor Multi-Family Residence - Balcony	2	165+40	66.3	66.3	72.7	71.9	Exceeds	Exceeds	0.0	6.4	5.6	-0.8	65.0	7.7	65.0	6.9
CV53	First Row First Floor Multi-Family Residence - Patio	2	165+40	64.6	64.6	67.7	66.9	Exceeds	Approaches	0.0	3.1	2.3	-0.8	61.8	5.9	61.8	5.1
CV54	First Row Second Floor Multi-Family Residence - Balcony	2	166+00	66.3	66.3	72.5	71.8	Exceeds	Exceeds	0.0	6.2	5.5	-0.7	64.5	8.0	64.5	7.3
CV55	First Row First Floor Multi-Family Residence - Patio	2	166+00	64.7	64.7	67.3	66.6	Exceeds	Approaches	0.0	2.6	1.9	-0.7	61.4	5.9	61.4	5.2
CV56	Second Row First Floor Multi-Family Residence - Patio	1	165+90	61.2	61.3	65.7	64.6	Below	Below	0.1	4.4	3.3	-1.1	61.1	4.6	61.1	3.5
CV57	Second Row Second Floor Multi-Family Residence - Balcony	1	165+90	63.3	63.3	70.2	69.4	Exceeds	Exceeds	0.0	6.9	6.1	-0.8	63.7	6.5	63.7	5.7
CV58	Second Row First Floor Multi-Family Residence - Patio	1	165+90	59.0	59.0	64.2	62.8	Below	Below	0.0	5.2	3.8	-1.4	59.6	4.6	59.6	3.2
CV59	Second Row Second Floor Multi-Family Residence - Balcony	1	165+90	61.2	61.2	68.4	67.4	Exceeds	Exceeds	0.0	7.2	6.2	-1.0	62.7	5.7	62.7	4.7
CV60	Second Row First Floor Multi-Family Residence - Patio	1	165+90	57.3	57.2	63.0	61.6	Below	Below	-0.1	5.8	4.4	-1.4	58.7	4.3	58.7	2.9
CV61	Second Row Second Floor Multi-Family Residence - Balcony	1	165+90	59.5	59.5	67.0	65.7	Exceeds	Below	0.0	7.5	6.2	-1.3	61.9	5.1	61.9	3.8
CV62	Second Row First Floor Multi-Family Residence - Patio	1	165+90	56.1	56.0	62.2	60.7	Below	Below	-0.1	6.2	4.7	-1.5	58.2	4.0	58.2	2.5
CV63	Second Row Second Floor Multi-Family Residence - Balcony	1	165+90	58.3	58.3	65.8	64.4	Below	Below	0.0	7.5	6.1	-1.4	61.0	4.8	61.0	3.4
CV64	First Row First Floor Multi-Family Residence - Patio	2	168+50	64.6	64.6	67.1	66.6	Exceeds	Approaches	0.0	2.5	2.0	-0.5	60.4	6.7	60.4	6.2
CV65	First Row Second Floor Multi-Family Residence - Balcony	2	169+30	66.2	66.2	69.5	68.5	Exceeds	Exceeds	0.0	3.3	2.3	-1.0	63.5	6.0	63.5	5.0
CV66	First Row First Floor Multi-Family Residence - Patio	2	169+30	64.4	64.5	66.8	66.4	Approaches	Approaches	0.1	2.3	1.9	-0.4	59.5	7.3	59.5	6.9

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 16 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
CV67	First Row Second Floor Multi-Family Residence - Balcony	2	169+30	66.1	66.2	68.7	67.8	Exceeds	Exceeds	0.1	2.5	1.6	-0.9	62.5	6.2	62.5	5.3
CV68	First Row First Floor Multi-Family Residence - Patio	1	169+80	61.0	61.1	64.2	63.6	Below	Below	0.1	3.1	2.5	-0.6	57.4	6.8	57.4	6.2
CV69	First Row Second Floor Multi-Family Residence - Balcony	1	169+80	63.0	63.2	65.5	64.5	Below	Below	0.2	2.3	1.3	-1.0	60.1	5.4	60.1	4.4
CV70	First Row First Floor Multi-Family Residence - Patio	1	169+80	58.6	58.7	62.0	61.4	Below	Below	0.1	3.3	2.7	-0.6	55.5	6.5	55.5	5.9
CV71	First Row Second Floor Multi-Family Residence - Balcony	1	169+80	60.6	60.9	63.4	62.4	Below	Below	0.3	2.5	1.5	-1.0	58.4	5.0	58.4	4.0
CV72	Second Row First Floor Multi-Family Residence - Patio	1	169+80	56.9	57.2	60.5	60.0	Below	Below	0.3	3.3	2.8	-0.5	55.0	5.5	55.0	5.0
CV73	Second Row Second Floor Multi-Family Residence - Balcony	1	169+80	59.0	59.3	62.0	61.2	Below	Below	0.3	2.7	1.9	-0.8	57.5	4.5	57.5	3.7
CV74	Second Row First Floor Multi-Family Residence - Patio	1	169+80	55.7	56.0	59.6	59.1	Below	Below	0.3	3.6	3.1	-0.5	54.4	5.2	54.4	4.7
CV75	Second Row Second Floor Multi-Family Residence - Balcony	1	169+80	57.8	58.2	61.3	60.8	Below	Below	0.4	3.1	2.6	-0.5	57.1	4.2	57.1	3.7
CV76	First Row First Floor Multi-Family Residence - Patio	1	170+40	65.8	65.8	66.1	66.0	Approaches	Approaches	0.0	0.3	0.2	-0.1	59.0	7.1	59.0	7.0
CV77	First Row Second Floor Multi-Family Residence - Balcony	1	170+40	67.1	67.2	68.4	68.2	Exceeds	Exceeds	0.1	1.2	1.0	-0.2	60.3	8.1	60.3	7.9
CV78	First Row First Floor Multi-Family Residence - Patio	1	170+80	62.7	62.6	64.5	64.2	Below	Below	-0.1	1.9	1.6	-0.3	57.1	7.4	57.1	7.1
CV79	First Row Second Floor Multi-Family Residence - Balcony	1	170+80	64.4	64.3	66.8	65.9	Approaches	Below	-0.1	2.5	1.6	-0.9	59.5	7.3	59.5	6.4
CV80	First Row First Floor Multi-Family Residence - Patio	1	170+80	61.1	61.0	64.1	63.6	Below	Below	-0.1	3.1	2.6	-0.5	57.0	7.1	57.0	6.6
CV81	First Row Second Floor Multi-Family Residence - Balcony	1	170+80	63.0	63.0	65.8	64.8	Below	Below	0.0	2.8	1.8	-1.0	59.9	5.9	59.9	4.9
CV82	Second Row First Multi-Family Residence - Patio	1	170+80	59.7	59.6	63.2	62.7	Below	Below	-0.1	3.6	3.1	-0.5	56.9	6.3	56.9	5.8
CV83	Second Row Second Floor Multi-Family Residence - Balcony	1	170+80	61.9	61.8	64.9	63.7	Below	Below	-0.1	3.1	1.9	-1.2	59.5	5.4	59.5	4.2
CV84	Second Row First Floor Multi-Family Residence - Patio	1	170+80	58.5	58.4	62.4	61.6	Below	Below	-0.1	4.0	3.2	-0.8	56.4	6.0	56.4	5.2
CV85	Second Row Second Floor Multi-Family Residence - Balcony	1	170+80	60.8	60.7	63.8	62.7	Below	Below	-0.1	3.1	2.0	-1.1	58.9	4.9	58.9	3.8
CV86	First Row First Floor Multi-Family Residence - Patio	2	172+20	68.6	68.8	61.3	61.3	Below	Below	0.2	-7.5	-7.5	0.0	58.7	2.6	58.7	2.6
CV87	First Row Second Floor Multi-Family Residence - Balcony	2	172+20	69.6	69.9	63.9	63.5	Below	Below	0.3	-6.0	-6.4	-0.4	59.5	4.4	59.5	4.0
CV88	First Row First Floor Multi-Family Residence - Patio	2	173+10	69.6	70.0	64.3	64.4	Below	Below	0.4	-5.7	-5.6	0.1	63.4	0.9	63.4	1.0
CV89	First Row Second Floor Multi-Family Residence - Balcony	2	173+10	70.4	70.9	65.5	65.7	Below	Below	0.5	-5.4	-5.2	0.2	63.9	1.6	63.9	1.8
CV90	Second Row First Floor Multi-Family Residence - Patio	1	174+80	69.2	70.0	68.4	68.6	Exceeds	Exceeds	0.8	-1.6	-1.4	0.2	67.8	0.6	67.8	0.8
CV91	Second Row Second Floor Multi-Family Residence - Balcony	1	174+80	69.7	70.5	69.2	69.5	Exceeds	Exceeds	0.8	-1.3	-1.0	0.3	67.9	1.3	67.9	1.6
CV92	Second Row First Floor Multi-Family Residence - Patio	1	174+80	68.1	68.9	68.1	67.8	Exceeds	Exceeds	0.8	-0.8	-1.1	-0.3	67.6	0.5	67.6	0.2
CV93	Second Row Second Floor Multi-Family Residence - Balcony	1	174+80	68.6	69.4	68.8	68.8	Exceeds	Exceeds	0.8	-0.6	-0.6	0.0	67.8	1.0	67.8	1.0
CV94	Second Row First Floor Multi-Family Residence - Patio	1	174+80	67.2	68.0	67.6	67.4	Exceeds	Exceeds	0.8	-0.4	-0.6	-0.2	66.8	0.8	66.8	0.6
CV95	Second Row Second Floor Multi-Family Residence - Balcony	1	174+80	67.9	68.7	68.4	68.4	Exceeds	Exceeds	0.8	-0.3	-0.3	0.0	67.3	1.1	67.3	1.1
CV96	Second Row First Floor Multi-Family Residence - Patio	1	174+80	66.5	67.2	66.9	66.8	Approaches	Approaches	0.7	-0.3	-0.4	-0.1	66.1	0.8	66.1	0.7
CV97	Second Row Second Floor Multi-Family Residence - Balcony	1	174+80	67.4	68.2	68.0	68.1	Exceeds	Exceeds	0.8	-0.2	-0.1	0.1	66.9	1.1	66.9	1.2
CV98	Second Row First Floor Multi-Family Residence - Patio	1	173+50	60.9	61.5	62.5	62.3	Below	Below	0.6	1.0	0.8	-0.2	60.8	1.7	60.8	1.5
CV99	Second Row Second Floor Multi-Family Residence - Balcony	1	173+50	62.4	63.0	64.0	63.9	Below	Below	0.6	1.0	0.9	-0.1	62.4	1.6	62.4	1.5
CV100	Second Row First Floor Multi-Family Residence - Patio	1	173+70	62.1	62.8	63.6	63.4	Below	Below	0.7	0.8	0.6	-0.2	62.0	1.6	62.0	1.4
CV101	Second Row Second Floor Multi-Family Residence - Balcony	1	173+70	63.4	64.1	64.8	64.8	Below	Below	0.7	0.7	0.7	0.0	63.3	1.5	63.3	1.5

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 18 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
North of SW 10 th Street between Powerline Road and South Military Trail - Century Village [Residential NAC B Exterior - 66 dB(A)] / [Recreational NAC C Exterior - 66 dB(A)] Common Noise Environment E5N (see Figure 3.3.1 Sheets 5, 6, and 7)																	
Alternative Conceptual Noise Barrier Design Recommendations for Common Noise Environment E5S (Currently Not Feasible to be Further Evaluated in the Final Design Phase)														22-Foot and 14-Foot Tall Ground Mounted Noise Barrier Segments and 8-Foot Tall Shoulder Mounted Noise Barrier - Conceptual Design E5N-CD7 WR		22-Foot and 14-Foot Tall Ground Mounted Noise Barrier Segments and 8-Foot Tall Shoulder Mounted Noise Barrier - Conceptual Design E5N-CD7 WOR	
CV1	Second Row First Floor Multi-Family Residence - Patio	1	119+60	55.7	55.6	59.9	59.5	Below	Below	-0.1	4.3	3.9	-0.4	52.2	7.7	49.5	10.0
CV2	Second Row Second Floor Multi-Family Residence - Balcony	1	119+60	58.8	58.7	64.1	61.9	Below	Below	-0.1	5.4	3.2	-2.2	52.4	11.7	51.1	10.8
CV3	Second Row First Floor Multi-Family Residence - Patio	1	119+60	53.4	53.3	57.6	57.0	Below	Below	-0.1	4.3	3.7	-0.6	48.3	9.3	48.4	8.6
CV4	Second Row First Floor Multi-Family Residence - Patio	1	119+60	56.3	56.3	61.6	59.4	Below	Below	0.0	5.3	3.1	-2.2	50.0	11.6	50.0	9.4
CV5	Second Row Second Floor Multi-Family Residence - Balcony	1	119+60	51.8	51.8	56.0	55.4	Below	Below	0.0	4.2	3.6	-0.6	47.8	8.2	48.1	7.3
CV6	Second Row Second Floor Multi-Family Residence - Balcony	1	119+60	54.6	54.6	59.6	57.9	Below	Below	0.0	5.0	3.3	-1.7	49.4	10.2	49.5	8.4
CV7	Second Row First Floor Multi-Family Residence - Patio	1	119+60	50.7	50.6	54.9	54.3	Below	Below	-0.1	4.3	3.7	-0.6	47.5	7.4	47.8	6.5
CV8	Second Row Second Floor Multi-Family Residence - Balcony	1	119+60	53.3	53.3	58.4	56.7	Below	Below	0.0	5.1	3.4	-1.7	49.1	9.3	49.3	7.4
CV9	Second Row First Floor Multi-Family Residence - Patio	1	120+10	51.9	51.9	56.1	56.0	Below	Below	0.0	4.2	4.1	-0.1	54.1	2.0	53.6	2.4
CV10	Second Row Second Floor Multi-Family Residence - Balcony	2	120+10	54.9	54.9	60.5	58.4	Below	Below	0.0	5.6	3.5	-2.1	57.5	3.0	55.5	2.9
CV11-C	Recreational - Pool	1 (Special Land Use)	125+00	54.8	54.8	57.8	58.3	Below	Below	0.0	3.0	3.5	0.5	50.5	7.3	50.8	7.5
CV12	First Row First Floor Multi-Family Residence - Patio	1	126+00	67.0	67.0	68.2	68.7	Exceeds	Exceeds	0.0	1.2	1.7	0.5	58.5	9.7	58.9	9.8
CV13	First Row Second Floor Multi-Family Residence - Balcony	1	126+00	68.3	68.3	71.7	71.8	Exceeds	Exceeds	0.0	3.4	3.5	0.1	60.0	11.7	60.3	11.5
CV14	First Row First Floor Multi-Family Residence - Patio	1	126+30	67.0	67.0	68.1	68.7	Exceeds	Exceeds	0.0	1.1	1.7	0.6	58.5	9.6	58.9	9.8
CV15	First Row Second Floor Multi-Family Residence - Balcony	1	126+30	68.3	68.3	71.6	71.8	Exceeds	Exceeds	0.0	3.3	3.5	0.2	60.0	11.6	60.2	11.6
CV16	First Row First Floor Multi-Family Residence - Patio	1	126+50	67.1	67.1	68.1	68.8	Exceeds	Exceeds	0.0	1.0	1.7	0.7	58.5	9.6	58.9	9.9
CV17	First Row Second Floor Multi-Family Residence - Balcony	1	126+50	68.3	68.3	71.6	71.9	Exceeds	Exceeds	0.0	3.3	3.6	0.3	59.9	11.7	60.2	11.7
CV18	First Row First Floor Multi-Family Residence - Patio	1	126+90	67.1	67.1	68.1	68.7	Exceeds	Exceeds	0.0	1.0	1.6	0.6	58.5	9.6	58.9	9.8
CV19	First Row Second Floor Multi-Family Residence - Balcony	1	126+90	68.3	68.3	71.6	71.9	Exceeds	Exceeds	0.0	3.3	3.6	0.3	59.9	11.7	60.1	11.8
CV20	First Row First Floor Multi-Family Residence - Patio	2	134+10	65.9	65.9	67.5	68.3	Exceeds	Exceeds	0.0	1.6	2.4	0.8	58.3	9.2	58.8	9.5
CV21	First Row Second Floor Multi-Family Residence - Balcony	2	134+10	68.1	68.1	71.5	71.6	Exceeds	Exceeds	0.0	3.4	3.5	0.1	59.9	11.6	60.1	11.5
CV22	First Row First Floor Multi-Family Residence - Patio	2	134+90	65.3	65.2	66.7	67.7	Approaches	Exceeds	-0.1	1.5	2.5	1.0	57.9	8.8	58.4	9.3
CV23	First Row Second Floor Multi-Family Residence - Balcony	2	134+90	67.4	67.4	70.7	70.8	Exceeds	Exceeds	0.0	3.3	3.4	0.1	59.1	11.6	59.3	11.5
CV24-C	Recreational - Bench	1 (Special Land Use)	141+50	65.2	65.2	66.0	66.7	Approaches	Approaches	0.0	0.8	1.5	0.7	57.1	8.9	57.7	9.0
CV25-C	Recreational - Bench	1 (Special Land Use)	141+20	59.0	59.0	62.2	63.0	Below	Below	0.0	3.2	4.0	0.8	53.9	8.3	54.2	8.8
CV26	First Row First Floor Multi-Family Residence - Patio	2	142+90	70.7	70.6	70.0	70.4	Exceeds	Exceeds	-0.1	-0.6	-0.2	0.4	59.0	11.0	59.7	10.7
CV27	First Row Second Floor Multi-Family Residence - Balcony	2	142+90	71.5	71.4	75.8	76.2	Exceeds	Exceeds	-0.1	4.4	4.8	0.4	61.7	14.1	62.2	14.0
CV28	First Row First Floor Multi-Family Residence - Patio	2	143+70	68.3	68.2	68.7	69.0	Exceeds	Exceeds	-0.1	0.5	0.8	0.3	58.8	9.9	59.5	9.5
CV29	First Row Second Floor Multi-Family Residence - Balcony	2	143+70	70.2	70.1	74.4	74.8	Exceeds	Exceeds	-0.1	4.3	4.7	0.4	60.2	14.2	60.6	14.2
CV30	Second Row First Floor Multi-Family Residence - Patio	1	144+00	62.0	62.0	64.7	65.1	Below	Below	0.0	2.7	3.1	0.4	55.8	8.9	56.1	9.0

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 19 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
CV31	Second Row Second Floor Multi-Family Residence - Balcony	1	144+00	64.8	64.8	66.9	67.0	Approaches	Exceeds	0.0	2.1	2.2	0.1	57.5	9.4	57.6	9.4
CV32	Second Row First Floor Multi-Family Residence - Patio	1	133+90	60.0	60.0	63.1	63.6	Below	Below	0.0	3.1	3.6	0.5	54.9	8.2	55.0	8.6
CV33	Second Row Second Floor Multi-Family Residence - Balcony	1	133+90	62.9	62.9	65.3	65.3	Below	Below	0.0	2.4	2.4	0.0	56.7	8.6	56.6	8.7
CV34	Second Row First Floor Multi-Family Residence - Patio	1	133+80	58.8	58.8	62.8	62.5	Below	Below	0.0	4.0	3.7	-0.3	54.1	8.7	54.2	8.3
CV35	Second Row Second Floor Multi-Family Residence - Balcony	1	133+80	61.8	61.7	64.8	64.2	Below	Below	-0.1	3.1	2.5	-0.6	55.8	9.0	55.7	8.5
CV36	Second Row First Floor Multi-Family Residence - Patio	1	133+70	57.9	57.9	61.5	61.9	Below	Below	0.0	3.6	4.0	0.4	53.6	7.9	53.7	8.2
CV37	Second Row Second Floor Multi-Family Residence - Balcony	1	133+70	60.9	60.9	63.6	63.5	Below	Below	0.0	2.7	2.6	-0.1	55.1	8.5	55.0	8.5
CV38	Second Row First Floor Multi-Family Residence - Patio	1	133+00	50.0	50.0	54.3	54.7	Below	Below	0.0	4.3	4.7	0.4	49.0	5.3	49.1	5.6
CV39	Second Row Second Floor Multi-Family Residence - Balcony	1	133+00	51.8	51.8	56.5	56.2	Below	Below	0.0	4.7	4.4	-0.3	50.2	6.3	49.8	6.4
CV40	Second Row First Floor Multi-Family Residence - Patio	1	136+20	51.4	51.4	54.7	55.0	Below	Below	0.0	3.3	3.6	0.3	49.4	5.3	49.6	5.4
CV41	Second Row Second Floor Multi-Family Residence - Balcony	1	136+20	53.2	53.2	56.9	56.7	Below	Below	0.0	3.7	3.5	-0.2	50.7	6.2	50.4	6.3
CV42	Second Row First Floor Multi-Family Residence - Patio	1	140+60	51.7	51.7	56.0	56.3	Below	Below	0.0	4.3	4.6	0.3	50.5	5.5	50.5	5.8
CV43	Second Row Second Floor Multi-Family Residence - Balcony	1	140+60	53.5	53.5	57.7	57.7	Below	Below	0.0	4.2	4.2	0.0	51.6	6.1	51.3	6.4
CV44-C	Recreational - Bench	1 (Special Land Use)	142+00	54.3	54.3	58.2	58.3	Below	Below	0.0	3.9	4.0	0.1	51.7	6.5	51.6	6.7
CV45-C	Recreational -Bench	1 (Special Land Use)	154+20	67.4	67.4	69.0	68.5	Exceeds	Exceeds	0.0	1.6	1.1	-0.5	59.4	9.6	59.0	9.5
CV46-C	Recreational - Bench	1 (Special Land Use)	152+40	51.9	51.9	56.7	56.2	Below	Below	0.0	4.8	4.3	-0.5	51.8	4.9	51.5	4.7
CV47-C	Recreational - Bench	1 (Special Land Use)	157+00	54.6	54.5	59.1	58.3	Below	Below	-0.1	4.6	3.8	-0.8	52.0	7.1	51.8	6.5
CV48	First Row First Floor Multi-Family Residence - Patio	2	164+90	65.4	65.4	72.8	72.0	Exceeds	Exceeds	0.0	7.4	6.6	-0.8	60.7	12.1	59.9	12.1
CV49	First Row Second Floor Multi-Family Residence - Balcony	2	164+90	67.3	67.3	73.7	73.1	Exceeds	Exceeds	0.0	6.4	5.8	-0.6	65.2	8.5	63.7	9.4
CV50	First Row First Floor Multi-Family Residence - Patio	2	164+50	65.1	65.1	71.1	70.5	Exceeds	Exceeds	0.0	6.0	5.4	-0.6	61.4	9.7	60.5	10.0
CV51	First Row Second Floor Multi-Family Residence - Balcony	2	164+50	66.9	66.9	73.3	72.7	Exceeds	Exceeds	0.0	6.4	5.8	-0.6	65.5	7.8	64.2	8.5
CV52	First Row Second Floor Multi-Family Residence - Balcony	2	165+40	66.3	66.3	72.7	71.9	Exceeds	Exceeds	0.0	6.4	5.6	-0.8	65.0	7.7	63.5	8.4
CV53	First Row First Floor Multi-Family Residence - Patio	2	165+40	64.6	64.6	67.7	66.9	Exceeds	Approaches	0.0	3.1	2.3	-0.8	61.8	5.9	61.1	5.8
CV54	First Row Second Floor Multi-Family Residence - Balcony	2	166+00	66.3	66.3	72.5	71.8	Exceeds	Exceeds	0.0	6.2	5.5	-0.7	64.5	8.0	63.2	8.6
CV55	First Row First Floor Multi-Family Residence - Patio	2	166+00	64.7	64.7	67.3	66.6	Exceeds	Approaches	0.0	2.6	1.9	-0.7	61.4	5.9	60.8	5.8
CV56	Second Row First Floor Multi-Family Residence - Patio	1	165+90	61.2	61.3	65.7	64.6	Below	Below	0.1	4.4	3.3	-1.1	61.1	4.6	59.7	4.9
CV57	Second Row Second Floor Multi-Family Residence - Balcony	1	165+90	63.3	63.3	70.2	69.4	Exceeds	Exceeds	0.0	6.9	6.1	-0.8	63.7	6.5	61.9	7.5
CV58	Second Row First Floor Multi-Family Residence - Patio	1	165+90	59.0	59.0	64.2	62.8	Below	Below	0.0	5.2	3.8	-1.4	59.6	4.6	57.8	5.0
CV59	Second Row Second Floor Multi-Family Residence - Balcony	1	165+90	61.2	61.2	68.4	67.4	Exceeds	Exceeds	0.0	7.2	6.2	-1.0	62.7	5.7	60.1	7.3
CV60	Second Row First Floor Multi-Family Residence - Patio	1	165+90	57.3	57.2	63.0	61.6	Below	Below	-0.1	5.8	4.4	-1.4	58.7	4.3	56.6	5.0
CV61	Second Row Second Floor Multi-Family Residence - Balcony	1	165+90	59.5	59.5	67.0	65.7	Exceeds	Below	0.0	7.5	6.2	-1.3	61.9	5.1	58.8	6.9
CV62	Second Row First Floor Multi-Family Residence - Patio	1	165+90	56.1	56.0	62.2	60.7	Below	Below	-0.1	6.2	4.7	-1.5	58.2	4.0	55.7	5.0
CV63	Second Row Second Floor Multi-Family Residence - Balcony	1	165+90	58.3	58.3	65.8	64.4	Below	Below	0.0	7.5	6.1	-1.4	61.0	4.8	57.8	6.6
CV64	First Row First Floor Multi-Family Residence - Patio	2	168+50	64.6	64.6	67.1	66.6	Exceeds	Approaches	0.0	2.5	2.0	-0.5	60.4	6.7	59.6	7.0
CV65	First Row Second Floor Multi-Family Residence - Balcony	2	169+30	66.2	66.2	69.5	68.5	Exceeds	Exceeds	0.0	3.3	2.3	-1.0	63.5	6.0	62.6	5.9

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 20 of 21)

Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
CV66	First Row First Floor Multi-Family Residence - Patio	2	169+30	64.4	64.5	66.8	66.4	Approaches	Approaches	0.1	2.3	1.9	-0.4	59.5	7.3	58.9	7.5
CV67	First Row Second Floor Multi-Family Residence - Balcony	2	169+30	66.1	66.2	68.7	67.8	Exceeds	Exceeds	0.1	2.5	1.6	-0.9	62.5	6.2	61.5	6.3
CV68	First Row First Floor Multi-Family Residence - Patio	1	169+80	61.0	61.1	64.2	63.6	Below	Below	0.1	3.1	2.5	-0.6	57.4	6.8	56.9	6.7
CV69	First Row Second Floor Multi-Family Residence - Balcony	1	169+80	63.0	63.2	65.5	64.5	Below	Below	0.2	2.3	1.3	-1.0	60.1	5.4	59.4	5.1
CV70	First Row First Floor Multi-Family Residence - Patio	1	169+80	58.6	58.7	62.0	61.4	Below	Below	0.1	3.3	2.7	-0.6	55.5	6.5	55.0	6.4
CV71	First Row Second Floor Multi-Family Residence - Balcony	1	169+80	60.6	60.9	63.4	62.4	Below	Below	0.3	2.5	1.5	-1.0	58.4	5.0	57.6	4.8
CV72	Second Row First Floor Multi-Family Residence - Patio	1	169+80	56.9	57.2	60.5	60.0	Below	Below	0.3	3.3	2.8	-0.5	55.0	5.5	54.3	5.7
CV73	Second Row Second Floor Multi-Family Residence - Balcony	1	169+80	59.0	59.3	62.0	61.2	Below	Below	0.3	2.7	1.9	-0.8	57.5	4.5	56.7	4.5
CV74	Second Row First Floor Multi-Family Residence - Patio	1	169+80	55.7	56.0	59.6	59.1	Below	Below	0.3	3.6	3.1	-0.5	54.4	5.2	53.9	5.2
CV75	Second Row Second Floor Multi-Family Residence - Balcony	1	169+80	57.8	58.2	61.3	60.8	Below	Below	0.4	3.1	2.6	-0.5	57.1	4.2	56.5	4.3
CV76	First Row First Floor Multi-Family Residence - Patio	1	170+40	65.8	65.8	66.1	66.0	Approaches	Approaches	0.0	0.3	0.2	-0.1	59.0	7.1	58.5	7.5
CV77	First Row Second Floor Multi-Family Residence - Balcony	1	170+40	67.1	67.2	68.4	68.2	Exceeds	Exceeds	0.1	1.2	1.0	-0.2	60.3	8.1	59.6	8.6
CV78	First Row First Floor Multi-Family Residence - Patio	1	170+80	62.7	62.6	64.5	64.2	Below	Below	-0.1	1.9	1.6	-0.3	57.1	7.4	56.5	7.7
CV79	First Row Second Floor Multi-Family Residence - Balcony	1	170+80	64.4	64.3	66.8	65.9	Approaches	Below	-0.1	2.5	1.6	-0.9	59.5	7.3	58.7	7.2
CV80	First Row First Floor Multi-Family Residence - Patio	1	170+80	61.1	61.0	64.1	63.6	Below	Below	-0.1	3.1	2.6	-0.5	57.0	7.1	56.2	7.4
CV81	First Row Second Floor Multi-Family Residence - Balcony	1	170+80	63.0	63.0	65.8	64.8	Below	Below	0.0	2.8	1.8	-1.0	59.9	5.9	58.9	5.9
CV82	Second Row First Multi-Family Residence - Patio	1	170+80	59.7	59.6	63.2	62.7	Below	Below	-0.1	3.6	3.1	-0.5	56.9	6.3	56.2	6.5
CV83	Second Row Second Floor Multi-Family Residence - Balcony	1	170+80	61.9	61.8	64.9	63.7	Below	Below	-0.1	3.1	1.9	-1.2	59.5	5.4	58.5	5.2
CV84	Second Row First Floor Multi-Family Residence - Patio	1	170+80	58.5	58.4	62.4	61.6	Below	Below	-0.1	4.0	3.2	-0.8	56.4	6.0	55.8	5.8
CV85	Second Row Second Floor Multi-Family Residence - Balcony	1	170+80	60.8	60.7	63.8	62.7	Below	Below	-0.1	3.1	2.0	-1.1	58.9	4.9	58.1	4.6
CV86	First Row First Floor Multi-Family Residence - Patio	2	172+20	68.6	68.8	61.3	61.3	Below	Below	0.2	-7.5	-7.5	0.0	57.8	3.5	57.5	3.8
CV87	First Row Second Floor Multi-Family Residence - Balcony	2	172+20	69.6	69.9	63.9	63.5	Below	Below	0.3	-6.0	-6.4	-0.4	58.4	5.5	58.2	5.3
CV88	First Row First Floor Multi-Family Residence - Patio	2	173+10	69.6	70.0	64.3	64.4	Below	Below	0.4	-5.7	-5.6	0.1	58.0	6.3	57.9	6.5
CV89	First Row Second Floor Multi-Family Residence - Balcony	2	173+10	70.4	70.9	65.5	65.7	Below	Below	0.5	-5.4	-5.2	0.2	59.1	6.4	59.2	6.5
CV90	Second Row First Floor Multi-Family Residence - Patio	1	174+80	69.2	70.0	68.4	68.6	Exceeds	Exceeds	0.8	-1.6	-1.4	0.2	57.4	11.0	57.9	10.7
CV91	Second Row Second Floor Multi-Family Residence - Balcony	1	174+80	69.7	70.5	69.2	69.5	Exceeds	Exceeds	0.8	-1.3	-1.0	0.3	61.5	7.7	62.3	7.2
CV92	Second Row First Floor Multi-Family Residence - Patio	1	174+80	68.1	68.9	68.1	67.8	Exceeds	Exceeds	0.8	-0.8	-1.1	-0.3	59.6	8.5	57.4	10.4
CV93	Second Row Second Floor Multi-Family Residence - Balcony	1	174+80	68.6	69.4	68.8	68.8	Exceeds	Exceeds	0.8	-0.6	-0.6	0.0	61.7	7.1	61.0	7.8
CV94	Second Row First Floor Multi-Family Residence - Patio	1	174+80	67.2	68.0	67.6	67.4	Exceeds	Exceeds	0.8	-0.4	-0.6	-0.2	58.9	8.7	57.4	10.0
CV95	Second Row Second Floor Multi-Family Residence - Balcony	1	174+80	67.9	68.7	68.4	68.4	Exceeds	Exceeds	0.8	-0.3	-0.3	0.0	60.8	7.6	60.3	8.1
CV96	Second Row First Floor Multi-Family Residence - Patio	1	174+80	66.5	67.2	66.9	66.8	Approaches	Approaches	0.7	-0.3	-0.4	-0.1	58.7	8.2	57.3	9.5
CV97	Second Row Second Floor Multi-Family Residence - Balcony	1	174+80	67.4	68.2	68.0	68.1	Exceeds	Exceeds	0.8	-0.2	-0.1	0.1	60.7	7.3	60.2	7.9
CV98	Second Row First Floor Multi-Family Residence - Patio	1	173+50	60.9	61.5	62.5	62.3	Below	Below	0.6	1.0	0.8	-0.2	56.5	6.0	56.0	6.3
CV99	Second Row Second Floor Multi-Family Residence - Balcony	1	173+50	62.4	63.0	64.0	63.9	Below	Below	0.6	1.0	0.9	-0.1	58.2	5.8	57.9	6.0
CV100	Second Row First Floor Multi-Family Residence - Patio	1	173+70	62.1	62.8	63.6	63.4	Below	Below	0.7	0.8	0.6	-0.2	57.2	6.4	57.0	6.4

Table 3.2-1: Location and Description of Representative Noise Sensitive Receptor Sites and Noise Analysis Results (Sheet 21 of 21)

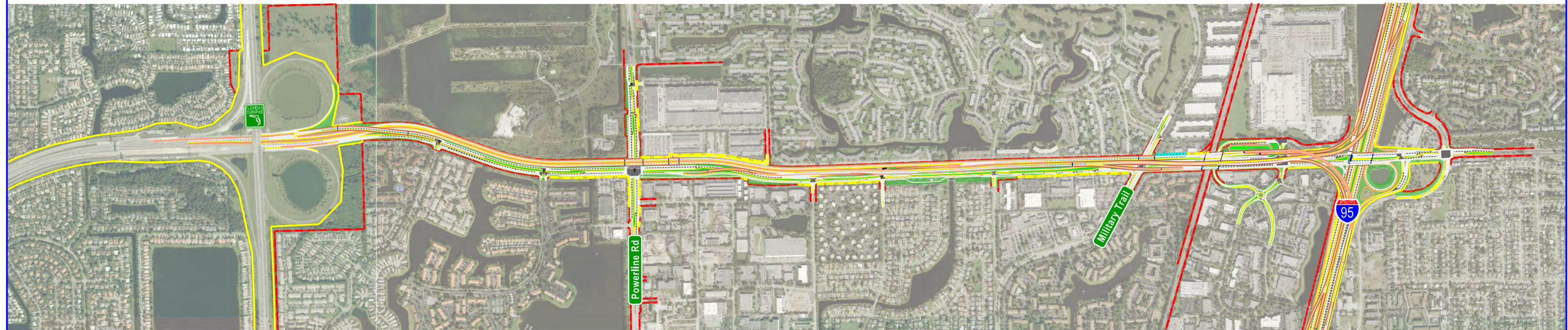
Representative Noise Receptor Site Designation	Number of Noise Sensitive Sites Represented (Description)	Number of Noise Sensitive Sites Represented	Station Number	TNM Predicted Noise Levels (dBA)				Noise Abatement Criteria Status With Powerline Road Ramps Build Alternative	Noise Abatement Criteria Status Without Powerline Road Ramps Build Alternative	Difference Between Existing Conditions and No-Build Alternative dB(A)	Difference Between No-Build and With Powerline Road Ramps Build Alternative dB(A)	Difference Between No-Build and Without Powerline Road Ramps Build Alternative dB(A)	Difference Between Build Alternatives With and Without Powerline Road Ramps	With Powerline Road Ramps Build Alternative		Without Powerline Road Ramps Build Alternative	
				Existing Conditions	Design Year (2040)									Description of Recommended Conceptual Noise Barrier Design		Description of Recommended Conceptual Noise Barrier Design	
					No-Build Alternative	With Powerline Road Ramps Build Alternative	Without Powerline Road Ramps Build Alternative							Predicted Design Year(2040) Noise Levels dB(A) With Recommended Conceptual Noise Barrier Design	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)	With Recommended Conceptual Noise Barrier Design [Design Year 2040 Noise Levels dB(A)]	Noise Reduction With Recommended Conceptual Noise Barrier Design dB(A)
CV101	Second Row Second Floor Multi-Family Residence - Balcony	1	173+70	63.4	64.1	64.8	64.8	Below	Below	0.7	0.7	0.7	0.0	58.9	5.9	58.7	6.1
CV102	Second Row First Floor Multi-Family Residence - Patio	1	173+90	63.3	64.0	64.6	64.6	Below	Below	0.7	0.6	0.6	0.0	57.5	7.1	57.4	7.2
CV103	Second Row Second Floor Multi-Family Residence - Balcony	1	173+90	64.5	65.2	65.8	65.8	Below	Below	0.7	0.6	0.6	0.0	59.2	6.6	59.2	6.6
CV104	Second Row First Floor Multi-Family Residence - Patio	1	174+20	65.3	66.2	66.7	66.5	Approaches	Approaches	0.9	0.5	0.3	-0.2	59.0	7.7	58.5	8.0
CV105	Second Row Second Floor Multi-Family Residence - Balcony	1	174+20	66.4	67.3	67.7	67.7	Exceeds	Exceeds	0.9	0.4	0.4	0.0	60.7	7.0	60.4	7.3
Minimum				50.0	50.0	54.3	54.3	---	---	-0.1	-7.5	-7.5	0.0	47.5	2.0	47.8	2.4
Maximum				71.5	71.4	75.8	76.2	---	---	0.9	7.5	6.6	0.4	65.5	14.2	64.2	14.2
Average				62.2	62.3	65.0	64.7	---	---	0.1	2.7	2.4	-0.3	57.5	7.6	57.0	7.7
Total Number of Residential / Recreational Sites Equal to or Greater than 66.0 dB(A)				50 / 1	51 / 1	65 / 2	63 / 2	---	---	---	---	---	---	---	---	---	---

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APPENDIX D

**Preliminary Design Concept Plans - Build Alternatives With and Without
Powerline Road Ramps (Source: Preliminary Engineering Report)**

APPENDIX C - TIER 3 ALTERNATIVES



**SR 869 / SW 10th Street Connector PD&E Study from
Florida's Turnpike / Sawgrass Expressway to west of I-95
Financial Project ID: 439891-1-22-02, ETDM No: 14291**

Financial Project ID: 439891-1-22-02
ETDM No: 14291

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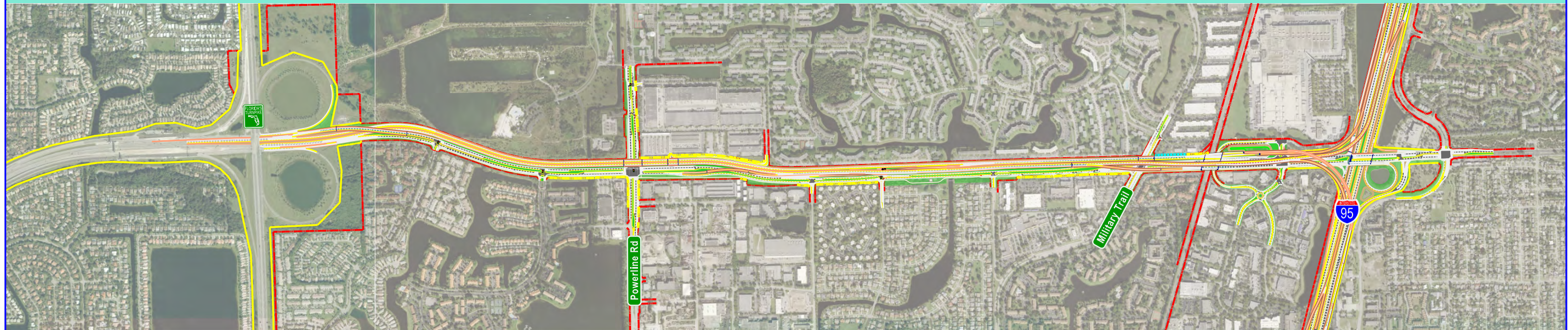


SR 869 / SW 10th Street Connector PD&E Study from
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Financial Project ID: 439891-1-22-02, ETDM No: 14291

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WITH POWERLINE ROAD RAMPS ALTERNATIVE



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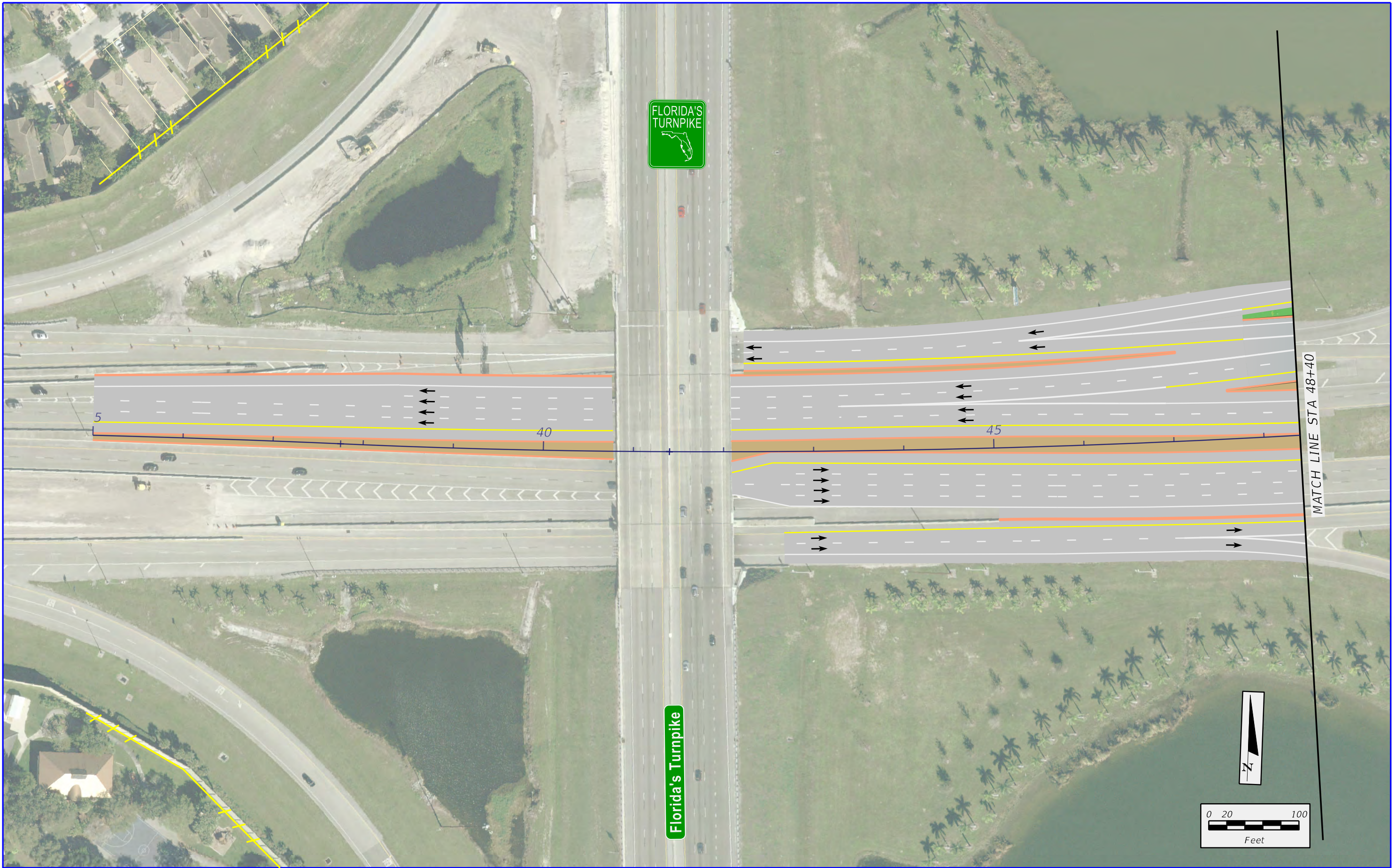


SR 869 / SW 10th Street Connector PD&E Study from
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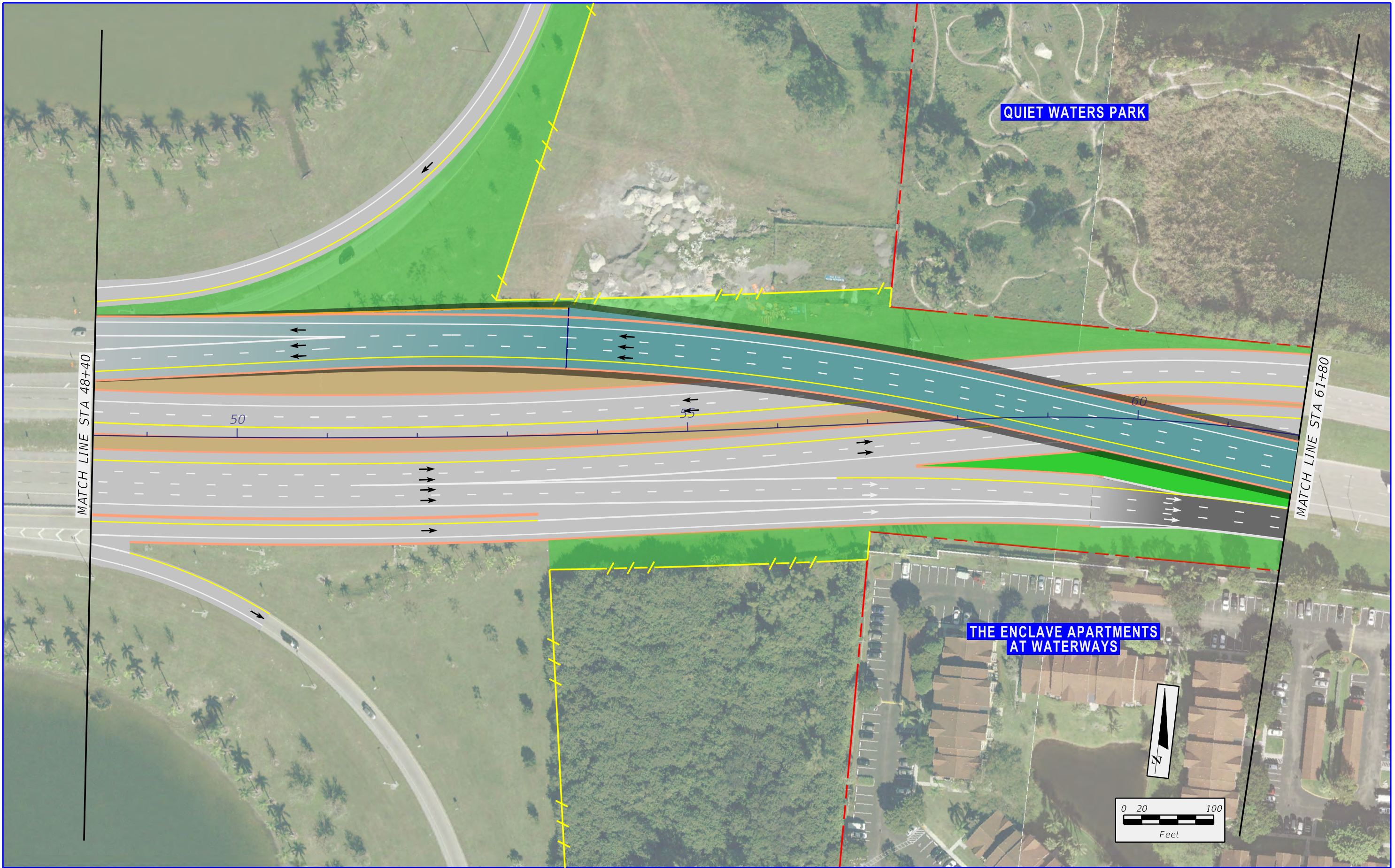
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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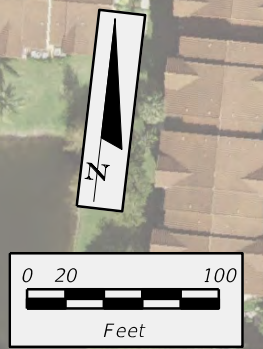


SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

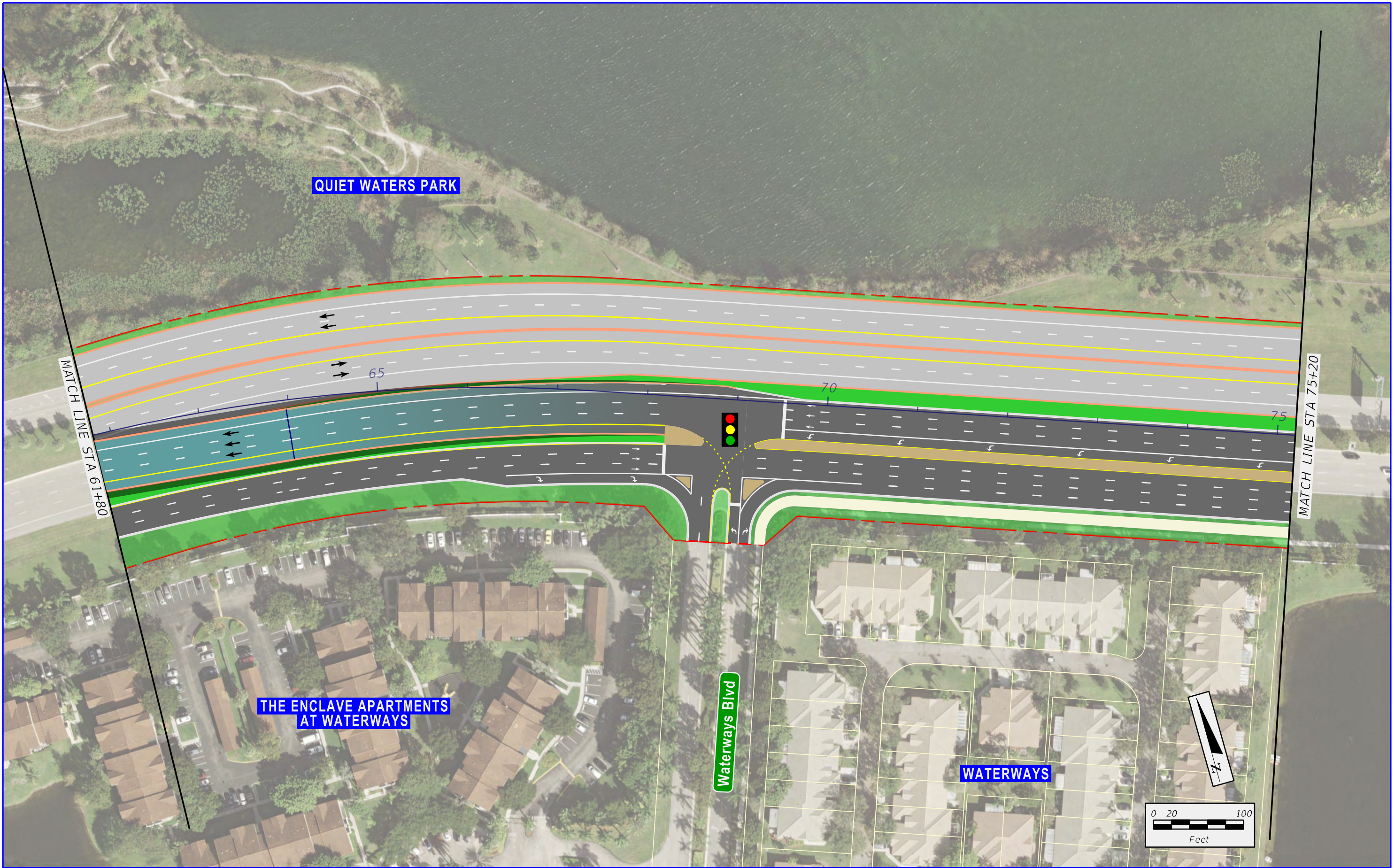
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
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	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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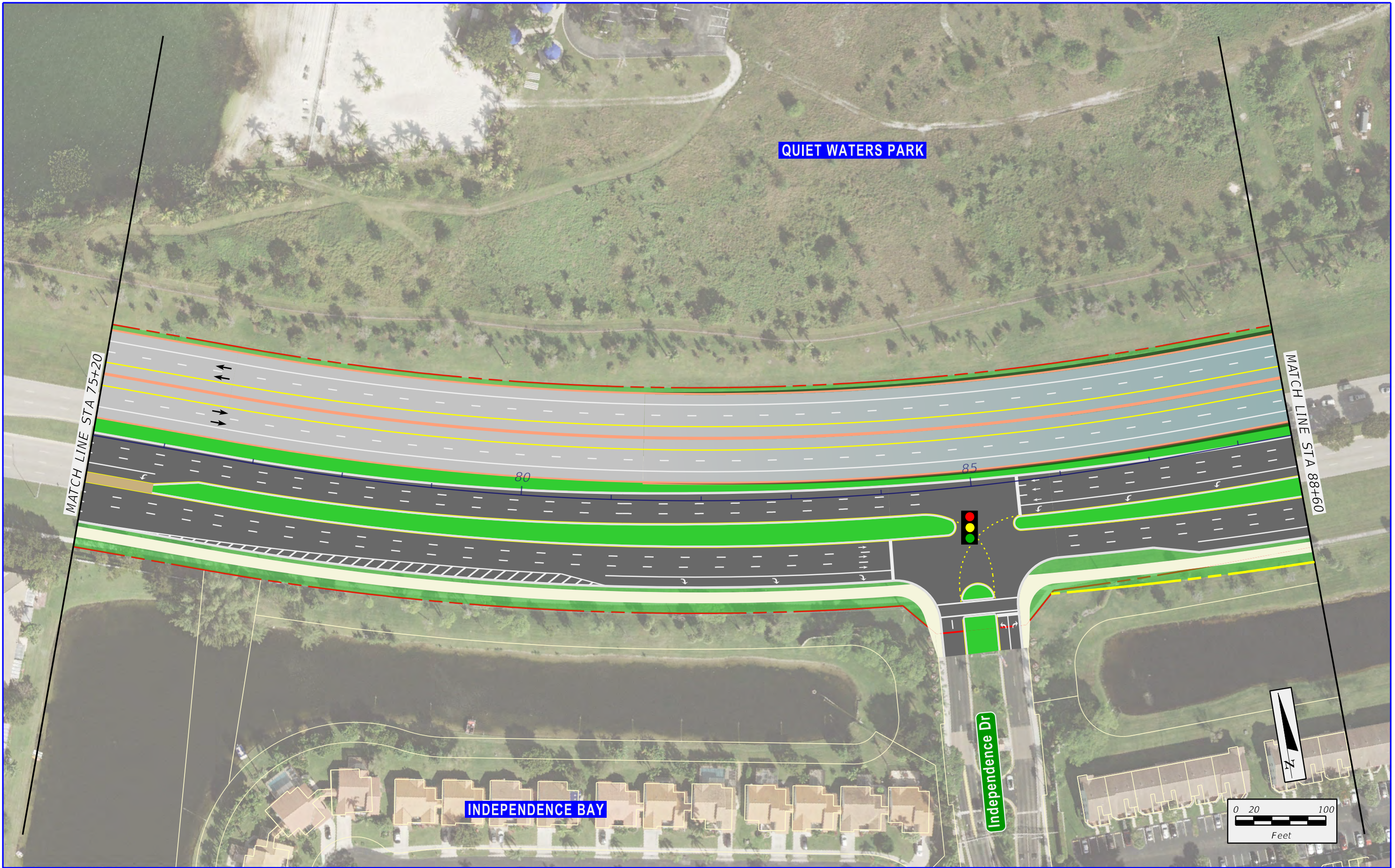
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
	PROPOSED 4TH LEVEL BRIDGE		TEMPORARY EASEMENT
	PROPOSED SIDEWALK		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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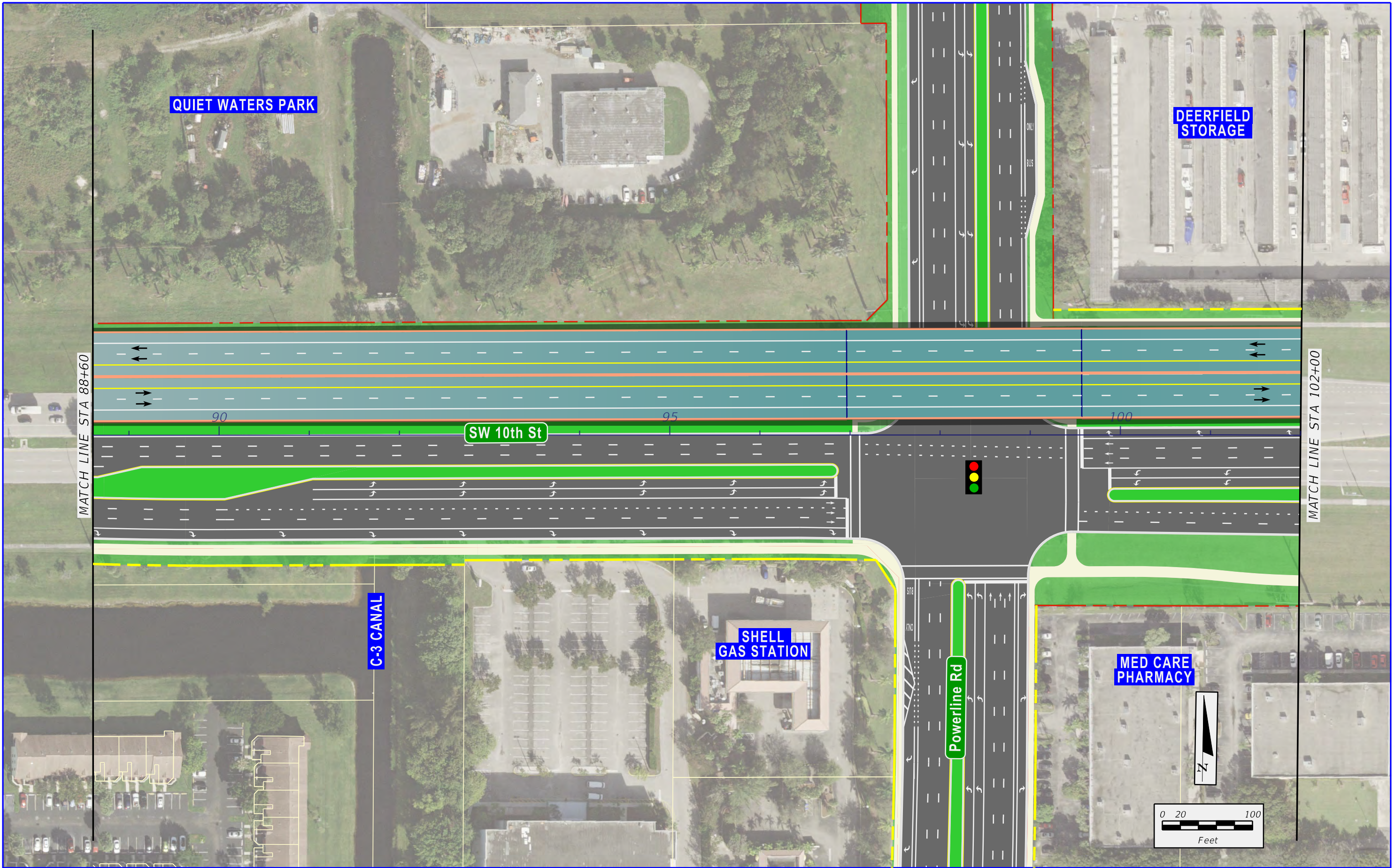
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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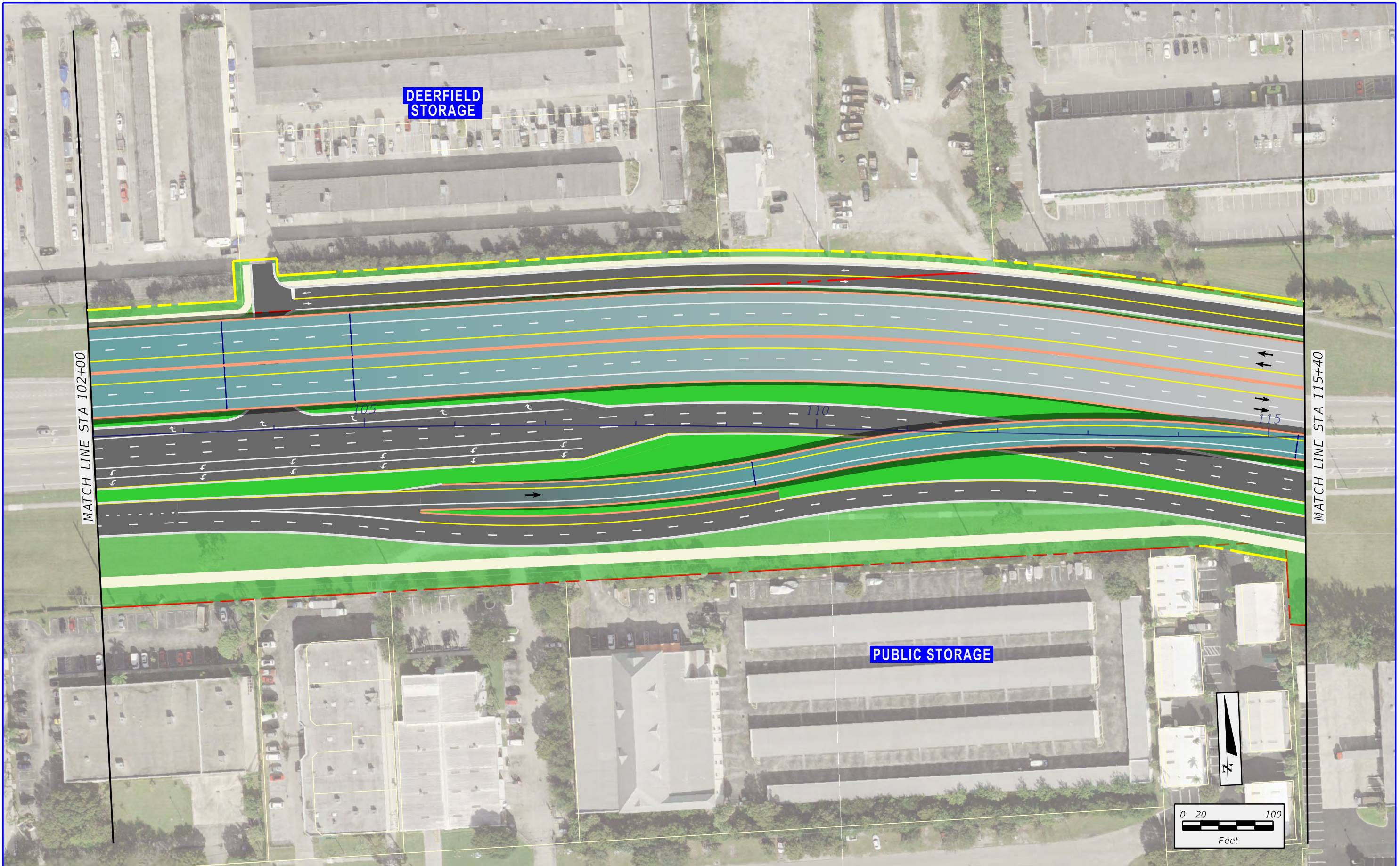
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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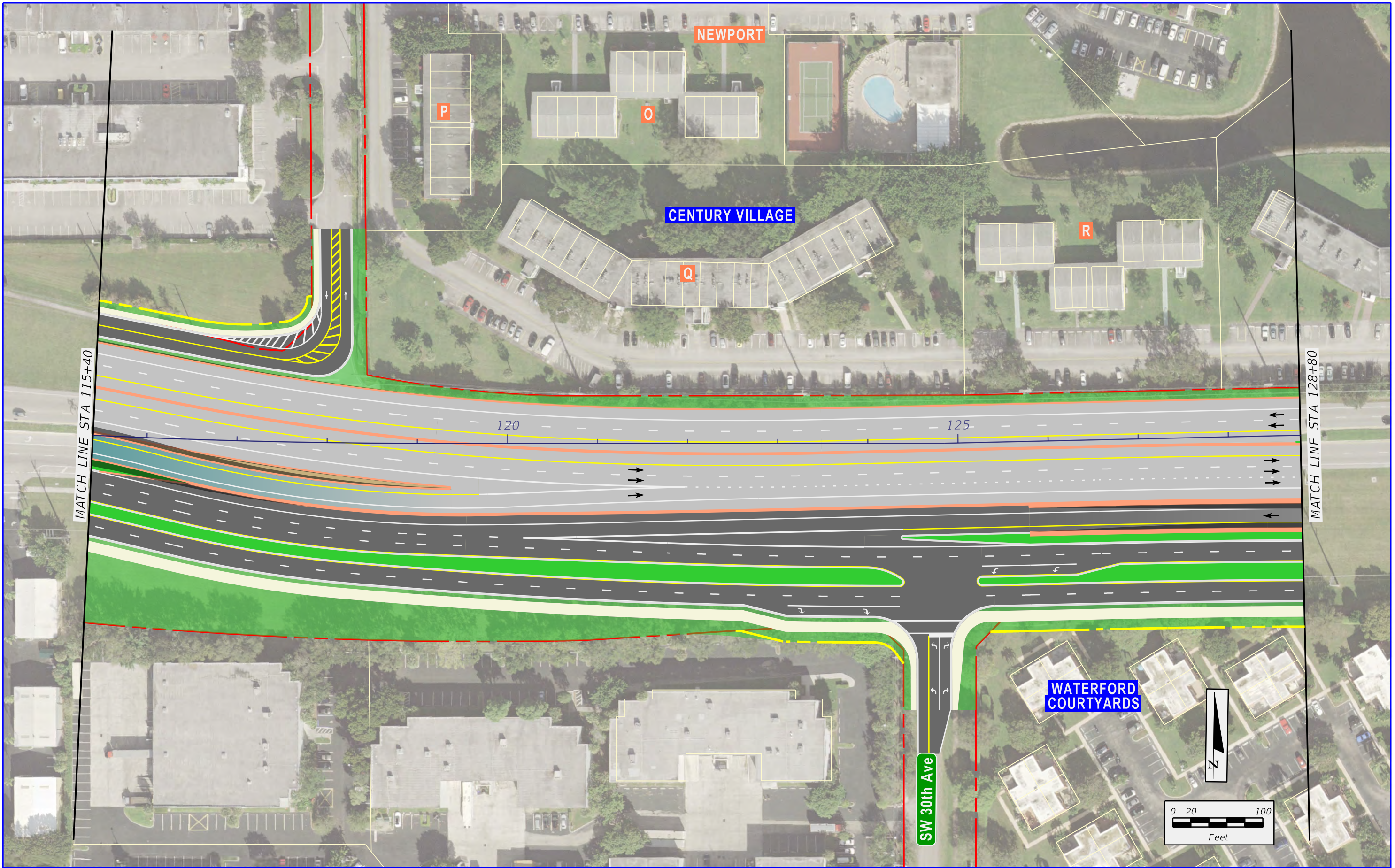
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			PROPOSED 4TH LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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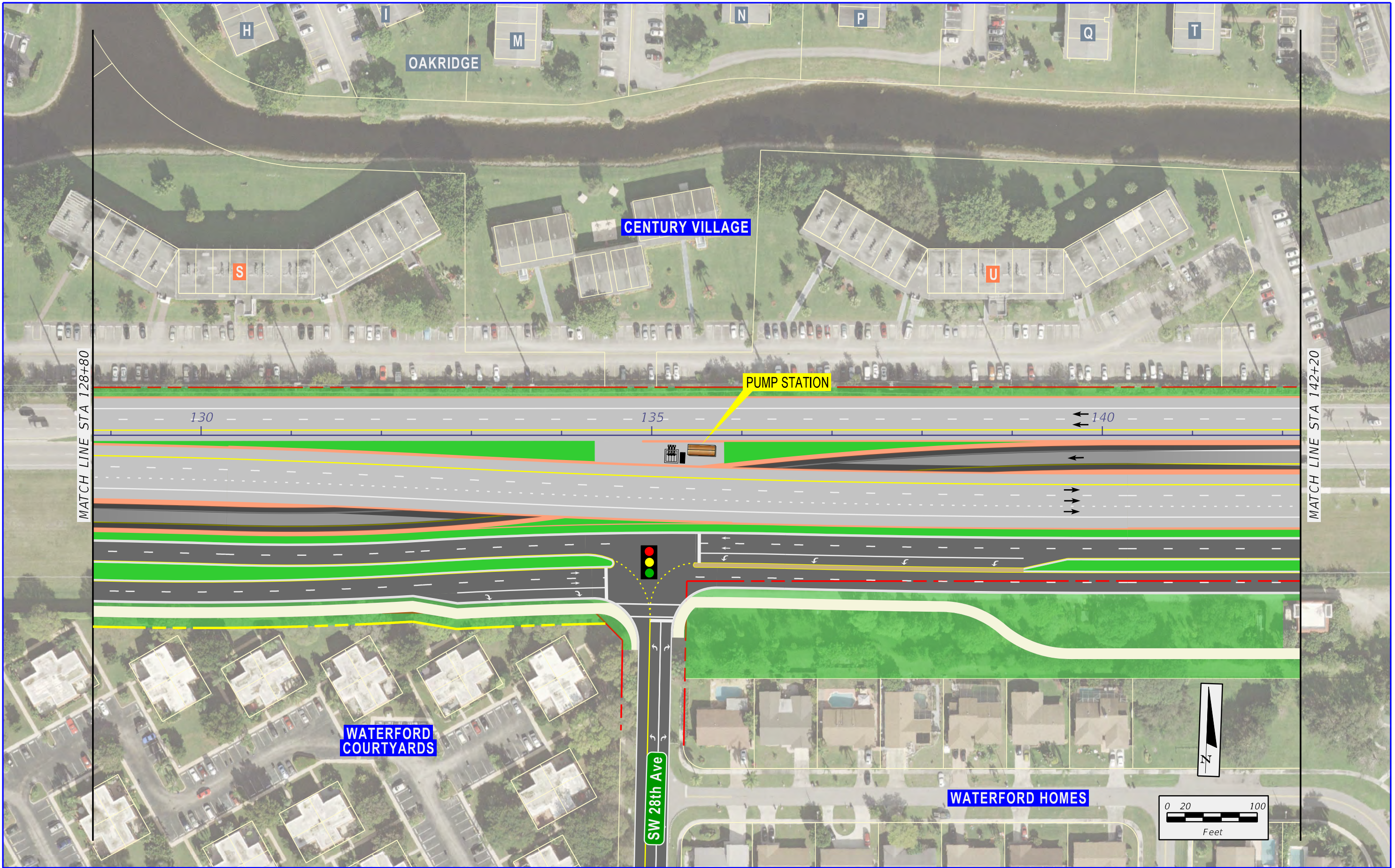
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 Financial Project ID: 439891-1-22-02, ETDM No: 14291

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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
	TEMPORARY EASEMENT		PROPOSED SIDEWALK
	PROPOSED TRAFFIC SIGNAL		

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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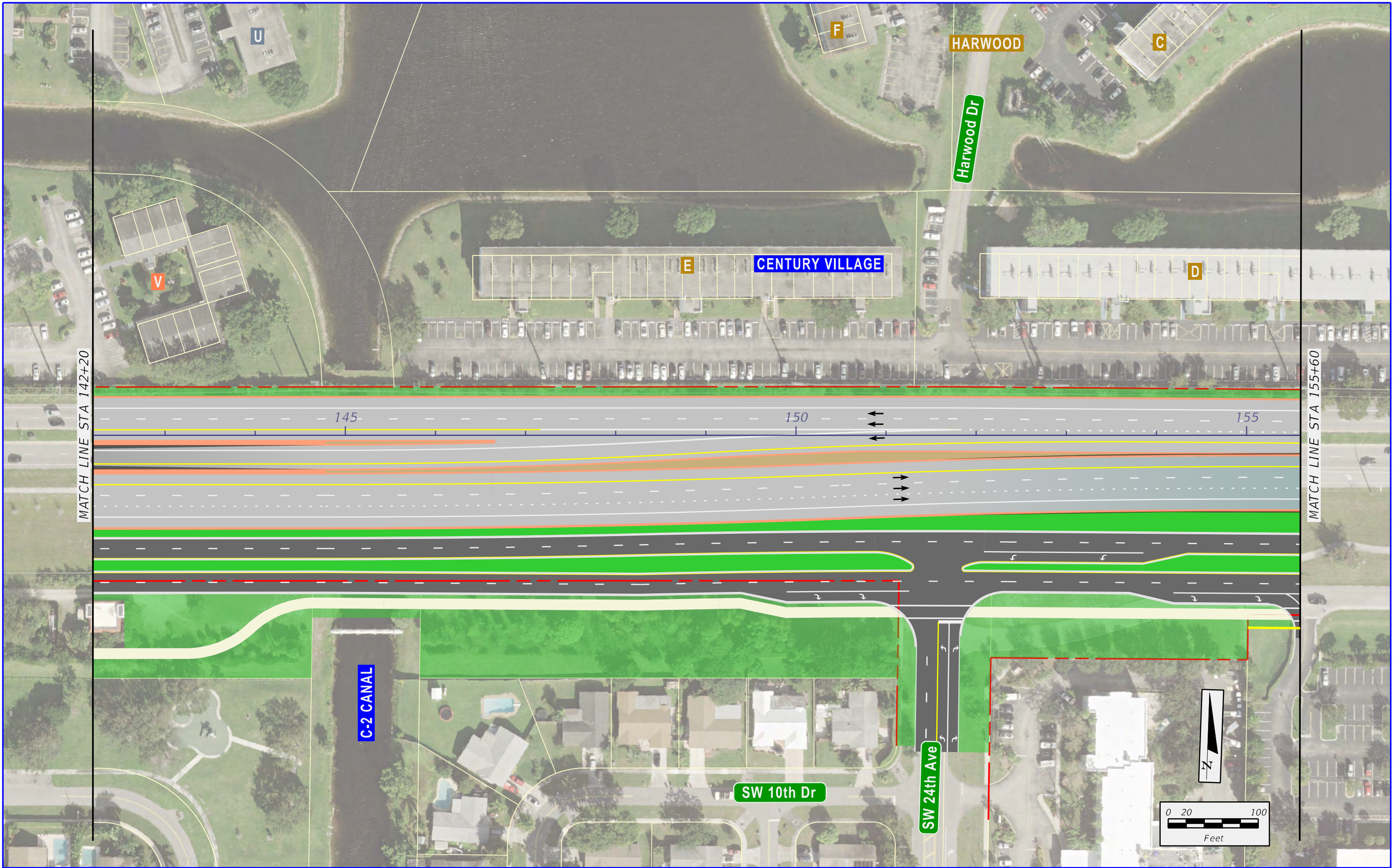
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
	PROPOSED MANAGED LANES		TEMPORARY EASEMENT
	PROPOSED LOCAL SW 10TH ST		PROPOSED SIDEWALK
	PROPOSED 2ND LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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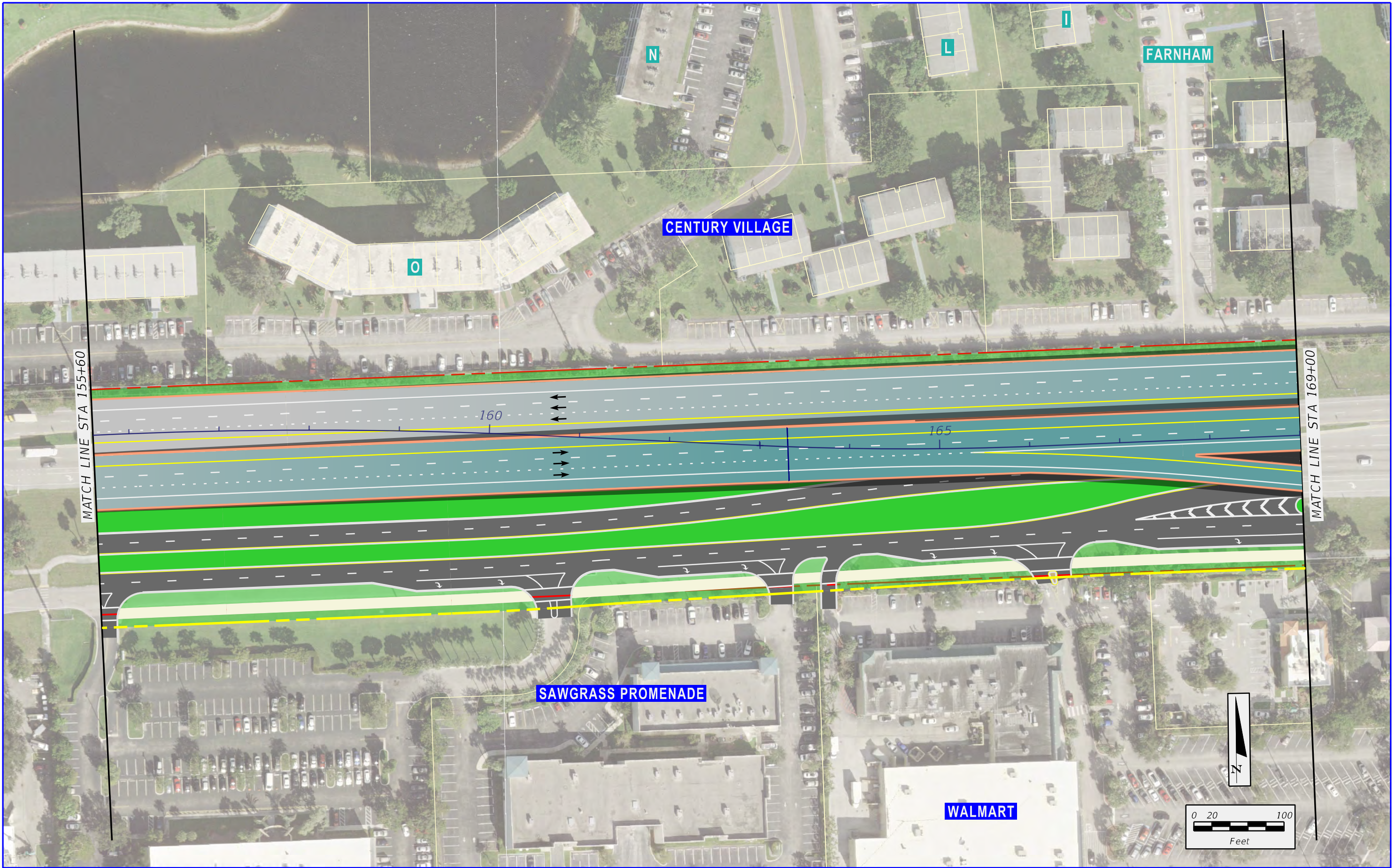
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 Financial Project ID: 439891-1-22-02, ETDM No: 14291

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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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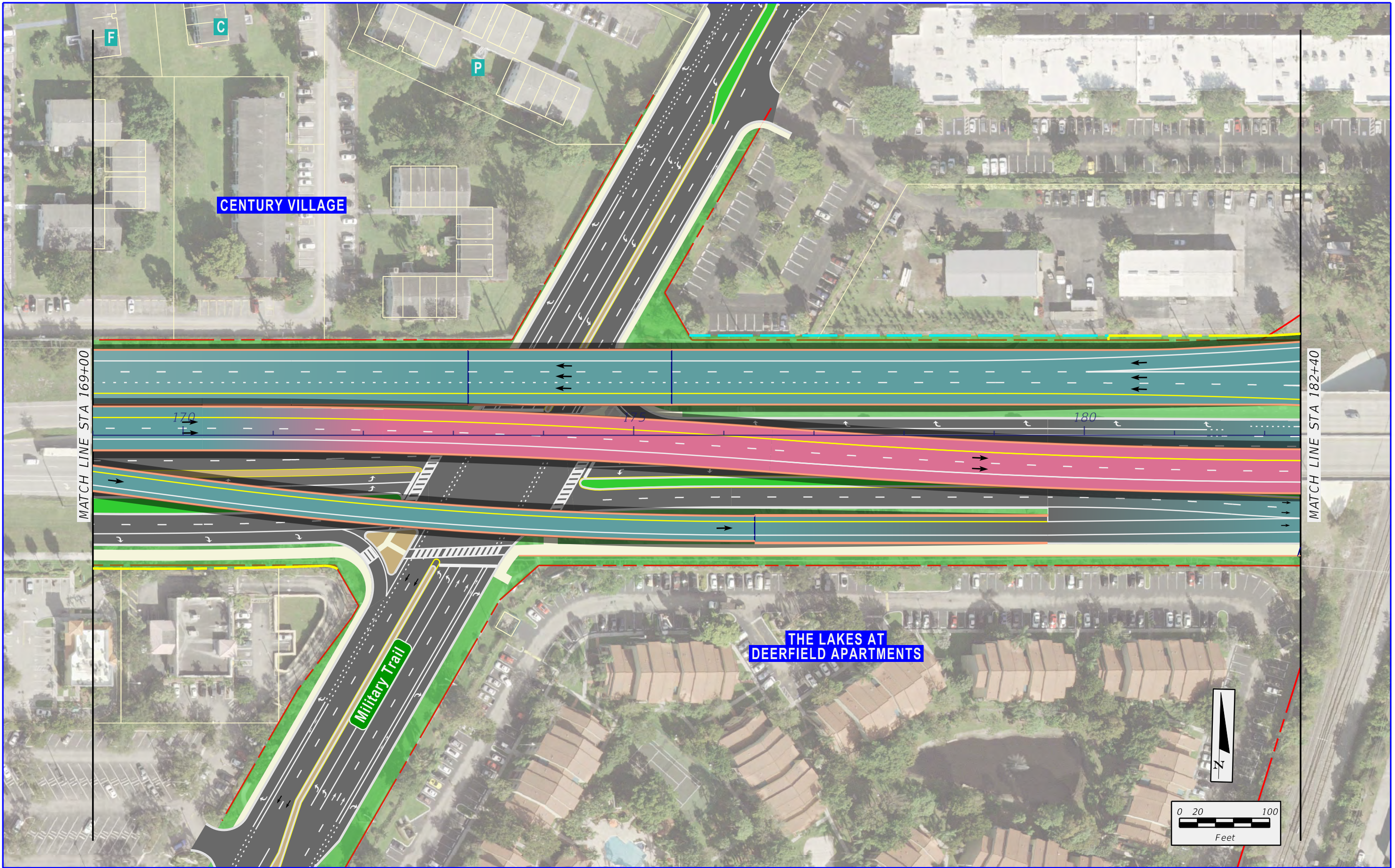
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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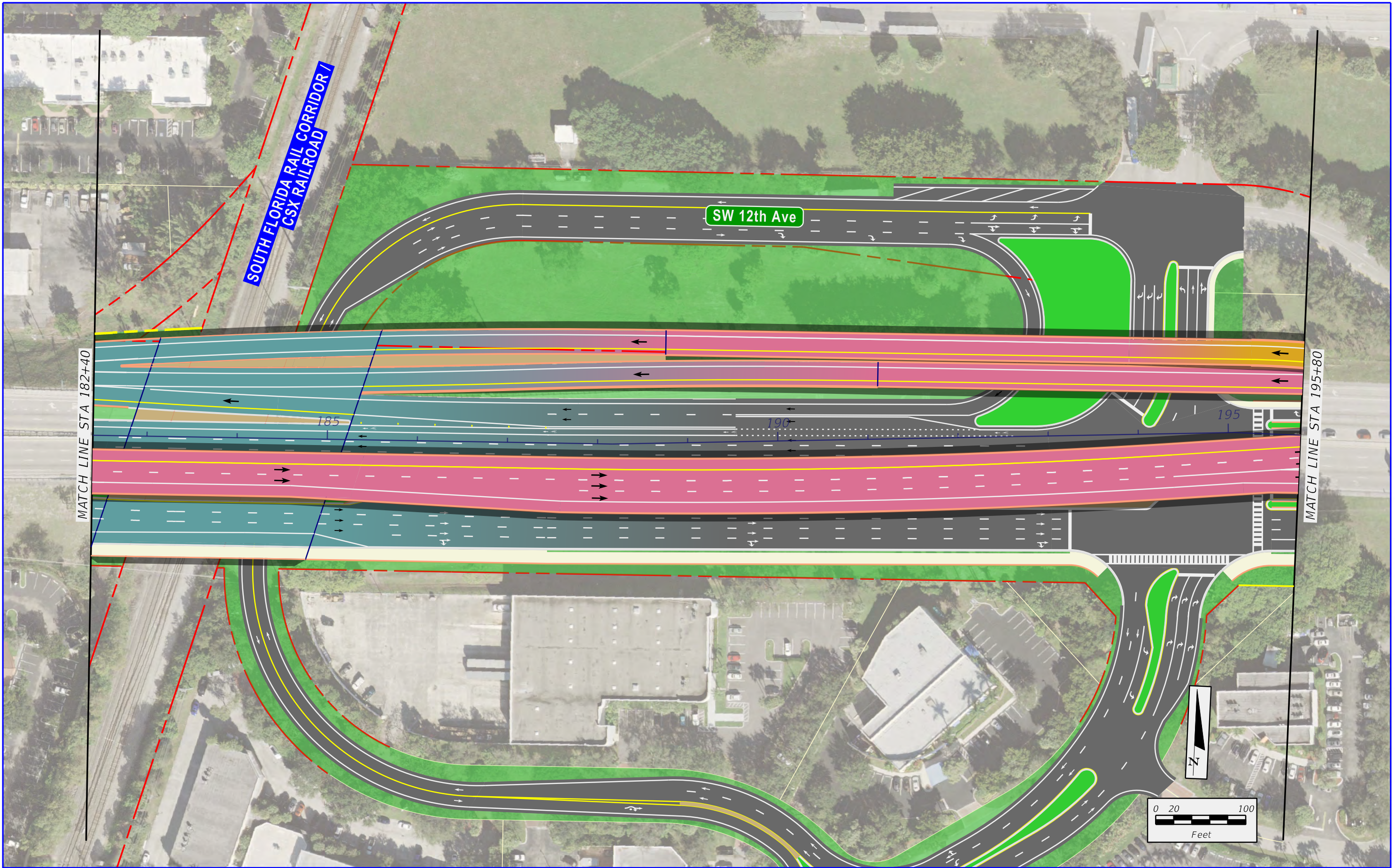
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 Financial Project ID: 439891-1-22-02, ETDM No: 14291

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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST		TEMPORARY EASEMENT
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE		PROPOSED SIDEWALK
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

**APPENDIX C
 WITH POWERLINE ROAD
 RAMPS ALTERNATIVE**

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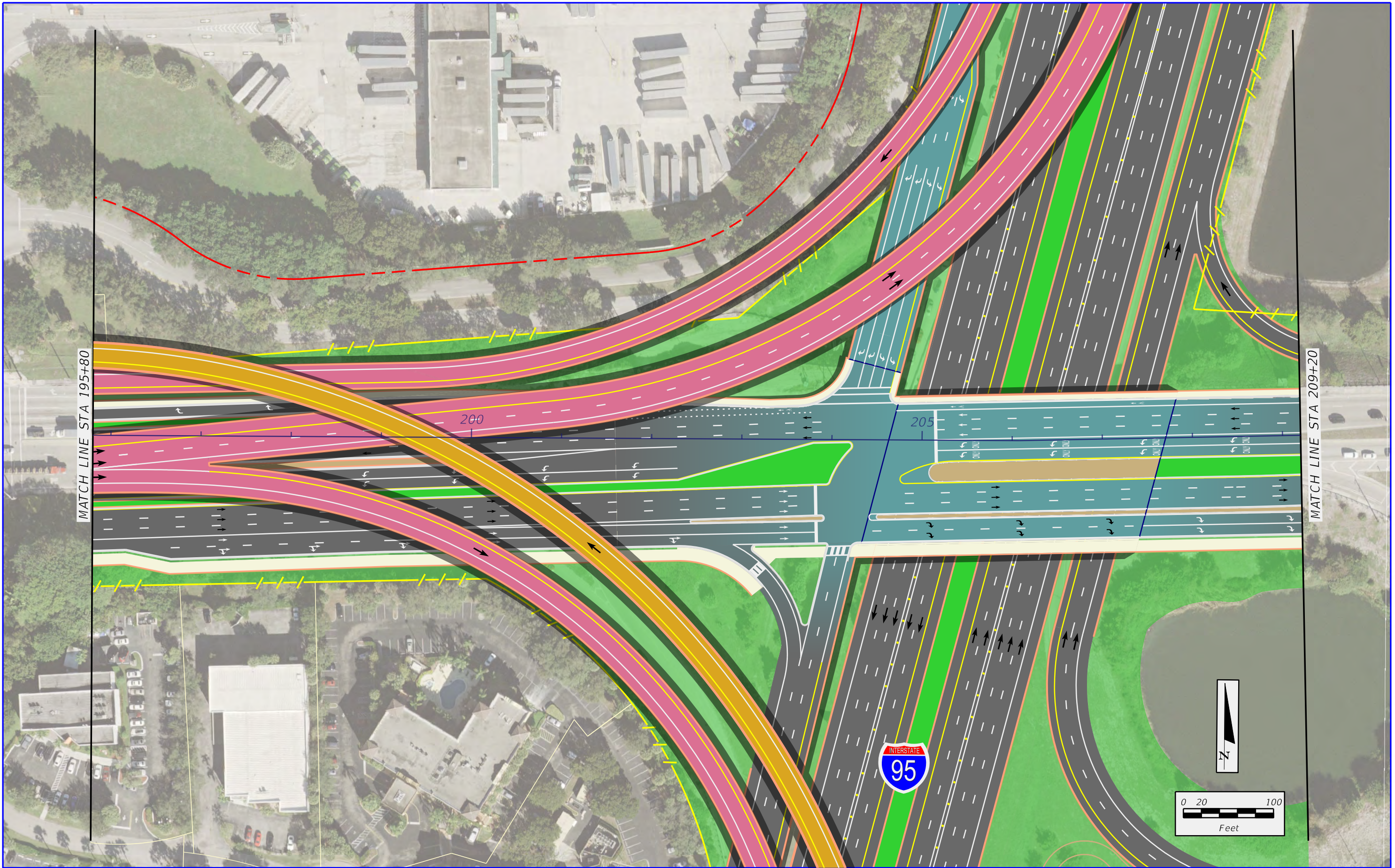
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
	PROPOSED MANAGED LANES		TEMPORARY EASEMENT
	PROPOSED LOCAL SW 10TH ST		PROPOSED SIDEWALK
	PROPOSED 2ND LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

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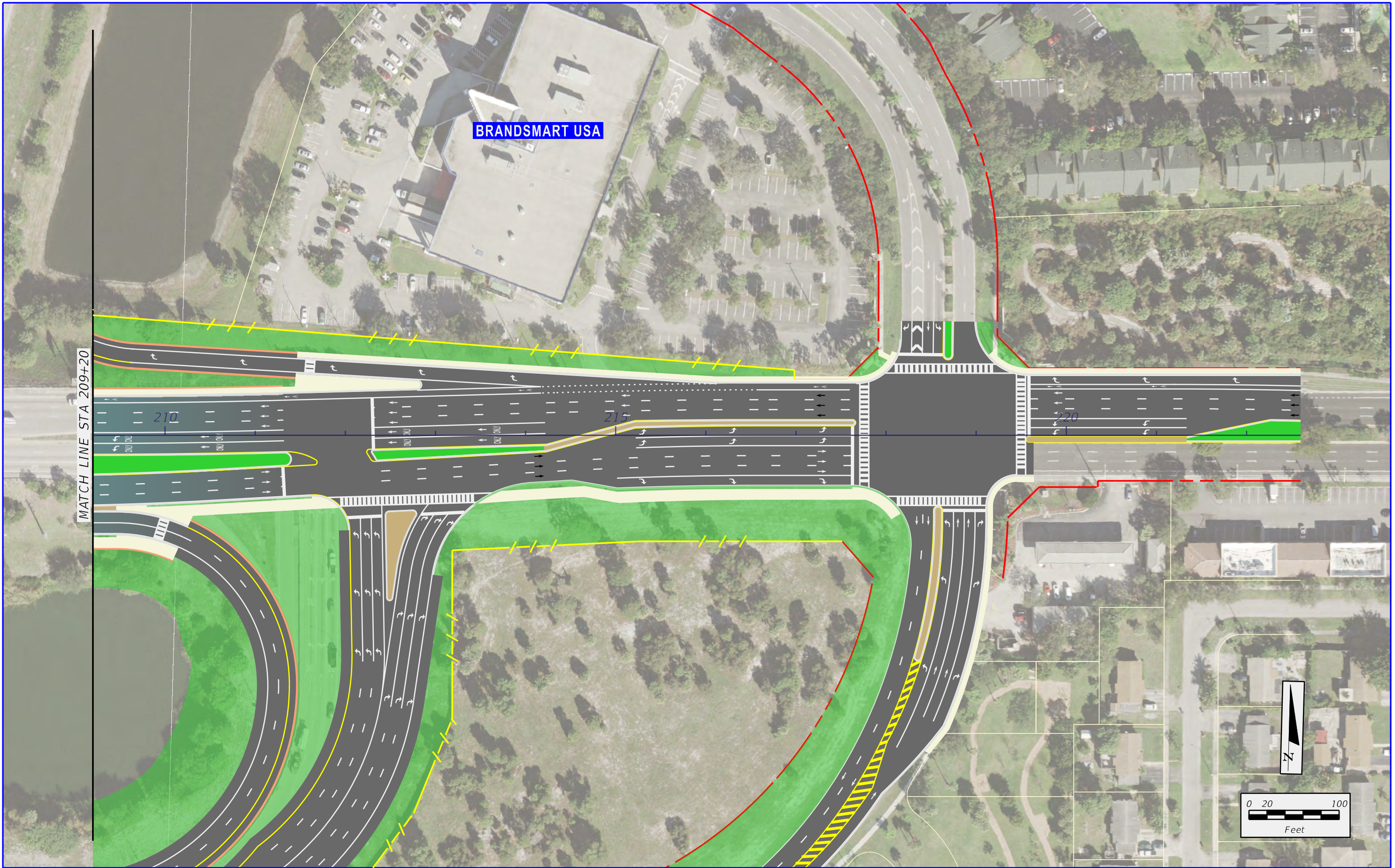
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITH POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-13

9/15/2020 9:27:33 AM X:\P\439891\3202_SW 10th Street\emo4 - Reports - Engineering\PER\Appendix C - Tier 3 Alternatives\Alternative 450\planem4.dgn



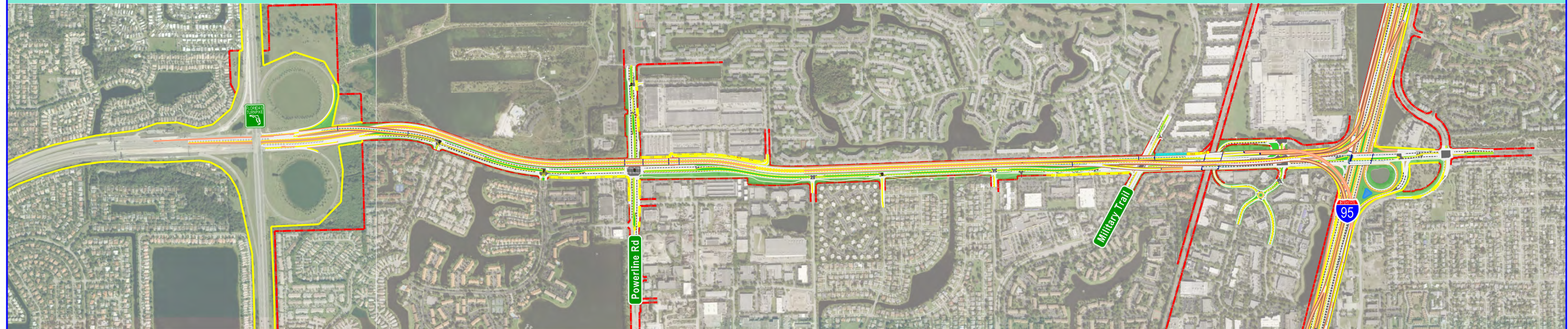
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND			
	EXISTING RIGHT-OF-WAY		PROPOSED 4TH LEVEL BRIDGE
	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

**APPENDIX C
 WITH POWERLINE ROAD
 RAMPS ALTERNATIVE**

SHEET NO.
C-14

WITHOUT POWERLINE ROAD RAMPS ALTERNATIVE



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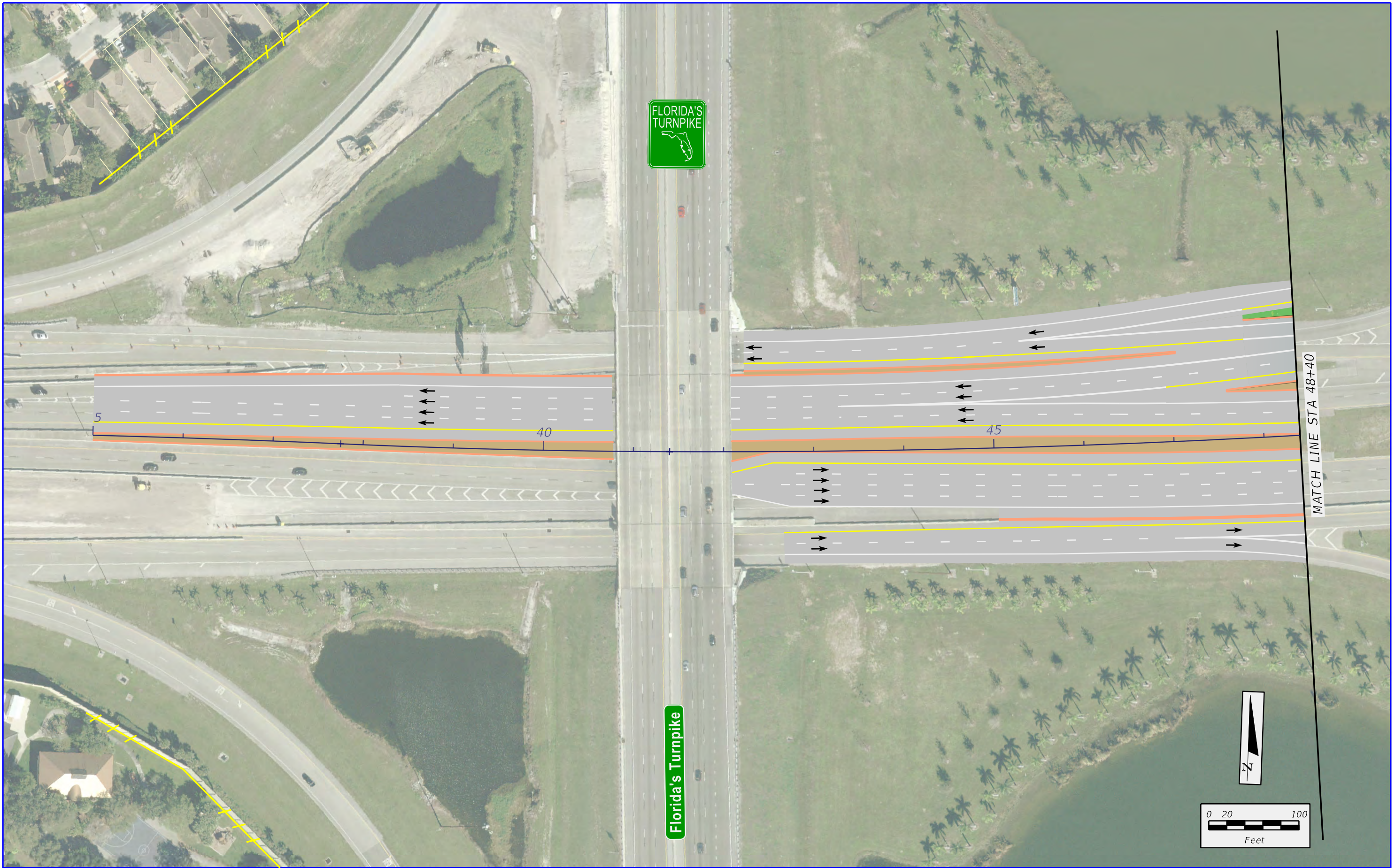


SR 869 / SW 10th Street Connector PD&E Study from
Florida's Turnpike / Sawgrass Expressway to west of I-95
Financial Project ID: 439891-1-22-02, ETDM No: 14291

SHEET
NO.

iv

9/15/2020 9:27:44 AM X:\P\439891\3202_SW 10th Street\emo4 - Reports - Engineering\PER\Appendix C - Tier 3 Alternatives\Alternative 460\planem1.dgn

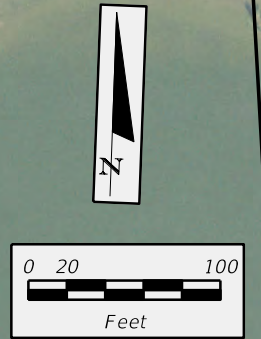


SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

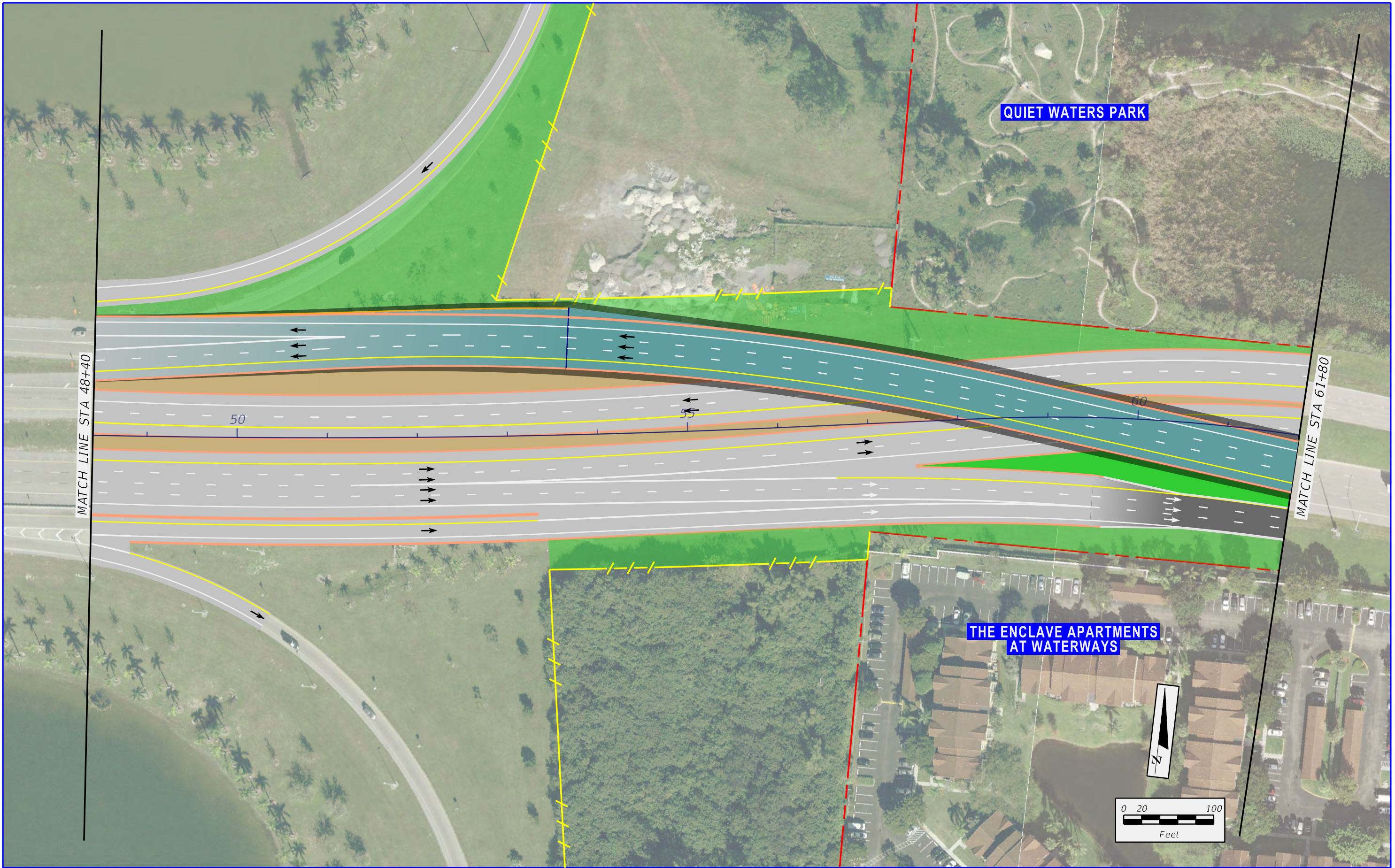
LEGEND					
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST		TEMPORARY EASEMENT
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE		PROPOSED SIDEWALK
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-15



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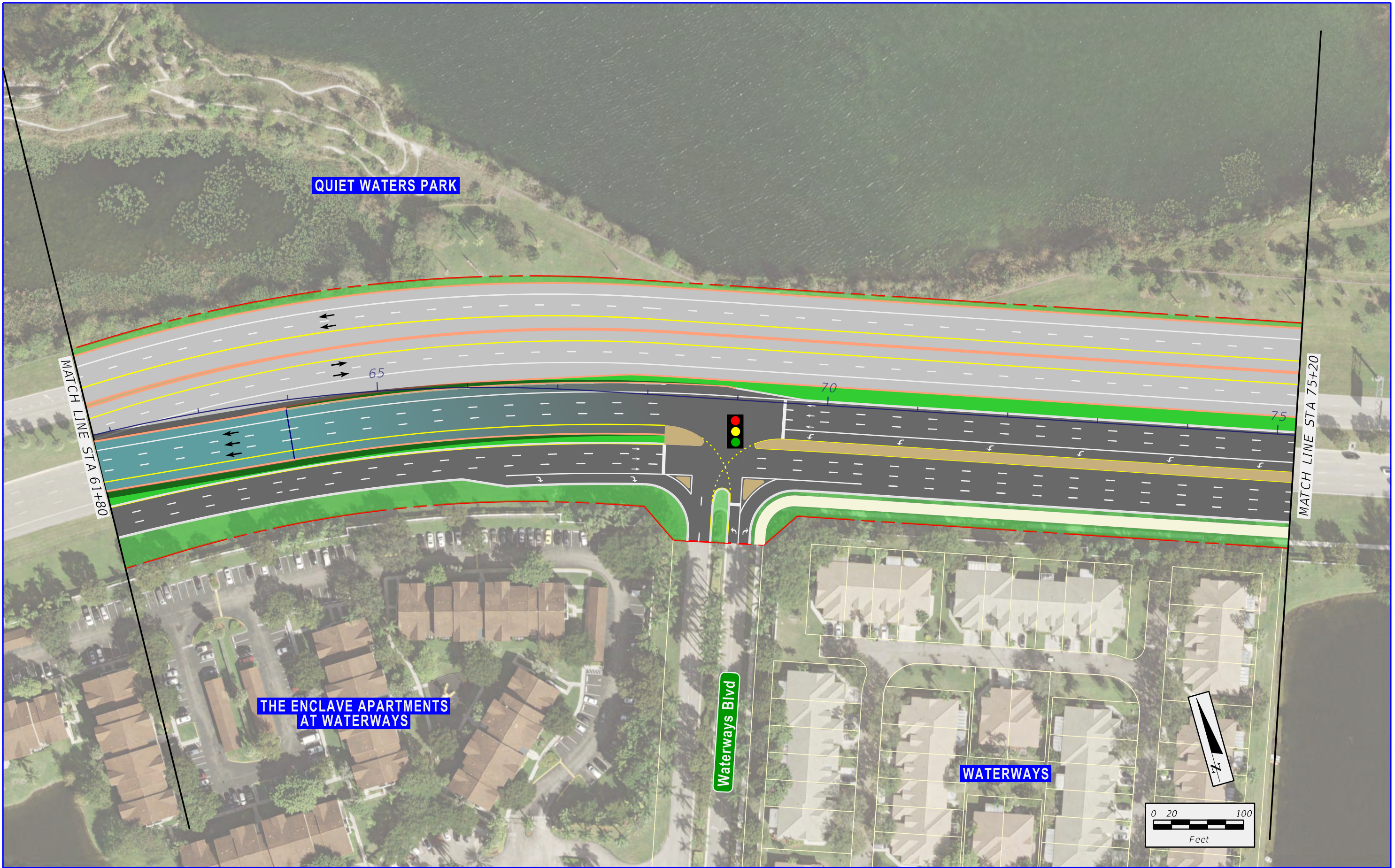
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND					
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST		TEMPORARY EASEMENT
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE		PROPOSED SIDEWALK
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-16

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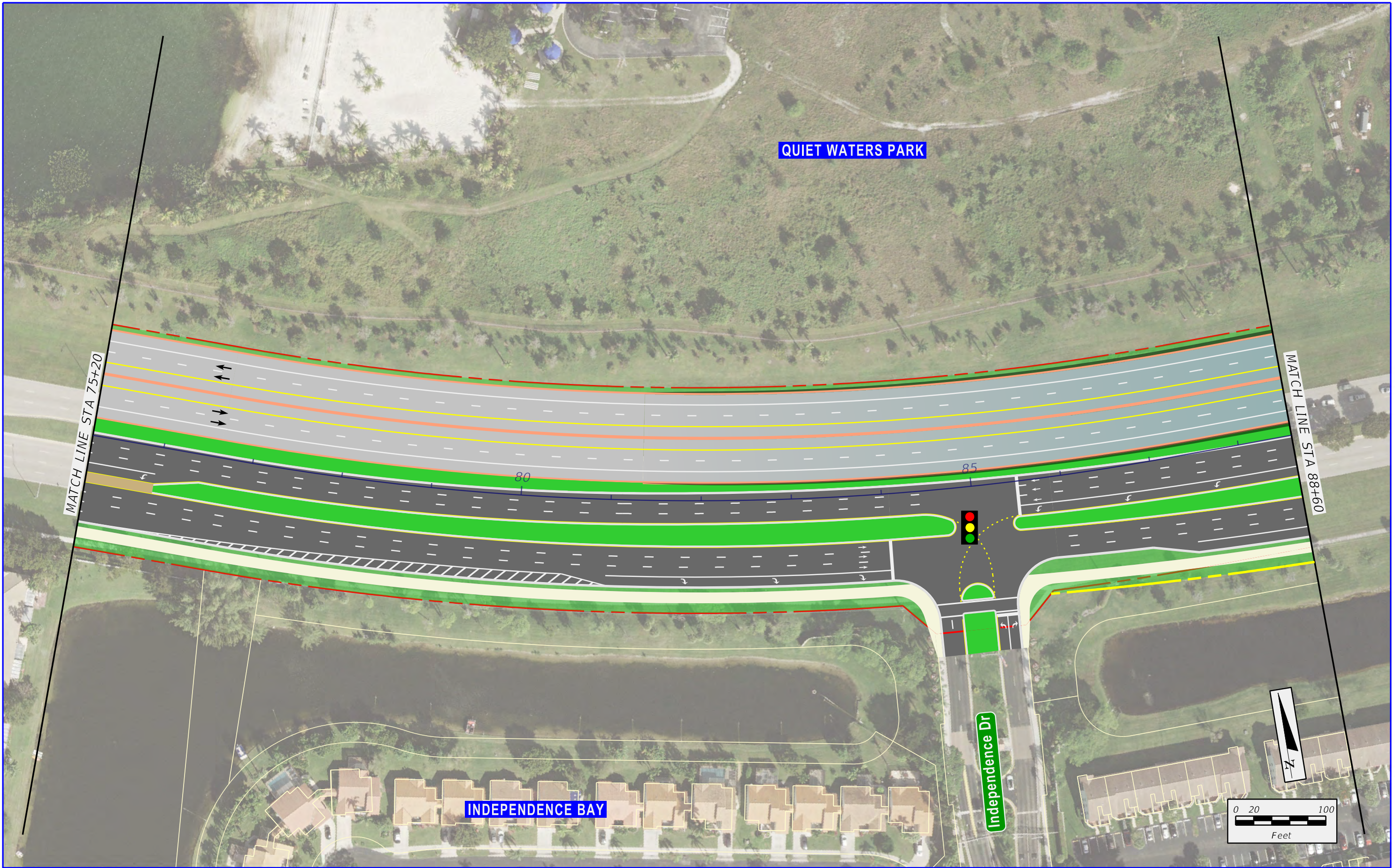
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND					
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST		TEMPORARY EASEMENT
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE		PROPOSED SIDEWALK
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-17

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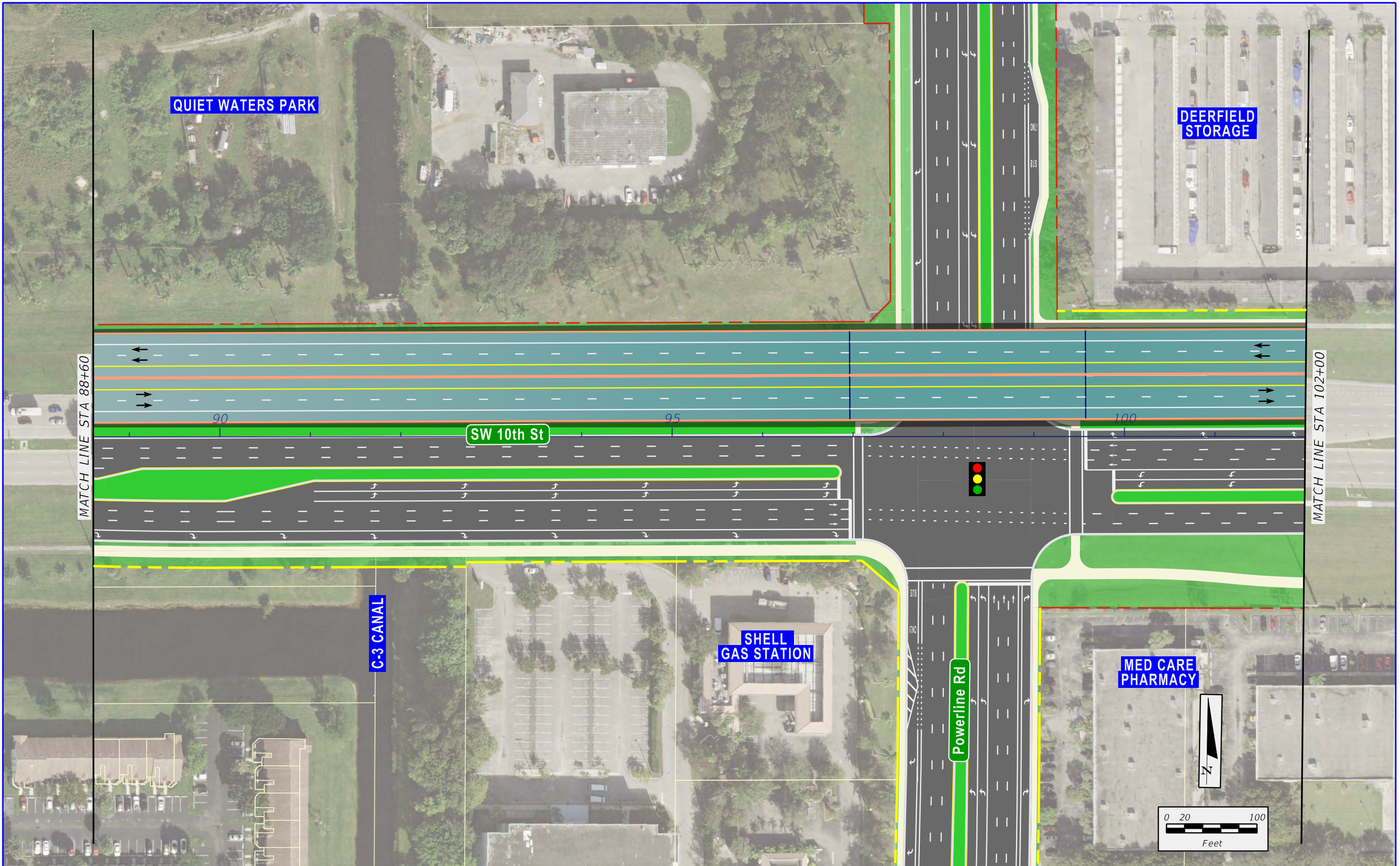
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND					
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST		TEMPORARY EASEMENT
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE		PROPOSED SIDEWALK
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-18

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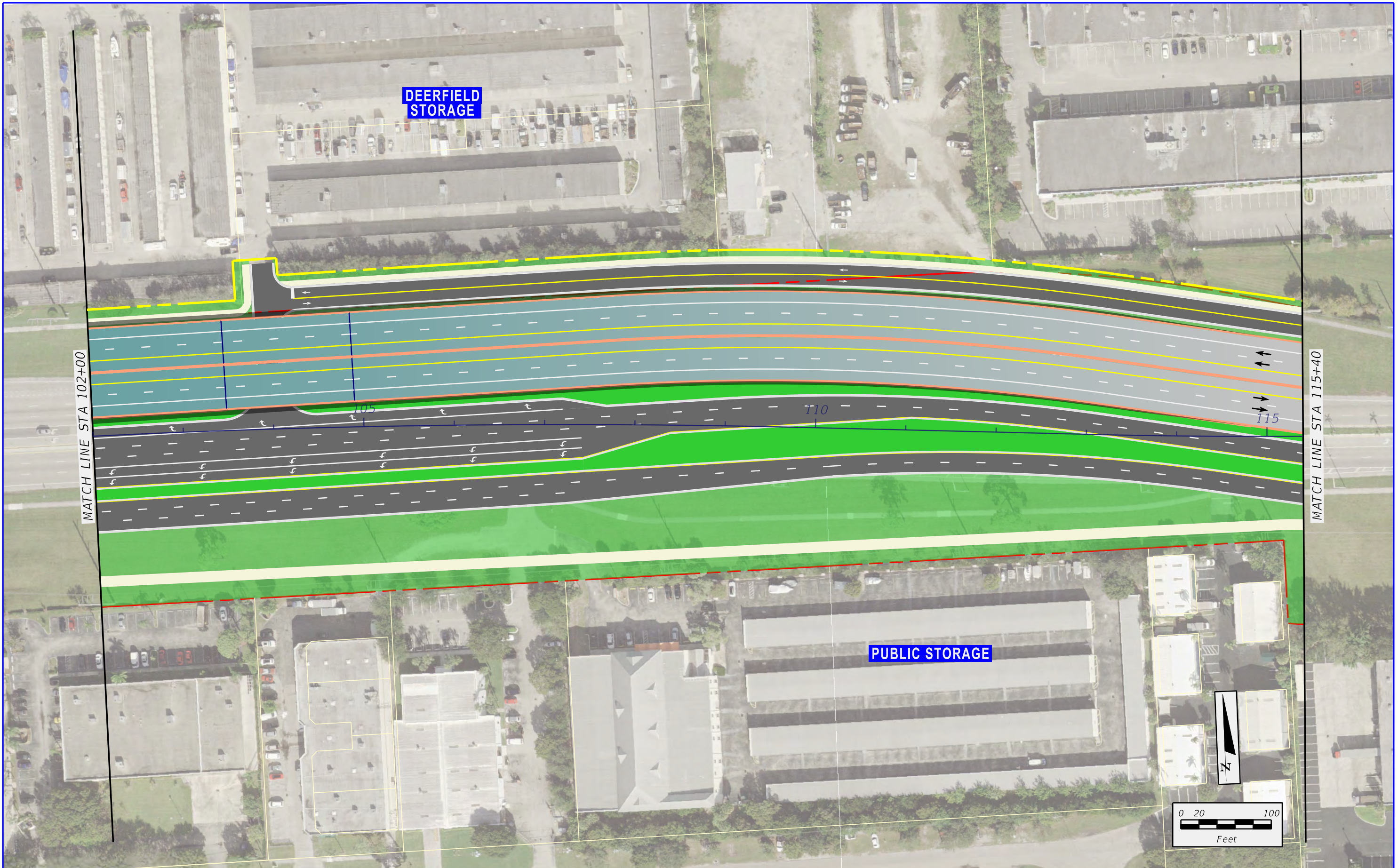
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND					
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST		TEMPORARY EASEMENT
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE		PROPOSED SIDEWALK
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

**APPENDIX C
 WITHOUT POWERLINE ROAD
 RAMPS ALTERNATIVE**

SHEET NO.
C-19

9/15/2020 9:28:04 AM X:\P\439891\3202_SW 10th Street\emo4 - Reports - Engineering\PER\Appendix C - Tier 3 Alternatives\Alternative 460\planem6.dgn



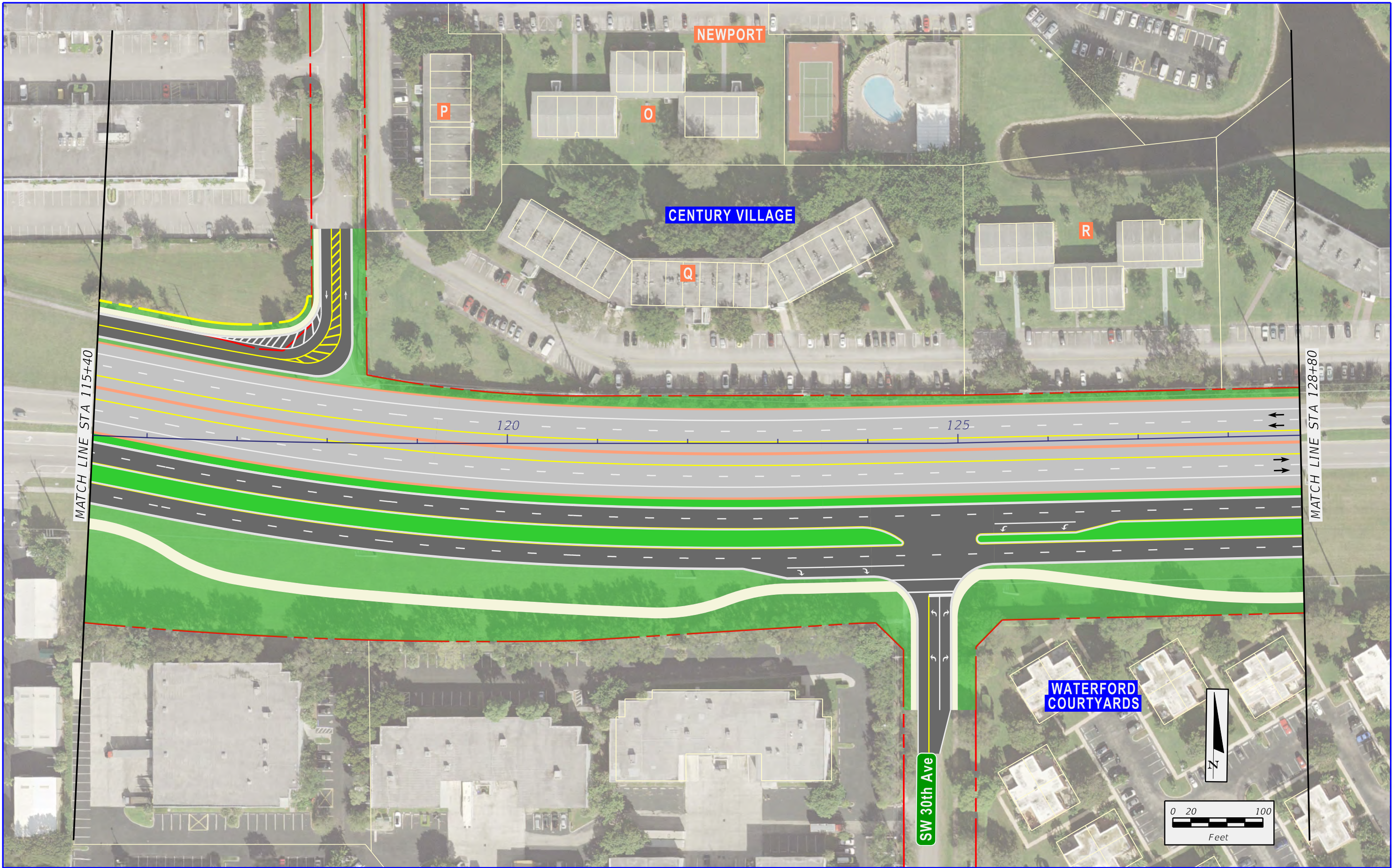
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND					
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST		TEMPORARY EASEMENT
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE		PROPOSED SIDEWALK
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-20

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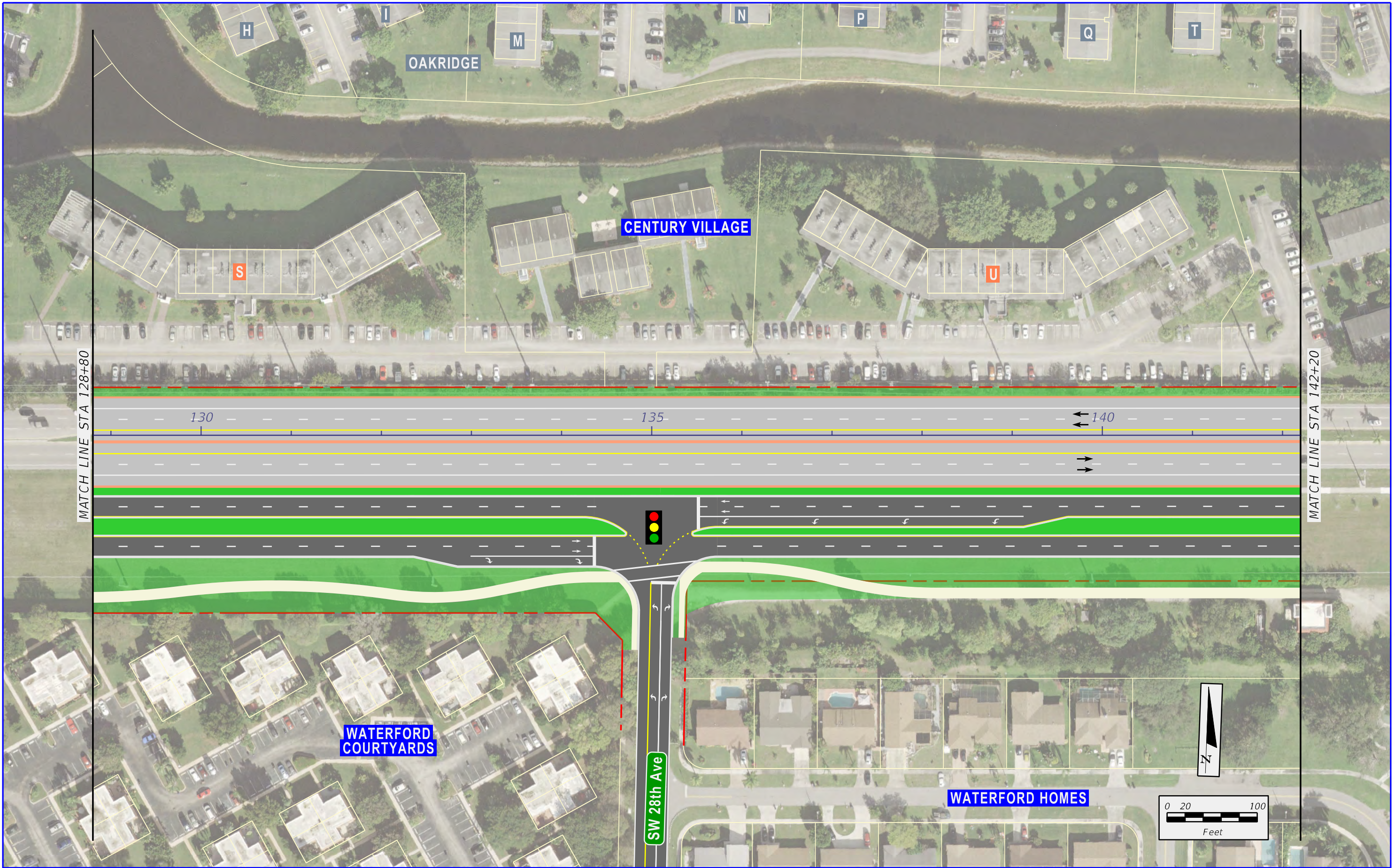
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND					
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST		TEMPORARY EASEMENT
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE		PROPOSED SIDEWALK
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-21

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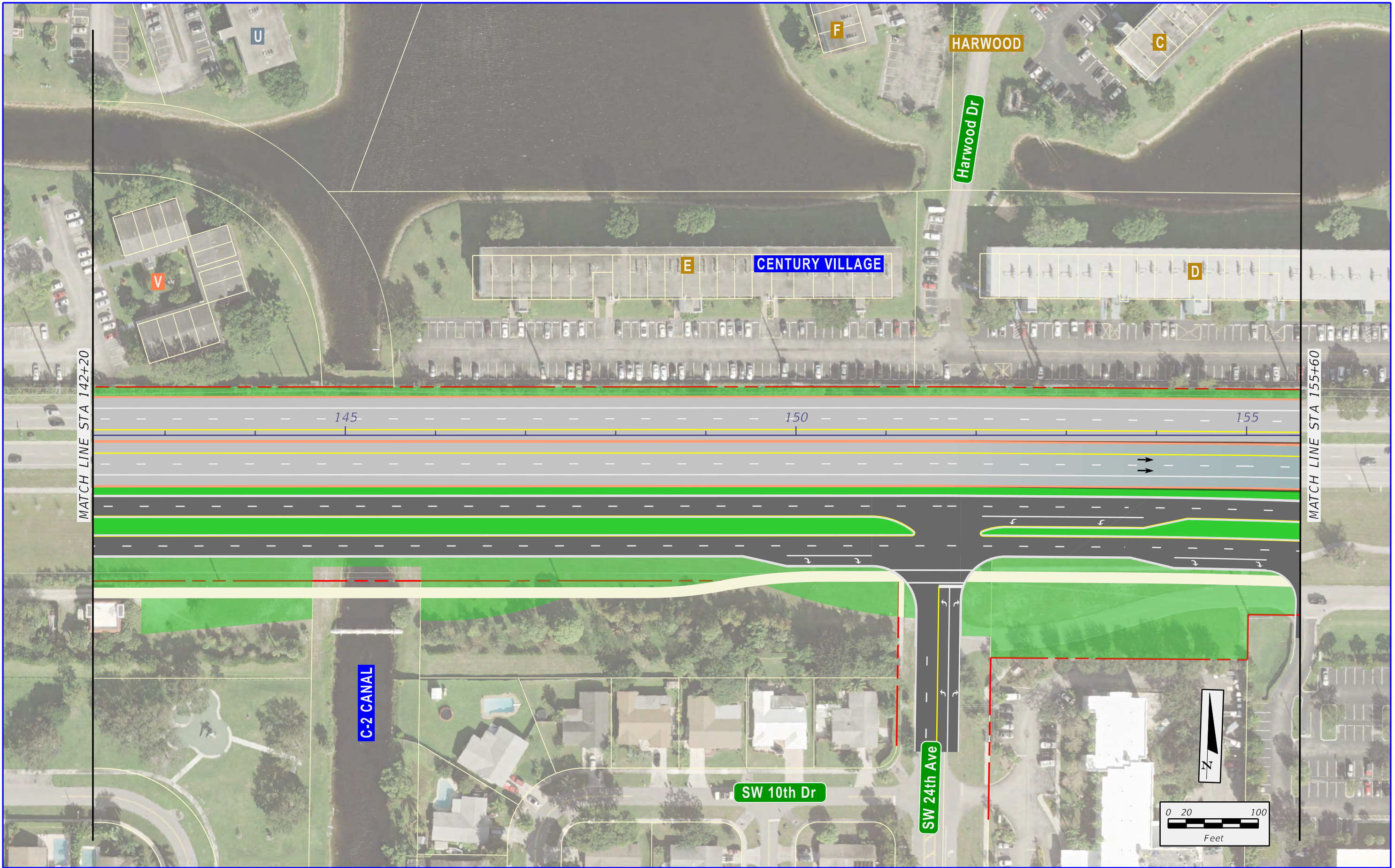
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND			
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-22

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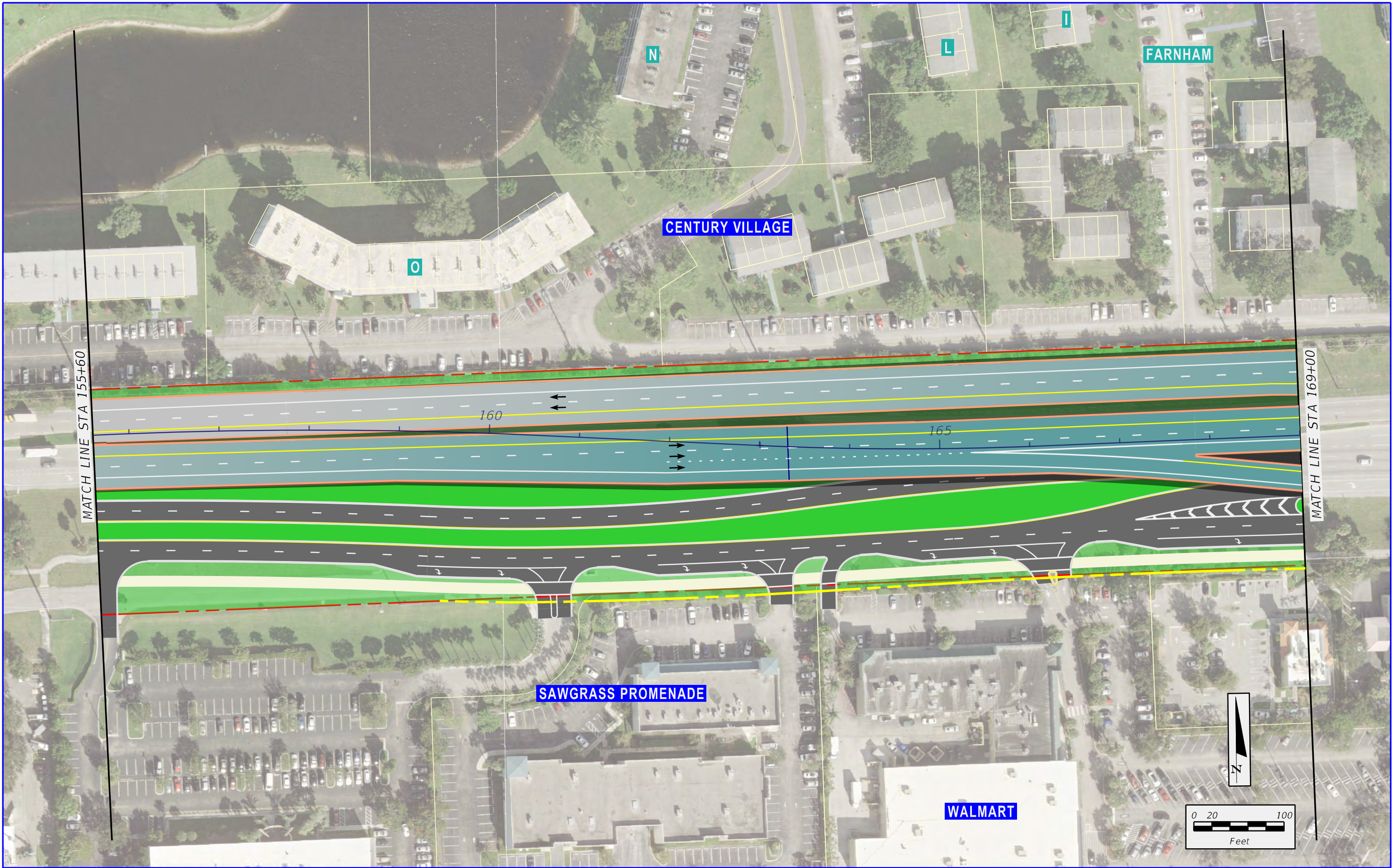
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND					
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST		TEMPORARY EASEMENT
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE		PROPOSED SIDEWALK
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-23

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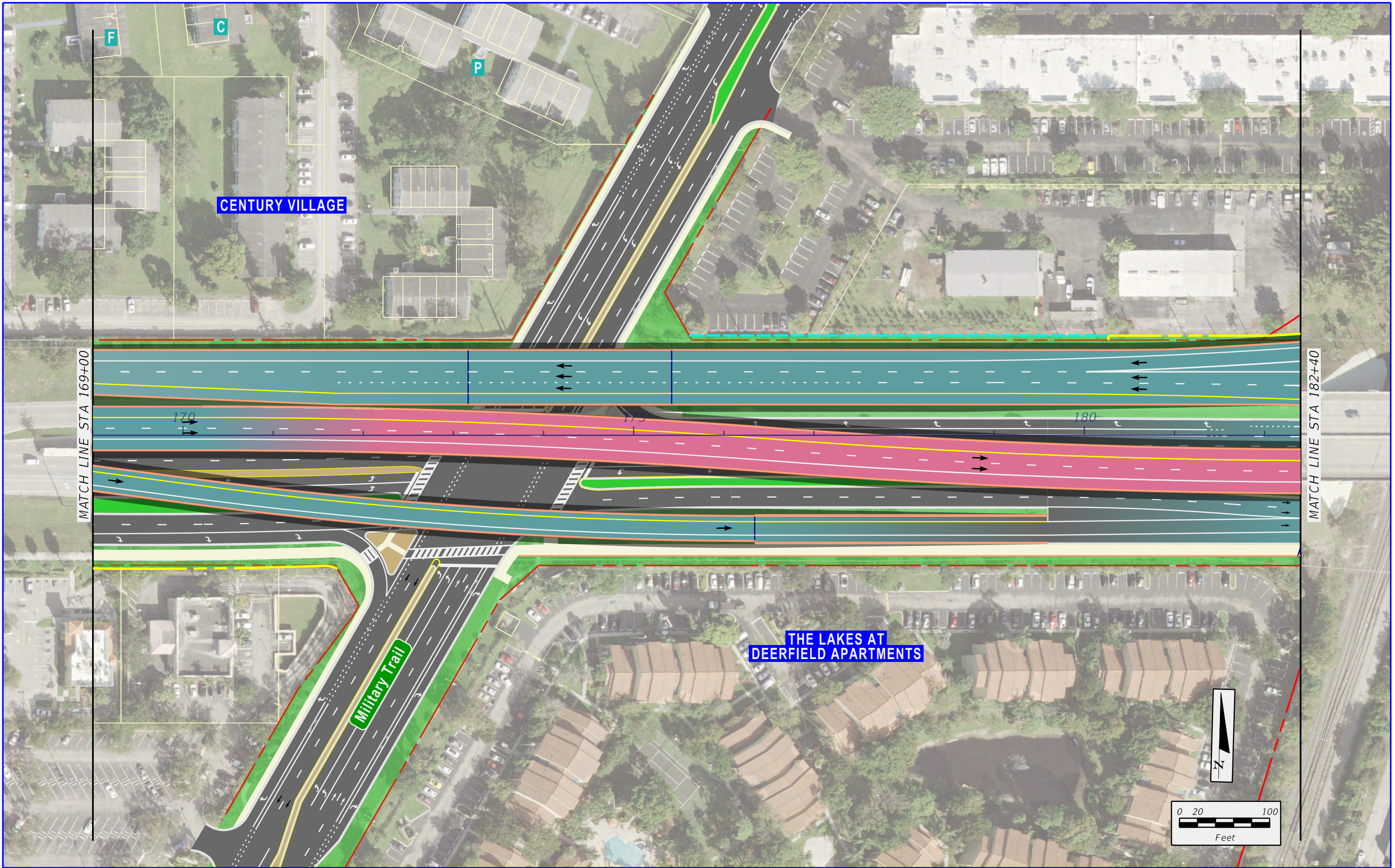
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND			
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
	PROPOSED MANAGED LANES		TEMPORARY EASEMENT
	PROPOSED LOCAL SW 10TH ST		PROPOSED SIDEWALK
	PROPOSED 2ND LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL
	PROPOSED 3RD LEVEL BRIDGE		

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-24

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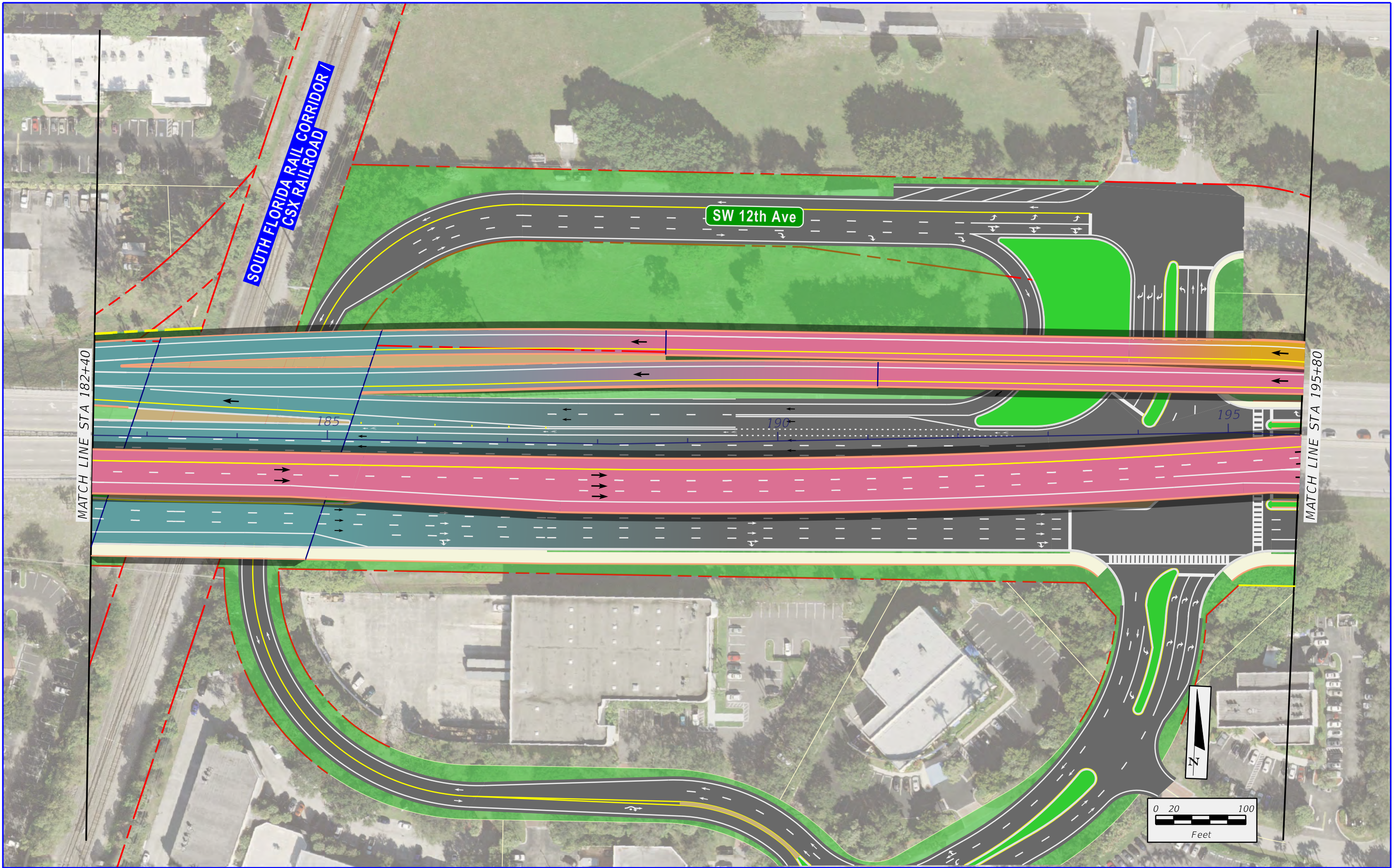
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND			
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
	TEMPORARY EASEMENT		PROPOSED SIDEWALK
	PROPOSED TRAFFIC SIGNAL		

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-25

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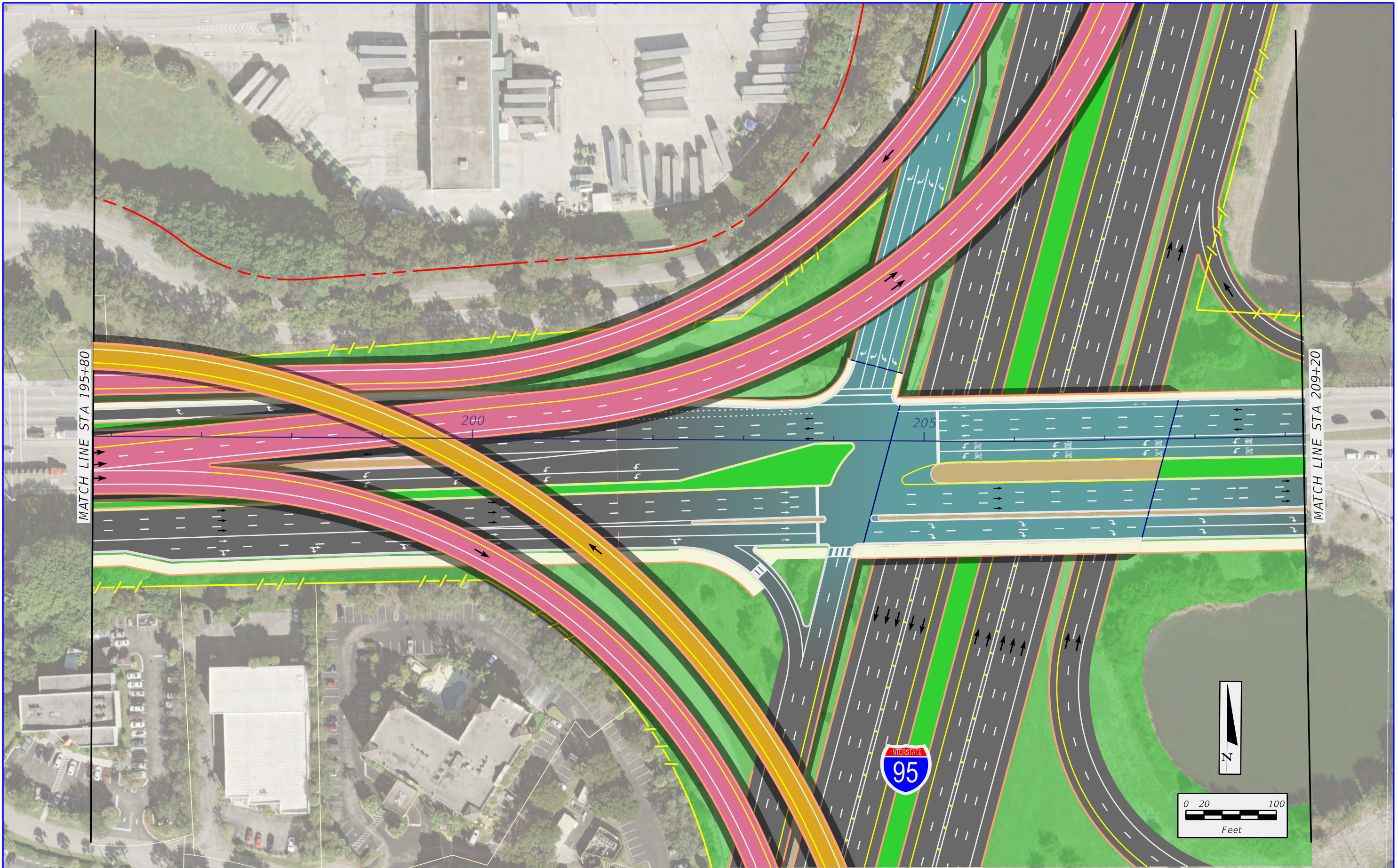
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND			
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
	PROPOSED MANAGED LANES		TEMPORARY EASEMENT
	PROPOSED 2ND LEVEL BRIDGE		PROPOSED SIDEWALK
	PROPOSED 3RD LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-26

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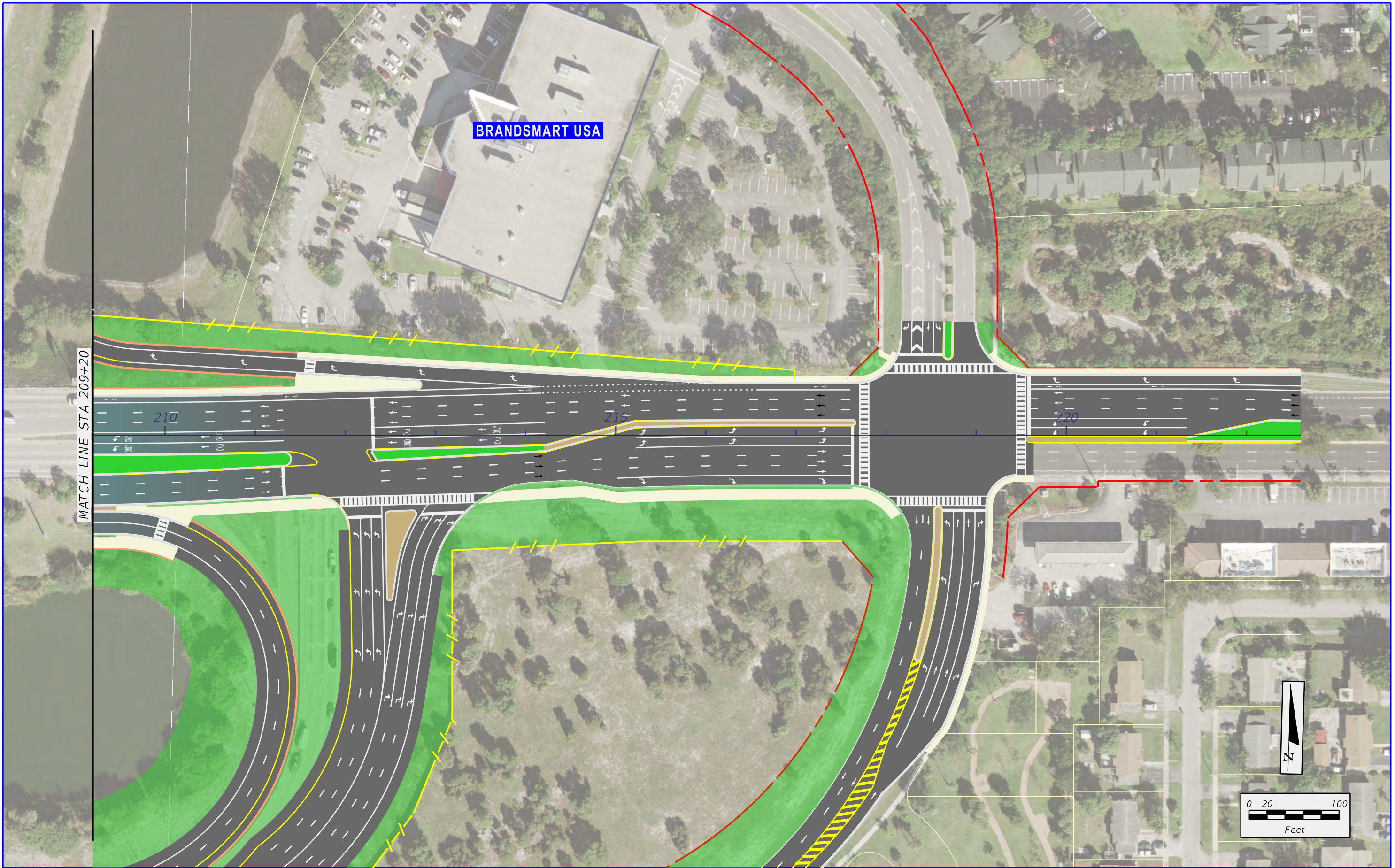
SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND			
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	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
	PROPOSED MANAGED LANES		TEMPORARY EASEMENT
	PROPOSED LOCAL SW 10TH ST		PROPOSED SIDEWALK
	PROPOSED 2ND LEVEL BRIDGE		PROPOSED TRAFFIC SIGNAL

APPENDIX C
WITHOUT POWERLINE ROAD
RAMPS ALTERNATIVE

SHEET NO.
C-27

9/15/2020 9:28:37 AM X:\P\439891\3202_SW 10th Street\emo4 - Reports - Engineering\PER\Appendix C - Tier 3 Alternatives\Alternative 460\planem4.dgn



SR 869 / SW 10th Street Connector PD&E Study from Florida's Turnpike / Sawgrass Expressway to west of I-95
 Financial Project ID: 439891-1-22-02, ETDM No: 14291

LEGEND			
	EXISTING RIGHT-OF-WAY		PROPOSED 4TH LEVEL BRIDGE
	EXISTING PARCEL LINES		PROPOSED LOCAL SW 10TH ST
	LIMITED ACCESS RIGHT-OF-WAY		PROPOSED 2ND LEVEL BRIDGE
	PROPOSED RIGHT-OF-WAY		PROPOSED 3RD LEVEL BRIDGE
			TEMPORARY EASEMENT
			PROPOSED SIDEWALK
			PROPOSED TRAFFIC SIGNAL

**APPENDIX C
 WITHOUT POWERLINE ROAD
 RAMPS ALTERNATIVE**

SHEET NO.
C-28