PRELIMINARY ENGINEERING REPORT

I-275 (State Road 93)
Project Development & Environment Study

From north of Dr. Martin Luther King, Jr. Boulevard (SR 574)
to north of Bearss Avenue (SR 678/CR 582)

Hillsborough County, Florida

ETDM Number: 13854
Work Program Item Segment Number: 431821-1

Florida Department of Transportation
District Seven
Tampa, Florida

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

August 2019

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This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for the I-275 (SR 93) PD&E Study from Dr. Martin Luther King, Jr. Boulevard (SR 574) to north of Bearss Avenue (SR 678/CR 582) in Hillsborough County, Florida.

8/9/19

Steve Gordillo, P.E.
Florida PE #50586

WSP USA, Inc.

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AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ACHP	Advisory Council on Historic Preservation
ADMS	Arterial Dynamic Message System
AN	Advance Notification
APE	Area of Potential Effect
BGEPA	Bald and Golden Eagle Protection Act
BT	Buried Telephone
BTL	Bus in Toll Lanes
CARS	Crash Analysis Reporting System
CCC	Chairs Coordinating Committee
CCTV	Closed Circuit Television
CFA	Core Foraging Area
CI WW	Cast Iron Wastewater
CO	Carbon Monoxide
ConOps	Concept of Operations and Maintenance
CR	County Road
CRA	Community Redevelopment Area
CRAS	Cultural Resource Assessment Survey
CSER	Contamination Screening Evaluation Report
CSXT	CSX Transportation
DDHV	Directional Design Hour Volumes
DHV	Design Hour Volume
DHW	Design High Water
DMS	Dynamic Message Sign
EL	Express Lane
ESA	Endangered Species Act
EST	Environmental Screening Tool
ETAT	Environmental Technical Advisory Team
ETDM	Efficient Transportation Decision Making
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FDM	FDOT Design Manual
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FOC	Fiber Optic Cable
FRA	Federal Railroad Administration
FWC	Florida Fish and Wildlife Conservation Commission
FY	Fiscal Year
GIS	Geographic Information System
GM	Gas Main
GM-GC	Silty-Clayey Gravel
GP	General Purpose
HART	Hillsborough Area Regional Transit
HCM	Highway Capacity Manual
HDPE	High Density Polyethylene
HOV	High Occupancy Vehicle
I-275	Interstate 275
ITS	Intelligent Transportation System
Kv	Kilovolts
LA	Limited Access
LDCA	Location Design Concept Acceptance
LHR	Location Hydraulics Report
LOS	Level of Service
LRE	Long Range Estimates
LRTP	Long Range Transportation Plan
MBTA	Migratory Bird Treaty Act
MHW	Mean High Water
MLK	Dr. Martin Luther King, Jr.
MLW	Mean Low Water
mph	Miles Per Hour
MPO	Metropolitan Planning Organization
MVDS	Microwave Vehicle Detector System
NAAQS	National Ambient Air Quality Standards
NAVD	National American Vertical Datum
N/A	Not Applicable
NB	Northbound

NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NRCS	Natural Resources Conservation Service
NSA	Noise Sensitive Area
NSR	Noise Study Report
OFW	Outstanding Florida Water
O/H	Overhead
PD&E	Project Development and Environment
PER	Preliminary Engineering Report
PIP	Public Involvement Plan
PSEMP	Project Systems Engineering Management Plan
PTAR	Project Traffic Analysis Report
PVC	Polyvinyl Chloride
RCTO	Regional Concept of Traffic Operations
R/W	Right of Way
SC	Clayey Sand
SHPO	State Historic Preservation Office
SHSP	State Highway Safety Plan
SIS	Strategic Intermodal System
SLD	Straight Line Diagram
SM	Silty Sand
SMF	Stormwater Management Facility
SP	Poorly Graded SandSPUI Single Point Urban Interchange
SR	State Road
STIP	State Transportation Improvement Plan
SWFWMD	Southwest Florida Water Management District
TBARTA	Tampa Bay Area Regional Transit Authority
TBNext	Tampa Bay Next
TBRPM	Tampa Bay Regional Planning Model
TBRPM-ML	Tampa Bay Regional Planning Model Managed Lanes
TBX	Tampa Bay Express
TDP	Transit Development Plan
THEA	Tampa Hillsborough Expressway Authority
TIP	Transportation Improvement Plan
TIS	Tampa Interstate Study
TMCs	Turning Movement Counts
TSM	Transportation System Management
TSM&O	Transportation System Management and Operations
TUDI	Tight Urban Diamond Interchange
U/G	Underground
UAO	Utility Agency Owner
UMAM	Uniform Mitigation Assessment Methodology
USACE	United States Army Corps of Engineers
USCS	Unified Soil Classification System
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
v/c	Volume to Capacity Ratio
vphpl	Vehicles Per Hour Per Lane
WBID	Water Body Identification Number
WEBAR	Wetland Evaluation and Biological Assessment Report
WM	Water Main

1.0 SUMMARY OF PROJECT

1.1 Summary Statement

This Preliminary Engineering Report (PER) contains detailed information that fulfills the purpose and need for the proposed capacity and operational improvements along 7.70 miles of State Road 93 (SR 93)/Interstate 275 (I-275) from north of Dr. Martin Luther King, Jr. Boulevard/SR 574 (MLK Boulevard) to north of Bearss Avenue/SR 678/County Road (CR) 582 in Hillsborough County, Florida.

This PER was prepared as a component of the Project Development and Environment (PD&E) Study. The PER documents the technical engineering information required to support the decisions made related to the proposed project alternatives. The PER was prepared in accordance with the Florida Department of Transportation's (FDOT) PD&E Manual, Topic No. 650-000-001, Part 1, Chapter 4 – Project Development Process and Part 2, Chapter 3 – Engineering Analysis, and includes information to be used in the design phase of this project.

1.2 Preliminary Commitments and Recommendations

To assure adverse environmental and sociocultural impacts are avoided or minimized within the vicinity of the corridor and the multi-modal needs of the community are sufficiently addressed, FDOT will abide by standard protection measures and adhere to FDOT Procedure #650-000-003 for tracking commitments during all phases of project development and implementation. These commitments include but are not limited to protection measures employed during design and construction phases. Additional commitments include:

Cultural Resources

1. Upon completion of the proposed project improvements, the FDOT will repair, restore and return the path under the Hillsborough Avenue bridge to its existing condition.
2. The FDOT will follow the Tampa Interstate Study (TIS) Urban Design Guidelines (UDG), dated December 1994 (http://tampainterstatestudy.com/wpcontent/uploads/pdf/10_REPORT_Urban_Design_Guidelines_12-94.pdf), in continuing design of the project. The TIS UDG provide guidelines for the use of retaining walls, noise barriers, bridges and other design amenities to minimize or avoid adverse visual and auditory effects on historic properties, users of the project, and adjacent communities. The TIS UDG also serve as guidelines and mitigation measures for the Section 106 process by providing design standards for unique areas within the corridor including Seminole Heights. The FDOT will continue to coordinate with potentially affected parties and the SHPO during future project phases so that adverse effects can be avoided.

Natural Resources

1. Wetlands and Surface Waters

   The FDOT measures to address wetland and surface water impacts for this project include the following commitments.

1) Provide a more detailed wetland delineation during the design phase to determine actual unavoidable wetland impacts and to then determine the resulting functional loss.

2) Incorporate BMP s during construction to minimize surface water impacts to any off-site wetlands and surface waters that are affected by the proposed project.

3) Mitigate unavoidable wetland and surface water impacts pursuant to S. 373.4137 (Florida Statute (F.S.) to satisfy all mitigation requirements of Part IV, Chapter 373 F.S. and 33 U.S.C.s 1344 which includes purchase of mitigation bank credits or use of the FDOT wetland mitigation inventory program.

2. Protected Species

Implementation measures to protected species will be employed to negate and minimize any potential affects. Some of the measures employed will include detailed surveys and agency coordination during the project design phase, best management practices during construction, adherence to FDOT's "*Standard Specification for Road and Bridge Construction*," relocation of potentially affected gopher tortoises and commensal species, and utilization of standard construction precautions for species such as the eastern indigo snake and West Indian manatee.

Based upon findings of the preliminary data collection, general corridor surveys, and ongoing coordination with the USFWS and FWC, the FDOT will adhere to the following commitments.

1) Gopher tortoise: Surveys for potentially affected gopher tortoise burrows will be conducted prior to construction, and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC.

2) Osprey: Surveys to update locations of active osprey nest sites will be conducted prior to construction, and permits will be acquired if impacts during construction are unavoidable. Coordination with FWC will take place, and a replacement nesting structure will be located in the immediate vicinity as appropriate.

3) Wood stork: Impacts to potential wood stork suitable foraging habitat will be evaluated during the design phase, and mitigation for unavoidable impacts will be provided as appropriate.

Physical Resources

1. Noise

The Florida Department of Transportation is committed to the construction of feasible and reasonable noise abatement measures at the noise impacted locations contingent upon the following conditions.

1) Final recommendations on the construction of abatement measures is determined during the project's final design and through the public involvement process.

2) Detailed noise analyses during the final design process support the need, feasibility and reasonableness of providing abatement.

3) Cost analysis indicates that the cost of the noise barrier(s) will not exceed the cost reasonable criterion.

4) Community input supporting types, heights, and locations of the noise barrier(s) is provided to the District Office.

5) Safety and engineering aspects as related to the roadway user and the adjacent property owner have been reviewed and any conflicts or issues resolved.

1.3 Description of Proposed Action

The proposed action evaluates the need to provide capacity and operational improvements along 7.70 miles of I-275 from north of MLK Boulevard to north of Bearss Avenue in Hillsborough County, Florida. This evaluation considers the operational and highway safety benefits of implementing capacity improvements and compares them to the cost savings and minimization of adverse impacts associated with a No-Build Alternative. An evaluation matrix compares the No-Build and Build Alternative on a variety of factors. This process identifies the alternative that best balances the benefits (such as improved traffic operations and safety) with the impacts (such as environmental effects and construction costs).

The Preferred Build Alternative includes eight 12-foot wide general purpose lanes (four in each direction), two 15-foot wide inside shoulders which accommodate transit (one in each direction), two 12-foot wide outside shoulders (one in each direction), and a 2-foot wide concrete barrier separating the two directions of travel. The improvements would be constructed on the existing alignment with the same existing horizontal and vertical geometries. All the proposed mainline improvements within the I-275 project corridor would be accomplished within the existing right of way. Minimal right of way will be required at the Bearss Avenue interchange for storm water ponds.

This PER documents the engineering and environmental analyses conducted to assess the environmental and sociocultural effects of implementing the No-Build and Build Alternatives.

2.0 INTRODUCTION

The I-275 project limits extend from north of MLK Boulevard to north of Bearss Avenue (see **Figure 1**). North of the project limits, I-275 connects to I-75 in northern Hillsborough County. South of the project limits, I-275 turns to the west and travels through downtown Tampa in an east-west direction and then travels south through Pinellas County and connects with I-75 in Manatee County. I-275 is a major north-south interstate that is an important connection to the regional and statewide transportation network linking the Tampa Bay area to the remainder of the state and nation. I-275 provides access to numerous commercial and residential areas in Hillsborough County. I-275 is a designated evacuation route.

2.1 Project Development & Environment Study Process

Prior to the beginning of the PD&E Study phase, the project was entered in the Environmental Screening Tool (EST) of FDOT's Efficient Transportation Decision Making (ETDM) process. An ETDM Programming Screen Summary Report was published on February 7, 2014 as ETDM Project #13854. A Type 2 Categorical Exclusion class of action was assigned during the programming screen phase of the ETDM process.

The objective of this PD&E Study is to help FDOT reach a decision on the type, location, and conceptual design for the proposed improvements that maximize the corridor's capacity, and improve the overall safety and operating conditions of the facility within the project limits. Transportation improvements are needed along the I-275 study corridor from north of MLK Boulevard to north of Bearss Avenue in order to relieve capacity deficiencies, improve safety, and help alleviate future traffic congestion within the I-275 corridor. Alternative transportation improvements were evaluated based on several factors that include, but are not limited to: the proposed alternative's ability to meet transportation needs, socioeconomic and environmental impacts, engineering requirements, and cost estimates. In general terms, the process involves the following steps:

- Verification of the project's purpose and need developed during the ETDM screening process
- Gathering and analysis of detailed information regarding the natural and cultural features of the study area
- Development and evaluation of alternatives for meeting the project need
- Documentation of the entire process in a set of engineering and environmental reports
- Communication with the affected public and stakeholders through public meetings, community meetings and charrettes, as well as interaction with elected officials and agency representatives.
- Selection of a Preferred Alternative.

The PD&E Study process is designed to satisfy all applicable state and federal requirements, including the NEPA, for this project to qualify for federal-aid funding of subsequent project phases (design, right of way acquisition, and construction).

Figure 1: Project Location Map

2.2 Project Background

Planning for the Tampa Bay area interstates began in the late 1980s with the Tampa Interstate Study (TIS) Master Plan being approved in late 1980s with improvements outlined to relieve congestion and improve mobility. The TIS Master Plan included additional travel lanes on the Tampa Bay area interstates and included a transit envelope for the east-west movement but not along this segment of I-275. In 2013, building upon the original TIS Master Plan, the Tampa Bay Express (TBX) program was developed to provide guidance for improvements to the Tampa Bay interstate system and identified freeway segments (including this segment of I-275) for the addition of tolled express lanes. FDOT made the decision to remove express lanes from this segment of I-275, and to evaluate them on an alternative corridor based on regional needs. The project's Preferred Build Alternative has been redesigned to add one general purpose lane in each direction and provide improvements on the inside shoulder to accommodate transit.

The priorities of the FDOT include the movement of people and goods safely and efficiently, building a comprehensive regional transportation system, creating meaningful opportunities for public input, balancing regional needs with community concerns, and committing to sustainable infrastructure decisions. Components include interstate modernization, transit, bicycle and pedestrian facilities, complete streets, transportation innovations, and freight mobility.

2.3 Purpose of Report

This PER was prepared to document the engineering decisions as part of the PD&E Study and support the engineering decisions as the project moves into the future phases of design and construction. The PER was prepared in accordance with the FDOT *PD&E Manual*, Topic No. 650-000-001, Part 1, Chapter 4 and Part 2, Chapter 3, and includes information to be used in the design phase of the project.

The purpose of the report is to document the engineering-related aspects associated with the proposed capacity improvement needed along I-275 from north of MLK Boulevard to north of Bearss Avenue in Hillsborough County. Separate reports were prepared to document environmental effects and public involvement efforts (**Section 9.0** lists the reports).

3.0 PURPOSE AND NEED FOR PROJECT

The purpose of the project is to evaluate alternatives to address the corridor's capacity and relieve congestion. These improvements are expected to enhance the overall safety and improve the operating conditions of the facility within the project limits.

Numerous transportation plans and studies by FDOT and Hillsborough County Metropolitan Planning Organization (MPO) identify the need for interstate improvements. This segment of I-275 provides a vital connection to area tourist and recreational destinations, major employment/activity centers, and the University of South Florida; and is a convenient route for commuters and other work-related travel both north and south of the area. The corridor is also critical to the transport of goods and services. The capacity improvements are needed to accommodate projected future traffic and enhance corridor mobility and safety.

The need for improvements on this segment of I-275 is based on several factors. These factors include plan consistency, regional connectivity, improving safety and capacity, enhancing emergency evacuation, accommodating projected population and employment growth, supporting multi-modal service, and providing access to intermodal and freight centers. The following sections summarize the need for the proposed improvements including area wide needs and project corridor needs.

3.1 Consistency with Transportation Plans

The project is included in the Hillsborough MPO Long Range Transportation Plan (LRTP) as well as the Hillsborough County Transportation Improvement Program (TIP) and the Florida Statewide Transportation Improvement Program (STIP).

The current Hillsborough MPO LRTP amended on 06/11/2019 included updates to the project description and limits. The LRTP identifies the project on page 174, as Project ID 1006 - I-275 from north of MLK Boulevard to north of Busch Boulevard and I-275 from north of Busch Boulevard to north of Bearss Avenue. The updated LRTP states Project 1006 will add one travel lane in each direction from the existing 4F/6F to 8F.

The portion of the project from north of MLK Boulevard to north of Busch Boulevard is in the Florida STIP. FDOT will continue to work with the Hillsborough MPO to ensure the project is consistent with Hillsborough County's TIP and the STIP.

The project is included in Fiscal Year 2024 on FDOT's *SIS Funding Strategy Second Five Year Plan Fiscal Year (FY) 2023/2024 through FY 2027/2028*. As a Strategic Intermodal System (SIS) facility and part of the regional roadway network, I-275 is included as a priority corridor in the *Regional 2035 LRTP* developed by the West Central Florida MPOs Chairs Coordinating Committee (CCC) (adopted January 2010). I-275 is also included in the managed lanes network proposed within the Tampa Bay Area Regional Transit Authority (TBARTA) *Regional Transportation 2015 Master Plan*. It should be noted that TBARTA was previously the Tampa Bay Regional Transportation Authority.

3.2 Regional Connectivity

I-275 is a north-south interstate highway that also serves as a major trade, tourism, and freight corridor. I-275 is part of Florida's SIS, which is comprised of facilities and services of statewide and interregional significance. The SIS is a statewide network of highways, railways, waterways, and transportation hubs that handle the bulk of Florida's passenger and freight traffic. This section of I-275 is in proximity to the I-275 connection with I-4; and to the north of the project limits, I-275 connects with I-75. Enhancing the capacity and preserving the operational integrity and regional functionality of I-275 is critical to mobility. As previously stated, it is a vital link in the transportation network that connects the Tampa Bay region to the remainder of the state and the nation.

3.3 Safety Rates

Highway crashes are a primary cause of traffic incidents making safety critical to FDOT's mission to move goods and services. A total of 1,639 crashes occurred between 2012 and 2016 along the I-275 corridor (777 northbound and 862 southbound). The annual average number of crashes for the study corridor is approximately 328 crashes per year. Rear end crashes represent about 58 percent of the total crashes. Hit fixed object crashes represent about 22 percent of the total crashes and sideswipe crashes represent about 11 percent of the total crashes. All other crash types each individually represent less than 10 percent of the total crashes. Eight crashes resulted in fourteen fatalities; 669 crashes resulted in 1,037 injuries, and 962 resulted in property damage only.

There are many segments within the project limits that have crash rates that exceed the statewide average crash rate. The higher crash rates in these areas may be due in large part to the short segment lengths, closely spaced interchanges, and profile and grade issues. Per the FDOT Crash Analysis Reporting System (CARS), the 2012 to 2016 five-year statewide average crash rate was 0.924 for the urban interstate category. Ten segments in the northbound direction and eleven segments in the southbound direction, respectively, exceed the statewide average crash rate. Refer to Tables 1 and 2 for the average five-year crash rates per segment per Million Vehicle Miles Traveled (MVMT) for I-275 northbound and southbound, respectively.

It is anticipated that safety will be enhanced with capacity improvements along the project limits. With the additional capacity, roadway congestion will be reduced, thereby reducing the crash potential.

3.4 Emergency Evacuation

I-275 is a critical evacuation route and is shown on the Florida Division of Emergency Management's evacuation route network. The proposed additional capacity will aid in emergency evacuation.

3.5 Future Population and Employment Growth

According to the Hillsborough MPO's *Imagine 2040 LRTP* the population of Hillsborough County in 2010 was 1,229,226 and is anticipated to increase to 1,815,964 by

Table 1: Average Five-Year Crash Rates per Segment per MVMT (I-275 Northbound)

Segment Number	Begin Milepost	End Milepost	Segment	Length (miles)	Total Crashes	Crash Rate (MVMT)*
1-NB	1.315	1.557	Between I-275 off-ramp to MLK Blvd to I-275 on-ramp from MLK Blvd	0.242	1	0.037
2-NB	1.557	1.841	Merge area of I-275 on-ramp from MLK Blvd	0.284	0	0.000
3-NB	1.841	2.045	Between merge area of I-275 on-ramp from MLK Blvd to diverge area of the I-275 off-ramp to Hillsborough Ave	0.204	5	0.172
4-NB	2.045	2.329	Diverge area of the I-275 off-ramp to Hillsborough Ave WB	0.284	31	0.809
5-NB	2.329	2.520	Diverge area of the I-275 off-ramp to Hillsborough Ave EB	0.191	58	2.439
6-NB	2.520	2.585	Between I-275 off-ramp to Hillsborough Ave EB and I-275 on-ramp from Hillsborough Ave	0.065	23	3.067
7-NB	2.585	2.869	Merge area of I-275 on-ramp from Hillsborough Ave	0.284	17	0.439
8-NB	2.869	3.076	Between merge area of I-275 on-ramp from Hillsborough Ave and diverge area of I-275 off-ramp to Sligh Ave	0.207	38	1.280
9-NB	3.076	3.360	Diverge area of I-275 off-ramp to Sligh Ave	0.284	22	0.540
10-NB	3.360	3.592	Between I-275 off-ramp to Sligh Ave and I-275 on-ramp from Sligh Ave	0.232	94	3.106
11-NB	3.592	3.876	Merge area of I-275 on-ramp from Sligh Ave	0.284	31	0.755
12-NB	3.876	3.931	Between merge area of I-275 on-ramp from Sligh Ave to diverge area of the I-275 off-ramp to Bird St	0.055	4	0.490
13-NB	3.931	4.215	Diverge area of the I-275 off-ramp to Bird St	0.284	54	1.334
14-NB	4.215	4.818	Between I-275 off-ramp to Bird St to diverge area of I-275 off-ramp to Busch Blvd	0.603	71	0.882
15-NB	4.818	5.102	Diverge area of the I-275 off-ramp to Busch Blvd	0.284	56	1.466
16-NB	5.102	5.285	Between I-275 off-ramp to Busch Blvd and I-275 on-ramp from Busch Blvd	0.183	21	1.047
17-NB	5.285	5.569	Merge area of I-275 on-ramp from Busch Blvd	0.284	16	0.430
18-NB	5.569	6.005	Between merge area of I-275 on-ramp from Busch Blvd and diverge area of I-275 off-ramp to Fowler Ave	0.436	11	0.190
19-NB	6.005	6.289	Diverge area of I-275 off-ramp to Fowler Ave	0.284	15	0.411
20-NB	6.289	6.719	Between I-275 off-ramp to Fowler Ave and I-275 on-ramp from Fowler Ave	0.430	65	1.527
21-NB	6.719	7.028	Merge area of I-275 on-ramp from Fowler Ave	0.309	21	0.616
22-NB	7.028	7.337	Diverge area of I-275 off-ramp to Fletcher Ave	0.309	10	0.314
23-NB	7.337	7.707	Between I-275 off-ramp to Fletcher Ave and I-275 on-ramp from Fletcher Ave	0.370	31	1.062
24-NB	7.707	7.991	Merge area of I-275 on-ramp from Fletcher Ave	0.284	10	0.405
25-NB	7.991	8.348	Between merge area of I-275 on-ramp from Fletcher Ave and diverge area of I-275 off-ramp to Bearss Ave	0.357	18	0.578
26-NB	8.348	8.632	Diverge area of I-275 off-ramp to Bearss Ave	0.284	10	0.405
27-NB	8.632	8.973	Between I-275 off-ramp to Bearss Ave and merge area of I-275 on-ramp from Bearss Ave	0.341	32	2.161
28-NB	8.973	9.257	Merge area of I-275 on-ramp from Bearss Ave	0.284	8	0.558
29-NB	9.257	9.466	Between merge area of I-275 on-ramp from Bearss Ave and south of US-41	0.209	4	0.388

* Per the FDOT Crash Analysis Reporting (CAR) System, the 2012-2016 five-year statewide average crash rate is 0.924 for the urban interstate category.

Table 2: Average Five-Year Crash Rates per Segment per MVMT (I-275 Southbound)

Segment Number	Begin Milepost	End Milepost	Segment	Length (miles)	Total Crashes	Crash Rate (MVMT)*
1-SB	1.315	1.557	Between I-275 off-ramp to MLK Blvd to I-275 on-ramp from MLK Blvd	0.242	0	0.000
2-SB	1.557	1.841	Diverge area of I-275 off-ramp to MLK Blvd	0.284	0	0.000
3-SB	1.841	2.049	Between merge area of I-275 on-ramp from Hillsborough Ave to diverge area of I-275 off-ramp to MLK Blvd	0.208	1	0.031
4-SB	2.049	2.333	Merge area of I-275 on-ramp from Hillsborough Ave	0.284	23	0.558
5-SB	2.330	2.600	Between I-275 off-ramp to Hillsborough Ave and I-275 on-ramp from Hillsborough Ave	0.270	80	2.489
6-SB	2.600	2.884	Diverge area of I-275 off-ramp to Hillsborough Ave	0.284	52	1.328
7-SB	2.884	3.087	Between merge area of I-275 on-ramp from Sligh Ave and diverge area of I-275 off-ramp to Hillsborough Ave	0.203	67	2.325
8-SB	3.087	3.371	Merge area of I-275 on-ramp from Sligh Ave	0.284	28	0.677
9-SB	3.371	3.597	Between I-275 off-ramp from Sligh Ave and I-275 on-ramp from Sligh Ave	0.226	77	2.597
10-SB	3.597	3.881	Diverge area of I-275 off-ramp to Sligh Ave	0.284	17	0.416
11-SB	3.881	3.945	Between I-275 merge area of I-275 on-ramp from Bird St and diverge area of I-275 off-ramp to Sligh Ave	0.064	2	0.214
12-SB	3.945	4.229	Merge area of I-275 on-ramp from Bird St	0.284	58	1.406
13-SB	4.229	4.802	Between merge area of I-275 on-ramp from Busch Blvd and I-275 on-ramp from Bird St	0.573	99	1.302
14-SB	4.802	5.086	Merge area of I-275 on-ramp from Busch Blvd	0.284	45	1.196
15-SB	5.086	5.287	Between I-275 off-ramp to Busch Blvd and I-275 on-ramp from Busch Blvd	0.201	22	0.974
16-SB	5.287	5.571	Diverge area of I-275 off-ramp to Busch Blvd	0.284	26	0.728
17-SB	5.571	6.043	Between merge area of I-275 on-ramp from Fowler Ave and diverge area of I-275 off-ramp to Busch Blvd	0.472	20	0.344
18-SB	6.043	6.327	Merge area of I-275 on-ramp from Fowler Ave	0.284	17	0.481
19-SB	6.327	6.701	Between I-275 off-ramp to Fowler Ave and I-275 on-ramp from Fowler Ave	0.374	79	2.360
20-SB	6.701	7.027	Diverge area of I-275 off-ramp to Fowler Ave	0.326	19	0.592
21-SB	7.027	7.353	Merge area of I-275 on-ramp from Fletcher Ave	0.326	8	0.252
22-SB	7.353	7.697	Between I-275 off-ramp to Fletcher Ave and I-275 on-ramp from Fletcher Ave	0.344	38	1.431
23-SB	7.697	7.981	Diverge area of I-275 off-ramp to Fletcher Ave	0.284	9	0.382
24-SB	7.981	8.353	Between Diverge area of I-275 off-ramp to Fletcher Ave and merge area of I-275 on-ramp from Bearss Ave	0.372	4	0.128
25-SB	8.353	8.637	Merge area of I-275 on-ramp from Bearss Ave	0.284	15	0.638
26-SB	8.637	8.954	Between I-275 off-ramp to Bearss Ave and I-275 on-ramp from Bearss Ave	0.317	42	3.022
27-SB	8.954	9.238	Diverge area of I-275 off-ramp to Bearss Ave	0.284	6	0.416
28-SB	9.238	9.466	Between diverge area of I-275 off-ramp to Bearss Ave and south of US-41	0.228	8	0.683

* Per the FDOT Crash Analysis Reporting (CAR) System, the 2012-2016 five-year statewide average crash rate is 0.924 for the urban interstate category.

2040. This reflects a population growth of almost 48 percent over the next 25 years. Based on the LRTP, employment in 2010 was 711,400 and is projected to grow to 1,112,059 by 2040. This reflects 400,659 new employees, an increase of more than 56 percent. These socioeconomic projections are used in the Tampa Bay Regional Planning Model (TBRPM) to estimate future travel demand.

According to the *Imagine 2040 LRTP*, the anticipated growth is concentrated in existing job centers and potential transit station locations within the urban service area. Future residential areas near potential transit were based on comprehensive plan policies for transit-oriented development. Other job growth is anticipated to occur in existing and potential commercial centers. Increases in employment will occur in Westshore, around the University of South Florida, central downtown Tampa, and in the Brandon area. Future residential and employment densities are still expected to be highest in existing high-density areas. Future population will be primarily concentrated within the neighborhoods surrounding Tampa's downtown urban core, the University of South Florida, and the potential transit line between these two areas.

I-275 is an important link for travelers in the Tampa Bay area as it provides regional accessibility to area tourist and recreational destinations and major employment/activity centers, and is a popular and convenient route for commuters and other work-related travel both north and south of the area. Normal traffic growth associated with increasing population in the Tampa Bay region, as well as traffic growth from increased development activity in downtown Tampa, further reinforce the need for improvements in the I-275 corridor. I-275 serves many of the regionally-recognized employment centers.

3.6 Current and Future Traffic

Portions of I-275 are already operating at the lowest level of mobility, with an unacceptable level of service (LOS) F. Level of service is a qualitative measure of traffic flow on a roadway. LOS ranges from LOS A (free flow) to LOS F (congestion). Based on the 2013 daily traffic volumes from the FDOT *Florida Traffic Online* (2013) traffic information database, the segment of I-275 from north of MLK Boulevard to north of Bearss Avenue already exceeds the capacity of existing interstate lanes. The highest volume portion is between Sligh Avenue and Bird Street with a volume of 150,500. The capacity is 130,600. The volume to capacity (v/c) ratio for this segment of I-275 is 1.15. A v/c ratio compares demand to how many vehicles a roadway can handle; a greater than 1.0 ratio means severe congestion.

According to the Tampa Bay Regional Planning Model Managed Lanes (TBRPM-ML), the vehicle demand on this segment of I-275 will surpass the existing capacity. By 2040, I-275 within the project limits is projected to have daily traffic volumes ranging from 165,300 to 224,600 and a capacity of 130,600. The v/c ratio is expected to range from 1.27 to 1.72. The proposed improvements are expected to improve the v/c ratio.

Without the proposed improvements, the operating conditions will continue to deteriorate and will operate at LOS F for the entire project limits by 2040. The adopted LOS standard for I-275 in this area is D based on current SIS criteria for interstates in urban areas.

3.7 Multi-Modal Service

Hillsborough Area Regional Transit (HART) operates existing transit service in Hillsborough County within the project limits. HART currently operates two Commuter Express routes that travel on I-275 within the project limits for a portion of its service. Route 20X (Pasco/Lutz Express) travels between the Lutz Target and MacDill Air Force Base in South Tampa. Route 275LX travels between the Wiregrass Park-N-Ride and the Tampa International Airport. Adjacent to I-275 the HART MetroRapid service operates on Nebraska Avenue. HART also operates flex service and circulator service near the project area. Future transit service (express routes) within and adjacent to the project limits is listed in HART's *Transit Development Plan* (TDP) *2018-2027 Major Update*.

Within the project limits, the accommodation for transit on the inside shoulders of I-275 will provide the infrastructure to support transit. HART is studying transit options within its service area and regionally. While FDOT will provide the infrastructure, it will be up to the transit agency to decide the transit mode and implement the transit service.

3.8 Access to Intermodal Facilities and Freight Activity Centers

I-275 is part of the highway network that provides access to regional intermodal facilities/freight activity centers such as the industrial parks/areas, South Central CSX Transportation (CSXT) Corridor, St. Petersburg Seaport, Gateway Triangle, Tampa International Airport, the Port of Tampa, and St. Petersburg-Clearwater International Airport. Improvements to I-275 will enhance access to activity centers in the area, and the movement of goods and freight in the greater Tampa Bay region. I-275 is also identified on the regional freight network in the TBARTA *Regional Transportation Master Plan*.

4.0 EXISTING CONDITIONS

I-275 is a limited access (LA) freeway that runs in a north-south direction within the project limits. I-275 is part of the Federal Highway System (National Highway System) Interstate System, Florida's State Highway System, and the Strategic Intermodal System (SIS).

I-275 is a six-lane divided highway with a posted speed that varies from 55 miles per hour (mph) to 65 mph. The LA right of way (R/W) width along the corridor ranges from a minimum of 228 feet to 338 feet, with wider right of way at the interchanges. Within the project limits there are seven interchanges:

- Hillsborough Avenue
- Sligh Avenue
- Bird Street
- Busch Boulevard
- Fowler Avenue
- Fletcher Avenue
- Bearss Avenue

During the PD&E Study, many deficiencies were identified along the corridor, including horizontal and vertical alignment, horizontal and vertical clearances, border width, and level of service. The existing conditions and deficiencies are described in the following sections.

4.1 Existing Roadway Characteristics

4.1.1 Functional Classification and Access Management

I-275 is functionally classified as an Urban Interstate. I-275 is a designated major evacuation route in the Tampa Bay region. The access management classification is Class I, which consists exclusively of limited access facilities.

4.1.2 Typical Section

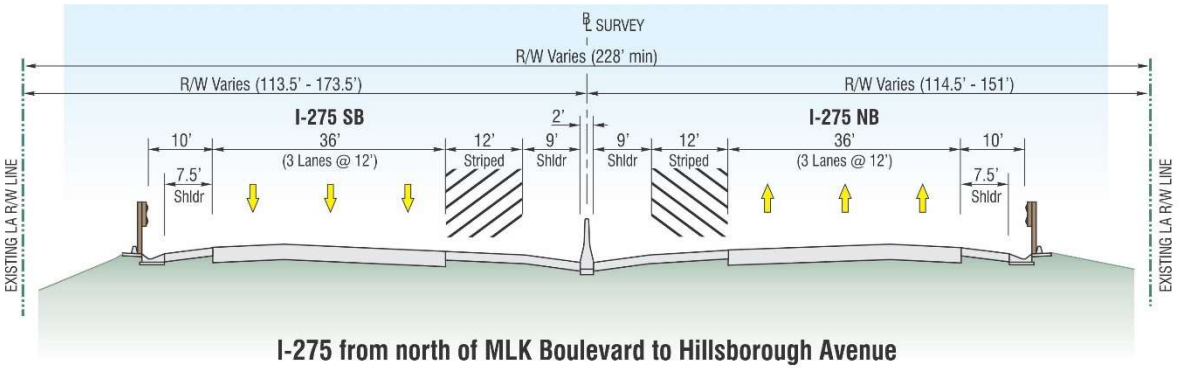
The project corridor is a six-lane divided typical section with some minor variations along the corridor. This segment of I-275 contains three existing typical sections along the project limits, which are shown in **Table 3.**

North of MLK Boulevard to south of Hillsborough Avenue: For each direction of travel, the typical section contains three 12-foot travel lanes, a 12-foot auxiliary lane, a 10-foot outside shoulder, and a 9-foot inside shoulder with an additional 12 feet inside shoulder width striped out. A 2-foot concrete separator divides the two directions of travel.

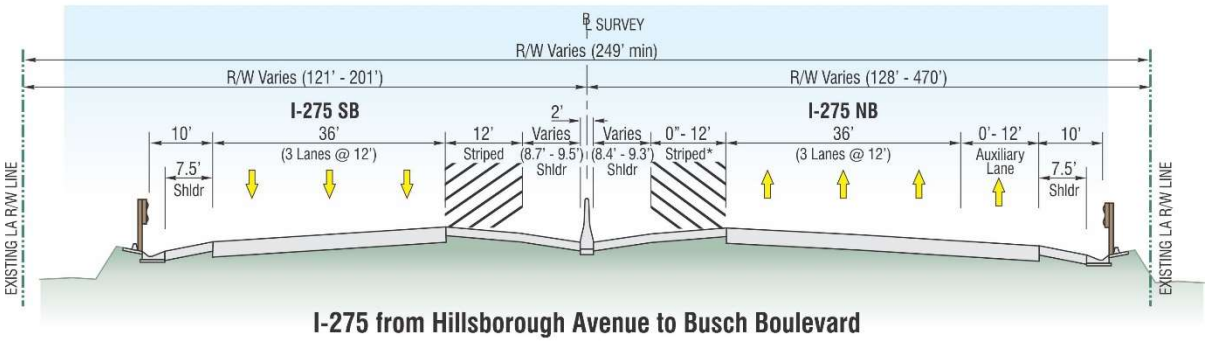
South of Hillsborough Avenue to Busch Boulevard: For each direction of travel, the typical section contains three 12-foot travel lanes, a 10-foot outside shoulder, and an inside shoulder varying from 8.4 feet to 9.5 feet with an additional 12 feet inside shoulder width striped out. A 2-foot concrete separator divides the two directions of travel. From Hillsborough Avenue to Sligh Avenue, the northbound outside lane is used as an auxiliary lane.

Busch Boulevard to north of Bearss Avenue: For each direction of travel, the typical section contains three 12-foot travel lanes, a 10-foot outside shoulder, and a 9-foot inside shoulder. A 2-foot concrete separator divides the two directions of travel.

Figure 2: I-275 Existing Typical Sections

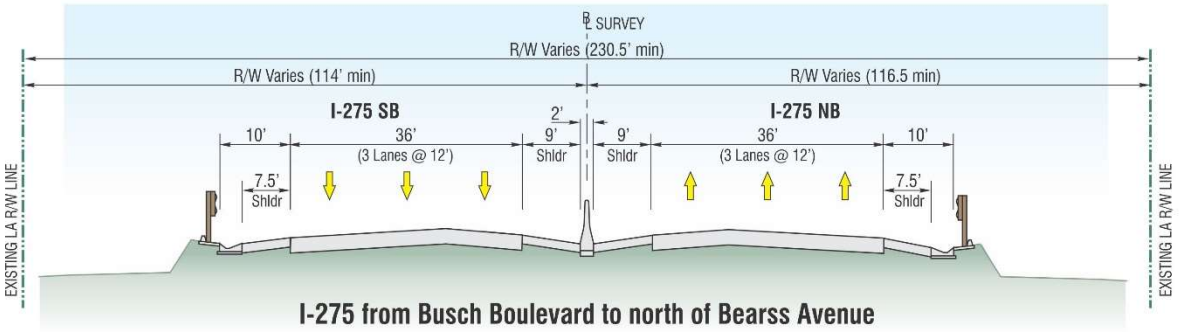


I-275 from north of MLK Boulevard to Hillsborough Avenue



I-275 from Hillsborough Avenue to Busch Boulevard

**Between Hillsborough Avenue and Sligh Avenue, the northbound median is used as a travel lane and is not striped out and the outside lane becomes an auxiliary lane.*



I-275 from Busch Boulevard to north of Bearss Avenue

4.1.3 Right of Way

The existing right of way along the I-275 mainline typically ranges from approximately 228 feet to 338 feet. However, the right of way is wider at the interchanges. The widest right of way point is approximately 1,400 feet at the Busch Boulevard interchange. The existing right of way along the corridor is shown on the concept plans in **Appendix A**.

4.1.4 Design and Posted Speeds

The posted speed limits and the design speed along I-275 range from 55 mph to 65 mph, as shown in **Table 3**.

Table 3: Posted Speeds Along I-275

From	To	Posted Speed	Design Speed
MLK Boulevard	Busch Boulevard	55 mph	60 mph
Busch Boulevard	Fletcher Avenue	60 mph	60 mph
Fletcher Avenue	Bearss Avenue	65 mph	60 mph

4.1.5 Pedestrian and Bicycle Facilities

As I-275 is a LA interstate facility, there are no existing or planned pedestrian or bicycle facilities on the roadway. F.S. 316.091(4) prohibits pedestrians and bicycles from operating along the shoulder or lanes on LA facilities: "No person shall operate a bicycle or other human-powered vehicle on the roadway or along the shoulder of a limited access highway, including bridges, unless official signs and a designated, marked bicycle lane are present at the entrance of the section of highway indicating that such use is permitted pursuant to a pilot program of the Department of Transportation." Pedestrian and bicycle facilities exist along most of the cross roads and at the interchange ramp terminal intersections.

4.1.6 Multi-Modal Facilities

HART operates existing transit service in Hillsborough County on I-275 within the project limits utilizing two express routes 20X and 275LX (see Section 3.7). HART also operates a MetroRapid service adjacent to I-275 on Nebraska Avenue, as well as flex service and circulator service near the project area. Future transit service express routes, within and adjacent to the project limits, are listed in HART's *Transit Development Plan* (TDP) *2018-2027 Major Update*.

As outlined above, there are no bicycle or pedestrian facilities allowed on I-275; however, there are bicycle and pedestrian accommodations on area cross streets.

No other transportation modes are accommodated within or adjacent to the project corridor.

4.1.7 Railroad Crossings

Within the project limits, there are two sets of actively-used freight railroad tracks crossing under I-275 (see **Section 4.2.3** for information about vertical clearances). Railroad Crossing Number 626892H is located south of Busch Boulevard at Railroad Milepost SY849.50. Railroad Crossing Number 624964C is located north of the Bearss Avenue interchange, at the North Nebraska Avenue (US 41) overpass, at Railroad Milepost SR833.65. The rail lines at these two crossings each contain a single track. CSXT owns and operates these railroad lines.

4.1.8 Lighting

Median barrier mounted dual arm light poles exist along the entire project limits, including interchanges. Conventional lighting also exists on the Busch Boulevard interchange ramps.

4.1.9 Intersections/Interchanges and Signalization

There are seven interchanges within the project limits with intersections at the ramp termini with cross streets. The interchange characteristics are shown in **Table** 4**4**.

Table 4: Existing Interchanges Along I-275

Location	Milepost	Type	Movements Provided	Number of Lanes on Cross Road	Traffic Signals	Maintaining Jurisdiction
Hillsborough Avenue	2.252	Diamond and Partial Clover Leaf	All Movements	4/6	1	City of Tampa
Sligh Avenue	3.464	Diamond	All Movements	4	2	City of Tampa
Bird Street	4.293	Half Diamond	Southbound On-Ramp and Northbound Off-Ramp	4	2	City of Tampa
Busch Boulevard	5.010	Partial Cloverleaf	All Movements	6	2	City of Tampa
Fowler Avenue	6.511	Diamond	All Movements	4/6	2	City of Tampa
Fletcher Avenue	7.523	Diamond	All Movements	4	2	Hillsborough County
Bearss Avenue	8.812	Diamond	All Movements	4	2	Hillsborough County

4.1.10 Horizontal Alignment

As-built plans were reviewed and field reviews were conducted to identify existing horizontal clearance information. During the field review, several design elements were assessed as described below.

Border Width: Because of the densely developed areas around I-275 and the historic districts boundaries, the existing border width throughout the project limits does not meet the 94-foot minimum offset recommended per FDOT design criteria. There are no locations in the project limits where the border width meets the standard.

Roadside Slopes: The roadside slopes (front, back, and transverse) within the project limits either meet current FDOT design criteria or are properly protected in accordance with current standards. The typical front slope is 1:2 outside of clear zone.

Clear Zone: The clear zones, including mainline and interchange ramps, either meet current FDOT design criteria or are properly protected in accordance with current standards. The required clear zone for I-275 mainline is 36 feet.

Horizontal Clearance: The horizontal clearances to all fixed objects within the project limits either meet FDOT design criteria or possible hazards are properly protected per current standards.

The existing horizontal alignment within the project limits is summarized in **Table 5**. Within the project limits, I-275 contains 15 horizontal curves, all of which are based off the existing centerline. For a 60 mph design speed, FDOT requires a minimum horizontal curve length of 900 feet on freeways. All but four of the existing horizontal curves, with related super-elevation rates, meet the current minimum FDOT design criteria for a design speed of 60 mph. Three curves that do not meet the current minimum design criteria are between north of MLK Boulevard and Hillsborough Avenue and one curve is between Hillsborough Avenue and Yukon Street. The three curves south of Hillsborough Avenue each have a length less than 400 feet.

4.1.11 Vertical Alignment

The existing vertical alignment was obtained from I-275 as-built plans. Within the project limits, I-275 contains 102 vertical curves. For a 60 mph interstate design speed, FDOT requires a minimum vertical curve length of 1,800 feet for crest vertical curves within an interchange and 1,000 feet for crest vertical curves outside an interchange. Only one of the existing crest vertical curves (near Nebraska Avenue/US 41) meets the current minimum standard. For a 60 mph design speed, FDOT requires a minimum vertical curve length of 800 feet for sag vertical curves regardless of location. Only six vertical sag curves meet the 800-foot length standard. The existing vertical alignment within the project limits is summarized in **Table 6**.

Table 5: Existing Horizontal Alignment Data

Curve Name	Point of Curvature - Station	Point of Tangency - Station	Delta	Degree of Curvature	Tangent	Length	Curve Radius	Super-elevation Rate	Design Speed
South of MLK Boulevard to north of Hillsborough Avenue									
C25	777+02.52	779+33.94	2° 18' 50.91" (LT)	1° 0' 0.00"	115.72'	231.42'	5,729.58'	0.03	60 MPH
C26	794+48.77	797+78.80	3° 18' 00.94" (LT)	1° 0' 0.00"	165.06'	330.03'	5,729.58'	0.03	60 MPH
C27	800+40.23	803+67.73	3° 16' 29.85" (RT)	1° 0' 0.00"	163.79'	327.50'	5,729.58'	0.03	60 MPH
North of Hillsborough Avenue to south of Yukon Street									
C1	823+83.39	834+00.60	10° 10' 19.70" (RT)	1° 0' 0.00"	509.95'	1,017.21'	5,729.58'	0.03	60 MPH
C2	837+668.62	843+82.87	9° 12' 49.37" (LT)	1° 30' 0.00"	307.79'	614.25'	3,819.72'	0.043	60 MPH
C3	852+92.16	861+95.89	19° 17' 51.66" (LT)	2° 0' 0.00"	456.45'	904.26'	2,864.79'	0.055	60 MPH
C4	872+80.24	884+20.82	17° 06' 31.38" (RT)	1° 30' 0.00"	574.57'	1,140.58'	3,819.72'	0.043	60 MPH
C5	523+52.23	533+21.39	10° 29' 57.09" (LT)	1° 05' 0.00"	485.94'	969.16'	5,288.84'	0.032	60 MPH
C6	542+27.30	559+51.09	21° 32' 50.59" (RT)	1° 15' 0.00"	872.20'	1,723.79'	4,583.66'	0.036	60 MPH
South of Yukon Street to north of Busch Boulevard									
BL1	556+52.25	577+39.80	10° 52' 31.92" (LT)	1° 0' 0.00"	545.42'	1,087.55'	5,729.58'	0.03	60 MPH
North of Busch Boulevard to north of Fletcher Avenue									
I275SUR1	648+99.12	659+30.61	1° 43' 08.98" (RT)	0° 10' 0.00"	515.79'	1,031.49'	34,377.40'	N/C	60 MPH
I275SUR2	663+93.20	674+37.89	1° 44' 28.15" (LT)	0° 10' 0.00"	522.39'	1,044.65'	34,377.40'	N/C	60 MPH
I275SUR3	148+02.88	158+36.20	0° 30' 59.98" (LT)	0° 03' 00.00"	516.66'	1,033.32'	114,591.33'	N/C	60 MPH
North of Fletcher Avenue to north of Bearss Avenue									
C1A	226+56.20	249+76.64	34° 48' 24.00" (RT)	1° 30' 0.00"	1,197.27'	2,320.45'	3,819.72'	0.043	60 MPH
C1B	259+57.28	274+38.74	29° 37' 45.00" (RT)	2° 00' 0.00"	757.69'	1,481.46'	2'864.79'	0.062	65 MPH

Legend:

Curve lengths that do not meet the current 900-foot minimum required length.

Table 6: Existing Vertical Alignment Data

Curve Type	Begin Station	End Station	Profile Grade Line	Curve Length	Back Grade	Forward Grade	Cross Street Name
Crest	784+70	790+10	Left	540'	3.000%	-3.000%	Osborne Ave
	784+70	790+10	Right	540'	3.000%	-3.000%	Osborne Ave
Sag	792+60	795+60	Left	300'	-3.000%	-0.400%	N/A
	792+60	795+60	Right	300'	-3.000%	-0.400%	N/A
Sag	805+90	811+10	Left	520'	-0.400%	3.000%	N/A
	805+90	811+10	Right	520'	-0.400%	3.000%	N/A
Crest	811+10	817+10	Left	600'	3.000%	-3.000%	Hillsborough Ave
	811+10	817+10	Right	600'	3.000%	-3.000%	Hillsborough Ave
Sag	821+10	824+10	Left	300'	-3.000%	0.219%	N/A
	821+10	824+10	Right	300'	-3.000%	0.219%	N/A
Sag	830+70	833+70	Left	300'	0.219%	3.000%	N/A
	830+70	833+70	Right	300'	0.219%	3.000%	N/A
Crest	837+80	843+20	Left	540'	3.000%	-3.000%	Hanna St
	837+80	843+20	Right	540'	3.000%	-3.000%	Hanna St
Sag	845+25	848+25	Left	300'	-3.000%	0.507%	N/A
	845+25	848+25	Right	300'	-3.000%	0.507%	N/A
Sag	861+50	864+00	Left	250'	0.507%	3.000%	N/A
	861+50	864+00	Right	250'	0.507%	3.000%	N/A
Crest	864+65	870+35	Left	570'	3.000%	-3.000%	Sligh Ave
	864+65	870+35	Right	570'	3.000%	-3.000%	Sligh Ave
Sag	875+95	884+25	Left	830'	-3.000%	3.000%	N/A
	875+95	884+25	Right	830'	-3.000%	3.000%	N/A
Crest	884+25	525+25.75	Left	700'/800'*	3.000%	-3.000%	Broad St
	884+25	525+25.75	Right	700'/800'*	3.000%	-3.000%	Broad St
Sag	530+91.85	538+91.85	Left	800'	-2.120%	1.800%	N/A
	530+91.85	538+91.85	Right	800'	-2.120%	1.800%	N/A
Crest	542+50	547+50	Left	500'	1.800%	0.340%	Bird St
	542+50	547+50	Right	500'	1.800%	0.340%	Bird St
Crest	553+15.20	556+15.20	Left	300'	0.340%	-0.925%	Waters Ave
	553+15.20	556+15.20	Right	300'	0.340%	-0.925%	Waters Ave
Sag	560+50	563+50	Left	300'	-0.925%	0.947%	N/A
	560+50	563+50	Right	300'	-0.925%	0.947%	N/A
Crest	570+50	573+50	Left	300'	0.947%	1.055%	N/A
	570+50	573+50	Right	300'	0.947%	1.055%	N/A
Crest	578+95	585+45	Left	650'	1.055%	-3.000%	Busch Blvd/CSX
	578+95	585+45	Right	650'	1.055%	-3.000%	Busch Blvd/CSX
Sag	590+45.49	595+45.49	Left	500'	-3.000%	0.508%	N/A
	590+45.49	595+45.49	Right	500'	-3.000%	0.508%	N/A
Sag	596+29.47	603+29.47	Left	700'	0.508%	3.000%	N/A
	596+29.47	603+29.47	Right	700'	0.508%	3.000%	N/A
Crest	604+00	611+00	Left	700'	3.000%	-0.800%	Linebaugh Ave
	604+00	611+00	Right	700'	3.000%	-0.800%	Linebaugh Ave

Notes: *Two plan sets show different curve lengths of 700' and 800'

Legend:

Crest

Interchanges/Crest

Sag

Acronyms: N/A=Not Applicable

Table 4: Existing Vertical Alignment Data (continued)

Curve Type	Begin Station	End Station	Profile Grade Line	Curve Length	Back Grade	Forward Grade	Cross Street Name
Sag	614+47.27	619+47.27	Left	500'	-0.800%	0.300%	N/A
	614+47.27	619+47.27	Right	500'	-0.800%	0.300%	N/A
Crest	620+00	626+00	Left	600'	0.300%	-1.500%	Bougainvillea Ave
	620+00	626+00	Right	600'	0.300%	-1.500%	Bougainvillea Ave
Sag	629+65.18	634+65.18	Left	500'	-1.500%	0.100%	N/A
	629+65.18	634+65.18	Right	500'	-1.500%	0.100%	N/A
Sag	647+92.86	654+92.86	Left	700'	0.100%	3.000%	N/A
	647+92.86	654+92.86	Right	700'	0.100%	3.000%	N/A
Crest	656+75.55	666+75.55	Left	1,000'	3.000%	-3.000%	Fowler Ave
	656+75.55	666+75.55	Right	1,000'	3.000%	-3.000%	Fowler Ave
Sag	667+50.69	672+50.69	Left	500'	-3.000%	-0.300%	N/A
	667+50.69	672+50.69	Right	500'	-3.000%	-0.300%	N/A
Station Equation 677+00 = 115+30.72							
Sag	116+73.14	120+73.14	Left	400'	-0.300%	3.000%	N/A
	116+73.14	120+73.14	Right	400'	-0.300%	3.000%	N/A
Crest	121+75	130+75	Left	900'	3.000%	-2.500%	127th Ave
	121+75	130+75	Right	900'	3.000%	-2.500%	127th Ave
Sag	132+00	135+50	Left	350'	-2.500%	0.107%	N/A
	132+00	135+50	Right	350'	-2.500%	0.107%	N/A (Sink Hole NB)
Sag	142+50	146+50	Left	400'	0.107%	3.000%	N/A
	142+50	146+50	Right	400'	0.107%	3.000%	N/A
Crest	147+75	156+75	Left	900'	3.000%	-2.000%	Fletcher Ave
	147+75	156+75	Right	900'	3.000%	-2.000%	Fletcher Ave
Sag	160+00	165+00	Left	500'	-2.000%	0.564%	N/A
	160+00	165+00	Right	500'	-2.000%	0.564%	N/A
Crest	179+50	184+50	Left	500'	0.564%	-0.243%	N/A
	179+50	184+50	Right	500'	0.564%	-0.243%	N/A
Sag	198+00	202+00	Left	400'	-0.243%	0.050%	N/A
	198+00	202+00	Right	400'	-0.243%	0.050%	N/A
Sag	210+00	214+00	Left	400'	0.050%	3.000%	N/A
	210+00	214+00	Right	400'	0.050%	3.000%	N/A
Crest	216+25	226+25	Left	1,000'	0.03	-0.03	Bearss Ave
	216+25	226+25	Right	1,000'	0.03	-0.03	Bearss Ave
Sag	226+25	231+75	Left	550'	-3.000%	0.292%	N/A
	226+25	231+75	Right	550'	-3.000%	0.292%	N/A
Sag	242+50	247+50	Left	500'	-0.050%	3.000%	N/A
	242+50	247+50	Right	500'	-0.050%	3.000%	N/A
Crest	250+50	260+50	Left	1,000'	3.000%	-3.000%	US 41 (Nebraska Ave)/CSX
	250+50	260+50	Right	1,000'	3.000%	-3.000%	US 41 (Nebraska Ave)/CSX
Sag	262+75	267+75	Left	500'	-3.000%	-0.238%	N/A
	262+75	267+75	Right	500'	-3.000%	-0.238%	N/A
Sag	272+00	276+00	Left	400'	-0.238%	0.300%	N/A
	272+00	276+00	Right	400'	-0.238%	0.300%	N/A
Crest	281+50	286+50	Left	500'	0.003	-0.003	N/A
	281+50	286+50	Right	500'	0.003	-0.003	N/A

Notes: *Two plan sets show different curve lengths of 700' and 800'

Legend:

Crest

Interchanges/Crest

Sag

Acronyms: N/A=Not Applicable

4.1.12 Drainage and Floodplains

4.1.12.1 Existing Drainage Conditions

The project is located mainly within the Hillsborough Bay Watershed which encompasses 1,282 square miles. The remaining area of the I-275 project lies within the Coastal Old Tampa Bay Watershed which spans 338 square miles. Both watersheds ultimately drain to Tampa Bay. Both Hillsborough Bay and Coastal Old Tampa Bay Watersheds are part of the larger regional Tampa Bay Watershed which encompasses 2,200 square miles. The drainage basins in the study area as delineated by the Southwest Florida Water Management District (SWFWMD) include the Hillsborough River, Sulphur Springs, Curiosity Creek, Chapman Lake Outlet, and Cypress Creek. The only major water body within the project limits is the Hillsborough River.

Based on the ETDM Programming Screen, portions of the Hillsborough River are an Outstanding Florida Water (OFW) but not near this project.

The project limits were evaluated for impairment as identified by the Florida Department of Environmental Protection (FDEP). FDEP has identified three basins within the project limits that are impaired according to their Water Body Identification Numbers (WBIDs). **Table 7** summarizes the impaired water bodies and the impairment.

Table 7: Verified Impaired Waters

Planning Unit	Water Body Identification	Water Segment Name	Impairment
Hillsborough River	1523	Curiosity Creek	Fecal Coliform
Hillsborough River	1443H	Hillsborough Reservoir	Nutrients (Total Phosphorus)
Hillsborough River	1402	Cypress Creek	Fecal Coliform

4.1.12.2 Stormwater Management

The original construction of I-275 within the study limits was not permitted with SWFWMD. However, improvements to the interstate between 1998 and 2011 have been permitted with SWFMWD. The permitted improvements include:

- I-275 from south of Busch Boulevard to south of Fletcher Avenue
- I-275 from south of Fletcher Avenue to north of US 41
- I-275 Safety Improvements
- I-275 from south of Hillsborough Avenue to north of Yukon Street
- I-275 from Floribraska Avenue to Osborne Avenue
- I-275 Northbound off-ramp to Fowler Avenue
- I-275 Widening from south of Fowler Avenue to south of Fletcher Avenue

Additional information regarding the permitted ponds associated with the improvements to I-275 are provided in the *Pond Siting Report*.

4.1.12.3 Floodplains

As stated in the project January 2019 *Location Hydraulic Memorandum,* information obtained from the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) shows the project crosses through the limits of the 100-year floodplain at several locations along the project corridor. Segments where potential impacts to the 100-year floodplain could occur are shown on FEMA Map No. 12057C0214H and 12057C0204H. The FEMA maps are provided in the *Pond Siting Report*.

According to FEMA, the Hillsborough River is a regulated floodway at the I-275 bridge crossing. The base flood elevation North American Vertical Datum of 1988 (NAVD 88) for the Hillsborough River at the bridge crossing is 10.0 feet. Impacts to the 100-year floodplain resulting from the proposed improvements will occur in two different ways: longitudinal impacts that occur as a result of the road widening, and transverse impacts resulting from widening the Hillsborough River Bridge.

The potential longitudinal impacts to the floodplain may require compensation. The magnitude of the impacts to the floodplain cannot be verified until the design phase; however, a preliminary analysis of floodplain impacts for the Build Alternative was conducted and determined the longitudinal impacts will occur in Basin 14. Per the FEMA floodplain maps, the base flood elevation in Basin 14 is 50.1 feet. A preliminary analysis estimates that 1.00 acre-feet of floodplain will be impacted in this basin. The impact is proposed to be compensated by grading a linear swale. The compensation site is referred to as Floodplain Compensation site 14 (FPC-14) and will be constructed within the existing right of way between Station 4102+00 and Station 4121+10 on the east side of I-275.

The Build Alternative will widen the existing bridges over the Hillsborough River resulting in minor transverse impacts. The transverse impacts occur from piles constructed in the Hillsborough River to accommodate the proposed widening. A Bridge Hydraulics Report including scour analysis and a no rise will be performed during the design phase to verify upstream flood stages are maintained within the specified limits. It is not anticipated that the piles will impact the 100-year floodplain or require floodplain compensation.

Project improvements will not change the flood risk for the I-275 corridor. Replacement drainage structures for this project are limited to hydraulically equivalent structures.

4.1.12.4 Existing Cross Drains

The *Location Hydraulics Report* (LHR) for this project identified 16 cross drains that traverse I-275 within the study limits. The cross drain sizes and locations were determined using existing drainage maps, Straight Line Diagrams (SLD's), SWFWMD permit research, and field investigations. Additional information on the existing cross drains is provided in the *LHR*. **Table 8** summarizes the existing cross drain data.

Table 8: Existing Cross Drains

Station (Center Line of Construction)	FDOT Milepost	Length (feet)	Size (inches)	Basin No.	Comment
1810+50	2.381	N/A	54 (2)	1	Connection to Storm Sewer
1827+25	2.703	N/A	30	2	Connection to Storm Sewer
1867+60	3.464	N/A	24	3	Connection to Storm Sewer
1887+70	3.845	N/A	24	4/5	Connection to Storm Sewer
1940+00	4.829	239	48	7	
1974+28	5.482	236	36	8	
1988+41	5.751	N/A	42	9	Connection to Storm Sewer
1994+71	5.870	N/A	42		Connection to Storm Sewer
2016+31	6.284	N/A	42		Connection to Storm Sewer
2021+46	6.381	263	36		
2047+95	6.884	207	24	10	
2060+69	7.131	N/A	30	11	Discharge to Sink Hole
2070+46	7.315	213	30	12	
2094+70	7.774	208	24	13	
2136+24	8.561	201	36	14	
2157+27	8.884	261	36	15	

4.1.12.5 Existing Bridges over Water Bodies

Within the project corridor, I-275 crosses the Hillsborough River which is the only major water body in the project area. The existing bridge (Bridge No. 100218) over the Hillsborough River was originally constructed in 1967 and later widened in 2011. The current bridge consists of five 60-foot spans with an overall bridge length of 300 feet as measured along the centerline of I-275. The overall out-to-out bridge width is 163 feet 1 inch. The Plan and Elevation Sheet and the Bridge Hydraulics Recommendations Sheet from the existing bridge plans are included in the *Pond Siting Report.*

4.1.13 Geotechnical Data

Soil surveys provide indications of what a soil may be useful for and can provide clues as to possible uses and potential environmental issues. Additionally, maps of the soil units provided in the surveys often show historical land features such as mines, borrow pits, railroads, etc. These can also be indications of areas of concern.

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) *Soil Survey of Hillsborough County, Florida* issued May 1989 and the Web Soil Survey were reviewed for general climate and near surface soil information. The soils in the project area (500-foot buffer from corridor) are listed in **Table 9** and displayed in **Figure 3.**

According to the Soil Survey, the mean annual rainfall for Hillsborough County is approximately 50 inches with 60 percent falling in the summer months, June through September. The climate of the area is generally subtropical with an annual average temperature of about 73 degrees.

The general soil units can be described as follows. The Urban Land-Candler soils are nearly level to strongly sloping, excessively drained soils that are sandy throughout and have thin lamellae below 66 inches of the surface. Most areas have been modified for urban use. The Urban Land-Tavares soils consist of nearly level to sloping, moderately well drained soils that are sandy throughout. Most areas have been modified for urban use.

Topographic maps provide an understanding of previous land uses in the project corridor and identify areas that may show historical, natural and manmade features, which aid in determining potential environmental concerns.

The United States Geologic Survey (USGS) *7.5-Minute Sulphur Springs, Florida Quadrangle* topographic map (1987), and the *Tampa, Florida Quadrangle* topographic map (1998) were reviewed as part of this study.

Review of the *Sulphur Springs, Florida Quadrangle* topographic map shows the I-275 mainline in existence when it was last photo-revised in 1987. The area from the southern end of the quadrangle to Bearss Avenue is shown as an urban developed area and varies in elevation from -5 to +55 feet National Geodetic Vertical Datum of 1929 (NGVD 29). Several unnamed ponds, the Hillsborough River and a railroad corridor intersect the project corridor and are depicted on this topographic map.

Review of the *Tampa, Florida Quadrangle* topographic map, shows the mainline I-275 in existence. The area from Hillsborough Avenue to the northern end of the quadrangle is shown as urban developed land. Within the Tampa topographic map, the elevation is approximately 15-feet NGVD 29.

Figure 3: Soils Map

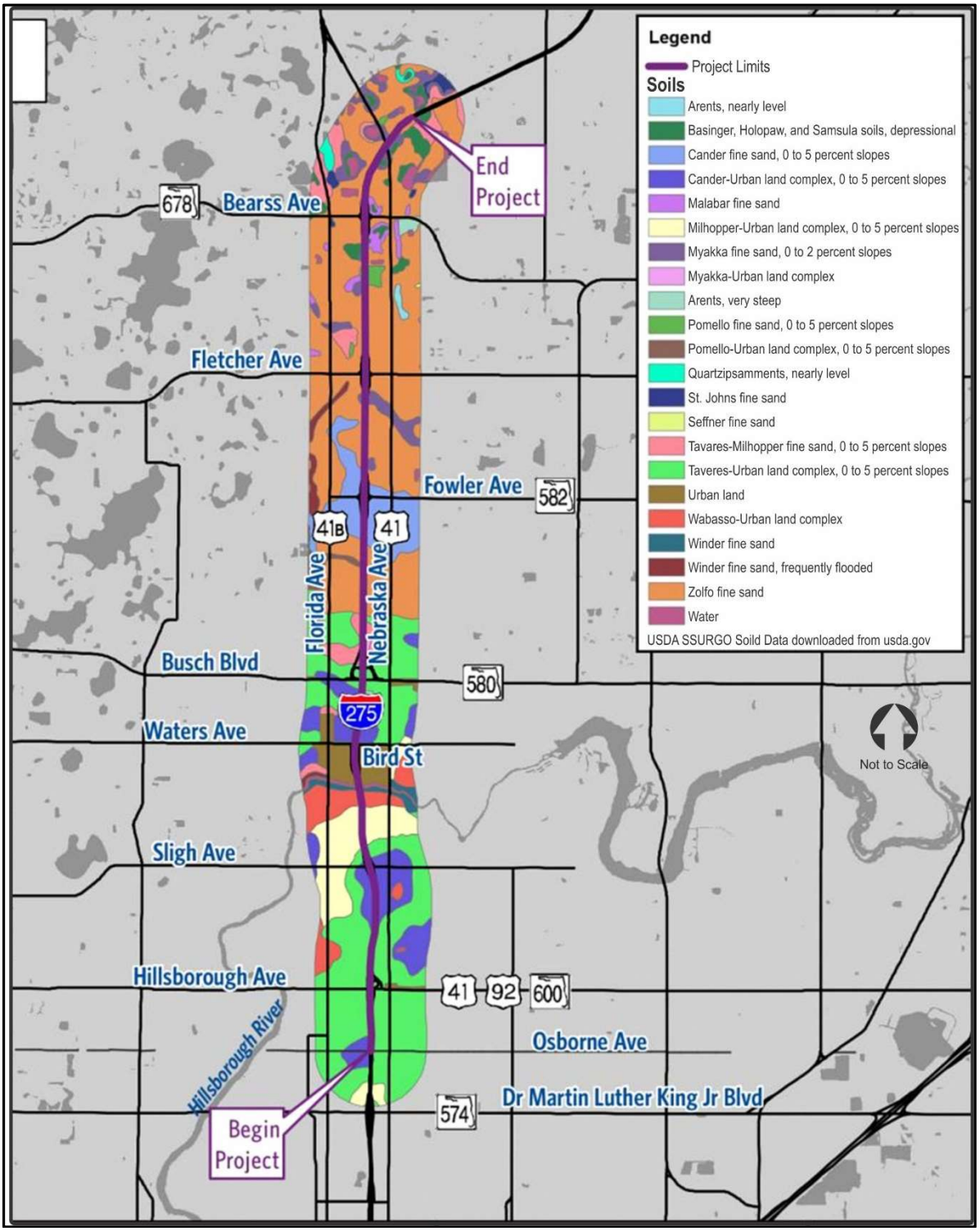


Table 9: Summary of Soil Groups

Soil Name (Map Unit No.)	Depth (inches)	Classification		Permeability (inch/hour)	Seasonal High Water Table Depth (feet)	Hydro-logic Group
		AASHTO Group	USCS Group			
Arents	0 – 4 4 – 80	A-3 A-3	SP SP	6.0 – 20 6.0 – 20	3.5 – 6.0	A
Basinger, Holopaw, Samsula	0 – 7 7 – 28 28 – 42 42 – 80	A-3 A-3, A-2-4 A-3, A-2-4 A-3, A-2-4	SP SP, SP-SM SP, SP-SM SP, SP-SM	6.0 – 20 6.0 – 20 6.0 – 20 6.0 – 20	+2 – 1.0	D
Cander	0 – 6 6 – 72 72 – 80	A-3 A-3 A-3, A-2-4	SP, SP-SM SP, SP-SM SP-SM	6.0 – 20 6.0 – 20 6.0 – 20	>6.0	A
Malabar	0 – 12 12 – 30 30 – 50 50 – 66 66 – 80	A-3 A-3, A-2-4 A-3 A-2, A-4, A-6 A-3, A-2-4	SP, SP-SM SP, SP-SM SP-SP-SM SC, SM-SC, SM SP-SM, SM	6.0 – 20 6.0 – 20 6.0 – 20 <0.2 6.0 – 20	0 – 1.0	B/D
Millhopper	0 – 12 12 – 30 30 – 50 50 – 66 66 – 80	A-3 A-3, A-2-4 A-3 A-2, A-4, A-6 A-3, A-2-4	SP, SP-SM SP, SP-SM SP-SP-SM SC, SM-SC, SM SP-SM, SM	6.0 – 20 6.0 – 20 6.0 – 20 <0.2 6.0 – 20	0 – 5.0	B/D
Myakka	0 – 20 20 – 30 30 – 80	A-3 A-3, A-2-4 A-3	SP, SP-SM SP, SP-SM SP, SP-SM	6.0 – 20 0.6 – 6.0 6.0 – 20	0 – 1.0	B/D
Pomello	0 – 43 43 – 55 55 – 80	A-3 A-3, A-2-4 A-3	SP, SP-SM SP-SM, SM SP, SP-SM	>20 2.0 – 6.0 6.0 – 20	0 – 5.0	C
Quartz	0 – 12 12 – 29 29 – 46 46 – 80	A-3 A-3 A-3, A-2-4 A-3	SP, SP-SM SP, SP-SM SP-SM, SM SP, SP-SM	6.0 – 20 6.0 – 20 0.2 – 2.0 6.0 – 20	0 – 1.0	B/D
St. Johns	0 – 12 12 – 29 29 – 46 46 – 80	A-3 A-3 A-3, A-2-4 A-3	SP, SP-SM SP, SP-SM SP-SM, SM SP, SP-SM	6.0 – 20 6.0 – 20 0.2 – 2.0 6.0 – 20	0 – 1.0	B/D
Seffner	0 – 13 13 – 21 21 – 80	A-3, A-2-4 A-3, A-2-4 A-3, A-2-4	SP-SM, SP SP-SM, SP SP-SM, SP	6.0 – 20 6.0 – 20 6.0 – 20	1.5 – 3.5	C
Taveres	0 – 12 12 – 20 20 – 80	A-3, A-2-4 A-3, A-2-4 A-3	SP, SP-SM SM, SP-SM SP, SP-SM	6.0 – 20 0.6 – 6.0 6.0 – 20	0 – 5.0	B/D

Table 9: Summary of Soil Groups (continued)

Soil Name (Map Unit No.)	Depth (inches)	Classification		Permeability (inch/hour)	Seasonal High Water Table Depth (feet)	Hydro-logic Group
		AASHTO Group	USCS Group			
Wabasso	0 – 10 10 – 14 14 – 30 30 – 80	A-3, A-2-4 A-2-4 A-2-4, A-2-6 A-2-4	SP, SP-SM SM SC SM, SM-SC, SC	6.0 – 20 0.2 – 0.6 >0.2 >0.2	0 – 2.0	B/D
Winder	0 – 10 10 – 14 14 – 30 30 – 80	A-3, A-2-4 A-2-4 A-2-4, A-2-6 A-2-4	SP, SP-SM SM SC SM, SM-SC, SC	6.0 – 20 0.2 – 0.6 >0.2 >0.2	0 – 1.0	B/D
Zolfo	0 – 3 3 – 60 60 – 80	A-3, A-2-4 A-3, A-2-4 A-3, A-2-4	SP-SM SP-SM, SM SP-SM, SM	6.0 – 20 6.0 – 20 0.6 – 2.0	2.0 – 3.5	C

Acronyms: USCS Group: SP=poorly graded sand; SP-SM=poorly graded sand with silt; SM=silty sand, SC=clayey sand
AASHTO Group: A-1 through A-1=granular materials; A-4 through A-7=silt-clay materials

4.1.14 Crash Data

Crash data for I-275 from north of MLK Boulevard to north of Bearss Avenue for the five-year period between 2012 and 2016 were obtained from FDOT's Crash Analysis Reporting System (CARS). In the five-year period, a total of 1,639 crashes (777 northbound and 862 southbound) occurred in the project corridor. These crashes resulted in 14 fatalities and 1,037 injuries. The average number of crashes per year was 328. The primary crash type is rear end crashes with 957 total crashes representing 58 percent of the total crashes. Hit fixed object crashes is the second highest type of crash occurring with 361 total crashes representing 22 percent of the total crashes, and sideswipe with 188 total crashes representing 11 percent of the total crashes. All other crash types each individually represent less than 10% of the total crashes. Eight crashes resulted in 14 fatalities; 669 crashes resulted in 1,037 injuries, and 962 resulted in property damage only.

The segments with the highest number of crashes (defined as the crashes higher than 85th percentile in the five-year period) in the northbound direction are:

- between the I-275 off and on-ramps to Sligh Avenue (0.232 mile in length) with 94 total crashes resulting in a crash rate of 405.17 (crashes/miles)
- between the I-275 off-ramp to Bird Street to the diverge area of the I-275 off-ramp to Busch Boulevard (0.603 mile in length) with 71 total crashes resulting in a crash rate of 117.74 (crashes/miles), and
- between the I-275 off and on-ramps to Fowler Avenue (0.430 mile in length) with 65 total crashes resulting in a crash rate of 151.16 (crashes/miles).

The segments between I-275 off-ramp to Hillsborough Avenue eastbound and the I-275 on-ramp from Hillsborough Avenue and between the I-275 off-ramp to Sligh Avenue and the I-275 on-ramp from Sligh Avenue have the highest crash rates per million vehicle miles traveled at 3.067 and 3.106, respectively.

The segment with the highest number of crashes in southbound direction are:

- Between I-275 off and on-ramps to Hillsborough Avenue (0.270 mile in length) with 80 total crashes resulting in a crash rate of 296.30 (crashes/miles)
- Between the merge area of I-275 on-ramp from Sligh Avenue and the diverge area of I-275 off-ramp to Hillsborough Avenue (0.203 miles in length) with 67 total crashes resulting in a crash rate of 330.05 (crashes/miles)
- Between the I-275 off and on-ramps at Sligh Avenue (0.226 mile in length) with 77 total crashes resulting in a crash rate of 340.71 (crashes/miles)
- Between the merge area of I-275 on-ramp from Busch Boulevard and the I-275 on-ramp from Bird Street (0.573 mile in length) with 99 crashes resulting in a crash rate of 172.77 (crashes/miles), and
- Between the I-275 off and on-ramps to Fowler Avenue (0.374 mile in length) with 79 total crashes resulting in a crash rate of 211.23 (crashes/miles).

The segments between the I-275 off and on-ramps from Sligh Avenue and the I-275 off and on-ramps to Bearss Avenue have the highest crash rates per million vehicle miles traveled at 2.597 and 3.022, respectively.

There are many segments with crash rates that exceed the statewide average crash rate of 0.992 for the urban interstate category.

For additional information on crashes within the project corridor, refer to the *Project Traffic Analysis Report* (November 2018).

4.1.15 Existing Traffic

As stated in the 2019 Project Traffic Analysis Report (PTAR), the existing (2018) AM and PM hour demand traffic volumes for the I-275 mainline and ramps were developed with the existing (2018) ramp terminal and cross street intersections turning movement volumes from the information collected April and May 2018 (field observations and tube counts). The existing (2018) traffic operational characteristics were assessed through CORSIM models utilizing existing data such as traffic counts, truck percentages, speeds, geometry, capacity, and signal timings. CORSIM networks were developed by geocoding the interchanges, including the I-275 mainline, ramps, intersecting arterials, and ramp terminal intersections, using XY coordinates generated from aerial photographs. The CORSIM models were calibrated to replicate existing traffic operating conditions, including vehicle counts and speeds on mainline and ramp sections. The methodology used in the CORSIM simulation follows the FHWA Traffic Analysis Toolbox IV.

For the CORSIM model link traffic volumes, the AM and PM peak hours were evaluated for the I-275 mainline and ramp segments. The calibrated base year 2018 CORSIM model simulated traffic volumes were compared to the estimated year 2018 measured design hour traffic volumes as presented in **Table 10** through **Table 12**. The comparison has shown the CORSIM model simulated volumes were within 15 percent of the observed volumes for all study area I-275 segments for the year 2018 AM and PM peak hours. Based on the simulation results, AM and PM peak hours meet the individual link flow calibration criteria as shown in **Table 14** and **Table 15,** (HNTB, 2019)**.**

Table 10: 2018 AM Traffic Volumes – I-275 Northbound Segments

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)	GEH Statistic
Between I-275 on-ramp from MLK Boulevard and I-275 off-ramp to Hillsborough Avenue Eastbound	4	184	5,249	5,412	3%	2.2
	184	185	5,249	5,292	1%	0.6
	185	186	5,249	5,288	1%	0.5
	186	2	5,249	5,588	6%	4.6
I-275 off-ramp to Hillsborough Avenue Eastbound	2	7004	262	265	1%	0.2
Between I-275 off-ramp to Hillsborough Avenue Eastbound and I-275 off-ramp to Hillsborough Avenue Westbound	2	112	4,987	5,014	1%	0.4
I-275 off-ramp to Hillsborough Avenue Westbound	112	113	616	600	-3%	0.6
Between I-275 off-ramp to Hillsborough Avenue Westbound and I-275 on-ramp from Hillsborough Avenue	112	114	4,371	4,414	1%	0.6
I-275 on-ramp from Hillsborough Avenue	115	114	686	648	-6%	1.5
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to Sligh Avenue	114	5	5,057	5,060	0%	0.0
	5	187	5,057	5,057	0%	0.0
	187	188	5,057	5,053	0%	0.1
	188	7	5,057	5,051	0%	0.1
	7	6	5,057	5,049	0%	0.1
I-275 off-ramp to Sligh Avenue	6	7007	346	311	-10%	1.9
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	6	119	4,711	4,735	1%	0.3
I-275 on-ramp from Sligh Avenue	120	119	556	539	-3%	0.7
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Bird Street	119	122	5,267	5,526	5%	3.5
I-275 off-ramp to Bird Street	116	7009	547	510	-7%	1.6
Between I-275 off-ramp to Bird Street and I-275 off-ramp to Busch Boulevard	116	8	4,720	4,750	1%	0.4
	8	125	4,720	4,748	1%	0.4
	125	127	4,720	4,743	0%	0.3
	127	9	4,720	4,566	-3%	2.3
I-275 off-ramp to Busch Boulevard	9	129	744	725	-3%	0.7
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	9	130	3,976	4,001	1%	0.4
I-275 on-ramp from Busch Boulevard	132	130	449	535	19%	3.9

Table 10: 2018 AM Traffic Volumes – I-275 Northbound Segments (Continued)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)	GEH Statistic
Between I-275 on-ramp from Busch Boulevard and I-275 off-ramp to Fowler Avenue	130	189	4,425	4,595	4%	2.5
	189	133	4,425	4,525	2%	1.5
	133	190	4,425	4,521	2%	1.4
	190	135	4,425	4,310	-3%	1.7
I-275 off-ramp to Fowler Avenue	135	7012	1,486	1,558	5%	1.8
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	135	10	2,939	2,954	1%	0.3
I-275 on-ramp from Fowler Avenue	139	10	309	349	13%	2.2
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Fletcher Avenue	10	191	3,248	3,264	0%	0.3
	191	192	3,248	3,300	2%	0.9
	192	140	3,248	3,291	1%	0.8
I-275 off-ramp to Fletcher Avenue	140	7014	1027	1,053	3%	0.8
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	140	11	2,221	2,241	1%	0.4
I-275 on-ramp from Fletcher Avenue	144	11	163	132	-19%	2.6
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Bearss Avenue	11	193	2,384	2,583	8%	4.0
	193	145	2,384	2,444	3%	1.2
	145	194	2,384	2,364	-1%	0.4
	194	12	2,384	2,328	-2%	1.2
I-275 off-ramp to Bearss Avenue	12	7016	1,245	1,216	-2%	0.8
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	12	146	1139	1,143	0%	0.1
I-275 on-ramp from Bearss Avenue	7017	152	287	303	6%	0.9
North of I-275 on-ramp from Bearss Avenue	148	13	1426	1,428	0%	0.1
	13	195	1426	1,392	-2%	0.9

Table 11: 2018 AM Traffic Volumes – I-275 Southbound Segments

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)	GEH Statistic
North of I-275 to Bearss Avenue off-ramp	196	14	3,313	3,599	9%	4.9
	14	149	3,313	3,561	7%	4.2
I-275 off-ramp to Bearss Avenue	149	7033	732	690	-6%	1.6
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	149	147	2,581	2,769	7%	3.6
	147	15	2,581	2,769	7%	3.6
I-275 on-ramp from Bearss Avenue	7032	168	950	988	4%	1.2
Between I-275 on-ramp from Bearss Avenue and I-275 off-ramp to Fletcher Avenue	15	197	3,531	3,652	3%	2.0
	197	166	3,531	3,633	3%	1.7
	166	198	3,531	3,631	3%	1.7
	198	16	3,531	3,747	6%	3.6
I-275 off-ramp to Fletcher Avenue	16	7031	837	756	-10%	2.9
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	16	141	2,694	2,821	5%	2.4
I-275 on-ramp from Fletcher Avenue	7030	165	531	592	11%	2.6
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Fowler Avenue	141	199	3,225	3,204	-1%	0.4
	199	200	3,225	3,241	0%	0.3
	200	17	3,225	3,145	-2%	1.4
I-275 off-ramp to Fowler Avenue	17	7029	842	760	-10%	2.9
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	17	136	2,383	2,426	2%	0.9
I-275 on-ramp from Fowler Avenue	7028	164	840	788	-6%	1.8
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Busch Boulevard	136	201	3,223	3,051	-5%	3.1
	201	134	3,223	3,118	-3%	1.9
	134	202	3,223	3,106	-4%	2.1
	202	162	3,223	3,104	-4%	2.1
I-275 off-ramp to Busch Boulevard	162	7027	353	401	14%	2.5
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	162	18	2,870	2,700	-6%	3.2
I-275 on-ramp from Busch Boulevard	161	18	898	925	3%	0.9

Table 11: 2018 AM Traffic Volumes – I-275 Southbound Segments (Continued)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)	GEH Statistic
Between I-275 on-ramp from Busch Boulevard and I-275 on-ramp from Bird Street	18	128	3,768	3,596	-5%	2.8
	128	126	3,768	3,542	-6%	3.7
	126	19	3,768	3,522	-7%	4.1
	19	121	3,768	3,516	-7%	4.2
I-275 on-ramp from Bird Street	159	121	1019	1,032	1%	0.4
Between I-275 on-ramp from Bird Street and I-275 off-ramp to Sligh Avenue	121	123	4,787	4,710	-2%	1.1
	123	117	4,787	4,729	-1%	0.8
I-275 off-ramp to Sligh Avenue	117	7024	192	170	-11%	1.6
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	117	20	4,595	4,311	-6%	4.3
I-275 on-ramp from Sligh Avenue	156	20	846	811	-4%	1.2
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Hillsborough Avenue	21	203	5,441	5,091	-6%	4.8
	203	204	5,441	5,071	-7%	5.1
	204	22	5,441	5,061	-7%	5.2
	22	155	5,441	5,504	1%	0.9
I-275 off-ramp to Hillsborough Avenue	155	7022	380	340	-11%	2.1
Between I-275 off-ramp to Hillsborough Avenue and I-275 on-ramp from Hillsborough Avenue	155	23	5,061	4,693	-7%	5.3
I-275 on-ramp from Hillsborough Avenue	154	23	954	930	-3%	0.8
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to MLK Boulevard	23	205	6,015	5,987	0%	0.4
	205	206	6,015	5,591	-7%	5.6
	206	26	6,015	5,608	-7%	5.3

Table 12: 2018 PM Traffic Volumes I-275 Northbound Segments

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)	GEH Statistic
Between I-275 on-ramp from MLK Boulevard and I-275 off-ramp to Hillsborough Avenue Eastbound	4	184	4,975	5,019	1%	0.6
	184	185	4,975	4,913	-1%	0.9
	185	186	4,975	4,912	-1%	0.9
	186	2	4,975	5,162	4%	2.6
I-275 off-ramp to Hillsborough Avenue Eastbound	2	7004	153	155	1%	0.2
Between I-275 off-ramp to Hillsborough Avenue Eastbound and I-275 off-ramp to Hillsborough Avenue Westbound	2	112	4,822	4,751	-1%	1.0
I-275 off-ramp to Hillsborough Avenue Westbound	112	113	272	239	-12%	2.1
Between I-275 off-ramp to Hillsborough Avenue Westbound and I-275 on-ramp from Hillsborough Avenue	112	114	4,550	4,516	-1%	0.5
I-275 on-ramp from Hillsborough Avenue	115	114	945	961	2%	0.5
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to Sligh Avenue	114	5	5,495	5,473	0%	0.3
	5	187	5,495	5,459	-1%	0.5
	187	188	5,495	5,436	-1%	0.8
	188	7	5,495	5,416	-1%	1.1
	7	6	5,495	5,400	-2%	1.3
I-275 off-ramp to Sligh Avenue	6	7007	350	351	0%	0.1
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	6	119	5,145	5,042	-2%	1.4
I-275 on-ramp from Sligh Avenue	120	119	684	671	-2%	0.5
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Bird Street	119	122	5,829	5,986	3%	2.0
I-275 off-ramp to Bird Street	116	7009	370	375	1%	0.3
Between I-275 off-ramp to Bird Street and I-275 off-ramp to Busch Boulevard	116	8	5,459	5,336	-2%	1.7
	8	125	5,459	5,337	-2%	1.7
	125	127	5,459	5,337	-2%	1.7
	127	9	5,459	5,144	-6%	4.3
I-275 off-ramp to Busch Boulevard	9	129	531	498	-6%	1.5
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	9	130	4,928	4,831	-2%	1.4
I-275 on-ramp from Busch Boulevard	132	130	780	747	-4%	1.2

Table 12: 2018 PM Traffic Volumes I-275 Northbound Segments (Continued)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)	GEH Statistic
Between I-275 on-ramp from Busch Boulevard and I-275 off-ramp to Fowler Avenue	130	189	5,708	5,654	-1%	0.7
	189	133	5,708	5,575	-2%	1.8
	133	190	5,708	5,575	-2%	1.8
	190	135	5,708	5,320	-7%	5.2
I-275 off-ramp to Fowler Avenue	135	7012	866	835	-4%	1.1
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	135	10	4,842	4,742	-2%	1.4
I-275 on-ramp from Fowler Avenue	139	10	764	817	7%	1.9
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Fletcher Avenue	10	191	5,606	5,494	-2%	1.5
	191	192	5,606	5,558	-1%	0.6
	192	140	5,606	5,547	-1%	0.8
I-275 off-ramp to Fletcher Avenue	140	7014	1016	1,041	2%	0.8
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	140	11	4,590	4,499	-2%	1.3
I-275 on-ramp from Fletcher Avenue	144	11	345	347	1%	0.1
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Bearss Avenue	11	193	4,935	5,246	6%	4.4
	193	145	4,935	4,966	1%	0.4
	145	194	4,935	4,807	-3%	1.8
	194	12	4,935	4,733	-4%	2.9
I-275 off-ramp to Bearss Avenue	12	7016	2,087	2,075	-1%	0.3
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	12	146	2848	2,725	-4%	2.3
I-275 on-ramp from Bearss Avenue	7017	152	409	474	16%	3.1
North of I-275 on-ramp from Bearss Avenue	148	13	3257	3,201	-2%	1.0
	13	195	3257	3,120	-4%	2.4

Table 13: 2018 PM Traffic Volumes I-275 Southbound Segments

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)	GEH Statistic
North of I-275 off-ramp to Bearss Avenue	196	14	1,628	1,666	2%	0.9
	14	149	1,628	1,701	4%	1.8
I-275 off-ramp to Bearss Avenue	149	7033	307	306	0%	0.1
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	149	147	1,321	1,303	-1%	0.5
	147	15	1,321	1,303	-1%	0.5
I-275 on-ramp from Bearss Avenue	7032	168	1,228	1,395	14%	4.6
Between I-275 on-ramp from Bearss Avenue and I-275 off-ramp to Fletcher Avenue	15	197	2,549	2,606	2%	1.1
	197	166	2,549	2,518	-1%	0.6
	166	198	2,549	2,518	-1%	0.6
	198	16	2,549	2,680	5%	2.6
I-275 off-ramp to Fletcher Avenue	16	7031	208	195	-6%	0.9
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	16	141	2,341	2,323	-1%	0.4
I-275 on-ramp from Fletcher Avenue	7030	165	842	856	2%	0.5
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Fowler Avenue	141	199	3,183	3,181	0%	0.0
	199	200	3,183	3,059	-4%	2.2
	200	17	3,183	3,146	-1%	0.7
I-275 off-ramp to Fowler Avenue	17	7029	311	303	-3%	0.5
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	17	136	2,872	2,756	-4%	2.2
I-275 on-ramp from Fowler Avenue	7028	164	1,690	1,768	5%	1.9
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Busch Boulevard	136	201	4,562	4,402	-4%	2.4
	201	134	4,562	4,286	-6%	4.1
	134	202	4,562	4,287	-6%	4.1
	202	162	4,562	4,532	-1%	0.4
I-275 off-ramp to Busch Boulevard	162	7027	577	506	-12%	3.1
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	162	18	3,985	3,773	-5%	3.4
I-275 on-ramp from Busch Boulevard	161	18	874	966	11%	3.0

Table 13: 2018 PM Traffic Volumes I-275 Southbound Segments (Continued)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)	GEH Statistic
Between I-275 on-ramp from Busch Boulevard and I-275 on-ramp from Bird Street	18	128	4,859	4,611	-5%	3.6
	128	126	4,859	4,730	-3%	1.9
	126	19	4,859	4,733	-3%	1.8
	19	121	4,859	4,734	-3%	1.8
I-275 on-ramp from Bird Street	159	121	576	590	2%	0.6
Between I-275 on-ramp from Bird Street and I-275 off-ramp to Sligh Avenue	121	123	5,435	5,546	2%	1.5
	123	117	5,435	5,619	3%	2.5
I-275 off-ramp to Sligh Avenue	117	7024	567	560	-1%	0.3
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	117	20	4,868	4,775	-2%	1.3
I-275 on-ramp from Sligh Avenue	156	20	404	382	-5%	1.1
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Hillsborough Avenue	21	203	5,272	5,156	-2%	1.6
	203	204	5,272	5,155	-2%	1.6
	204	22	5,272	5,154	-2%	1.6
	22	155	5,272	5,632	7%	4.9
I-275 off-ramp to Hillsborough Avenue	155	7022	649	693	7%	1.7
Between I-275 off-ramp to Hillsborough Avenue and I-275 on-ramp from Hillsborough Avenue	155	23	4,623	4,456	-4%	2.5
I-275 on-ramp from Hillsborough Avenue	7021	82	502	587	17%	3.6
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to MLK Boulevard	23	205	5,125	5,454	6%	4.5
	205	206	5,125	4,962	-3%	2.3
	206	26	5,125	4,961	-3%	2.3

Table 14: I-275 Individual Link Flows

Peak Hour	Flow<700 vph (+/- 100)	700<Flow<2700 vph (+/- 15%)	Flow>2700 vph (+/- 400)
AM	100%	100%	96%
PM	100%	100%	100%

Table 15: I-275 Individual Link Flows

Peak Hour	Percent Compliant
AM	93%
PM	100%
In addition, GEHs for the sum of all the links in AM and PM are less than 5. Sum of all link flow is within 5% of sum of all link counts	

4.1.16 Intelligent Transportation Systems

The existing Intelligent Transportation System (ITS) infrastructure along I-275 includes four closed circuit television (CCTV) cameras, three dynamic message signs (DMS), and 23 vehicle detectors on the I-275 northbound study segment. The detectors include both loop and microwave vehicle detector system (MVDS). There are eight CCTV cameras, four DMS signs, and 29 detectors on the I-275 southbound study segment. The detectors include both loop and MVDS. These ITS devices also include relevant camera lowering devices, encoders, cabling, uninterruptible power supplies, and structures; ITS cabinets with Ethernet communication equipment, media converters, device power supplies and surge suppression devices; conduit, fiber optic cable, and lightning protection system; and communication hubs at the I-275 and I-4 interchange, Busch Boulevard, and the I-275/I-75 Apex.

Two arterial dynamic message signs (ADMS) on Fowler Avenue east and west of I-275 are connected to I-275 fiber trunk line via wireless radio attached to the existing CCTV pole at the adjacent interchange. The ADMSs on MLK Boulevard located both east and west of I-275 are connected to the I-275 fiber trunk line via wireless radio attached to the existing CCTV pole at the adjacent interchange. Other ITS facilities include two DMSs and 10 MVDS on I-275 from south of Hillsborough Avenue to north of Yukon Street.

4.1.17 Utilities

The existing utilities located within the project limits were identified as part of the PD&E Study. A list of the existing utility companies was obtained by utilizing the Florida Sunshine 811 design ticket. The list of existing utilities is provided in **Table 16:** Utility Agency Owner Contacts.

Preliminary utility coordination was initiated to all utility agency owners (UAOs) through written communication to all the utility contacts. The letters informed the UAOs of the PD&E Study and requested that they indicate their facilities on the concept plans and provide information regarding the location, type and size of their existing and proposed facilities within the project

limits. The UAOs were requested to notify us if their facilities were located within the FDOT right of way or within an easement and to provide an order-of-magnitude estimate for relocating any facility affected by the proposed project.

Table 16: Utility Agency Owner Contacts

Utility Owner	Utility Owner	Address	Phone Number	Utility Type
AT&T	Steve Hamer (SDT for AT&T)	6304 Benjamin Rd Suite 501 Tampa, FL 33634	813-888-8300	Communications
Bright House Networks	Don Pullen	4145 S Falkenburg Rd Suite 4 Riverview, FL 33578	813-684-6100 Ext 34097	Communications
Fiberlight	Tim Green	6089 Johns Rd Suite 7 Tampa, FL 33634	813-877-7183	Communications
FPL Fibernet	Danny Haskett	9250 W Flagler St FN/GO Miami, FL 33174	305-552-2931	Communications
Level 3 Communications	Richard Simonton	380 S Lake Destiny Dr Orlando, FL 32810-622	407-462-0609	Communications
Verizon Business (formerly MCI)	Investigations@mci.com	2400 N Glennville Richardson, TX 75082	972-729-5005	Communications
XO Communications	Jeffrey Sbrocco	5904 Hampton Oaks Pkwy Suite A Tampa, FL 33610	813-301-4047	Communications
Frontier (formerly Verizon)	Michael Little	7701 E Telecom Pkwy Tampa, FL 33637	813-978-2161	Communications
TECO Distribution	Daniel Breznay	2200 E Sligh Ave Tampa, FL 33610	813-275-3428	Electricity
TECO Transmission	Daniel Breznay	2200 E Sligh Ave Tampa, FL 33610	813-275-3428	Electricity
Florida Gas Transmission	Joe Sanchez	2405 Lucien Wy, Suite 200 Maitland, FL 32751	407-838-7171	Natural Gas
TECO Peoples Gas	Chris Uria	1400 Channelside Dr Tampa, FL 33605	813-275-3731	Natural Gas
City of Tampa Water	Roy McKenzie	Tampa Water Division 306 E Jackson St Tampa, FL 33602	813-274-7104	Water
City of Tampa Wastewater	Jack Ferras	Tampa Wastewater Division 306 E Jackson St- 6N Tampa, FL 33602	813-274-8095	Wastewater

Fourteen existing UAOs were identified along the I-275 project corridor. The existing utilities include buried electric lines, copper and fiber optic cable, water, sewer, and reclaimed water mains. Depending on their location and depth, the proposed improvements may require adjustment of some of these existing utilities. The utility locations are summarized in **Table 17**. Also included are the estimated reimbursement costs if impacted.

Table 17: Utility Assessment – Existing Utilities and Relocation Costs

UAO	Type of Facility	Limits	Estimated Cost
AT&T	4" HDPE duct 1 duct in shared duct bank	South side of Sligh Ave North side of Bougainvillea Ave	$100,000
Bright House Networks	U/G Crossings O/H cables attached to TECO poles	Chelsea St Broad St Yukon St Linebaugh Ave Fletcher Ave Bearss Ave Throughout corridor on side streets, both sides of I-275	$119,577 Does not include aerial construction costs due to relocation of TECO poles
Fiberlight	E MLK Blvd – 1.25" Joint duct with Level 3 Bougainvillea Ave – two 1.5" within joint six 1.5" duct system	Crossing at MLK Blvd Crossing at Bougainvillea Ave	$25,000
FPL Fibernet	U/G FOC	Crossing I-275 on south side of Bearss Ave	$42,922
Level 3 Communications	Buried duct & FOC Buried duct & FOC	North & south sides of Bougainvillea Ave In CSXT R/W on east side of Nebraska Ave (under USDOT Permit—negotiate on a case by case basis depending on design)	$50,000 (Bougainvillea Ave Crossing)
Verizon Business (formerly MCI)	Buried FOC	CSXT R/W Bougainvillea Ave	$100,000
XO Communi-cations	Joint 16-way duct bank system 8—XO/FPL Fibernet 8—Level 3	Crossing I-275 on south side of Bougainvillea Ave	$60,000

Table 17: Utility Assessment – Existing Utilities and Relocation Costs (continued)

UAO	Type of Facility	Limits	Estimated Cost
Frontier (formerly Verizon)	9-4" conduit copper & FOC 7-4" conduit copper & FOC 2 buried cables 9-4" terracotta w/ FOC & copper cable 4-4" conduit 4-4" conduit w/ FOC & copper cable Buried copper cables & 1-1.25" HDPE w/ FOC 4-4" conduit w/ FOC & copper 6-4" PVC with 2-FOC & 4 copper cables 3-1.25" HDPE with 3-FOC 4-4" conduit 2 BT 1 BT	Crossing at Osborne Ave Crossing at Hillsborough Ave Crossing at Central Ave Crossing at Hanna Ave Crossing at Waters Ave Crossing at Fairbanks St Between Wood St & Fairbanks St Crossing at Yukon St Crossing at Busch Blvd Crossing at Bougainvillea Ave Crossing at Fowler Ave Crossing at Fletcher Ave Crossing at Bearss Ave	$15,000,000
TECO Distribution	13 Kv O/H crossings	North & south of Hillsborough Ave Bird St North of Waters Ave North of Bougainvillea Ave South of Fletcher Ave (double-conductor) Fletcher Ave	$700,000
TECO Transmission	138 Kv O/H 138 Kv O/H 69 Kv O/H 69 Kv O/H Fern St Sub-Station	Crossing at Hanna Ave Crossing north of Sligh Ave Crossing at Waters Ave Crossing south of Fletcher Ave	Cost depends on design and what work would be required. Could not provide one at this time.

Table 17: Utility Assessment – Existing Utilities and Relocation Costs (continued)

UAO	Type of Facility	Limits	Estimated Cost
Florida Gas Transmission	14” natural gas GM	Crossing at Fletcher Ave	Global Settlement Agreement in place. Depends on impacts. Would need specific design impacts to provide cost and possible right of way
TECO Peoples Gas	2” & 4” steel GM 2” steel GM 2” steel GM 2” SEP GM	Crossing at Hanna Ave Crossing at Broad St Crossing north of Broad St Crossing north of Waters Ave	$131,500 – installation; $40,000 – removal/grout in place.
City of Tampa Water	12” WM 30” WM 12” & 42” WM 6” WM 8” & 24” WM 2” & 8” WM 8” steel-cased WM 6” WM 8” steel-cased WM 16” WM 12” WM	Crossing at Hillsborough Ave East side of I-275 from Osborne Ave to Hillsborough Ave Crossing at Hanna Ave Crossing at Broad St Crossing at Bird St Crossing at Waters Ave Crossing north of Busch Blvd Crossing at Bougainvillea Ave Crossing north of Bougainvillea Ave Crossing at Fowler Ave Crossing at Fletcher Ave	$2,907,237
City of Tampa Wastewater	Gravity Main Manholes 2” & 8” CI WW Gravity Main	Crossing at Hanna Ave East & west of I-275 on Broad St Crossing at Broad St Crossing at Waters Ave	$8,588,957
		Total	**$27,865,193**

Acronyms: HDPE=High Density Polyethylene, U/G=underground, O/H=overhead, FOC=fiber optic cable, PVC=Polyvinyl Chloride, BT= buried telephone, Kv=Kilovolts, GM=gas main, WM=water main, CI WW=cast iron wastewater

4.1.18 Pavement Conditions

A pavement survey was conducted within the project corridor in 2018. Each section of pavement is rated for cracking and ride on a scale of 0 to 10, with 0 being the worst and 10 being the best. A rating of 6.0 or less is deemed deficient. Except for the northern 0.5 miles, the majority of pavement within the project limits is concrete or rigid pavement.

Table 18 identifies the existing (year 2018) and projected (year 2023) pavement conditions for this portion of I-275. The existing pavement is generally in good condition.

Table 18: Pavement Conditions Survey

Begin and End Mileposts	Begin and End Limits	FPID # Contractor	Condition Ratings	Year 2018 Left / Right	Year 2023 (Projected)
0.729 to 1.203	North of Floribraska Ave to North of Hillsborough Ave	FPID # 258642-1-52-01 John Carlo Incorporated (2008)	Cracking	- / 7.7	- 6.6
			Ride	- / 8.2	- /7.9
0.729 to 4.979	North of Floribraska Ave to South of Busch Blvd	FPID # 431821-2-52-01 Contractor Unknown (2021)	Cracking	9.0 / 8.8	- / -
			Ride	8.1 / 8.1	- / -
4.979 to 8.569	South of Busch Blvd to North of Fletcher Ave	FPID # 258412-1-52-01 Contractor Unknown (2003)	Cracking	8.7 / 8.8	7.9 / 8.3
			Ride	7.9 / 8.0	7.6 / 7.9
8.569 to 14.617	North of Fletcher Ave to Pasco County Line	Prince Contracting, LLC (2014)	Cracking	10.0 / 10.0	10.0 / 10.0
			Ride	8.2 / 8.3	8.2 / 8.3

Notes: FPID #'s from Straight Line Diagram.

Source: FDOT's Interstate System Pavement Condition Forecast Report, extracted 10/02/2018.

Flexible Pavement

4.2 Existing Bridges and Structures

There are 18 bridges along the I-275 corridor. Existing bridge information is provided in **Table 19**; and the bridge locations are shown in **Figure 4**. Fourteen bridges span roadways, two bridges span both a roadway and railroad tracks, and two bridges span waterways. There are also 13 noise barriers along the corridor. The existing bridge typical sections are shown in **Figure 5** through **Figure 10**.

4.2.1 Type of Structure

Mainline bridges carry I-275 over other roadways, railroads, and water bodies. The superstructures for the existing mainline bridges consist of cast-in-place concrete slabs supported on steel girders, Florida I-Beams, or American Association of State Highway and Transportation Officials (AASHTO) beams. All bridge type substructures consist of various configurations including: multi-column piers, pile bents, and drilled shaft bents.

Table 19: Existing Bridge Summary

Inter-change	Approx. Milepost	Location Description (Structures from South to North)	Structure Number	Year Built Year Widened	Structure Type	Skew Angle (Degrees)	Structure Length (feet)	Spans	Span Lengths (feet)	Width (ft)	Vertical Clearance (feet)	Horizontal Clearance (feet)	Structural Ratings		Date of Last Inspection	Sufficiency Rating
													Operating	Inventory		
	1.953	I-275 Over Osborne Avenue	100209	1966 2014	AASHTO Type II, III & Florida I-Beam 36	No Skew	140.00	3	38.0, 64.0, 38.0	138.08	14.67	11.30	1.37	1.26	Aug-18	90.2
	2.460	I-275 Over Hillsborough Avenue (SR 600)	100211	1966 2014	AASHTO Type II, III & Florida I-Beam 36	No Skew	204.00	4	42.0, 54.0, 66.0, 42.0	150.58	14.47	6.20	1.38	1.07	Aug-18	96.0
	2.958	I-275 Over Hanna Avenue	100213	1966 2014	AASHTO Type II, III & Florida I-Beam 36	82, 83, 84, 85	145.75	3	41.0, 63.8, 40.9	138.08	14.62	14.82	1.38	1.06	Jul-18	85.0
	3.473	I-275 Over Sligh Avenue	100215	1967 2014	AASHTO Type II, III & Florida I-Beam 36	72, 72, 72, 72, 72	186.50	4	40.4, 52.0, 53.7, 40.4	138.08	14.32	6.63	1.36	1.05	Jul-18	96.0
	3.855	I-275 Over Broad Street	100216	1967 2014	AASHTO Type II, III & Florida I-Beam 36	No Skew	134.86	3	33.4, 68.0, 33.4	138.08	13.93	11.42	1.36	1.22	Jul-18	94.0
	4.140	I-275 Over Hillsborough River	100218	1967 2014	AASHTO Type III	79, 79, 79, 79, 79, 79	300.00	5	60, 60, 60, 60, 60	163.08	Water	Water	1.52	1.17	Jul-18	90.5
	4.303	I-275 Over Bird Street	100220	1967 2014	AASHTO Type IV, II & Florida I-Beam 45	81, 81, 83, 83	173.51	3	37.25, 99.0, 37.25	139.75	14.30	7.79	1.34	1.19	Jul-18	88.3
	4.486	I-275 Over Waters Avenue	100222	1967 2014	AASHTO Type II, III & Florida I-Beam 36	87, 86, 85, 85	146.42	3	37.5, 71.4, 37.5	139.75	15.50	9.68	1.46	1.03	Jul-18	68.8
	4.750	I-275 Over Yukon Street	100224	1967 2014	AASHTO Type II, III & Florida I-Beam 36	59, 60, 60, 61, 62	257.92	4	70.0, 70.0, 76.7, 41.3	139.75	14.01	19.45	1.38	1.07	Jul-18	94.0
	5.020	I-275 Over Busch Boulevard (SR 580) & CSX Railroad	100226	1967 2001	AASHTO Type III & IV	No Skew	273.00	4	64, 94, 65, 50	130.58	23.84 22.06 (RR)	6.06 11.6 (RR)	1.31	0.78	Jul-18	71.2
	5.502	I-275 Over Linebaugh Avenue	100228	1967 2002	AASHTO Type II & III	No Skew	136.18	3	34.4, 67.25, 34.5	113.75	14.20	17.3	2.23	1.33	Jul-18	78.0
	5.757	I-275 Over Bougainvillea Avenue	100243	1966 2002	AASHTO Type II & III	No Skew	133.00	3	33, 67.17, 32.83	113.75	14.50	18.4	2.23	1.33	May-18	84.0
	6.517	I-275 Over Fowler Avenue (SR 582))	100231	1966 2001	AASHTO Type II & III	88, 88, 88, 88	143.75	3	34.75, 74.25, 34.75	114.08	15.4	9.0	1.50	1.03	May-18	95.0
	7.019	I-275 Over 127th Avenue	100233	1967 2002	AASHTO Type II & III	No Skew	130.33	3	31.5, 67.33, 31.5	114.08	15.4	8.0	1.50	1.03	May-18	95.6
	7.131	I-275 Northbound Over Sinkhole	100234	1966 2002	AASHTO Type III	No Skew	76.90	1	76.9	57.04	Water	Water	1.13	1.03	May-18	90.4
	7.523	I-275 Over Fletcher Avenue (SR 579))	100236	1966 2002	AASHTO Type II & III	No Skew	140.08	3	32, 75.08, 32	114.00	15.4	3.6	1.81	1.09	May-18	94.0
	8.812	I-275 Over Bearss Ave (SR 678)	100238	1964 2002	AASHTO Type II & III	88, 88, 88, 88	152.50	3	39, 74.5, 39	114.83	14.4	8.2	1.08	0.98	May-18	95.9
	9.434	I-275 Over Nebraska Avenue (SR 45) & CSX Railroad	100240	1964 2002	AASHTO Type III	52, 52, 52, 52, 52, 52, 52,	330.00	6	65.5, 54.5, 57.5, 49.0, 49.0, 54.5	114.83	23.6 22.6 (RR)	8.0 17.2 (RR)	1.86	1.12	May-18	88.2

Key

Interchange Area

Sources:

1) Straight Line Diagram Inventories from FDOT District Seven

2) As-Built Plans and Bridge Inspection Reports from FDOT (various years)

Legend:

I-275 bridges over roadways

I-275 bridges over water bodies

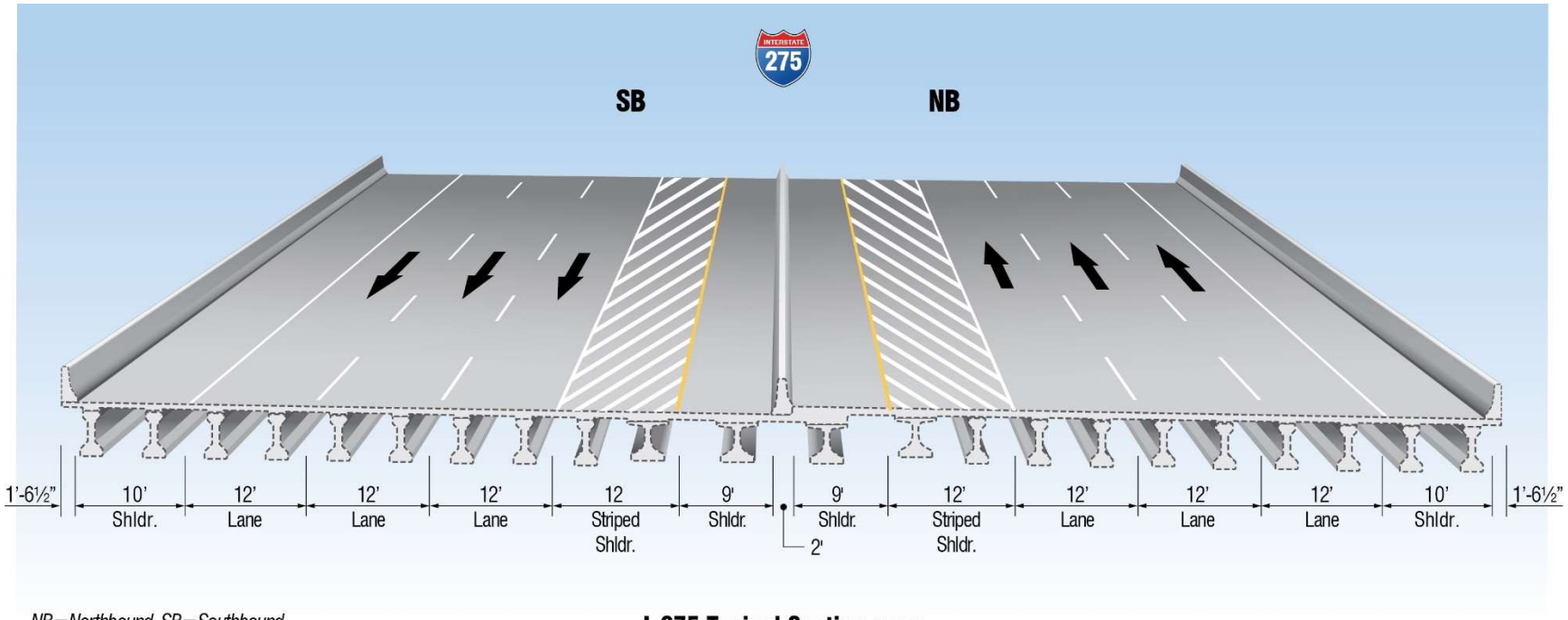
Does not satisfy FDOT minimum vertical clearance requirements

Acronyms: N/A=Not Available, AASHTO=American Association of State Highway and Transportation Officials

Figure 4: Existing Structures Locations

Figure 4: Existing Structure Locations (continued)

Figure 5: I-275 Existing Bridge Typical Section (Multiple Bridges at South End)

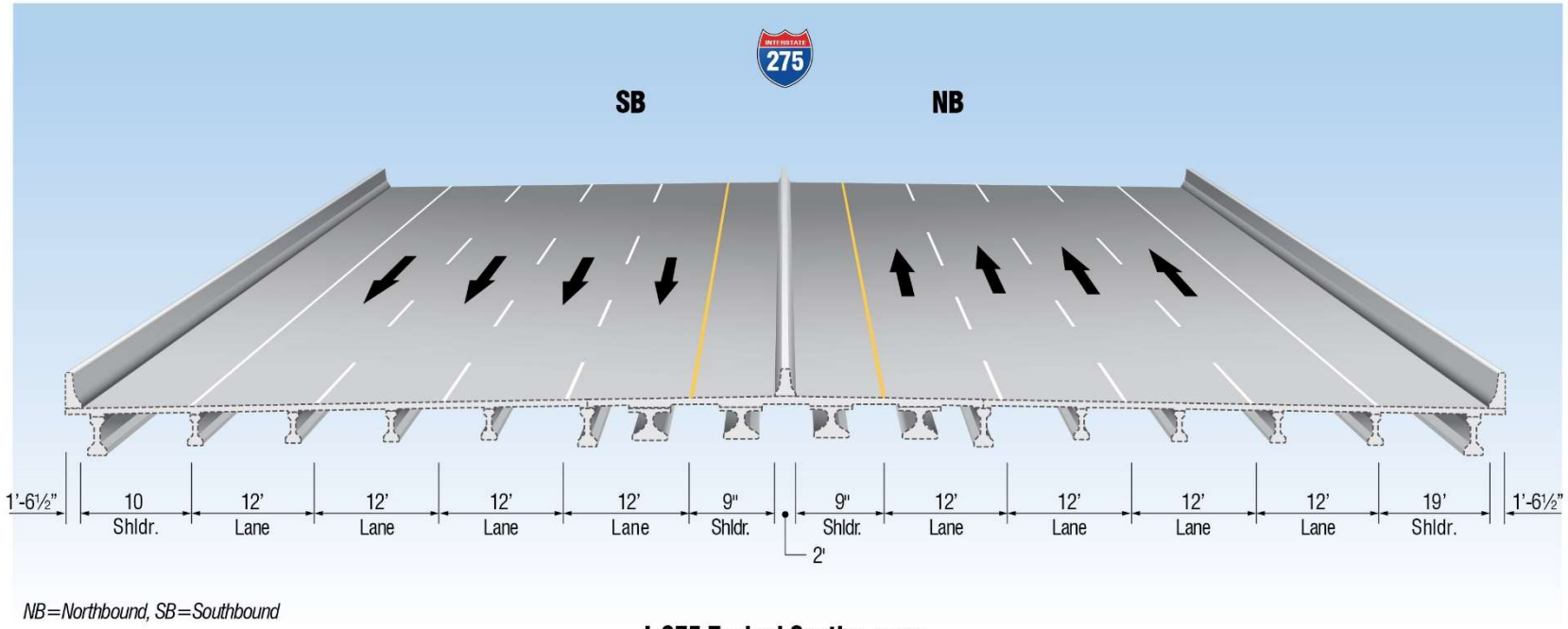


NB=Northbound, SB=Southbound

I-275 Typical Section over:

Osborne Avenue - Bridge No. 100209
Sligh Avenue - Bridge No. 100215
Broad Street - Bridge No. 100216
Bird Street - Bridge No. 100220
Waters Avenue - Bridge No. 100222
Yukon Street - Bridge No. 100224

Figure 6: I-275 Existing Bridge Typical Section (Hillsborough Avenue)



NB=Northbound, SB=Southbound

I-275 Typical Section over:

Hillsborough Avenue - Bridge No. 100211

Figure 7: I-275 Existing Bridge Typical Section (Hanna Avenue)

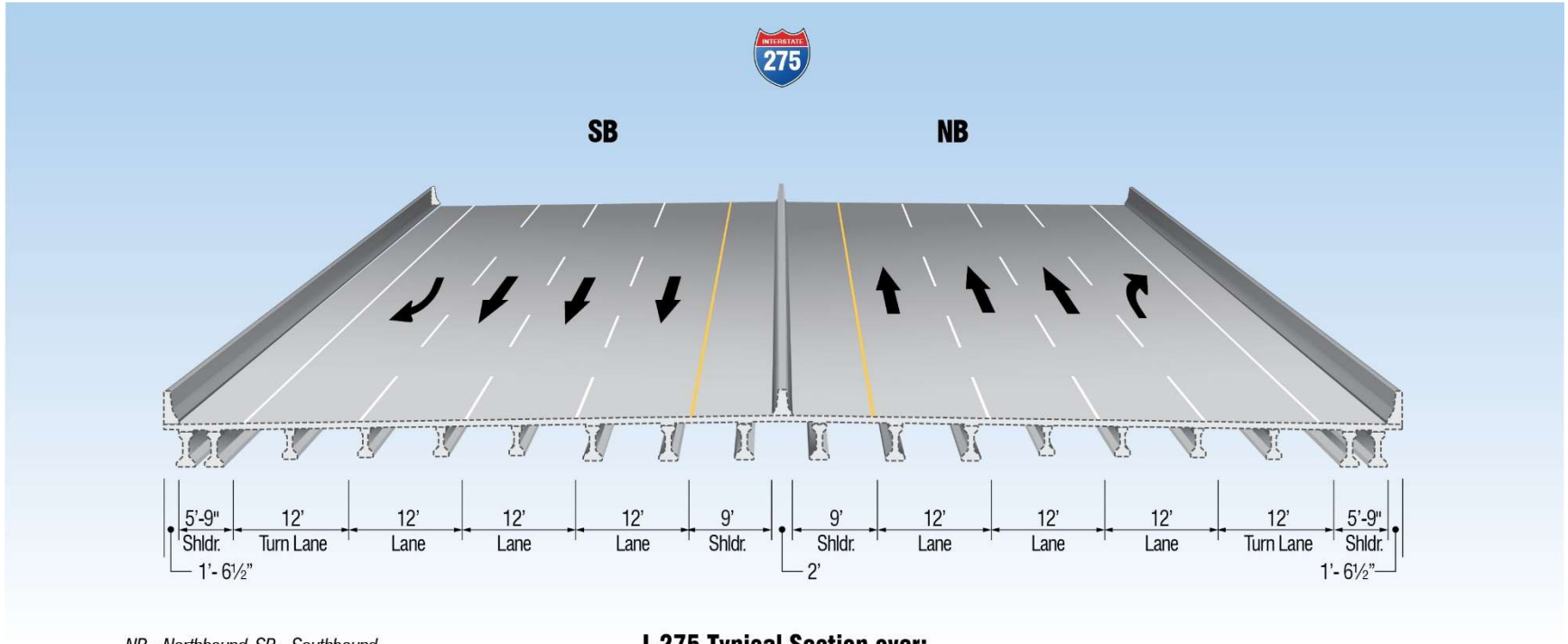
I-275 Typical Section over:
Hanna Avenue - Bridge No. 100213

Figure 8: I-275 Existing Bridge Typical Section (Hillsborough River)

NB=Northbound, SB=Southbound

I-275 Typical Section over:
Hillsborough River - Bridge No. 100218

Figure 9: I-275 Existing Bridge Typical Section (Busch Boulevard and CSX Railroad)

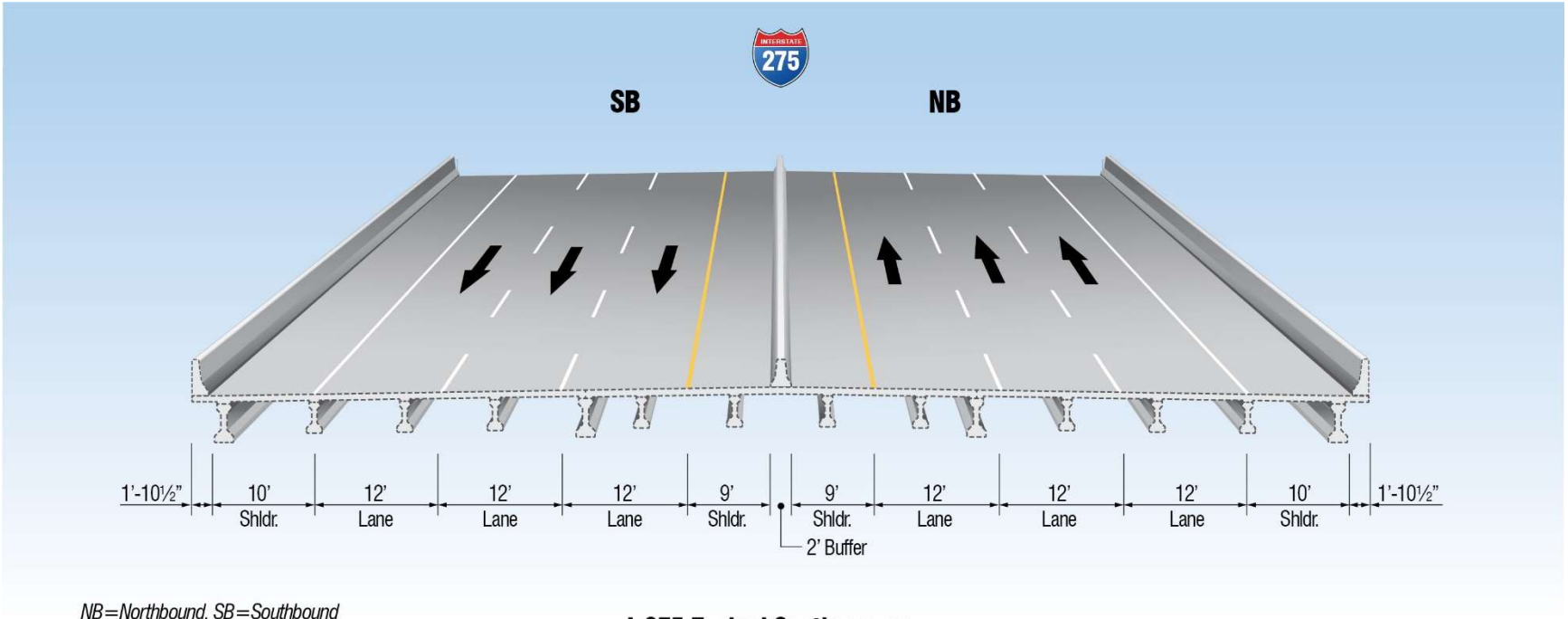


NB=Northbound, SB=Southbound

I-275 Typical Section over:

Busch Boulevard - Bridge No. 100226

Figure 10: I-275 Existing Bridge Typical Section (Multiple Bridges at North End)

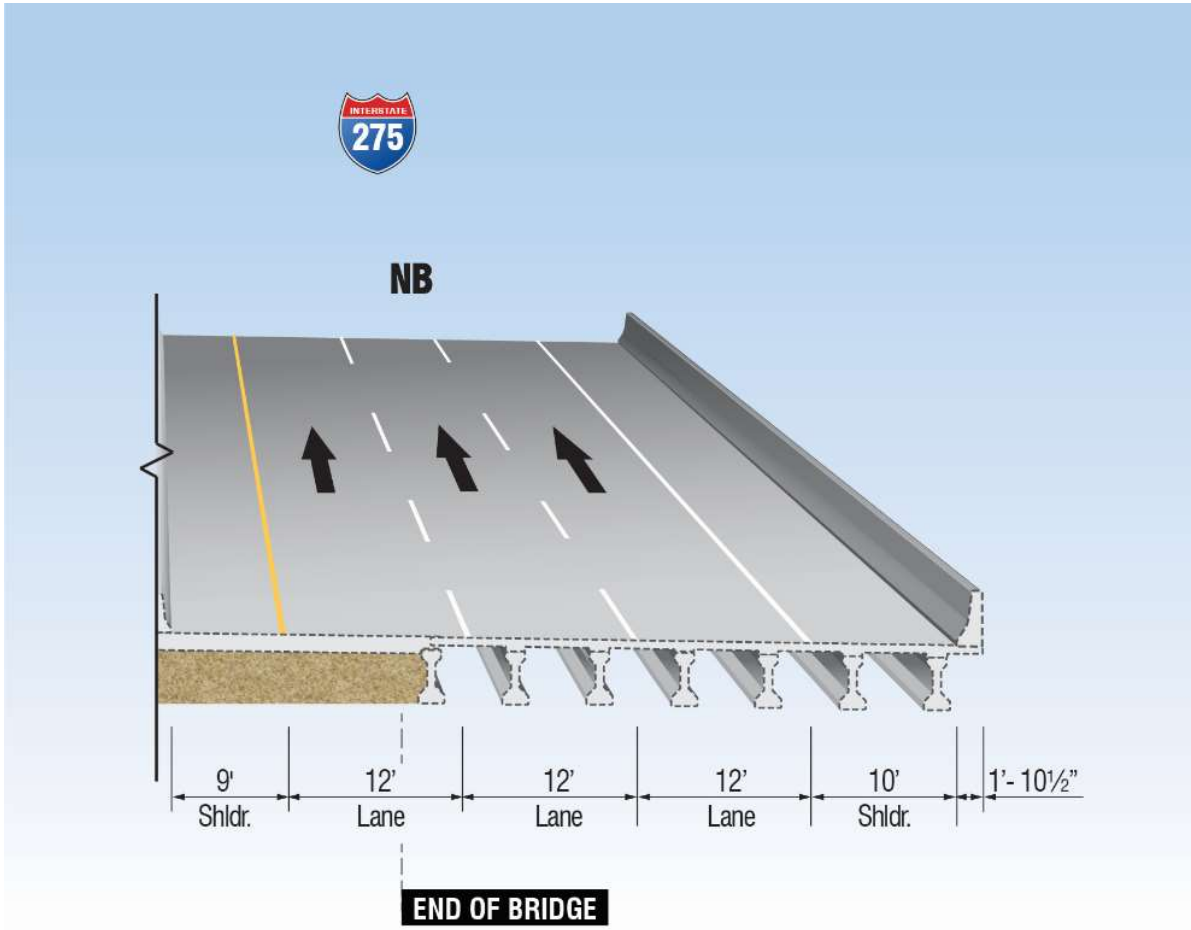


NB=Northbound, SB=Southbound

I-275 Typical Section over:

Linebaugh Avenue - Bridge No. 100228
Bougainvillea Avenue - Bridge No. 100243
Fowler Avenue - Bridge No. 100231
127th Avenue - Bridge No. 100233
Fletcher Avenue - Bridge No. 100236
Bearss Avenue - Bridge No. 100238
Nebraska Avenue and CSX RR - Bridge No. 100240

Figure 11: I-275 Over Sinkhole Existing Bridge Typical Section



NB=Northbound, SB=Southbound

I-275 Typical Section over:
Sinkhole - Bridge No. 100234

4.2.2 Condition

Upon biannual bridge inspections, all bridges are given sufficiency ratings to identify whether a bridge is structurally deficient. Sufficiency ratings range from 0 to 100, and they are used to indicate whether a bridge is sufficient to remain in service. **Table 17** shows the Sufficiency Ratings for all the bridges within the I-275 project corridor.

The existing bridges have Sufficiency Ratings ranging from 68.8 to 96.0 with Operating Load Rating Factors greater than 1.30 and Inventory Load Rating Factors greater than 1.0 for all but two bridges (I-275 northbound over sinkhole and I-275 over Bearss Avenue). Bridges with Operating Load Ratings lower than 0.95 can be posted with vehicle weight limits. The replacement of bridges that have low Sufficiency or Load Ratings are addressed on a case-by-case basis.

4.2.3 Horizontal and Vertical Clearances

The 14 bridges over roadways do not meet the FDOT design criteria for minimum vertical clearance of 16.5 feet. The bridges over Busch Boulevard and US 41/Nebraska Avenue span both a roadway and a railroad. They meet the FDOT design criteria for minimum vertical clearance of 16.5 feet over roadways, but do not meet the FDOT design criteria for minimum vertical clearance of 23.5 feet over railroads.

4.2.4 Span Arrangement

The span arrangement, including the lengths and number of spans, for each bridge is shown in **Table 17**.

4.2.5 Historical Significance

The Advisory Council on Historic Preservation (ACHP) passed the Section 106 exemption for the majority of the interstate system in 2005, and it was agreed upon by the State of Florida. The I-275 corridor and its bridges are part of the exempted portions, therefore the bridges along the I-275 corridor are exempt from consideration as a historic property.

4.2.6 Channel Impacts

On the Hillsborough River bridge, the existing low member elevation is 24.7 feet and the Design High Water (DHW) is 9.3 feet. The Mean High Water (MHW) (tidal) is 1.6 feet and the Mean Low Water (MLW) (tidal) is 0.4 feet. There is scour in this area of the Hillsborough River, but the bridge is not scour critical.

4.2.7 Geotechnical Information

Soil boring information was not obtained for the assessment of bridges in this report. The environmental classification per bridge plans vary between slightly aggressive to extremely aggressive. For widening purposes, it is assumed that the widening can be accomplished by matching existing substructure foundations with either piles or drilled shafts. The existing soil boring information at the bridge sites can be found in the existing bridge plans.

4.2.8 Bridge Opening

The project limits do not contain any movable structures and therefore this section is not applicable to the project.

4.2.9 Ship Impact

The I-275 bridge over the Hillsborough River crosses a navigable waterway. This bridge is located downstream of the Rowlette Park dam and is in a tidal zone. There is no navigation channel at the bridge. No ship impact is included in the design of this bridge.

4.2.10 Other Existing Structures

The I-275 corridor contains 13 existing noise barriers. These are described in **Table 20**. The locations of the noise barriers are shown in **Appendix B**.

4.3 Environmental Characteristics

4.3.1 Land Use

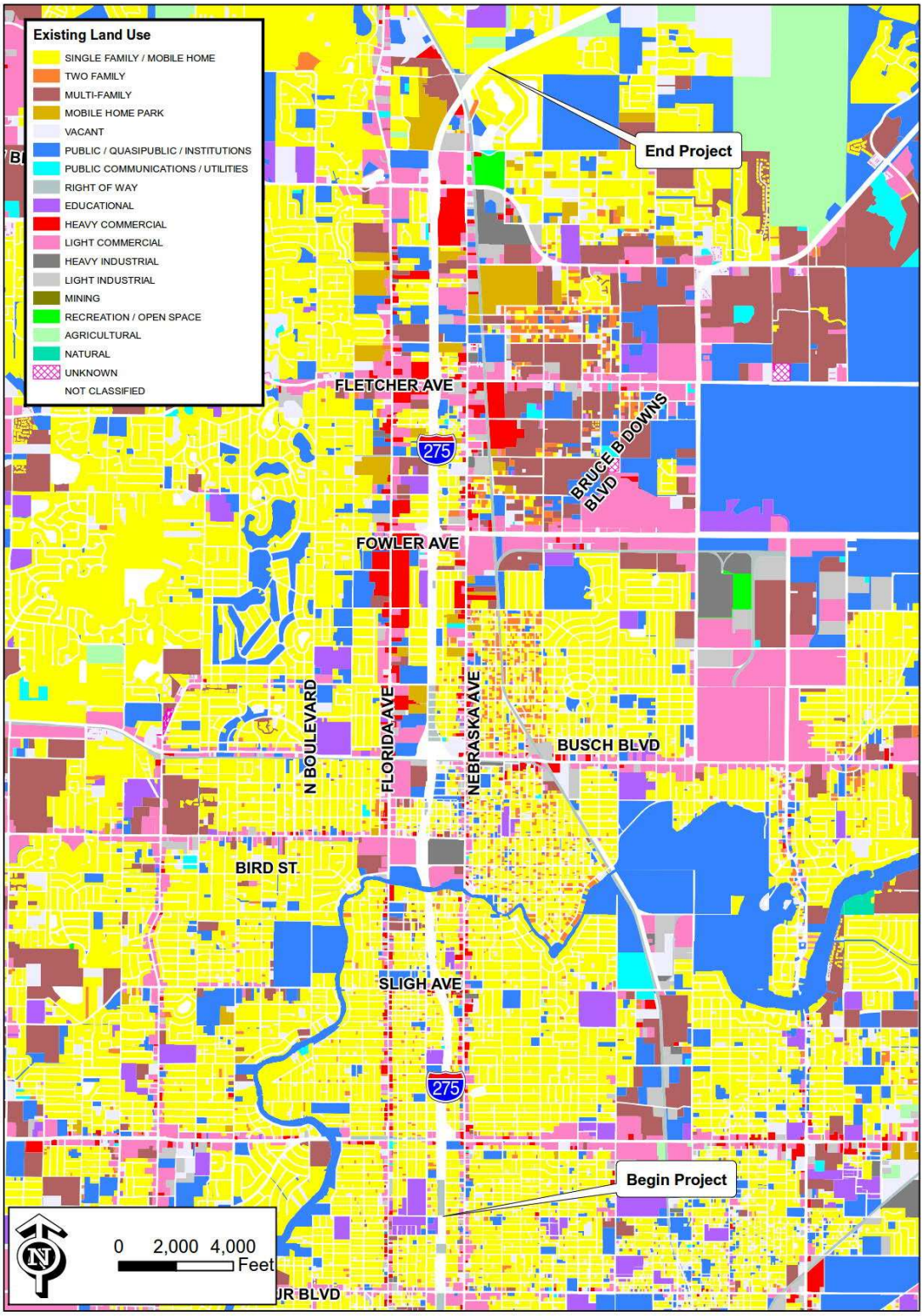
Per the Hillsborough MPO existing land use map, within 500 feet of the corridor, the major existing land uses consist of: high-density residential, transportation, commercial/services, medium-density residential, and public/semi-public. The area is densely developed with very little vacant land. The existing land use is shown in **Figure 12**. The southern section of the project between Osborne Avenue and Fowler Avenue lies within the city limits of the City of Tampa. The northern section of the project, from north of Fowler Avenue to north of North Nebraska Avenue, lies within unincorporated Hillsborough County.

The *Imagine 2040: Tampa Comprehensive Plan* (January 2016) identifies Florida Avenue, Nebraska Avenue, Busch Boulevard, Hillsborough Avenue, Fowler Avenue, and Fletcher Avenue as transit emphasis corridors that are suitable for redevelopment and intensification. They contain a series of mixed use corridor villages along them. These mixed-use corridor village roadways are “areas with the greatest opportunity to support the gradual transformation of road corridors where intensification is possible and encouraged to create new housing and job opportunities…” They support the goal of becoming transit ready and supporting existing and future transit.

Table 20: Existing Noise Barriers Along I-275

Barrier Identification Number	Location	Barrier Type	Height (feet)	Length (feet)	2005 Design Project (Metric Stationing)		2015 PD&E Study	
					Begin Station	End Station	Begin Station	End Station
B4R Segment 1	East of I-275 (North of Busch Blvd/South of Linebaugh Ave)	Ground Mounted	18 to 22	1,213	181+60	185+29	1962+45.62	1974+34.78
B4R Segment 2	East of I-275 (North of Linebaugh Ave/South of Bougainvillea Ave)	Ground Mounted	22	1,253	185+50	189+09	1975+18.68	1986+78.68
B5	East of I-275 (South of Fowler Ave)	Ground Mounted	16 to 18	2,964	191+00	199+89	1993+24.22	2022+39.41
B6	West of I-275 (South of Linebaugh Ave/North of Busch Blvd)	Ground Mounted	16 to 22	1,165	181+67	185+20	1962+57.86	1974+14.28
B7S	West of I-275 (South of Linebaugh Ave/North of Bougainvillea Ave)	Shoulder	8 to 14	1,686	184+85	190+05	1973+02.28	1990+10.73
B8	West of I-275 (North of Bougainvillea Ave/South of Fowler Ave)	Ground Mounted	18 to 22	1,582	189+62	194+44	1988+65.39	2004+55.38
B10/B11R South Segment	East of I-275 (North of Fowler Ave & South of 127th Ave)	Ground Mounted	20 to 22	1,080	35+16	38+48.5	2043+60.29	2054+40.29
B11R North Segment/B12	East of I-275 (North of Fowler Ave & North of 127th Ave)	Ground Mounted	18 to 22	1,510	38+69.6	40+60	2055+20.29	2070+20.08
B14	West of I-275 (North of Fowler Ave)	Ground Mounted	14 to 16	833	203+72	206+26	2035+07.70	2043+30.22
B16R	West of I-275 (South of Fletcher Ave)	Ground Mounted	18 to 22	1,719	38+76	43+90	2055+30.50	2072+18.92
B18	East of I-275 (North of Fletcher Ave)	Ground Mounted	16 to 20	1,242	47+26	51+00	2083+25.46	2095+61.46
B19	East of I-275 (South of Bearss Ave)	Ground Mounted	16	1,571	56+66	61+13	2114+07.82	2128+71.94
B2S2 PD&E Section 2	West of I-275 (North of Bearss Ave)	Ground Mounted	18 to 22	2,223	70+28	76+82	2158+73.98	2179+85.51

Figure 12: Existing Land Use



The City of Tampa is investing in infrastructure improvements in the East Tampa Community Redevelopment Area (CRA) between Columbus Drive and Hillsborough Avenue to encourage redevelopment in the area. The *East Tampa CRA Strategic Action Plan* (November 2009) recognizes Nebraska Avenue as a commercial corridor and transit corridor, and includes improvements to increase pedestrian safety for and enhance aesthetics.

Improvements to the Nebraska Avenue corridor will be guided by the City's *Nebraska-Hillsborough Corridor Master Plan* (September 2013), which was developed as a component of the City's InVision Tampa effort. The *Corridor Master Plan* includes recommendations for improving Nebraska Avenue, which generally focus on improving the corridor's interface with the surrounding neighborhoods.

The City of Tampa's Enterprise Zone is comprised of several geographic areas (some of which are within the project study area) that have been targeted by the State of Florida for economic development. The program promotes community revitalization and job creation within the Enterprise Zone through tax credits and refunds.

4.3.2 Cultural Features

A *Cultural Resource Assessment Survey* (CRAS) was prepared as part of the PD&E Study in 2015. The objective of the survey was to identify cultural resources within the project Area of Potential Effect (APE) and assess their eligibility for listing in the National Register of Historic Places according to the criteria set forth in 36 Code of Federal Regulations Section 60.4. The ETDM Programming Screen Summary Report for the project assigned a Moderate Degree of Effect for Historic and Archaeological Resources (ETDM Project #13854; FDOT 2014). The Environmental Screening Tool (EST) Geographic Information System (GIS) analysis identified 109 historic standing structures, four resource groups, and 11 archaeological sites within a 500-foot buffer of the project corridor. The EST GIS analysis identified four National Register–listed resources within a 500-foot buffer distance: Seminole Heights Historic District (8HI3294), Hampton Terrace Historic District (8HI6821), Captain William Parker Jackson House (8HI11581), and the William E. Curtis House (8HI3279). The Summary Report also specifically notes the presence of Tampa Fire House #7, an unrecorded historic building adjacent to the east side of I-275.

The 2015 CRAS resulted in the identification of 267 historic resources (including three in the stormwater management facilities). A total of 28 resources were previously recorded. There is a total of eight historic resources that are either National Register–listed or are considered National Register–eligible based on the 2015 survey. Seminole Heights Historic District (8HI3294) and Captain William Parker Jackson House (8HI11581) are currently listed in the National Register. A segment of the T&GC Railroad/CSX Railroad (8HI10243) was previously documented in an area outside the current project APE, and was determined ineligible for inclusion in the National Register. However, because the segment within the current project APE retains its historic integrity, it is considered eligible for inclusion in the National Register based on the current survey. The five remaining historic resources have not been evaluated by SHPO, but all are considered eligible for listing in the National Register. An additional 23 historic resources within the current project APE that are not individually eligible are considered contributing to the Seminole Heights Historic District.

In addition to their National Register–listed status, Captain William Parker Jackson House (8HI11581) and Seminole Heights Historic District (8HI3294) are also locally designated historic resources within the City of Tampa. The Sulphur Springs Water Tower and the

Sulphur Springs Gazebo, both of which are contributing features within the National Register–eligible Sulphur Springs Park Resource Group (8HI609), have been designated as local landmarks by the City of Tampa. A total of 233 historic resources are considered ineligible for inclusion within the National Register individually or as part of a historic district.

One previously recorded archaeological site, Red Leaf (8HI5631), was identified within the current archaeological APE during past survey work. This site consists of low density lithic scatter and was previously determined by SHPO to be ineligible for listing in the National Register in 1995.

In 2019, an update to the CRAS was prepared to summarize the project changes with the updated Build Alternative. No changes to the 2015 CRAS were required. A CRAS Update Technical Memorandum was also prepared in 2019 for the proposed Stormwater Management Facility Sites. No archaeological or historic resources were found to be located within the project APE that are listed, determined eligible, or considered potentially eligible for the National Register associated with the Stormwater Management Facility Sites.

The 2019 Cultural Resource Case Study Report (CSR) found no adverse effects to any listed or eligible National Register resource. The State Historic Preservation Officer concurred with the findings on May 31, 2019.

4.3.3 Natural and Biological Features

The natural and biological features in the project area are summarized below. Detailed information on the wetland, surface waters, protected species, impact analyses, permitting and other pertinent information is provided the 2015 Wetland Evaluation and Biological Assessment Report (WEBAR) and updated in the February 2019 Natural Resources Evaluation (NRE) Addendum to the WEBAR. The 2019 Addendum concluded that the 2015 WEBAR findings have not changed.

4.3.3.1 Wetlands and Surface Waters

Pursuant to Presidential Executive Order 11990 entitled “Protection of Wetlands,” (May 23, 1977) the United States Department of Transportation (USDOT) developed a policy, Preservation of the Nation’s Wetlands (USDOT Order 5660.1A), dated August 24, 1978. In conjunction with this policy, as well as Part 2, Chapter 9 – Wetlands and Other Surface Waters of the *PD&E Manual*, project alternatives were assessed to determine potential wetland impacts associated with construction of the proposed improvements.

The 2015 WEBAR and 2019 NRE Addendum to the WEBAR state 13.71 acres of wetlands and 3.22 acres of surface waters have been identified and mapped within the project footprint which crosses the Hillsborough River. Four wetlands were identified within the project right of way. Surface waters consist primarily of ditches that are located within the existing right of way. They have been previously disturbed by roadway construction, maintenance activities, and the invasion of nuisance and exotic species. Impacts proposed to jurisdictional wetlands and surface waters include 0.64 acres of wetlands and 2.81 acres of surface waters. The impacted wetland type is Wetland Scrub (Wetland 3). Two surface water types present within the project right of way and proposed for impact include Streams and Waterways (SW1, SW2, SW7, SW8, SW10, and SW11) and Reservoirs less than 10 acres (SW4 and SW 6).

The Uniform Mitigation Assessment Methodology (UMAM) analysis was completed for the identified wetlands. The total functional loss for all wetland impacts is 0.26 units. The following is the value and functional loss for each wetland type:

- Wetland Scrub (FLUCFCS 631)
    - Wetland Scrub with a UMAM value of 0.40 total 0.64 impact acres resulting in a functional loss of 0.26 units.

Project constraints and right of way limits provide no practicable alternatives that would result in complete avoidance of impacts to the wetlands and surface waters. Whenever possible, permanent impacts will be limited to the smallest degree possible through design modification. Temporary impacts, if any, to the surface waters will be conducted utilizing Best Management Practices and FDOT's "Standard Specifications for Road and Bridge Construction".

Compensation for wetland impacts will likely be addressed pursuant to F.S. Chapter 373.4137, to satisfy all mitigation requirements of Part IV, Chapter 373, F.S. and 33 United States Code (U.S.C.) 1344. Several mitigation options are potentially available to mitigate for impacts to wetlands including public or private wetland mitigation banks; inclusion of the project into the FDOT Wetland Mitigation Plan; and wetland creation, restoration, or enhancement within watersheds in the project area.

Final determination of jurisdictional boundaries, in addition to mitigation requirements, will be coordinated between FDOT and permitting agencies during final design of the project.

4.3.3.2 Protected Species

This project was evaluated for impacts to wildlife and habitat resources in July and December 2014 and again in 2018, including protected species, in accordance with 50 Code of Federal Regulations Part 402 of the Endangered Species Act (ESA) of 1973, as amended, Chapters 5B-40: Preservation of Native Flora of Florida and 68A-27 Florida Administrative Code (FAC) Rules Relating to Endangered or Threatened Species, and Part 2, Chapter 16 - Protected Species and Habitat of the *PD&E Manual*.

The original 2015 WEBAR cited the following effect determinations for species which may potentially occur:

Federally listed species

- Wood stork (*Mycteria americana*) – may affect, not likely to adversely affect;
- Eastern indigo snake (*Drymarchon corais couperi*) – may affect, not likely to adversely affect; and
- West Indian manatee (*Trichechus manatus latirostris*) – may affect, not likely to adversely affect.

State-protected species

- Gopher tortoise (*Gopherus polyphemus*) – may affect, not likely to adversely affect;
- Florida crane (*Antigone canadensis pratensis*) – no adverse effect; and
- Wetland-dependent avian species – may affect, not likely to adversely affect.

Protected, Non-Listed Species

- Osprey (*Pandion haliaetus*) – no effect; and
- Bald eagle – (*Haliaeetus leucocephalus*) no effect.

Several federally and state listed species have been removed or added to the protection lists since the 2015 WEBAR was originally prepared; however, these changes have not resulted in different effect determinations for the identified species. **Table 21** provides an update to those protected faunal species that pertain to this project and which have experienced a status or taxonomic change.

Table 21: Updates to Protected Species

Common Name	Scientific Name	USFWS Status	FWC Status	Probability of Occurrence	Changes Since 2015 WEBAR
Amphibians					
Gopher Frog	*Lithobates capito*	N	N	Higher	Delisted from FWC SSC
Birds					
Florida Sandhill Crane	*Antigone canadensis pratensis*	N	T	Moderate	Genus change from Grus to Antigone
Limpkin	*Aramus guarauna*	N	N	Moderate	Delisted from FWC SSC
Little Blue Heron	*Egretta caerulea*	N	T	Moderate	Uplisted from FWC SSC to threatened
Snowy Egret	*Egretta thula*	N	N	Moderate	Delisted from FWC SSC
Tricolored Heron	*Egretta tricolor*	N	T	Moderate	Uplisted from FWC SSC to threatened
White Ibis	*Eudocimus albus*	N	N	Moderate	Delisted from FWC SSC
Osprey	*Pandion haliaetus*	N	N	Moderate	Delisted from FWC SSC
Mammals					
Florida Mouse	*Podomys floridanus*	N	N	Moderate	Delisted from FWC SSC
West Indian Manatee	*Trichechus manatus latirostris*	T	N	Moderate	Downlisted from USFWS endangered to threatened

N: Not currently listed
T: Threatened
E: Endangered
SSC: Species of Special Concern
C: Candidate for federal listing
Source: USFWS, FWC

Low – Species with a low likelihood of occurrence within the project limits are defined as those species that are known to occur in Sarasota County, but preferred habitat is limited on the project corridor, or the species is rare.

Moderate - Species with a moderate likelihood for occurrence are those species known to occur in Sarasota County, and for which suitable habitat is well represented on the project limits, but no observations or positive indications exist to verify presence.

High - Species with a high likelihood for occurrence are suspected within the project limits based on known ranges and existence of sufficient preferred habitat on the corridor; are known to occur adjacent to the project limits; or have been previously observed or documented in the vicinity.

The 2015 WEBAR and 2019 NRE Addendum to the WEBAR states three federally protected species, the wood stork (*Mycteria americana)*, the eastern indigo snake (*Drymarchon corais couperi*), and the West Indian manatee (*Trichechus manatus latirostris*) were determined to have likelihood for using project habitats. The bald eagle (*Haliaeetus leucocephalus*), which receives protection under the Migratory Bird Treaty Act (MBTA) as well as the Bald and Golden Eagle Protection Act, and the osprey (*Pandion haliaetus*), which receives protection under the MBTA, also have the potential to occur within the project area. No listed species were observed within the project corridor during the field surveys.

Federally Protected Species

Wood Stork

The wood stork is listed as threatened by the U.S. Fish and Wildlife Service (USFWS). The project corridor is located within the Core Foraging Area (CFA) of 11 documented wood stork colonies. As per the May 2010 Wood Stork Effect Determination Key criteria: (a) the project is more than 2,500 feet from a colony site; (b) the project impacts suitable foraging habitat (SFH); (c) the project impacts are estimated to be greater than 0.5 acre; (d) the project impacts to SFH are within the CFA of a colony site; and (e) the project will provide SFH compensation within the Service Area of a USFWS-approved wetland mitigation bank or wood stork conservation bank within the CFA. As a result, the project may affect, but is not likely to adversely affect the wood stork.

Eastern Indigo Snake

Eastern indigo snakes are listed as threatened by the USFWS. No individuals were observed during the field surveys, and there are minimal areas of suitable habitat for this species within and adjacent to the project corridor; therefore, the probability of occurrence for this species within the corridor is low.

Pursuant to the August 2013 Eastern Indigo Snake Effect Determination Key: (a) the project is not located in open water or salt marsh; (b) the Standard Protection Measures for the Eastern Indigo Snake will be implemented to ensure protection when the species is most likely to be affected; (c) there are gopher tortoise burrow, holes, cavities, or other refugia where a snake could be buried or trapped and injured during project activities; (d) the project will impact less than 25 acres of xeric habitat supporting less than 25 potential occupied gopher tortoise burrows; and (e) any permit will be conditioned such that (1) all gopher tortoise burrows, active or inactive, will be evacuated prior to site manipulation in the vicinity of the burrows; (2) if an indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity; (3) the permittee must inspect all holes, cavities, and snake refugia other than gopher tortoise burrows each morning before planned site manipulation of a particular area, and, if occupied by an indigo snake, no work will commence until the snake has vacated the vicinity of proposed work. It is therefore anticipated that this project may affect, but is not likely to adversely affect the eastern indigo snake.

West Indian Manatee

The West Indian manatee is listed by the USFWS as threatened. Manatees have been documented in the project corridor where I-275 crosses the Hillsborough River, however the last recorded observation was in 2006. The standard manatee conditions for in-water work will be implemented if bridge construction over the Hillsborough River is necessary**.** No manatees were observed during field reviews. Based on this information, it is anticipated that this project may affect, but will not adversely affect the West Indian manatee.

State Species

State-listed wildlife species which have been identified as having a high probability for occurrence in the vicinity of the corridor include several species of wetland-dependent birds. The gopher tortoise (*Gopherus polyphemus*) was identified as having a low probability of occurrence and the Florida sandhill crane (*Antigone canadensis pratensis)* was identified as having a medium probability of occurrence based on the presence of sub-optimal foraging and nesting habitat. No state-listed plant species were observed or recorded in the project area.

Gopher Tortoise

The gopher tortoise is listed by the FWC as threatened, and is currently a candidate for listing by the USFWS. No individuals or burrows were observed during preliminary field surveys of appropriate habitat. Comprehensive surveys for tortoises and their burrows will be conducted during the final design phase of the project. Per FWC requirements, gopher tortoise burrows located within 25 feet of proposed impact areas must be excavated and tortoises relocated to an approved recipient site. The effect determination is may affect, not likely to adversely affect the Gopher Tortoise.

Florida Sandhill Crane

The Florida sandhill crane is listed as threatened by the Florida Fish and Wildlife Conservation Commission (FWC). Potential foraging habitat is present within the project limits; however, minimal nesting habitat exists due to the limitation of wetlands present. Given the general lack of nesting habitat within the proposed project design alternative alignments, and the abundance of foraging habitat adjacent to the project, no adverse affect is anticipated for the Florida sandhill crane.

Wetland Dependent Avian Species

This category includes state-listed wetland-dependent avian species that have a potential to occur on the project corridor. This includes: limpkin (*Aramus guarana*), little blue heron (*Egretta caerulea*), roseate spoonbill (*Ajaia ajaia*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), and white ibis (*Eudocimus albus)*. These species are listed as species of special concern by the FWC. It is anticipated that the project may affect, not likely to adversely affect wetland dependent avian species.

Commitments to protect these species, as listed in 1.2 Preliminary Commitments and Recommendations include protection measures employed during design and construction phases. Standard operating measures such as providing compensatory mitigation measures for impacts to foraging habitat and resurveying of suitable habitat areas prior to construction will also provide protection for species and habitat. If protected species are identified, coordination with the USFWS, FWC and/or the FDACS - Division of Plant Industry will be initiated to determine permit requirements or modifications to construction activities that may be required.

4.3.3.3 Permit Agency Coordination

Environmental permits, coordination and authorizations will likely be required for this project from the following agencies:

- US Army Corps of Engineers (USACE) – Section 404 Wetland Dredge and Fill Permit
- SWFWMD – Environmental Resource Permit
- FDEP – National Pollutant Discharge Elimination System Permit
- Hillsborough County Environmental Protection Commission – Wetlands permit

4.3.4 Contamination and Hazardous Waste

A *Contamination Screening Evaluation Report*[1] (CSER) was prepared January 2019 for the project in accordance with the *PD&E Manual*, Part 2, Chapter 20. The CSER was prepared using standard environmental assessment practices of regulatory agencies, site reconnaissance, a literature review, and when necessary, personal interviews of individuals and business owners within the limits of the project. The screening included a review of ETAT summaries included in the ETDM Programming Screen. A CSER has been prepared using information from corridor screenings performed in 2015 and in 2018. Contamination screening for the project study area (except for pond sites) was completed in 2015 using a November 25, 2014 Environmental Data Report (EDR) as well as an updated EDR dated December 21, 2018. A supplemental review included site visits to potential contamination sites in 2015 and again in 2018 to comply with the requirements listed in Part 2, Chapter 20 of the FDOT Project Development and Environmental Manual (updated June 14, 2017). It is to be noted the 2018 site visits are not full site reconnaissance. Site visits were completed from public right of way and did not include interviews with property owners per direction by FDOT.

For purpose of this report, the project study area includes the limits of the mainline project and an approximate 300 feet wide buffer extending beyond the mainline boundary, which is the I-275 right of way fences. In 2015, 22 mainline sites were investigated. In 2018, 27 mainline sites and the four pond site locations were investigated. The following risk rankings have been applied: eight HIGH ranking sites, seven MEDIUM ranking sites, 10 LOW ranking sites and two NO ranking sites for potential contamination. Specific details for each site are outlined more clearly in the CSER. The HIGH and MEDIUM ranked sites are:

- Site No. 1 – BP Central #320 501 E Hillsborough Avenue (MEDIUM)
- Site No. 2 – Cumberland Farms (County Owned Property) 414 E Hillsborough Avenue (MEDIUM)
- Site No. 4 – Leroy's 4x4 Auto Center (Papa Johns) 512 E Hillsborough Avenue (MEDIUM)
- Site No. 5 – Mobil S-S #22 CNG (Starbucks) 502 E Hillsborough Avenue (HIGH)
- Site No. 9 – Empire Service Station (Vacant) 813 E Sligh Avenue (HIGH)
- Site No. 10 – Sligh Food Mart 403 E Sligh Avenue (HIGH)
- Site No. 11 – Sunoco #307 810 E Sligh Avenue (HIGH)
- Site No. 13 – Racetrac #225 (Vacant) 715 E Fowler Avenue (HIGH)
- Site No. 16 – BP Economy #116 309 E Fletcher Avenue (HIGH)
- Site No. 19 – Speed Shop (Tampa Bay Tint) 702 E Bearss Avenue (HIGH)
- Site No. 20 – Citgo Food Bag #532 701 E Bearss Avenue (MEDIUM)
- Site No. 21 – Chevron-Bearss #192 301 E Bearss Avenue (HIGH)
- Site No. 23 - West Coast Tire Co Inc (CK Automotive) 14725 N Florida Avenue (MEDIUM)
- Site No. 24 – Amazing Marine 702 E Bearss Avenue (MEDIUM)
- Site No. 25 – Patriot Petroleum Truck Stop (Tire Kingdom) 15115 N Nebraska Avenue (MEDIUM)

For sites ranked “LOW” for potential contamination, no further action is required at this time. These sites/facilities have the potential to impact the study area, but based on select variables, have been determined to have low risk to the project at this time. Variables that may change the risk ranking include a facility’s non-compliance to environmental regulations, new discharges to the soil or groundwater, and modifications to current permits. Should any of these variables change, additional assessment of the facilities would be conducted.

For those locations with a risk ranking of “MEDIUM” or “HIGH”, defined in Section 5.4, of the CSER, Level II field screening may likely be conducted during future project implementation phases. These sites have been determined to have potential contaminants, which may impact the project during design and construction phase. An assessment will need to be conducted to evaluate which MEDIUM and HIGH sites are going to be acquired and impacted. This may require a soil and groundwater sampling plan at these sites. The sampling plan will provide sufficient detail as to the number of soil and groundwater samples to be obtained and the specific analytical tests to be performed. A site location sketch for each facility showing the proposed boring locations and groundwater monitoring wells is likely to be prepared also.

In October 2018, a high level contamination desktop screening was performed for the proposed pond sites. Site visits to the proposed pond sites were completed from public right of way. A more in-depth review of these pond sites was conducted using the updated December 2018 EDR as well as a revisit to the sites. Of the proposed pond sites, the following risk rankings have been applied: two HIGH ranking sites (Sites 14-A and 14-B) and two MEDIUM ranking sites (Sites 15-A and 15-B). For any of the proposed pond sites, a Level II field screening will likely be conducted.

4.3.5 Air Quality

The project has been analyzed to determine the effects to air quality in the project area. This analysis is documented in the project Air Quality Memorandum, January 2019.

National Ambient Air Quality Standards (NAAQS)

The project is in an area that has been designated as attainment for all NAAQS established by the Clean Air Act and subsequent amendments. Therefore, the Clean Air Act conformity requirements do not apply to this project. The project is not expected to create adverse impacts on air quality because the project area is in attainment for all NAAQS and because the project is expected to improve the LOS and reduce delay and congestion on all facilities within the study area.

Carbon Monoxide (CO)

An air quality analysis, specifically an analysis of carbon monoxide (CO) concentrations, was performed January 2019. The project Build and No-Build alternatives were analyzed for both the opening year and design year of the project using the FDOT’s air quality screening model, CO Florida 2012 (approved by the Federal Highway Administration (FHWA) on April 12, 2013).

The intersection forecasted to have the highest approach traffic volume for the No-Build and the Build Alternatives for both the opening year (2025) and the design year (2045) is the I-275/Bearss Avenue intersection. Based on the results from the screening model, the highest predicted CO one- and eight-hour concentrations would not exceed the NAAQS for this

pollutant regardless of alternative or year of analysis. Therefore, the project “passes” the screening test.

Green House Gas Emissions

Green House Gases (GHG) cause a global phenomenon in which heat is trapped in the earth’s atmosphere. To date, no national standards have been established for GHGs, nor has EPA established criteria or thresholds for ambient GHG emissions. GHGs are different from other air pollutants evaluated in the Federal environmental reviews because their impacts are not localized or regional due to their rapid dispersion into the global atmosphere, which is characteristic of these gases.

Under NEPA, detailed environmental analysis should be focused on issues that are significant and meaningful to decision-making (40 CFR 1500.1(b), 1500.2(b), 1500.4(g), and 1501.7). FHWA has concluded, based on the nature of GHG emissions and the exceedingly small potential of GHG impacts of the proposed action, that the GHG emissions from the proposed action will not result in “reasonably foreseeable significant adverse impacts on the human environment” (40 CFR 1502.22(b)). The GHG emission from the project build alternatives will be insignificant, and will not play a meaningful role in a determination of the environmentally preferable alternative or the selection of the preferred alternative. A qualitative analysis provides a basis for identifying and comparing the potential differences among MSATs emissions, if any, from the various alternatives.

Mobile Source Air Toxics (MSATs)

The EPA has identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk contributors and noncancer hazard contributors including: acetaldehyde, acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases, ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. Because this project improves operations of the highway without adding substantial capacity or creating a facility that is likely to meaningfully increase MSATs emissions, a qualitative analysis was performed.

For each alternative analyzed, the amount of MSATs emitted would be proportional to the vehicle miles traveled (VMT) if other variables such as fleet mix are the same for each alternative. The VMT estimated for the Build Alternative is slightly higher than that for the No-Build Alternative, because the additional capacity increases the efficiency of the roadway and may attract some trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSATs emissions for the recommended alternative along the corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds. Additionally, emissions will likely be lower than present levels in the design year because of EPA's national control programs that are projected to reduce annual MSATs emissions by over 90 percent between 2010 and 2050. Local conditions may differ from national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures; however, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the project area are likely to be lower in the future with or without the project.

The proposed improvements may have the effect of moving some traffic closer to nearby populated areas; therefore, there may be localized areas where ambient concentrations of MSATs could be higher under the Build Alternative than the No-Build Alternative. However, the magnitude and the duration of these potential increases compared to the No-Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSATs health impacts.

4.3.6 Noise

A Noise Study Report (NSR) for the project was prepared January 2019 as part of the project PD&E Study. A total of 1,749 noise sensitive receptors were evaluated. The receptors represent 1,947 properties on which there are noise sensitive land uses. Of the 1,947 properties, 1,924 of the properties are residences, 11 are places of worship, four are schools, three are parks, two are recreational areas (a commercial facility with a miniature golf course and a tennis court at a condominium), one is a medical facility (assisted living facility), and two are hotels.

A total of 439 properties with noise sensitive land uses are predicted to be impacted by traffic noise with existing conditions. In the future, without the proposed improvements, 448 noise sensitive properties are predicted to be impacted. Finally, with the proposed improvements, 749 properties with a sensitive land use are predicted to be impacted by traffic noise. A total of 739 of the 749 properties impacted are residences, three are places of worship, three are schools, one is a park, and two are recreational areas.

Traffic management measures, modifications to the roadway alignment, buffer zones, and noise barriers were considered as abatement measures. With the exception of proposed noise barriers or barrier extensions for the impacted properties within the Common Noise Environments (CNEs), noise abatement measures were not determined to be both feasible and reasonable. Refer to **Table 22** for a summary of potentially reasonable and feasible noise barriers.

Table 22: Summary of Potentially Reasonable and Feasible Noise Barriers

CNE No.	Description	NSR Appendix B Sheet Number	Number of Impacted Receptors[1]	Range in Number of Benefited Receptors[2]	Range in Total Estimated Barrier Cost[3]
1	Residences between Osborne Ave. and Hillsborough Ave. on the east side of I-275	1	59	41-57	$703,200-$1,685,580
2	Seminole Heights Baptist Church	1	1	0	--
3/5	Residences between Osborne Ave. and Hillsborough Ave. on the west side of I-275	1	80	75-79	$962,880-$1,786,260
4	St. Paul Lutheran Church	1	1	0	--
6	Residences between Hillsborough Ave. and Kingsway Rd. on the east side of I-275	2	44	11-43	$404,880-$1,113,420
7	Residences between Idlewild Ave. to E Hanna Ave. on the east side of I-275	2	22	13-22	$542,880-$736,080
8	Residences between Hillsborough Ave. and E Paris St. on the west side of I-275	3	53	22-53	$837,840-$1,689,060
9/11	Residences between Hillsborough Ave. to Sligh Ave. on the west side of I-275	2-3	140	80-134	$1,821,480-$3,210,600
10	Seminole Heights Elementary School	2-3	2	0	--
12/13	Residences between Sligh Ave. and the Hillsborough River on the east side of I-275	4-5	66	30-64	$1,336,440-$1,838,220
16/17	Residences west of I-275 between to Sligh Ave. and the Hillsborough River	4-5	79	29-79	$1,533,360-$2,377,140
18	River Tower Park	5	1	0	--
19	Residences between Waters Ave. and E Yukon St. on the east side of I-275	6	30	22-30	$824,820-$1,042,140
20	Residences between Waters Ave. and E Yukon St. on the west side of I-275	6	32	11-31	$441,600-$913,680
23	Tennis court at the Westchester Manor Condominiums	6	1	0	--
23a	Residences at the Westchester Manor Condominiums	6	1	0	--
24	Extension of an existing noise barrier for the residences east of I-275 between Busch Blvd. and Bougainvillea Ave.	7-8	21	20	$588,000
29	Community Charter Schools of Excellence	9	1	0	--
30	Extension of an existing noise barrier for the residences east of I-275 between Fowler Ave. and 127th Ave.	10	30	30	$854,400
31	Extension of an existing noise barrier for the residences west of I-275 between Fowler Avenue and 122nd Ave.	10	9	6	$215,760
32	Miles Elementary and Memory Care Assisted Living Facility	10	1	0	--
33	Residences west of I-275, south of East 127th Street and east of Oak Rose Lane	10	10	0	--
40	Extension of an existing noise barrier for the residences located east of I-275 between Fletcher Ave. and 138th Ave.	12	2	0	--
41	Grand Prix Tampa Family Fun Center	12	1	0	--
42/46	Extension of an existing noise barrier for the residences between 145th Ave. and Bearss Ave. on the east side of I-275	12-13	3	3	$48,000

Table 22: Summary of Potentially Reasonable and Feasible Noise Barriers (Continued)

CNE No.	Description	NSR Appendix B Sheet Number	Number of Impacted Receptors[1]	Range in Number of Benefited Receptors[2]	Range in Total Estimated Barrier Cost[3]
43/45	Residences between Fletcher Avenue and 145th Ave. on the west side of I-275	12	37	32-37	$737,040-$2,362,800
47	Noise barrier for the residences between Fletcher Ave. and Bearss Ave. on the west side of I-275	13	18	17-18	$653,400-$1,045,440
49	Residences along Clear Lane	14	4	0	--
Total			749	442-706	$11,102,820-$21,541,500

[1] Receptors with a predicted noise level of 66 dB(A) or greater.
[2] Receptors with a predicted reduction of 5 dB(A) or more are considered benefited.
[3] Based on a unit cost of $30 per square foot.

The estimated total cost to construct the noise barriers and barrier extensions ranges from approximately $11,102,820 to $21,228,660 depending on barrier length and height.

The FDOT is committed to the construction of noise barriers at the locations above, contingent upon the following:

- Detailed noise analysis during the final design process supports the need for, and the feasibility and reasonableness of providing a barrier as abatement;
- The detailed analysis demonstrates that the cost of a noise barrier will not exceed the cost-effective limit;
- The impacted residents/property owners benefitted by the noise barrier desire that a noise barrier be constructed; and
- All safety and engineering conflicts or issues related to construction of a noise barrier are resolved.

Notably, the noise barriers for the impacted properties in CNEs 3, 6, 7, 8, 9, 12/13, 16, 19, 20, 45, and 47 have the potential to visually block outdoor advertising signs. Should the barriers at these locations remain feasible and reasonable, after the design phase noise analysis is completed, and should the signs be found to be conforming and legally permitted, a notice of the possible noise barrier screening of the signs will be provided to the affected sign permit holder(s) as well as the appropriate local sign regulating agency. A public hearing will also be held to receive input on the proposed noise barrier/sign conflict.

As a portion of the project corridor is located with the boundary of the Tampa Interstate Study (TIS) Urban Design Guidelines (UDG) dated December 1994, the FDOT will follow the TIS UDG, in the portion where it is applicable in continuing design of the project. The TIS UDG provide guidelines for the use of retaining walls, noise barriers, bridges and other design amenities to minimize or avoid adverse visual and auditory effects on historic properties, users of the project, and adjacent communities. The TIS UDG also serve as guidelines and mitigation measures for the Section 106 process by providing design standards for unique areas within the corridor including Seminole Heights. The FDOT will continue to coordinate with potentially affected parties and the SHPO during future project phases so that adverse effects can be avoided.

5.0 PLANNING PHASE/CORRIDOR ANALYSIS

The project was evaluated through FDOT's ETDM process. This project is designated as ETDM Project Number 13854. An ETDM Final Programming Screen Summary Report was republished on February 7, 2014, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. The lead agency determined the Class of Action to be a Type 2 Categorical Exclusion.

Recognizing I-275 as an important regional transportation facility in the Tampa Bay area, the need for proposed improvements to the existing I-275 corridor has been documented in past and present studies. This PD&E Study builds upon these previous studies.
Planning for the Tampa Bay area interstates began in the late 1980s with the Tampa Interstate Study (TIS) Master Plan being approved in late 1980s with improvements outlined to relieve congestion and improve mobility. The TIS Master Plan included additional travel lanes on the Tampa Bay area interstates and included a transit envelope for the east-west movement but not along this segment of I-275. In 2013, building upon the original TIS Master Plan, the Tampa Bay Express (TBX) program was developed to provide guidance for improvements to the Tampa Bay interstate system and identified freeway segments (including this segment of I-275) for the addition of tolled express lanes. In 2017, FDOT District Seven reset TBX to Tampa Bay Next (TBNext) to demonstrate its commitment to comprehensive, integrated transportation planning and development. As part of TBNext, FDOT District Seven committed to remove the express lanes from this segment of I-275 and evaluate them on an alternative corridor based on regional needs.

The intent of this PD&E Study is to maximize the existing I-275 within the existing right of way and minimize impacts on the surrounding communities.

6.0 PROJECT DESIGN STANDARDS

6.1 Highway Design Criteria

Design criteria for the proposed I-275 improvements are in conformance with the documents listed below, which are the current standards.

- FDOT *Design Manual (2018)*
- FDOT*, Standard Plans for Road and Bridge Construction (FY 2018-2019)*
- Federal Highway Administration (FHWA), *Manual on Uniform Traffic Control Devices (MUTC-D), 2009 with Revisions 1 and 2*
- *AASHTO, A Policy on Geometric Design of Highways and Streets, 2011*
- AASHTO*, Guide for Design of High Occupancy Vehicle (HOV), 2004*.
- FDOT *Drainage Design Guide (January 2018)*

The design speed for the existing I-275 corridor is 60 mph and the design speed for the proposed improvements is also 60 mph. The design criteria for the I-275 proposed improvements are shown in **Table 23**.

Table 23: Roadway Design Criteria for I-275 Mainline

DESIGN ELEMENT	DESIGN STANDARD		SOURCE(S)
Design Vehicle	WB-62FL		FDM, Section 201.5
Design Year	2045		FDM (20 years from opening)
Design Speed			
Mainline I-275 – Urbanized Interstate	60 mph		AASHTO, Page 10-89 to 10-90, Table 10-1; FDM Table 201.4.2
Direct Connection Ramp	*Lower Range*	*Upper Range*	
	30 mph	50 mph	
Loop Ramp	25 mph min. for 60 mph		
Median Width			
Median I-275	64 ft 26 ft (with barrier)		FDM, Table 211.3.1
Border Width			
Mainline I-275	94 ft minimum (Width may be reduced at crossroad terminals as long as design meets requirement of clear zone, lateral offsets, drainage, and maintenance access)		FDM, Section 211.6
Minimum Radius (Max. Degree of Curve)			
Mainline I-275	1,091 ft		FDM, Tables 210.8.2
Direct and Semi-Direct Connection Ramp (Lower Range / Upper Range):	231 ft / 694 ft		
Loop Ramp:	160 ft		
Length of Horizontal Curve			
Mainline I-275	Minimum: 900 Desirable: 30(V) Where V is equal to the design speed of the roadway		FDM, Table 211.7.1
Maximum Shoulder "Roll-Over"	7%		FDOT Standard Plans Index No. 000-510, 1 of 2
Superelevation Transition			
Maximum			FDOT Standard Plans Index No. 000-510, 1 of 2
Mainline I-275	emax = 0.10 ft/ft		
Transition			FDM Section 210.9; FDOT Standard Plans Index No. 000-510
Tangent	80%		
Curve	20%		
Slope Rate			FDM, Table 210.9.3
Straight Line Super Transitions			
Mainline I-275	1:170		
Ramp (25 mph)	1:100		
Ramp (45-50 mph)	1:200		

Applicable Source Editions: FDOT Design Manual (FDM), January 2018; AASHTO A Policy on Geometric Design of Highways and Streets, 2011; FDOT Standard Plans, 2018-19.

DESIGN ELEMENT	DESIGN STANDARD	SOURCE(S)
On-Ramp		
Taper (Taper Type)	50:1 (minimum)	AASHTO, Pages 10-107 to 10-109, Table 10-3; FDOT Standard Plans Index No. 000-525
Taper (Parallel Type)	300 ft (minimum)	
Acceleration Length, Lower Range / Upper Range: (Direct Connect Ramp)	910 ft / 180 ft	
Acceleration Length, 25 mph (Loop Ramp)	1,020 ft	
Off-Ramp		
Taper (Taper Type)	15:1 (minimum)	AASHTO, Pages 10-113 to 10-115, Table 10-5; FDOT Standard Plans Index No. 000-525
Taper (Parallel Type)	2° to 5°	
Deceleration Length (Due to the urban context a deceleration length to a stopped condition is provided):	530 ft	
Maximum Profile Grade		
3%	3%	FDM, Table 211.9.1
3% to 5%	3% to 5%	
3% to 7%	3% to 7%	
Maximum Change in Grade without Vertical Curve		
0.40%	0.40%	FDM, Table 210.10.2
0.90% / 0.60%	0.90% / 0.60%	
1.00%	1.00%	
Grade Datum		
Roadway Base Clearance above the Base Clearance Water Elevation	3 ft	FDM, Section 210.10.3
Minimum Stopping Sight Distance		
645 ft (min.)	645 ft (min.)	FDM, Table 211.10.1
Minimum Crest Vertical Curve (Use mid to upper range of K value as desirable)		
Mainline I-275	K =313 (1,000 ft min. for open hwys) (1,800 ft min. at interchanges)	FDM, Table 211.9.2, 211.9.3
Direct Connection Ramp (Lower Range / Upper Range)	K = 31 (90 ft min.) / 136 (300 ft min.)	
Loop Ramp	K = 19 (75 ft min.)	
Minimum Sag Vertical Curve (Use mid to upper range of K value as desirable)		
Mainline I-275	K = 157 (800 ft min.)	FDM, Table 211.9.2, 211.9.3
Direct Connection Ramp (Lower Range / Upper Range)	K = 37 ft (90 ft min. / 96 (200 ft min.)	
Loop Ramp	K = 26 (75 ft min.)	

Applicable Source Editions: FDOT Design Manual (FDM), January 2018; AASHTO A Policy on Geometric Design of Highways and Streets, 2011; FDOT Standard Plans, 2018-19.

DESIGN ELEMENT	DESIGN STANDARD		SOURCE(S)
Minimum Vertical Clearance			
Bridges over I-275	16.5 ft		FDM, Table 260.6.1
I-275 Bridges Over Waterways	6 ft		FDM, Section 260.8.1
Overhead Sign Structures	17.5 ft		FDM, Section 210.10.3
I-275 Bridges over Railroad	23.5 ft		FDM, Table 260.6.1
Typical Roadway Cross Section Slopes			
Roadways	0.02 ft/ft to 0.03 ft/ft		FDM, Figure 211.2.1 & Section 211.4.2
Inside Shoulder	0.05 ft		
Outside Shoulder	0.06 ft/ft		
Roadside Slopes			
For facility with projected 20 year AADT of 1500 or greater and design speed of 45 mph or greater			
	Height of Fill (feet)	*Rate*	FDM, Table 215.2.3
Front Slope	0 – 5	1:6	
	5 – 10	1:6 to edge of clear zone, then 1:4	
	10 – 20	1:6 to edge of clear zone, then 1:3	
	>20	1:2 with guardrail	
Back Slope	All	1:4 or 1:3 with a standard width trapezoidal ditch and 1:6 front slope	
Clear Zone - Minimum from edge of travel way (Applies to recovery slopes and fixed objects. Does not apply to frangible base structures.)			
Mainline I-275 & Multilane Ramps (60 mph)	36 ft		FDM, Table 215.2.1
Auxiliary Lane & Single Lane Ramps (60 mph)	24 ft		
Direct Conn. Ramps (Lower Range / Upper Range)	12 ft (multilane) 10 ft (single) / 24 ft (multilane) 14 ft (single)		
Loop Ramps (25 mph)	12 ft (multilane) 10 ft (single)		
Lane Widths			
Mainline I-275	12 ft		FDM, Section 211.2
Tangent & Large Radii (≥ 500 feet)			FDM, Section 211.2.1
One-Lane Ramp	15 ft		
Two-Lane Ramp	24 ft		
Small Radii (< 500 ft)			FDM, Table 211.2.1 AASHTO, Section3.3.11 & Page 10-102, Table 3-29
One-Lane Ramp (includes paved shoulder width)	20 ft – Case II-B		
Two-Lane Ramp (includes paved shoulder width)	24 ft – Case III-A		

Applicable Source Editions: FDOT Design Manual (FDM), January 2018; AASHTO A Policy on Geometric Design of Highways and Streets, 2011; FDOT Standard Plans, 2018-19.

DESIGN ELEMENT	DESIGN STANDARD				SOURCE(S)
Shoulder Width - Roadway					
Highway Type	*Full Width*		*Paved Width*		FDM, Table 211.4.1
	Outside	*Inside*	*Outside*	*Inside*	
Mainline I-275	12 ft	12 ft	10 ft	10 ft	
Auxiliary Lane (1-lane Terminal)	12 ft	8 ft	10 ft	4 ft	
One-Lane Ramp	6 ft	6 ft	4 ft	2 ft	
Two-Lane Ramp (Interstate)	12 ft	8 ft	10 ft	4 ft	
Shoulder Width – Bridges					
Highway Type		*Inside*	*Outside*		FDM, Figure 260.1.1
Mainline I-275, 4+ lanes		10 ft	10 ft		
Auxiliary lanes		N/A	10 ft		
One-Lane Ramp		6 ft	6 ft		
Two-Lane Ramp		6 ft	10 ft		

Applicable Source Editions: FDOT Design Manual (FDM), January 2018; AASHTO A Policy on Geometric Design of Highways and Streets, 2011; FDOT Standard Plans, 2018-19.

6.2 Design Exceptions and Variations

Sometimes it may be necessary to deviate from the standard criteria used in the design process. If deemed necessary, two specific deviations may occur: (1) Design Exception or (2) Design Variation. A Design Exception is required when the design criteria for the Controlling Design Elements falls below the minimums established by AASHTO and FDOT. A Design Variation is required when Proposed design elements are below FDOT's criteria and where a Design Exception is not required.

The concept design plans were reviewed to identify potential design exceptions and variations for the proposed I-275 improvements using FDOT's design criteria for the 10 controlling design elements required by Section 122.2 of the *FDM*: design speed, lane widths, shoulder widths, vertical clearance, maximum grades, cross slope, superelevation rate, horizontal curve radius, stopping sight distance, and design loading structural capacity. The potential exceptions and variations are summarized in **Table 24.**

.

Table 24: Potential Design Exceptions and Variations

Design Element	Exception	Variation	Locations
1. Design Speed	No	Yes	Busch Blvd. SB On-Ramp
2. Lane Widths	No	No	N/A
3. Shoulder Widths (Full/Paved)	Yes	Yes	I-275 Mainline: Transition to Existing (Begin/End Project Limits)
4. Horizontal Curve Radius	No	Yes	I-275 Mainline: Four Curves (see Table 3)
5. Superelevation Rate	Yes	No	I-275 Mainline and Ramps
6. Stopping Sight Distance	Yes	Yes	I-275 Mainline
7. Maximum Grade	No	No	N/A
8. Cross Slope (Min./Max.)	No	Yes	I-275 Mainline
9.Vertical Clearance	Yes	Yes	16 Bridge Locations (see Table 17)
10. Design Loading Structural Capacity	No	No	N/A
11. Border Width	N/A	Yes	I-275 Mainline

7.0 ALTERNATIVES ANALYSIS

The alternatives analysis considered engineering, environmental, socio-cultural, and economic factors. The proposed improvements should be designed to safely and efficiently accommodate the projected traffic volumes and benefit the overall public interest.

The following sections describe the alternatives considered and eliminated, as well as the No-Build and Build Alternative concepts for the project and the comparative analysis of the alternatives.

7.1 Alternatives Considered and Eliminated

FDOT considered several alternatives along this segment of I-275. All the alternatives included the addition of one Express Lane in each direction. FDOT made the decision to remove express lanes from this segment of I-275, and to evaluate them on an alternative corridor based on regional needs. As Express Lanes are no longer being considered on I-275 north of I-4 these alternatives are no longer under consideration.

These alternatives included:

- Trench with One Express Lane in Each Direction – lowers the roadway and includes express lanes to provide an option to drivers
- One Express Lane in Each Direction with Pylon Option – provides pylons to separate express lane traffic from general purpose traffic
- Elevated Express Lanes, One in Each Direction – elevates the express lanes above general purpose traffic
- Reversible Express Lanes – express lanes in the median with two lanes in one direction for the peak periods of travel and reversed direction for the other peak period
- One Express Lane in Each Direction with Bus on Shoulder – provides express lanes in the median and allows buses to operate on the shoulders
- Boulevard with Median Transit Envelope – converts portions of I-275 to an at-grade boulevard with six to eight lanes in each direction

The eliminated alternatives are shown in **Figure 13**.

After the initial screening, FDOT and the Hillsborough MPO determined that there are local decisions and investments that would be required for the boulevard concept to move forward (land use policy decisions, local transit investments, etc.). Those decisions and investments are best addressed at the local level by the Hillsborough MPO, which is updating its LRTP. The Hillsborough MPO is including the boulevard concept in one of the three scenarios for future growth, and the community will be able to provide feedback on each of the scenarios. Since the Hillsborough MPO is studying the boulevard concept, FDOT has eliminated the boulevard concept from further consideration. It would not improve system capacity along the mainline of I-275. This eliminated alternative is shown in **Figure 14.**

Figure 13: Express Lane Alternatives No Longer Under Consideration

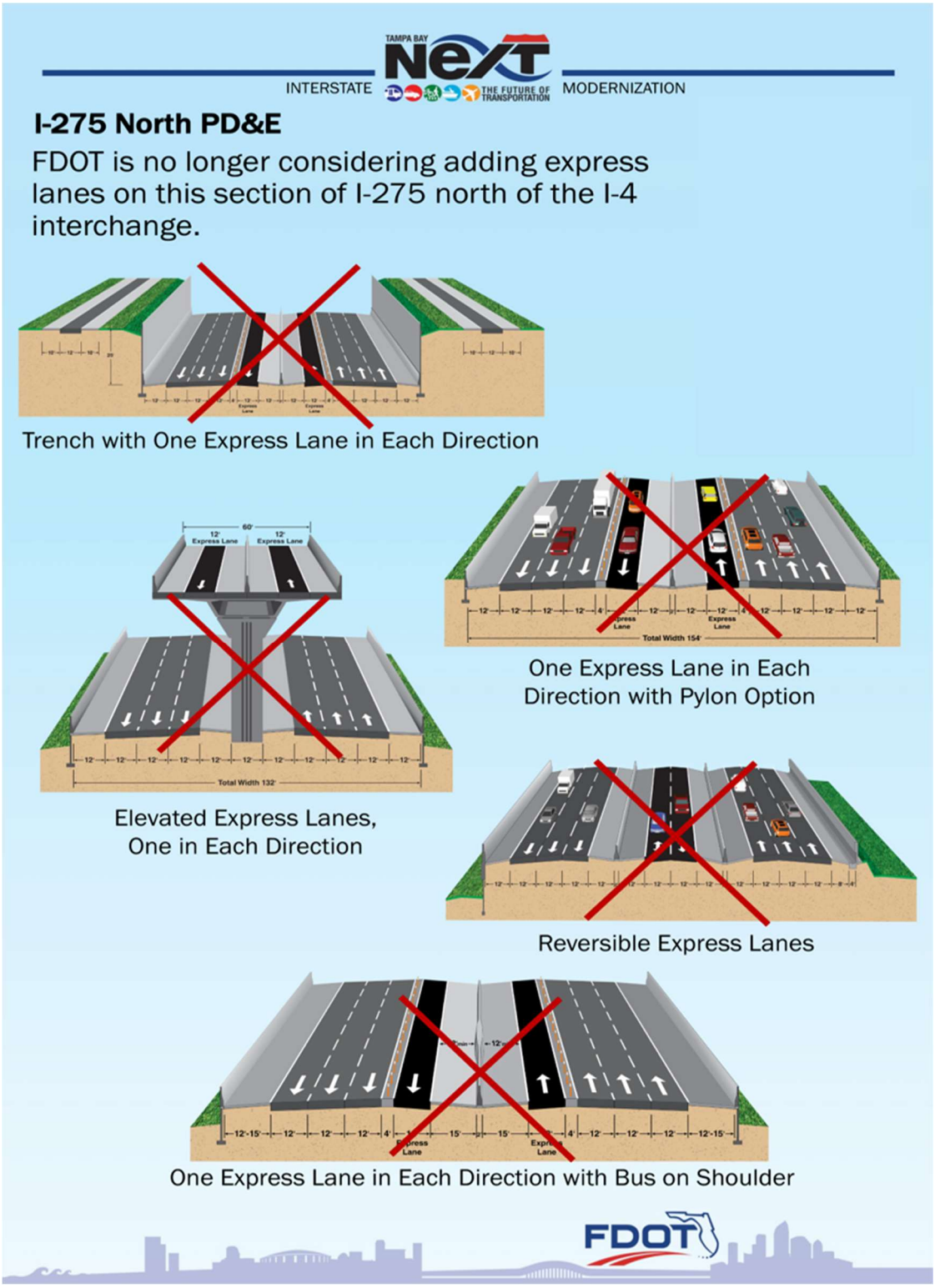
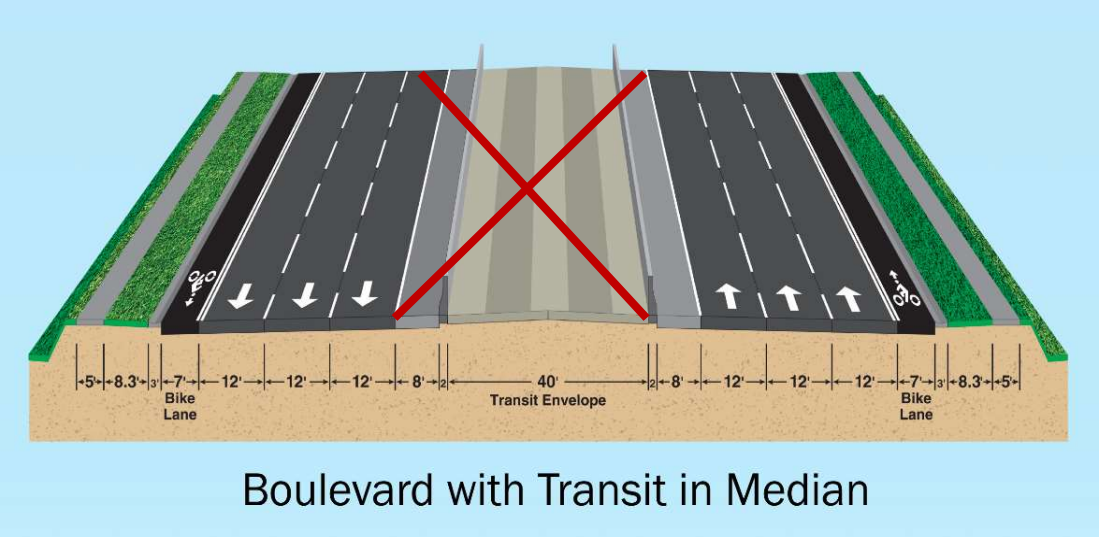


Figure 14: Boulevard Alternative No Longer Under Consideration by FDOT



While the Hillsborough MPO works with the community to determine a long-term vision for this corridor in the LRTP, FDOT is focusing on addressing the existing problems of safety, traffic operations, and congestion through near-term improvements that will not preclude potential long-term projects.

7.2 No-Build Alternative

The No-Build Alternative assumes that the existing conditions along the I-275 corridor would remain unchanged, except for currently planned and programmed projects already committed. The No-Build Alternative forms the basis of the comparative analysis for the Build Alternative.

The benefit of the No-Build Alternative is there would be no construction-related or short-term operational impacts that are associated with the Build Alternative. However, with the No-Build Alternative, traffic operating conditions are anticipated to worsen over time, further increasing delays and congestion. The No-Build Alternative will offer no benefits to the existing or anticipated future traffic congestion along I-275.

Distinct advantages and limitations associated with the No-Build Alternative are outlined below. These advantages and disadvantages, along with other established criteria, were used in the evaluation process with the Build Alternatives. The No-Build Alternative will remain a viable alternative through the PD&E Study. The final selection of an alternative will not be made until all impacts are considered and the public hearing comments have been evaluated.

7.2.1 Advantages

The advantages of the No-Build Alternative are:

- No impacts to traffic flow, and associated inconvenience to motorists due to construction activities

- No expenditures of funds for design or construction
- No impacts to the adjacent natural, physical, and human environments
- No disruption to existing land uses from construction activities

7.2.2 Disadvantages

The disadvantages of the No-Build Alternative are:

- Increase in traffic congestion and road user costs, unacceptable LOS and an increase in crashes associated with increased travel times (due to excessive delays) and traffic volumes
- Increase in crash potential due to congestion
- Increase in maintenance costs associated with roadway and structure deterioration
- Increase in emergency vehicle response time and an increase in evacuation time during weather emergencies as result of heavy congestion
- Increase in the levels of carbon monoxide and other pollutants due to increased traffic congestion

7.3 Transportation Systems Management and Operations

Transportation Systems Management and Operations (TSM&O) alternatives are low capital cost transportation improvements designed to maximize the efficiency of the existing facility by improving system and operations management. TSM&O options generally include traffic signal improvements, intersection/interchange improvements, constructing ramp-to-ramp auxiliary lanes, widening parallel arterial roadways, conducting ridesharing programs, implementing reversible flow roadways systems, improving the transit system, and implementing ITS technology.

Many TSM&O features already exist along the corridor. Although implementing additional TSM&O strategies would improve local operations on I-275, the projected traffic volumes in the design year of 2045 require widening of I-275 to provide the additional capacity to improve the LOS. Therefore, the TSM&O is not a viable alternative and no further evaluation will be conducted during this study.

7.4 Build Alternative

The Preferred Build Alternative includes widening I-275 from an existing six-lane divided interstate to an eight-lane divided interstate, plus accommodating transit on the inside shoulder. Operational Improvements will be implemented at Hillsborough Avenue. The Bearss Avenue bridge will be replaced along with ramp improvements; no other interchange configurations will change with the improvements. The remaining 17 existing bridges will be widened to accommodate the additional travel lanes (see **Section 7.8**).

The proposed typical section includes eight 12-foot wide general purpose lanes (four in each direction), two 15-foot wide inside shoulders which accommodate transit (one in each

direction), 12-foot wide outside shoulders, and a 2-foot wide concrete barrier separating the two directions of travel.

The existing horizontal and vertical alignment will be maintained in the Build Alternative to avoid right of way impacts. The proposed improvements for mainline I-275 will take place within the existing right of way. Minimal right of way may be required at the Bearss Avenue interchange for storm water ponds.

The concept plans showing the Build Alternative are provided in **Appendix A**.

7.5 Traffic Evaluation of Alternatives

A Project Traffic Analysis Report (PTAR) was completed for the project in July 2019. The following information is from the 2019 PTAR.

7.5.1 Opening Traffic Volumes

7.5.1.1 Opening Year (2025) - No-Build

The No-Build Alternative assumes that the existing conditions would remain within the project limits for I-275 beyond the design year 2045.

- For the AM peak hour in the northbound direction, the simulated volume on I-275 mainline within the study area ranges from -18% to -40% compared to the demand volume.
- For the AM peak hour in the southbound direction, the simulated volume on I-275 mainline within the study area ranges from -31% to -60% compared to the demand volume.
- For the PM peak hour in the northbound direction, the simulated volume on I-275 mainline within the study area ranges from -36% to -63% compared to the demand volume.
- For the PM peak hour in the southbound direction, the simulated volume on I-275 mainline within the study area ranges from +1% to -43% compared to the demand volume.

7.5.1.2 Opening Year (2025) – Build

The improvements being considered for the alternative include widening I-275 to accommodate two additional general purpose lanes with one lane in each direction by the opening year (2025). In addition to the I-275 mainline improvements, improvements are also included in the Build Alternatives at Hillsborough Avenue ramps and at the Bearss Avenue interchange.

- For the AM peak hour in the northbound direction, the simulated volume on I-275 mainline within the study area ranges from -7% to -40% compared to the demand volume.

- For the AM peak hour in the southbound direction, the simulated volume on I-275 mainline within the study area ranges from -9% to -49% compared to the demand volume.
- For the PM peak hour in the northbound direction, the simulated volume on I-275 mainline within the study area ranges from -16% to -42% compared to the demand volume.
- For the PM peak hour in the southbound direction, the simulated volume on I-275 mainline within the study area ranges from +2% to -30% compared to the demand volume.

The 2025 Opening Year No-Build and Build CORSIM model simulated traffic volumes comparing to the demand design hour traffic volumes as presented in **Table 25** through **Table 32.**

Table 25: 2025 AM Traffic Volumes I-275 Northbound Segments (No Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
Between I-275 on-ramp from MLK Boulevard and I-275 off-ramp to Hillsborough Avenue Eastbound	4	184	8,000	6,375	-20%
	184	185	8,000	6,234	-22%
	185	186	8,000	6,232	-22%
	186	2	8,000	6,585	-18%
I-275 off-ramp to Hillsborough Avenue Eastbound	2	7004	405	310	-23%
Between I-275 off-ramp to Hillsborough Avenue Eastbound and I-275 off-ramp to Hillsborough Avenue Westbound	2	112	7,595	5,911	-22%
I-275 off-ramp to Hillsborough Avenue Westbound	112	113	667	537	-19%
Between I-275 off-ramp to Hillsborough Avenue Westbound and I-275 on-ramp from Hillsborough Avenue	112	114	6,928	5,376	-22%
I-275 on-ramp from Hillsborough Avenue	115	114	995	820	-18%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to Sligh Avenue	114	5	7,923	6,193	-22%
	5	187	7,923	6,190	-22%
	187	188	7,923	6,186	-22%
	188	7	7,923	6,181	-22%
	7	6	7,923	6,177	-22%
I-275 off-ramp to Sligh Avenue	6	7007	689	573	-17%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	6	119	7,234	5,597	-23%
I-275 on-ramp from Sligh Avenue	120	119	716	558	-22%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Bird Street	119	122	7,950	6,442	-19%
I-275 off-ramp to Bird Street	116	7009	894	710	-21%
Between I-275 off-ramp to Bird Street and I-275 off-ramp to Busch Boulevard	116	8	7,056	5,413	-23%
	8	125	7,056	5,409	-23%
	125	127	7,056	5,401	-23%
	127	9	7,056	5,197	-26%
I-275 off-ramp to Busch Boulevard	9	129	1180	930	-21%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	9	130	5,875	4,441	-24%
I-275 on-ramp from Busch Boulevard	132	130	809	535	-34%
Between I-275 on-ramp from Busch Boulevard and I-275 off-ramp to Fowler Avenue	130	189	6,684	5,028	-25%
	189	133	6,684	4,942	-26%
	133	190	6,684	4,934	-26%
	190	135	6,684	4,696	-30%
I-275 off-ramp to Fowler Avenue	135	7012	2,119	1,640	-23%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	135	10	4,566	3,244	-29%
I-275 on-ramp from Fowler Avenue	139	10	530	422	-20%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Fletcher Avenue	10	191	5,096	3,563	-30%
	191	192	5,096	3,585	-30%
	192	140	5,096	3,564	-30%
I-275 off-ramp to Fletcher Avenue	140	7014	1719	1,275	-26%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	140	11	3,377	2,283	-32%
I-275 on-ramp from Fletcher Avenue	144	11	383	85	-78%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Bearss Avenue	11	193	3,760	2,583	-31%
	193	145	3,760	2,446	-35%
	145	194	3,760	2,367	-37%
	194	12	3,760	2,328	-38%
I-275 off-ramp to Bearss Avenue	12	7016	2,036	1,300	-36%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	12	146	1725	1,059	-39%
I-275 on-ramp from Bearss Avenue	7017	152	515	331	-36%
North of I-275 on-ramp from Bearss Avenue	148	13	2,239	1,369	-39%
	13	195	2,239	1,335	-40%

Table 26: 2025 AM Traffic Volumes I-275 Southbound Segments (No Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
North of I-275 to Bearss Avenue off-ramp	196	14	4,556	3,151	-31%
	14	149	4,556	3,102	-32%
I-275 off-ramp to Bearss Avenue	149	7033	732	431	-41%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	149	147	3,824	2,555	-33%
	147	15	3,824	2,493	-35%
I-275 on-ramp from Bearss Avenue	7032	168	2,698	622	-77%
Between I-275 on-ramp from Bearss Avenue and I-275 off-ramp to Fletcher Avenue	15	197	6,522	2,957	-55%
	197	166	6,522	2,881	-56%
	166	198	6,522	2,851	-56%
	198	16	6,522	2,910	-55%
I-275 off-ramp to Fletcher Avenue	16	7031	837	408	-51%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	16	141	5,685	2,334	-59%
I-275 on-ramp from Fletcher Avenue	7030	165	1,296	717	-45%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Fowler Avenue	141	199	6,981	2,881	-59%
	199	200	6,981	2,923	-58%
	200	17	6,981	2,838	-59%
I-275 off-ramp to Fowler Avenue	17	7029	880	406	-54%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	17	136	6,101	2,483	-59%
I-275 on-ramp from Fowler Avenue	7028	164	1,598	763	-52%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Busch Boulevard	136	201	7,699	3,085	-60%
	201	134	7,699	3,168	-59%
	134	202	7,699	3,166	-59%
	202	162	7,699	3,162	-59%
I-275 off-ramp to Busch Boulevard	162	7027	1,072	496	-54%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	162	18	6,627	2,636	-60%
I-275 on-ramp from Busch Boulevard	161	18	1,565	913	-42%
Between I-275 on-ramp from Busch Boulevard and I-275 on-ramp from Bird Street	18	128	8,192	3,293	-60%
	128	126	8,192	3,410	-58%
	126	19	8,192	3,374	-59%
	19	121	8,192	3,360	-59%
I-275 on-ramp from Bird Street	159	121	1,185	762	-36%
Between I-275 on-ramp from Bird Street and I-275 off-ramp to Sligh Avenue	121	123	9,377	4,130	-56%
	123	117	9,377	4,246	-55%
I-275 off-ramp to Sligh Avenue	117	7024	949	458	-52%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	117	20	8,428	3,558	-58%
I-275 on-ramp from Sligh Avenue	156	20	913	659	-28%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Hillsborough Avenue	21	203	9,341	4,219	-55%
	203	204	9,341	4,219	-55%
	204	22	9,341	4,218	-55%
	22	155	9,341	4,466	-52%
I-275 off-ramp to Hillsborough Avenue	155	7022	1,318	641	-51%
Between I-275 off-ramp to Hillsborough Avenue and I-275 on-ramp from Hillsborough Avenue	155	23	8,023	3,571	-55%
I-275 on-ramp from Hillsborough Avenue	154	23	1,421	806	-43%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to MLK Boulevard	23	205	9,444	4,552	-52%
	205	206	9,444	4,379	-54%
	206	26	9,444	4,393	-53%

Table 27: 2025 PM Traffic Volumes I-275 Northbound Segments (No Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
Between I-275 on-ramp from MLK Boulevard and I-275 off-ramp to Hillsborough Avenue Eastbound	260	184	10,000	3,745	-63%
	184	185	10,000	4,926	-51%
	185	186	10,000	4,926	-51%
	186	2	10,000	5,208	-48%
I-275 off-ramp to Hillsborough Avenue Eastbound	2	7004	537	235	-56%
Between I-275 off-ramp to Hillsborough Avenue Eastbound and I-275 off-ramp to Hillsborough Avenue Westbound	2	112	9,463	4,687	-50%
I-275 off-ramp to Hillsborough Avenue Westbound	112	113	884	405	-54%
Between I-275 off-ramp to Hillsborough Avenue Westbound and I-275 on-ramp from Hillsborough Avenue	112	114	8,579	4,285	-50%
I-275 on-ramp from Hillsborough Avenue	115	114	1,318	1,045	-21%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to Sligh Avenue	114	5	9,897	5,332	-46%
	5	187	9,897	5,333	-46%
	187	188	9,897	5,331	-46%
	188	7	9,897	5,329	-46%
	7	6	9,897	5,328	-46%
I-275 off-ramp to Sligh Avenue	6	7007	913	514	-44%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	6	119	8,984	4,811	-46%
I-275 on-ramp from Sligh Avenue	120	119	949	784	-17%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Bird Street	119	122	9,933	5,867	-41%
I-275 off-ramp to Bird Street	116	7009	1,185	733	-38%
Between I-275 off-ramp to Bird Street and I-275 off-ramp to Busch Boulevard	116	8	8,748	4,863	-44%
	8	125	8,748	4,864	-44%
	125	127	8,748	4,866	-44%
	127	9	8,748	4,693	-46%
I-275 off-ramp to Busch Boulevard	9	129	1,565	899	-43%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	9	130	7,184	3,964	-45%
I-275 on-ramp from Busch Boulevard	132	130	1,072	799	-25%
Between I-275 on-ramp from Busch Boulevard and I-275 off-ramp to Fowler Avenue	130	189	8,256	4,827	-42%
	189	133	8,256	4,757	-42%
	133	190	8,256	4,756	-42%
	190	135	8,256	4,536	-45%
I-275 off-ramp to Fowler Avenue	135	7012	2,069	1,284	-38%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	135	10	6,187	3,471	-44%
I-275 on-ramp from Fowler Avenue	139	10	764	654	-14%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Fletcher Avenue	10	191	6,951	4,057	-42%
	191	192	6,951	4,091	-41%
	192	140	6,951	4,072	-41%
I-275 off-ramp to Fletcher Avenue	140	7014	1,719	1,112	-35%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	140	11	5,232	2,965	-43%
I-275 on-ramp from Fletcher Avenue	144	11	508	393	-23%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Bearss Avenue	11	193	5,740	3,662	-36%
	193	145	5,740	3,467	-40%
	145	194	5,740	3,357	-42%
	194	12	5,740	3,309	-42%
I-275 off-ramp to Bearss Avenue	12	7016	2,698	1,623	-40%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	12	146	3,042	1,735	-43%
I-275 on-ramp from Bearss Avenue	7017	152	682	654	-4%
North of I-275 on-ramp from Bearss Avenue	148	13	3,724	2,340	-37%
	13	195	3,724	2,279	-39%

Table 28: 2025 PM Traffic Volumes I-275 Southbound Segments (No Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
North of I-275 to Bearss Avenue off-ramp	196	14	3,182	3,213	1%
	14	149	3,182	3,183	0%
I-275 off-ramp to Bearss Avenue	149	7033	515	491	-5%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	149	147	2,667	2,598	-3%
	147	15	2,667	2,583	-3%
I-275 on-ramp from Bearss Avenue	7032	168	2,036	1,423	-30%
Between I-275 on-ramp from Bearss Avenue and I-275 off-ramp to Fletcher Avenue	15	197	4,703	3,804	-19%
	197	166	4,703	3,746	-20%
	166	198	4,703	3,725	-21%
	198	16	4,703	3,831	-19%
I-275 off-ramp to Fletcher Avenue	16	7031	383	312	-19%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	16	141	4,320	3,379	-22%
I-275 on-ramp from Fletcher Avenue	7030	165	1296	1,149	-11%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Fowler Avenue	141	199	5,616	4,290	-24%
	199	200	5,616	4,351	-23%
	200	17	5,616	4,221	-25%
I-275 off-ramp to Fowler Avenue	17	7029	530	453	-15%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	17	136	5,086	3,846	-24%
I-275 on-ramp from Fowler Avenue	7028	164	1,690	942	-44%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Busch Boulevard	136	201	6,776	4,500	-34%
	201	134	6,776	4,586	-32%
	134	202	6,776	4,558	-33%
	202	162	6,776	4,524	-33%
I-275 off-ramp to Busch Boulevard	162	7027	809	540	-33%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	162	18	5,967	3,936	-34%
I-275 on-ramp from Busch Boulevard	161	18	1,180	443	-62%
Between I-275 on-ramp from Busch Boulevard and I-275 on-ramp from Bird Street	18	128	7,147	4,100	-43%
	128	126	7,147	4,276	-40%
	126	19	7,147	4,240	-41%
	19	121	7,147	4,227	-41%
I-275 on-ramp from Bird Street	159	121	894	778	-13%
Between I-275 on-ramp from Bird Street and I-275 off-ramp to Sligh Avenue	121	123	8,041	5,051	-37%
	123	117	8,041	5,251	-35%
I-275 off-ramp to Sligh Avenue	117	7024	716	609	-15%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	117	20	7,325	4,365	-40%
I-275 on-ramp from Sligh Avenue	156	20	689	491	-29%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Hillsborough Avenue	21	203	8,014	4,848	-40%
	203	204	8,014	4,840	-40%
	204	22	8,014	4,829	-40%
	22	155	8,014	5,113	-36%
I-275 off-ramp to Hillsborough Avenue	155	7022	995	672	-32%
Between I-275 off-ramp to Hillsborough Avenue and I-275 on-ramp from Hillsborough Avenue	155	23	7,019	4,155	-41%
I-275 on-ramp from Hillsborough Avenue	154	23	1,072	907	-15%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to MLK Boulevard	23	205	8,091	5,261	-35%
	205	206	8,091	5,062	-37%
	206	26	8,091	5,079	-37%

Table 29: 2025 AM Traffic Volumes I-275 Northbound Segments (Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
Between I-275 on-ramp from MLK Boulevard and I-275 off-ramp to Hillsborough Avenue Eastbound	4	184	8,000	7,172	-10%
	184	185	8,000	7,015	-12%
	185	186	8,000	7,010	-12%
	186	2	8,000	7,445	-7%
I-275 off-ramp to Hillsborough Avenue Eastbound	2	7004	405	346	-15%
Between I-275 off-ramp to Hillsborough Avenue Eastbound and I-275 off-ramp to Hillsborough Avenue Westbound	2	112	7,595	6,691	-12%
I-275 off-ramp to Hillsborough Avenue Westbound	112	113	667	604	-9%
Between I-275 off-ramp to Hillsborough Avenue Westbound and I-275 on-ramp from Hillsborough Avenue	112	114	6,928	6,048	-13%
I-275 on-ramp from Hillsborough Avenue	115	114	995	1,143	15%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to Sligh Avenue	114	5	7,923	6,702	-15%
	5	187	7,923	6,693	-16%
	187	188	7,923	6,679	-16%
	188	7	7,923	6,668	-16%
	7	6	7,923	6,658	-16%
I-275 off-ramp to Sligh Avenue	6	7007	689	614	-11%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	6	119	7,234	6,033	-17%
I-275 on-ramp from Sligh Avenue	120	119	716	556	-22%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Bird Street	119	122	7,950	6,675	-16%
I-275 off-ramp to Bird Street	116	7009	894	762	-15%
Between I-275 off-ramp to Bird Street and I-275 off-ramp to Busch Boulevard	116	8	7,056	5,800	-18%
	8	125	7,056	5,797	-18%
	125	127	7,056	5,788	-18%
	127	9	7,056	5,735	-19%
I-275 off-ramp to Busch Boulevard	9	129	1180	1,003	-15%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	9	130	5,875	4,752	-19%
I-275 on-ramp from Busch Boulevard	132	130	809	515	-36%
Between I-275 on-ramp from Busch Boulevard and I-275 off-ramp to Fowler Avenue	130	189	6,684	5,303	-21%
	189	133	6,684	5,224	-22%
	133	190	6,684	5,209	-22%
	190	135	6,684	5,103	-24%
I-275 off-ramp to Fowler Avenue	135	7012	2,119	1,710	-19%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	135	10	4,566	3,434	-25%
I-275 on-ramp from Fowler Avenue	139	10	530	383	-28%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Fletcher Avenue	10	191	5,096	3,795	-26%
	191	192	5,096	3,725	-27%
	192	140	5,096	3,706	-27%
I-275 off-ramp to Fletcher Avenue	140	7014	1,719	1,298	-24%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	140	11	3,377	2,403	-29%
I-275 on-ramp from Fletcher Avenue	144	11	383	81	-79%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Bearss Avenue	11	193	3,760	2,491	-34%
	193	145	3,760	2,260	-40%
	145	194	3,760	2,479	-34%
	194	12	3,760	2,444	-35%
I-275 off-ramp to Bearss Avenue	12	7016	2,036	1,338	-34%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	12	146	1725	1,130	-34%
I-275 on-ramp from Bearss Avenue	7017	152	515	458	-11%
North of I-275 on-ramp from Bearss Avenue	148	13	2,239	1,540	-31%
	13	195	2,239	1,894	-15%

Table 30: 2025 AM Traffic Volumes I-275 Southbound Segments (Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
North of I-275 to Bearss Avenue off-ramp	196	14	4,556	4,135	-9%
	14	149	4,556	4,062	-11%
I-275 off-ramp to Bearss Avenue	149	7033	732	595	-19%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	149	147	3,824	3,366	-12%
	147	15	3,824	3,342	-13%
I-275 on-ramp from Bearss Avenue	7032	168	2,698	1,465	-46%
Between I-275 on-ramp from Bearss Avenue and I-275 off-ramp to Fletcher Avenue	15	197	6,522	4,545	-30%
	197	166	6,522	4,645	-29%
	166	198	6,522	4,463	-32%
	198	16	6,522	4,559	-30%
I-275 off-ramp to Fletcher Avenue	16	7031	837	602	-28%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	16	141	5,685	3,790	-33%
I-275 on-ramp from Fletcher Avenue	7030	165	1,296	899	-31%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Fowler Avenue	141	199	6,981	4,540	-35%
	199	200	6,981	4,481	-36%
	200	17	6,981	4,476	-36%
I-275 off-ramp to Fowler Avenue	17	7029	880	607	-31%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	17	136	6,101	3,828	-37%
I-275 on-ramp from Fowler Avenue	7028	164	1,598	1,037	-35%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Busch Boulevard	136	201	7,699	4,579	-41%
	201	134	7,699	4,530	-41%
	134	202	7,699	4,498	-42%
	202	162	7,699	4,471	-42%
I-275 off-ramp to Busch Boulevard	162	7027	1,072	675	-37%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	162	18	6,627	3,754	-43%
I-275 on-ramp from Busch Boulevard	161	18	1,565	774	-51%
Between I-275 on-ramp from Busch Boulevard and I-275 on-ramp from Bird Street	18	128	8,192	4,439	-46%
	128	126	8,192	4,350	-47%
	126	19	8,192	4,303	-47%
	19	121	8,192	4,285	-48%
I-275 on-ramp from Bird Street	159	121	1,185	583	-51%
Between I-275 on-ramp from Bird Street and I-275 off-ramp to Sligh Avenue	121	123	9,377	4,870	-48%
	123	117	9,377	5,192	-45%
I-275 off-ramp to Sligh Avenue	117	7024	949	490	-48%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	117	20	8,428	4,260	-49%
I-275 on-ramp from Sligh Avenue	156	20	913	663	-27%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Hillsborough Avenue	21	203	9,341	4,927	-47%
	203	204	9,341	4,930	-47%
	204	22	9,341	4,933	-47%
	22	155	9,341	5,162	-45%
I-275 off-ramp to Hillsborough Avenue	155	7022	1,318	742	-44%
Between I-275 off-ramp to Hillsborough Avenue and I-275 on-ramp from Hillsborough Avenue	155	23	8,023	4,198	-48%
I-275 on-ramp from Hillsborough Avenue	154	23	1,421	1,178	-17%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to MLK Boulevard	23	205	9,444	5,545	-41%
	205	206	9,444	5,385	-43%
	206	26	9,444	5,385	-43%

Table 31: 2025 PM Traffic Volumes I-275 Northbound Segments (Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
Between I-275 on-ramp from MLK Boulevard and I-275 off-ramp to Hillsborough Avenue Eastbound	260	184	10,000	6,564	-34%
	184	185	10,000	6,563	-34%
	185	186	10,000	6,563	-34%
	186	2	10,000	6,974	-30%
I-275 off-ramp to Hillsborough Avenue Eastbound	2	7004	537	312	-42%
Between I-275 off-ramp to Hillsborough Avenue Eastbound and I-275 off-ramp to Hillsborough Avenue Westbound	2	112	9,463	6,282	-34%
I-275 off-ramp to Hillsborough Avenue Westbound	112	113	884	535	-39%
Between I-275 off-ramp to Hillsborough Avenue Westbound and I-275 on-ramp from Hillsborough Avenue	112	114	8,579	5,713	-33%
I-275 on-ramp from Hillsborough Avenue	115	114	1,318	1,616	23%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to Sligh Avenue	114	5	9,897	6,643	-33%
	5	187	9,897	6,639	-33%
	187	188	9,897	6,634	-33%
	188	7	9,897	6,631	-33%
	7	6	9,897	6,624	-33%
I-275 off-ramp to Sligh Avenue	6	7007	913	615	-33%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	6	119	8,984	6,004	-33%
I-275 on-ramp from Sligh Avenue	120	119	949	774	-18%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Bird Street	119	122	9,933	6,868	-31%
I-275 off-ramp to Bird Street	116	7009	1,185	859	-28%
Between I-275 off-ramp to Bird Street and I-275 off-ramp to Busch Boulevard	116	8	8,748	5,883	-33%
	8	125	8,748	5,880	-33%
	125	127	8,748	5,871	-33%
	127	9	8,748	5,814	-34%
I-275 off-ramp to Busch Boulevard	9	129	1,565	1,067	-32%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	9	130	7,184	4,769	-34%
I-275 on-ramp from Busch Boulevard	132	130	1,072	864	-19%
Between I-275 on-ramp from Busch Boulevard and I-275 off-ramp to Fowler Avenue	130	189	8,256	5,678	-31%
	189	133	8,256	5,599	-32%
	133	190	8,256	5,588	-32%
	190	135	8,256	5,483	-34%
I-275 off-ramp to Fowler Avenue	135	7012	2,069	1,470	-29%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	135	10	6,187	4,077	-34%
I-275 on-ramp from Fowler Avenue	139	10	764	522	-32%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Fletcher Avenue	10	191	6,951	4,596	-34%
	191	192	6,951	4,519	-35%
	192	140	6,951	4,492	-35%
I-275 off-ramp to Fletcher Avenue	140	7014	1,719	1,197	-30%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	140	11	5,232	3,296	-37%
I-275 on-ramp from Fletcher Avenue	144	11	508	385	-24%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Bearss Avenue	11	193	5,740	3,695	-36%
	193	145	5,740	3,355	-42%
	145	194	5,740	3,680	-36%
	194	12	5,740	3,637	-37%
I-275 off-ramp to Bearss Avenue	12	7016	2,698	1,778	-34%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	12	146	3,042	1,903	-37%
I-275 on-ramp from Bearss Avenue	7017	152	682	728	7%
North of I-275 on-ramp from Bearss Avenue	148	13	3,724	2,558	-31%
	13	195	3,724	3,147	-15%

Table 32: 2025 PM Traffic Volumes I-275 Southbound Segments (Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
North of I-275 to Bearss Avenue off-ramp	196	14	3,182	3,234	2%
	14	149	3,182	3,187	0%
I-275 off-ramp to Bearss Avenue	149	7033	515	492	-4%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	149	147	2,667	2,625	-2%
	147	15	2,667	2,611	-2%
I-275 on-ramp from Bearss Avenue	7032	168	2,036	1,576	-23%
Between I-275 on-ramp from Bearss Avenue and I-275 off-ramp to Fletcher Avenue	15	197	4,703	3,922	-17%
	197	166	4,703	3,997	-15%
	166	198	4,703	3,835	-18%
	198	16	4,703	3,909	-17%
I-275 off-ramp to Fletcher Avenue	16	7031	383	297	-22%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	16	141	4,320	3,483	-19%
I-275 on-ramp from Fletcher Avenue	7030	165	1296	1,130	-13%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Fowler Avenue	141	199	5,616	4,475	-20%
	199	200	5,616	4,427	-21%
	200	17	5,616	4,423	-21%
I-275 off-ramp to Fowler Avenue	17	7029	530	459	-13%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	17	136	5,086	3,959	-22%
I-275 on-ramp from Fowler Avenue	7028	164	1,690	1,548	-8%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Busch Boulevard	136	201	6,776	5,216	-23%
	201	134	6,776	5,207	-23%
	134	202	6,776	5,202	-23%
	202	162	6,776	5,193	-23%
I-275 off-ramp to Busch Boulevard	162	7027	809	699	-14%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	162	18	5,967	4,481	-25%
I-275 on-ramp from Busch Boulevard	161	18	1,180	984	-17%
Between I-275 on-ramp from Busch Boulevard and I-275 on-ramp from Bird Street	18	128	7,147	5,451	-24%
	128	126	7,147	5,432	-24%
	126	19	7,147	5,406	-24%
	19	121	7,147	5,383	-25%
I-275 on-ramp from Bird Street	159	121	894	571	-36%
Between I-275 on-ramp from Bird Street and I-275 off-ramp to Sligh Avenue	121	123	8,041	5,967	-26%
	123	117	8,041	6,399	-20%
I-275 off-ramp to Sligh Avenue	117	7024	716	646	-10%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	117	20	7,325	5,221	-29%
I-275 on-ramp from Sligh Avenue	156	20	689	484	-30%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Hillsborough Avenue	21	203	8,014	5,711	-29%
	203	204	8,014	5,713	-29%
	204	22	8,014	5,716	-29%
	22	155	8,014	5,982	-25%
I-275 off-ramp to Hillsborough Avenue	155	7022	995	794	-20%
Between I-275 off-ramp to Hillsborough Avenue and I-275 on-ramp from Hillsborough Avenue	155	23	7,019	4,933	-30%
I-275 on-ramp from Hillsborough Avenue	154	23	1,072	932	-13%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to MLK Boulevard	23	205	8,091	6,059	-25%
	205	206	8,091	5,889	-27%
	206	26	8,091	5,891	-27%

The systemwide year 2025 No-Build and Build network measures of effectiveness summary is illustrated in **Table 33**. Based on the results of the traffic simulation models, most of the I-275 mainline and ramp merge and ramp diverge segments are expected to operate below acceptable speeds and with high traffic density within the study area for the No-Build Alternative. The Build Alternative showed much better operating conditions with less delay time and higher operating speeds, in addition to processing more traffic within the study area.

Table 33: Opening Year (2025) I-275 Network Measures of Effectiveness Summary

Measure of Effectiveness	2025 No Build Average		2025 Build Average	
	AM Peak	PM Peak	AM Peak	PM Peak
TOTAL VEHICLE MILES	118,983	140,869	141,343	165,173
VEHICLE HOURS OF				
MOVE TIME	2,135	2,556	2,524	2,951
DELAY TIME	2,611	3,496	1,531	1,426
TOTAL TIME	4,746	6,052	4,055	4,377
AVERAGE SPEED (MPH)	25.08	23.28	34.88	37.80
MOVE/TOTAL	0.45	0.42	0.62	0.68
MINUTES/MILE OF				
DELAY TIME	1.32	1.49	0.65	0.52
TOTAL TIME	2.39	2.58	1.72	1.59

7.5.2 Design Traffic Volumes

7.5.2.1 Design Year (2045) - No-Build

The No-Build Alternative assumes that the existing conditions would remain within the project limits for I-275 beyond the 2045 Design Year.

- For the AM peak hour in the northbound direction, the simulated volume on I-275 mainline within the study area ranges from -35% to -52% compared to the demand volume.
- For the AM peak hour in the southbound direction, the simulated volume on I-275 mainline within the study area ranges from -59% to -73% compared to the demand volume.
- For the PM peak hour in the northbound direction, the simulated volume on I-275 mainline within the study area ranges from -56% to -72% compared to the demand volume.
- For the PM peak hour in the southbound direction, the simulated volume on I-275 mainline within the study area ranges from -29% to -64% compared to the demand volume.

The 2045 Design Year No-Build AM and PM model simulated traffic volumes comparing to the demand design hour traffic volumes as presented in **Table 32** through **Table 35**.

7.5.2.2 Design Year (2045) - Build

The improvements being considered for the alternative are consistent with the 2025 Opening year which include widening I-275 to accommodate two additional general use lanes with one lane in each direction by the Opening year. In addition to the I-275 mainline improvements, improvements are also included in the Build Alternatives at Hillsborough Avenue ramps and at the Bearss Avenue interchange.

- For the AM peak hour in the northbound direction, the simulated volume within the study area ranges from -23% to -47% compared to the demand volume.

- For the AM peak hour in the southbound direction, the simulated volume within the study area ranges from -32% to -64% compared to the demand volume.

- For the PM peak hour in the northbound direction, the simulated volume within the study area ranges from -46% to -66% compared to the demand volume.

- For the PM peak hour in the southbound direction, the simulated volume within the study area ranges from -24% to -66% compared to the demand volume.

The 2045 Design Year Build CORSIM model simulated traffic volumes comparing to the demand design hour traffic volumes as presented in **Table 34** through **Table 41**.

Table 34: 2045 AM Traffic Volumes I-275 Northbound Segments (No Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
Between I-275 on-ramp from MLK Boulevard and I-275 off-ramp to Hillsborough Avenue Eastbound	4	184	9,900	4,789	-52%
	184	185	9,900	6,183	-38%
	185	186	9,900	6,146	-38%
	186	2	9,900	6,472	-35%
I-275 off-ramp to Hillsborough Avenue Eastbound	2	7004	574	313	-45%
Between I-275 off-ramp to Hillsborough Avenue Eastbound and I-275 off-ramp to Hillsborough Avenue Westbound	2	112	9,326	5,785	-38%
I-275 off-ramp to Hillsborough Avenue Westbound	112	113	820	446	-46%
Between I-275 off-ramp to Hillsborough Avenue Westbound and I-275 on-ramp from Hillsborough Avenue	112	114	8,506	5,324	-37%
I-275 on-ramp from Hillsborough Avenue	115	114	1,184	657	-45%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to Sligh Avenue	114	5	9,691	5,952	-39%
	5	187	9,691	5,918	-39%
	187	188	9,691	5,886	-39%
	188	7	9,691	5,857	-40%
	7	6	9,691	5,840	-40%
I-275 off-ramp to Sligh Avenue	6	7007	948	605	-36%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	6	119	8,743	5,232	-40%
I-275 on-ramp from Sligh Avenue	120	119	1,006	582	-42%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Bird Street	119	122	9,749	6,104	-37%
I-275 off-ramp to Bird Street	116	7009	1,238	809	-35%
Between I-275 off-ramp to Bird Street and I-275 off-ramp to Busch Boulevard	116	8	8,511	5,024	-41%
	8	125	8,511	5,029	-41%
	125	127	8,511	5,036	-41%
	127	9	8,511	4,865	-43%
I-275 off-ramp to Busch Boulevard	9	129	1,393	823	-41%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	9	130	7,117	4,224	-41%
I-275 on-ramp from Busch Boulevard	132	130	1,006	550	-45%
Between I-275 on-ramp from Busch Boulevard and I-275 off-ramp to Fowler Avenue	130	189	8,124	4,846	-40%
	189	133	8,124	4,787	-41%
	133	190	8,124	4,789	-41%
	190	135	8,124	4,571	-44%
I-275 off-ramp to Fowler Avenue	135	7012	2,385	1,443	-39%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	135	10	5,739	3,353	-42%
I-275 on-ramp from Fowler Avenue	139	10	697	454	-35%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Fletcher Avenue	10	191	6,435	3,741	-42%
	191	192	6,435	3,772	-41%
	192	140	6,435	3,754	-42%
I-275 off-ramp to Fletcher Avenue	140	7014	1,949	1,180	-39%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	140	11	4,486	2,569	-43%
I-275 on-ramp from Fletcher Avenue	144	11	522	108	-79%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Bearss Avenue	11	193	5,008	2,922	-42%
	193	145	5,008	2,767	-45%
	145	194	5,008	2,677	-47%
	194	12	5,008	2,636	-47%
I-275 off-ramp to Bearss Avenue	12	7016	2,438	1,315	-46%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	12	146	2,570	1,359	-47%
I-275 on-ramp from Bearss Avenue	7017	152	662	274	-59%
North of I-275 on-ramp from Bearss Avenue	148	13	3,232	1,628	-50%
	13	195	3,232	1,588	-51%

Table 35: 2045 AM Traffic Volumes I-275 Southbound Segments (No Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
North of I-275 to Bearss Avenue off-ramp	196	14	6,736	2,753	-59%
	14	149	6,736	2,709	-60%
I-275 off-ramp to Bearss Avenue	149	7033	877	309	-65%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	149	147	5,859	2,298	-61%
	147	15	5,859	2,242	-62%
I-275 on-ramp from Bearss Avenue	7032	168	3,232	275	-91%
Between I-275 on-ramp from Bearss Avenue and I-275 off-ramp to Fletcher Avenue	15	197	9,091	2,451	-73%
	197	166	9,091	2,432	-73%
	166	198	9,091	2,434	-73%
	198	16	9,091	2,526	-72%
I-275 off-ramp to Fletcher Avenue	16	7031	837	249	-70%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	16	141	8,254	2,194	-73%
I-275 on-ramp from Fletcher Avenue	7030	165	1,471	616	-58%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Fowler Avenue	141	199	9,725	2,664	-73%
	199	200	9,725	2,698	-72%
	200	17	9,725	2,616	-73%
I-275 off-ramp to Fowler Avenue	17	7029	923	253	-73%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	17	136	8,802	2,420	-73%
I-275 on-ramp from Fowler Avenue	7028	164	1,800	726	-60%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Busch Boulevard	136	201	10,601	2,977	-72%
	201	134	10,601	3,045	-71%
	134	202	10,601	3,034	-71%
	202	162	10,601	3,021	-72%
I-275 off-ramp to Busch Boulevard	162	7027	1,334	434	-67%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	162	18	9,267	2,546	-73%
I-275 on-ramp from Busch Boulevard	161	18	1,847	841	-54%
Between I-275 on-ramp from Busch Boulevard and I-275 on-ramp from Bird Street	18	128	11,114	3,138	-72%
	128	126	11,114	3,250	-71%
	126	19	11,114	3,229	-71%
	19	121	11,114	3,221	-71%
I-275 on-ramp from Bird Street	159	121	1,642	904	-45%
Between I-275 on-ramp from Bird Street and I-275 off-ramp to Sligh Avenue	121	123	12,755	4,137	-68%
	123	117	12,755	4,258	-67%
I-275 off-ramp to Sligh Avenue	117	7024	1,334	475	-64%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	117	20	11,421	3,533	-69%
I-275 on-ramp from Sligh Avenue	156	20	1,257	533	-58%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Hillsborough Avenue	21	203	12,679	3,995	-68%
	203	204	12,679	3,967	-69%
	204	22	12,679	3,951	-69%
	22	155	12,679	4,172	-67%
I-275 off-ramp to Hillsborough Avenue	155	7022	1,570	495	-68%
Between I-275 off-ramp to Hillsborough Avenue and I-275 on-ramp from Hillsborough Avenue	155	23	11,109	3,434	-69%
I-275 on-ramp from Hillsborough Avenue	154	23	1,847	863	-53%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to MLK Boulevard	23	205	12,956	4,469	-66%
	205	206	12,956	4,302	-67%
	206	26	12,956	4,319	-67%

Table 36: 2045 PM Traffic Volumes I-275 Northbound Segments (No Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
Between I-275 on-ramp from MLK Boulevard and I-275 off-ramp to Hillsborough Avenue Eastbound	260	184	13,100	3,726	-72%
	184	185	13,100	4,890	-63%
	185	186	13,100	4,886	-63%
	186	2	13,100	5,158	-61%
I-275 off-ramp to Hillsborough Avenue Eastbound	2	7004	760	274	-64%
Between I-275 off-ramp to Hillsborough Avenue Eastbound and I-275 off-ramp to Hillsborough Avenue Westbound	2	112	12,340	4,588	-63%
I-275 off-ramp to Hillsborough Avenue Westbound	112	113	1086	392	-64%
Between I-275 off-ramp to Hillsborough Avenue Westbound and I-275 on-ramp from Hillsborough Avenue	112	114	11,253	4,186	-63%
I-275 on-ramp from Hillsborough Avenue	115	114	1570	1,111	-29%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to Sligh Avenue	114	5	12,823	5,279	-59%
	5	187	12,823	5,251	-59%
	187	188	12,823	5,220	-59%
	188	7	12,823	5,194	-59%
	7	6	12,823	5,174	-60%
I-275 off-ramp to Sligh Avenue	6	7007	1257	567	-55%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	6	119	11,566	4,585	-60%
I-275 on-ramp from Sligh Avenue	120	119	1334	827	-38%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Bird Street	119	122	12,900	5,647	-56%
I-275 off-ramp to Bird Street	116	7009	1,642	766	-53%
Between I-275 off-ramp to Bird Street and I-275 off-ramp to Busch Boulevard	116	8	11,258	4,560	-59%
	8	125	11,258	4,540	-60%
	125	127	11,258	4,500	-60%
	127	9	11,258	4,285	-62%
I-275 off-ramp to Busch Boulevard	9	129	1,847	718	-61%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	9	130	9,412	3,669	-61%
I-275 on-ramp from Busch Boulevard	132	130	1,334	731	-45%
Between I-275 on-ramp from Busch Boulevard and I-275 off-ramp to Fowler Avenue	130	189	10,745	4,399	-59%
	189	133	10,745	4,292	-60%
	133	190	10,745	4,266	-60%
	190	135	10,745	4,038	-62%
I-275 off-ramp to Fowler Avenue	135	7012	2,119	898	-58%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	135	10	8,626	3,238	-62%
I-275 on-ramp from Fowler Avenue	139	10	923	469	-49%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Fletcher Avenue	10	191	9,550	3,564	-63%
	191	192	9,550	3,567	-63%
	192	140	9,550	3,538	-63%
I-275 off-ramp to Fletcher Avenue	140	7014	1,949	756	-61%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	140	11	7,601	2,782	-63%
I-275 on-ramp from Fletcher Avenue	144	11	693	234	-66%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Bearss Avenue	11	193	8,293	3,298	-60%
	193	145	8,293	3,125	-62%
	145	194	8,293	3,026	-64%
	194	12	8,293	2,985	-64%
I-275 off-ramp to Bearss Avenue	12	7016	3,232	1,219	-62%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	12	146	5,061	1,810	-64%
I-275 on-ramp from Bearss Avenue	7017	152	877	562	-36%
North of I-275 on-ramp from Bearss Avenue	148	13	5,938	2,338	-61%
	13	195	5,938	2,279	-62%

Table 37: 2045 PM Traffic Volumes I-275 Southbound Segments (No Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
North of I-275 to Bearss Avenue off-ramp	196	14	3,710	2,628	-29%
	14	149	3,710	2,603	-30%
I-275 off-ramp to Bearss Avenue	149	7033	662	459	-31%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	149	147	3,048	2,103	-31%
	147	15	3,048	2,068	-32%
I-275 on-ramp from Bearss Avenue	7032	168	2,438	548	-78%
Between I-275 on-ramp from Bearss Avenue and I-275 off-ramp to Fletcher Avenue	15	197	5,486	2,482	-55%
	197	166	5,486	2,417	-56%
	166	198	5,486	2,394	-56%
	198	16	5,486	2,454	-55%
I-275 off-ramp to Fletcher Avenue	16	7031	522	257	-51%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	16	141	4,964	2,110	-57%
I-275 on-ramp from Fletcher Avenue	7030	165	1,471	1,078	-27%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Fowler Avenue	141	199	6,434	2,991	-54%
	199	200	6,434	3,043	-53%
	200	17	6,434	2,959	-54%
I-275 off-ramp to Fowler Avenue	17	7029	697	383	-45%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	17	136	5,737	2,648	-54%
I-275 on-ramp from Fowler Avenue	7028	164	2,385	943	-60%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Busch Boulevard	136	201	8,123	3,358	-59%
	201	134	8,123	3,416	-58%
	134	202	8,123	3,386	-58%
	202	162	8,123	3,342	-59%
I-275 off-ramp to Busch Boulevard	162	7027	1,006	292	-71%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	162	18	7,117	3,005	-58%
I-275 on-ramp from Busch Boulevard	161	18	1,393	251	-82%
Between I-275 on-ramp from Busch Boulevard and I-275 on-ramp from Bird Street	18	128	8,510	3,062	-64%
	128	126	8,510	3,216	-62%
	126	19	8,510	3,207	-62%
	19	121	8,510	3,199	-62%
I-275 on-ramp from Bird Street	159	121	1,238	331	-73%
Between I-275 on-ramp from Bird Street and I-275 off-ramp to Sligh Avenue	121	123	9,749	3,558	-64%
	123	117	9,749	3,701	-62%
I-275 off-ramp to Sligh Avenue	117	7024	1,006	499	-50%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	117	20	8,743	3,033	-65%
I-275 on-ramp from Sligh Avenue	156	20	948	569	-40%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Hillsborough Avenue	21	203	9,691	3,643	-62%
	203	204	9,691	3,659	-62%
	204	22	9,691	3,684	-62%
	22	155	9,691	3,931	-59%
I-275 off-ramp to Hillsborough Avenue	155	7022	1,184	480	-59%
Between I-275 off-ramp to Hillsborough Avenue and I-275 on-ramp from Hillsborough Avenue	155	23	8,507	3,276	-61%
I-275 on-ramp from Hillsborough Avenue	154	23	1,393	1,010	-27%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to MLK Boulevard	23	205	9,900	4,512	-54%
	205	206	9,900	4,347	-56%
	206	26	9,900	4,364	-56%

Table 38: 2045 AM Traffic Volumes I-275 Northbound Segments (Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
Between I-275 on-ramp from MLK Boulevard and I-275 off-ramp to Hillsborough Avenue Eastbound	4	184	9,900	6,913	-30%
	184	185	9,900	6,485	-34%
	185	186	9,900	6,521	-34%
	186	2	9,900	7,340	-26%
I-275 off-ramp to Hillsborough Avenue Eastbound	2	7004	574	371	-35%
Between I-275 off-ramp to Hillsborough Avenue Eastbound and I-275 off-ramp to Hillsborough Avenue Westbound	2	112	9,326	6,576	-29%
I-275 off-ramp to Hillsborough Avenue Westbound	112	113	820	493	-40%
Between I-275 off-ramp to Hillsborough Avenue Westbound and I-275 on-ramp from Hillsborough Avenue	112	114	8,506	5,632	-34%
I-275 on-ramp from Hillsborough Avenue	115	114	1,184	1,022	-14%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to Sligh Avenue	114	5	9,691	6,458	-33%
	5	187	9,691	6,404	-34%
	187	188	9,691	6,432	-34%
	188	7	9,691	6,333	-35%
	7	6	9,691	6,302	-35%
I-275 off-ramp to Sligh Avenue	6	7007	948	622	-34%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	6	119	8,743	5,686	-35%
I-275 on-ramp from Sligh Avenue	120	119	1,006	745	-26%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Bird Street	119	122	9,749	6,437	-34%
I-275 off-ramp to Bird Street	116	7009	1,238	913	-26%
Between I-275 off-ramp to Bird Street and I-275 off-ramp to Busch Boulevard	116	8	8,511	5,456	-36%
	8	125	8,511	5,250	-38%
	125	127	8,511	5,487	-36%
	127	9	8,511	5,414	-36%
I-275 off-ramp to Busch Boulevard	9	129	1,393	891	-36%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	9	130	7,117	4,627	-35%
I-275 on-ramp from Busch Boulevard	132	130	1,006	583	-42%
Between I-275 on-ramp from Busch Boulevard and I-275 off-ramp to Fowler Avenue	130	189	8,124	4,952	-39%
	189	133	8,124	5,048	-38%
	133	190	8,124	4,839	-40%
	190	135	8,124	4,836	-40%
I-275 off-ramp to Fowler Avenue	135	7012	2,385	1,485	-38%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	135	10	5,739	3,526	-39%
I-275 on-ramp from Fowler Avenue	139	10	697	447	-36%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Fletcher Avenue	10	191	6,435	3,841	-40%
	191	192	6,435	3,690	-43%
	192	140	6,435	3,738	-42%
I-275 off-ramp to Fletcher Avenue	140	7014	1,949	1,203	-38%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	140	11	4,486	2,615	-42%
I-275 on-ramp from Fletcher Avenue	144	11	522	217	-58%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Bearss Avenue	11	193	5,008	2,889	-42%
	193	145	5,008	2,669	-47%
	145	194	5,008	2,858	-43%
	194	12	5,008	2,693	-46%
I-275 off-ramp to Bearss Avenue	12	7016	2,438	1,445	-41%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	12	146	2,570	1,647	-36%
I-275 on-ramp from Bearss Avenue	7017	152	662	713	8%
North of I-275 on-ramp from Bearss Avenue	148	13	3,232	1,851	-43%
	13	195	3,232	2,481	-23%

Table 39: 2045 AM Traffic Volumes I-275 Southbound Segments (Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
North of I-275 to Bearss Avenue off-ramp	196	14	6,736	4,580	-32%
	14	149	6,736	4,259	-37%
I-275 off-ramp to Bearss Avenue	149	7033	877	427	-51%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	149	147	5,859	3,897	-33%
	147	15	5,859	3,838	-34%
I-275 on-ramp from Bearss Avenue	7032	168	3,232	690	-79%
Between I-275 on-ramp from Bearss Avenue and I-275 off-ramp to Fletcher Avenue	15	197	9,091	4,268	-53%
	197	166	9,091	4,243	-53%
	166	198	9,091	3,990	-56%
	198	16	9,091	4,069	-55%
I-275 off-ramp to Fletcher Avenue	16	7031	837	492	-41%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	16	141	8,254	3,454	-58%
I-275 on-ramp from Fletcher Avenue	7030	165	1,471	1,102	-25%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Fowler Avenue	141	199	9,725	4,109	-58%
	199	200	9,725	4,088	-58%
	200	17	9,725	4,196	-57%
I-275 off-ramp to Fowler Avenue	17	7029	923	495	-46%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	17	136	8,802	3,554	-60%
I-275 on-ramp from Fowler Avenue	7028	164	1,800	1,089	-40%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Busch Boulevard	136	201	10,601	4,282	-60%
	201	134	10,601	4,375	-59%
	134	202	10,601	4,141	-61%
	202	162	10,601	4,120	-61%
I-275 off-ramp to Busch Boulevard	162	7027	1,334	545	-59%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	162	18	9,267	3,789	-59%
I-275 on-ramp from Busch Boulevard	161	18	1,847	706	-62%
Between I-275 on-ramp from Busch Boulevard and I-275 on-ramp from Bird Street	18	128	11,114	4,556	-59%
	128	126	11,114	4,376	-61%
	126	19	11,114	4,357	-61%
	19	121	11,114	4,112	-63%
I-275 on-ramp from Bird Street	159	121	1,642	538	-67%
Between I-275 on-ramp from Bird Street and I-275 off-ramp to Sligh Avenue	121	123	12,755	4,755	-63%
	123	117	12,755	4,877	-62%
I-275 off-ramp to Sligh Avenue	117	7024	1,334	576	-57%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	117	20	11,421	4,273	-63%
I-275 on-ramp from Sligh Avenue	156	20	1,257	662	-47%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Hillsborough Avenue	21	203	12,679	4,793	-62%
	203	204	12,679	4,585	-64%
	204	22	12,679	5,003	-61%
	22	155	12,679	5,209	-59%
I-275 off-ramp to Hillsborough Avenue	155	7022	1,570	630	-60%
Between I-275 off-ramp to Hillsborough Avenue and I-275 on-ramp from Hillsborough Avenue	155	23	11,109	4,358	-61%
I-275 on-ramp from Hillsborough Avenue	154	23	1,847	1,145	-38%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to MLK Boulevard	23	205	12,956	5,222	-60%
	205	206	12,956	5,108	-61%
	206	26	12,956	5,414	-58%

Table 40: 2045 PM Traffic Volumes I-275 Northbound Segments (Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
Between I-275 on-ramp from MLK Boulevard and I-275 off-ramp to Hillsborough Avenue Eastbound	260	184	13,100	6,359	-51%
	184	185	13,100	6,318	-52%
	185	186	13,100	6,297	-52%
	186	2	13,100	6,666	-49%
I-275 off-ramp to Hillsborough Avenue Eastbound	2	7004	760	353	-54%
Between I-275 off-ramp to Hillsborough Avenue Eastbound and I-275 off-ramp to Hillsborough Avenue Westbound	2	112	12,340	5,922	-52%
I-275 off-ramp to Hillsborough Avenue Westbound	112	113	1086	513	-53%
Between I-275 off-ramp to Hillsborough Avenue Westbound and I-275 on-ramp from Hillsborough Avenue	112	114	11,253	5,347	-52%
I-275 on-ramp from Hillsborough Avenue	115	114	1570	1,524	-3%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to Sligh Avenue	114	5	12,823	6,190	-52%
	5	187	12,823	6,148	-52%
	187	188	12,823	6,105	-52%
	188	7	12,823	6,068	-53%
	7	6	12,823	6,037	-53%
I-275 off-ramp to Sligh Avenue	6	7007	1257	623	-50%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	6	119	11,566	5,374	-54%
I-275 on-ramp from Sligh Avenue	120	119	1334	736	-45%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Bird Street	119	122	12,900	6,147	-52%
I-275 off-ramp to Bird Street	116	7009	1,642	805	-51%
Between I-275 off-ramp to Bird Street and I-275 off-ramp to Busch Boulevard	116	8	11,258	5,160	-54%
	8	125	11,258	5,132	-54%
	125	127	11,258	5,080	-55%
	127	9	11,258	4,976	-56%
I-275 off-ramp to Busch Boulevard	9	129	1,847	761	-59%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	9	130	9,412	4,182	-56%
I-275 on-ramp from Busch Boulevard	132	130	1,334	675	-49%
Between I-275 on-ramp from Busch Boulevard and I-275 off-ramp to Fowler Avenue	130	189	10,745	4,829	-55%
	189	133	10,745	4,703	-56%
	133	190	10,745	4,661	-57%
	190	135	10,745	4,533	-58%
I-275 off-ramp to Fowler Avenue	135	7012	2,119	894	-58%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	135	10	8,626	3,629	-58%
I-275 on-ramp from Fowler Avenue	139	10	923	213	-77%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Fletcher Avenue	10	191	9,550	3,771	-61%
	191	192	9,550	3,688	-61%
	192	140	9,550	3,654	-62%
I-275 off-ramp to Fletcher Avenue	140	7014	1,949	793	-59%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	140	11	7,601	2,858	-62%
I-275 on-ramp from Fletcher Avenue	144	11	693	182	-74%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Bearss Avenue	11	193	8,293	3,060	-63%
	193	145	8,293	2,783	-66%
	145	194	8,293	3,054	-63%
	194	12	8,293	3,023	-64%
I-275 off-ramp to Bearss Avenue	12	7016	3,232	1,216	-62%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	12	146	5,061	1,848	-63%
I-275 on-ramp from Bearss Avenue	7017	152	877	824	-6%
North of I-275 on-ramp from Bearss Avenue	148	13	5,938	2,588	-56%
	13	195	5,938	3,185	-46%

Table 41: 2045 PM Traffic Volumes I-275 Southbound Segments (Build)

Location	From Node	To Node	Demand Volume	Simulated Volume	Volume Difference (%)
North of I-275 to Bearss Avenue off-ramp	196	14	3,710	2,804	-24%
	14	149	3,710	2,711	-27%
I-275 off-ramp to Bearss Avenue	149	7033	662	336	-49%
Between I-275 off-ramp to Bearss Avenue and I-275 on-ramp from Bearss Avenue	149	147	3,048	2,266	-26%
	147	15	3,048	2,182	-28%
I-275 on-ramp from Bearss Avenue	7032	168	2,438	352	-86%
Between I-275 on-ramp from Bearss Avenue and I-275 off-ramp to Fletcher Avenue	15	197	5,486	2,334	-57%
	197	166	5,486	2,328	-58%
	166	198	5,486	2,223	-59%
	198	16	5,486	2,269	-59%
I-275 off-ramp to Fletcher Avenue	16	7031	522	280	-46%
Between I-275 off-ramp to Fletcher Avenue and I-275 on-ramp from Fletcher Avenue	16	141	4,964	1,933	-61%
I-275 on-ramp from Fletcher Avenue	7030	165	1,471	1,041	-29%
Between I-275 on-ramp from Fletcher Avenue and I-275 off-ramp to Fowler Avenue	141	199	6,434	2,857	-56%
	199	200	6,434	2,832	-56%
	200	17	6,434	2,831	-56%
I-275 off-ramp to Fowler Avenue	17	7029	697	344	-51%
Between I-275 off-ramp to Fowler Avenue and I-275 on-ramp from Fowler Avenue	17	136	5,737	2,487	-57%
I-275 on-ramp from Fowler Avenue	7028	164	2,385	1,155	-52%
Between I-275 on-ramp from Fowler Avenue and I-275 off-ramp to Busch Boulevard	136	201	8,123	3,429	-58%
	201	134	8,123	3,422	-58%
	134	202	8,123	3,416	-58%
	202	162	8,123	3,407	-58%
I-275 off-ramp to Busch Boulevard	162	7027	1,006	335	-67%
Between I-275 off-ramp to Busch Boulevard and I-275 on-ramp from Busch Boulevard	162	18	7,117	3,057	-57%
I-275 on-ramp from Busch Boulevard	161	18	1,393	344	-75%
Between I-275 on-ramp from Busch Boulevard and I-275 on-ramp from Bird Street	18	128	8,510	3,380	-60%
	128	126	8,510	3,362	-60%
	126	19	8,510	3,363	-60%
	19	121	8,510	3,369	-60%
I-275 on-ramp from Bird Street	159	121	1,238	87	-93%
Between I-275 on-ramp from Bird Street and I-275 off-ramp to Sligh Avenue	121	123	9,749	3,497	-64%
	123	117	9,749	3,794	-61%
I-275 off-ramp to Sligh Avenue	117	7024	1,006	482	-52%
Between I-275 off-ramp to Sligh Avenue and I-275 on-ramp from Sligh Avenue	117	20	8,743	3,006	-66%
I-275 on-ramp from Sligh Avenue	156	20	948	531	-44%
Between I-275 on-ramp from Sligh Avenue and I-275 off-ramp to Hillsborough Avenue	21	203	9,691	3,537	-64%
	203	204	9,691	3,539	-63%
	204	22	9,691	3,541	-63%
	22	155	9,691	3,706	-62%
I-275 off-ramp to Hillsborough Avenue	155	7022	1,184	457	-61%
Between I-275 off-ramp to Hillsborough Avenue and I-275 on-ramp from Hillsborough Avenue	155	23	8,507	3,094	-64%
I-275 on-ramp from Hillsborough Avenue	154	23	1,393	1,237	-11%
Between I-275 on-ramp from Hillsborough Avenue and I-275 off-ramp to MLK Boulevard	23	205	9,900	4,476	-55%
	205	206	9,900	4,348	-56%
	206	26	9,900	4,349	-56%

The systemwide year 2045 No-Build and Build network measures of effectiveness summary is illustrated in **Table 42**. Based on the results of the traffic simulation models, most of the I-275 mainline and ramp merge and ramp diverge segments would operate well below acceptable speed and with high traffic density within the study area for the No-Build alternative. The Build alternative showed better operating conditions, less delay time, and higher operating speeds, in addition to processing more traffic within the study area, especially during the AM and PM peak hour.

Table 42: Design Year (2045) I-275 Network Measures of Effectiveness Summary

Measure of Effectiveness	2045 No Build Average		2045 Build Average	
	AM Peak	PM Peak	AM Peak	PM Peak
TOTAL VEHICLE MILES	126,222	119,439	153,616	129,199
VEHICLE HOURS OF				
MOVE TIME	2,384	2,170	2,520	2,301
DELAY TIME	3,691	3,151	3,555	1,713
TOTAL TIME	6,074	5,321	6,075	4,014
AVERAGE SPEED (MPH)	21.13	22.57	24.44	32.28
MOVE/TOTAL	0.38	0.41	0.44	0.57
MINUTES/MILE OF				
DELAY TIME	1.76	1.59	1.39	0.80
TOTAL TIME	2.84	2.68	2.46	1.87

In summary, the existing simulation models showed congestion along the I-275 mainline at the following locations:

- Between Fletcher Avenue to Hillsborough Avenue – SB direction during AM peak period
- Between MLK Boulevard to Sligh Avenue – NB direction during PM peak period
- Between Fowler Avenue to Bearss Avenue – NB direction during PM peak period
- Between Sligh Avenue to MLK Boulevard – SB direction during PM peak period

For the No-Build alternative, the results of the traffic simulation models, most of the I-275 mainline and ramp merge and ramp diverge segments would operate well below acceptable speeds (22 mph during the AM peak hour and 23 mph in the PM peak hour) with high traffic density within the study area in the 2025 Opening year and 2045 Design year. The current geometry will be unable to handle the future growth in traffic. This study examined the need for additional mainline improvements in each direction to increase the capacity and improve the operations and safety of the I-275 within the study area.

7.6 Alternatives Evaluation

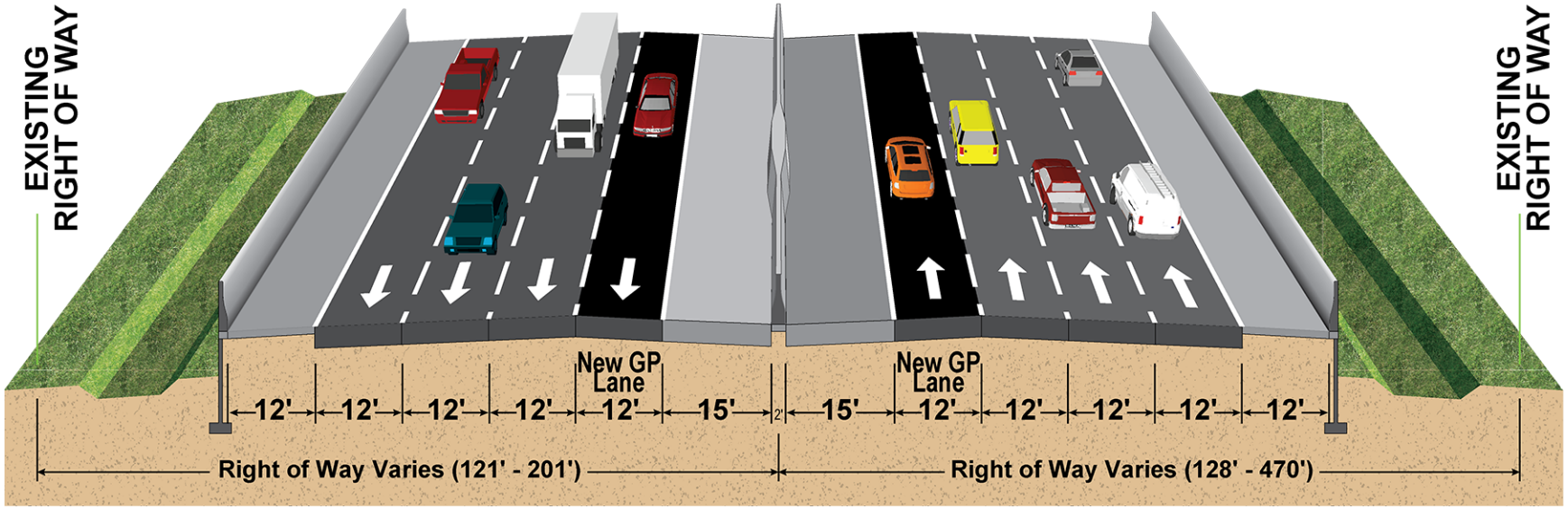
The proposed I-275 typical section is an eight-lane divided typical section with transit accommodations on the inside shoulders. The design speed is 60 mph. Common features of the Build Alternative typical section are:

- Four 12-foot wide general purpose lanes in each direction on the outside
- 15-foot wide inside shoulders that accommodate transit in each direction
- 12-foot outside shoulders
- 2-foot concrete barrier separating the two directions of travel

The proposed I-275 mainline typical section is shown in **Figure 15**.

The proposed improvements include extending the existing acceleration and deceleration lanes on the I-275 mainline at the interchanges to improve traffic flow through the interchanges.

Figure 15: I-275 Mainline Proposed Typical Section



7.6.1 Interchange Build Alternatives

All interchange ramp connections will be impacted to accommodate the mainline widening of I-275; however, the interchange configurations will not change except for the Hillsborough Avenue and Bearss Avenue interchanges. Operational improvements will be included at these two interchanges only. Interchange Access Requests (IAR) are currently being developed; however, the timing of the IARs approvals will depend on construction funding for the PD&E project. Currently the construction phase of the project remains unfunded.

On Hillsborough Avenue, east of I-275, a signal is proposed for the on-ramp for I-275 northbound. An eastbound to northbound dual left will be constructed at this intersection by widening Hillsborough Avenue to accommodate more vehicles entering I-275. Also, the I-275 northbound loop off-ramp will be reconstructed to direct traffic to this proposed signalized intersection.

The vertical and horizontal constraints at the existing bridges at the Bearss Avenue interchange cannot accommodate the proposed improvements; thus, the Bearss Avenue interchange will be reconstructed as a single point urban interchange (SPUI). The design includes reconstructing the I-275 bridges over Bearss Avenue and reconstructing the on- and off-ramps from the I-275 gores to approximately halfway to the Bearss Avenue intersection. The bridge design will accommodate potential future widening of Bearss Avenue. The bridge reconstruction will create the configuration for a SPUI interchange to be implemented in the future.

In the SPUI alternative, the I-275 bridge over Bearss Avenue would be reconstructed. The intersections on Bearss Avenue between Florida Avenue and Nebraska Avenue would be reconstructed. The future configuration would have one traffic signal underneath the I-275 bridge to control through traffic on Bearss Avenue and left-turning traffic entering or exiting I-275 at the intersection. The turning movements of the I-275 ramps and all the traffic movements for the Bearss Avenue interchange would be executed in one central area. Since a SPUI has one signalized intersection, it allows for simpler signal phasing and operations. However, with a wide intersection, the SPUI would require longer yellow and red signal phases compared to a conventional intersection.

One signalized intersection would provide further separation from the adjacent signalized intersections at Florida Avenue and Nebraska Avenue, which would increase the vehicle storage length for the three signalized intersections. A traffic signal at a SPUI can be efficiently coordinated with the adjacent signals.

A SPUI configuration moves large volumes of traffic very efficiently. In addition, the SPUI provides greater distance between the closely spaced intersections of Florida Avenue and Nebraska Avenue. This creates more turn lane and travel lane storage space for the intersections at the ramps, Florida Avenue, and Nebraska Avenue. The exceptionally high turning movement volumes at the Bearss Avenue interchange make it a good candidate for a SPUI.

7.7 Horizontal and Vertical Alignment

Modifying the horizontal and vertical alignments to meet criteria would require complete reconstruction of I-275, at great cost. Thus, the existing horizontal and vertical alignments will be maintained in the Build Alternative to avoid right of way impacts. The horizontal alignment characteristics are shown in **Table 5** in **Section 4.1.10**. The existing vertical alignment characteristics are shown in **Table 6** in **Section 4.1.11**. Although some of the horizontal and vertical curves do not meet FDOT criteria, they will not be changed with the Build Alternative. The appropriate variations and/or exceptions will be obtained.

7.8 Bridge Analysis

To avoid right of way impacts on the community and the environment, and minimize construction costs, most of the existing bridges will not be replaced. Only the Bearss Avenue bridge will be replaced (see **Section 7.6.1**).

In addition, the other existing bridges will be widened to accommodate the additional lanes. The widening will occur to the outside within the existing right of way. The proposed bridges are summarized in **Table 43**. The proposed bridge typical section for the widened bridges is shown in **Figure 16.** The proposed bridge typical section for the new Bearss Avenue bridge is shown in **Figure 17**.

Table 43: Proposed Bridge Summary

Alternative	Inter-change	Approx. Milepost	Location Description (Structures from South to North)	Structure Number	Existing Structure Type	Skew Angle (Degrees)	Structure Length (feet)	Spans	Span Lengths (feet)	Existing Vertical Clearance (feet)	Proposed Widening or Replacement Structure Type	Proposed Width (feet)	Proposed Vertical Clearance (feet)	Proposed Horizontal Clearance (feet)
		1.931	I-275 Over Osborne Avenue	100209	AASHTO Type II, III & Florida I-Beam 36	No Skew	140	3	38.0, 64.0, 38.0	14.7	*Widened Florida I-Beam 36*	*179.00*	*14.7*	*11.5*
		2.432	I-275 Over Hillsborough Avenue (SR 600)	100211	AASHTO Type II, III & Florida I-Beam 36	No Skew	204	4	42.0, 54.0, 66.0, 42.0	15.4	*Widened Florida I-Beam 36*	*167.00*	*15.4*	*3.7*
		2.937	I-275 Over Hanna Avenue	100213	AASHTO Type II, III & Florida I-Beam 36	82, 83, 84, 85	145.75	3	41.0, 63.8, 40.9	14.4	*Widened Florida I-Beam 36*	*155.00*	*14.4*	*14.1*
		3.444	I-275 Over Sligh Avenue	100215	AASHTO Type II, III & Florida I-Beam 36	72, 72, 72, 72, 72	186.5	4	40.4, 52.0, 53.7, 40.4	14.5	*Widened Florida I-Beam 36*	*155.00*	*14.5*	*4.9*
		3.832	I-275 Over Broad Street	100216	AASHTO Type II, III & Florida I-Beam 36	No Skew	134.86	3	33.4, 68.0, 33.4	13.9	*Widened Florida I-Beam 36*	*155.00*	*13.9*	*10.2*
		4.100	I-275 Over Hillsborough River	100218	AASHTO Type III	79, 79, 79, 79, 79, 79	300	5	60, 60, 60, 60, 60	Water	*Widened Florida I-Beam 36*	*179.00*	*Water*	*Water*
		4.276	I-275 Over Bird Street	100220	AASHTO Type IV, II & Florida I-Beam 45	81, 81, 83, 83	173.51	3	37.25, 99.0, 37.25	14.3	*Widened Florida I-Beam 45*	*155.00*	*14.3*	*8*
		4.464	I-275 Over Waters Avenue	100222	AASHTO Type II, III & Florida I-Beam 36	87, 86, 85, 85	146.42	3	37.5, 71.4, 37.5	15.5	*Widened Florida I-Beam 36*	*155.00*	*15.5*	*10*
		4.719	I-275 Over Yukon Street	100224	AASHTO Type II, III & Florida I-Beam 36	59, 60, 60, 61, 62	257.92	4	70.0, 70.0, 76.7, 41.3	14.1	*Widened Florida I-Beam 36*	*155.00*	*14.1*	*15*
		4.979	I-275 Over Busch Boulevard (SR 580) & CSX Railroad	100226	AASHTO Type III & IV	No Skew	273.00	4	64, 94, 65, 50	24.1 22.2 (RR)	*Widened Florida I-Beam 45*	*179.00*	*24.1* *22.2 (RR)*	*5.5* *11.6 (RR)*
		5.480	I-275 Over Linebaugh Avenue	100228	AASHTO Type II & III	No Skew	136.18	3	34.4, 67.25, 34.5	14.3	*Widened Florida I-Beam 36*	*155.00*	*14.3*	*17.3*
		5.734	I-275 Over Bougainvillea Avenue	100243	AASHTO Type II & III	No Skew	133.00	3	33, 67.17, 32.83	14.5	*Widened Florida I-Beam 36*	*155.00*	*14.5*	*18.4*
		6.492	I-275 Over Fowler Avenue (SR 582)	100231	AASHTO Type II & III	88, 88, 88, 88	143.75	3	34.75, 74.25, 34.75	15.4	*Widened Florida I-Beam 36*	*155.00*	*15.4*	*9.0*
		7.006	I-275 Over 127th Avenue	100233	AASHTO Type II & III	No Skew	130.33	3	31.5, 67.33, 31.5	14.5	*Widened Florida I-Beam 36*	*155.00*	*14.5*	*8.0*
		7.124	I-275 NB Over Sinkhole	100234	AASHTO Type III	No Skew	76.90	1	76.9	Water	*Widened Florida I-Beam 36*	*77.50*	*Water*	*Water*
		7.510	I-275 Over Fletcher Avenue (SR 579)	100236	AASHTO Type II & III	No Skew	140.08	3	32, 75.08, 32	15.3	*Widened Florida I-Beam 36*	*155.00*	*15.3*	*3.6*
		8.797	I-275 Over Bearss Avenue (SR 678)	100238	AASHTO Type II & III	No Skew	*225.0*	*1.0*	*225.0*	14.5	*New Bridge 96" Steel Plate Girder*	*163.00*	*16.5*	*32.0*
		9.402	I-275 Over Nebraska Avenue (SR 45) & CSX Railroad	100240	AASHTO Type III	52, 52, 52, 52, 52, 52, 52,	330.00	6	65.5, 54.5, 57.5, 49.0, 49.0, 54.5	23.6 22.1 (RR)	*Widened Florida I-Beam 36*	*155.00*	*23.6* *22.1 (RR)*	*8.0* *17.2 (RR)*

Key

- Interchange Area
- Starter Project
- Interim Starter Project

Legend

- I-275 bridges over roadways
- I-275 bridges over water bodies
- Does not satisfy FDOT minimum vertical clearance requirements
- New bridge

Figure 16: Proposed Bridge Typical Section

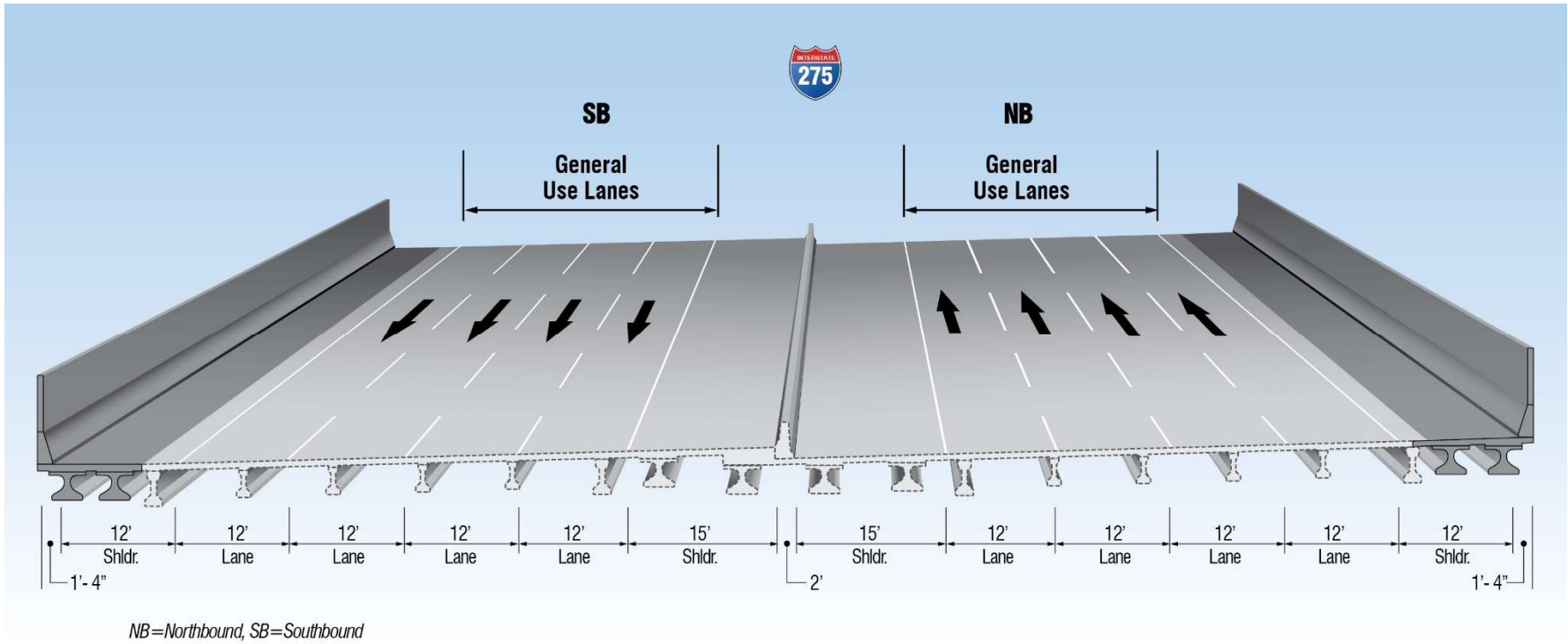
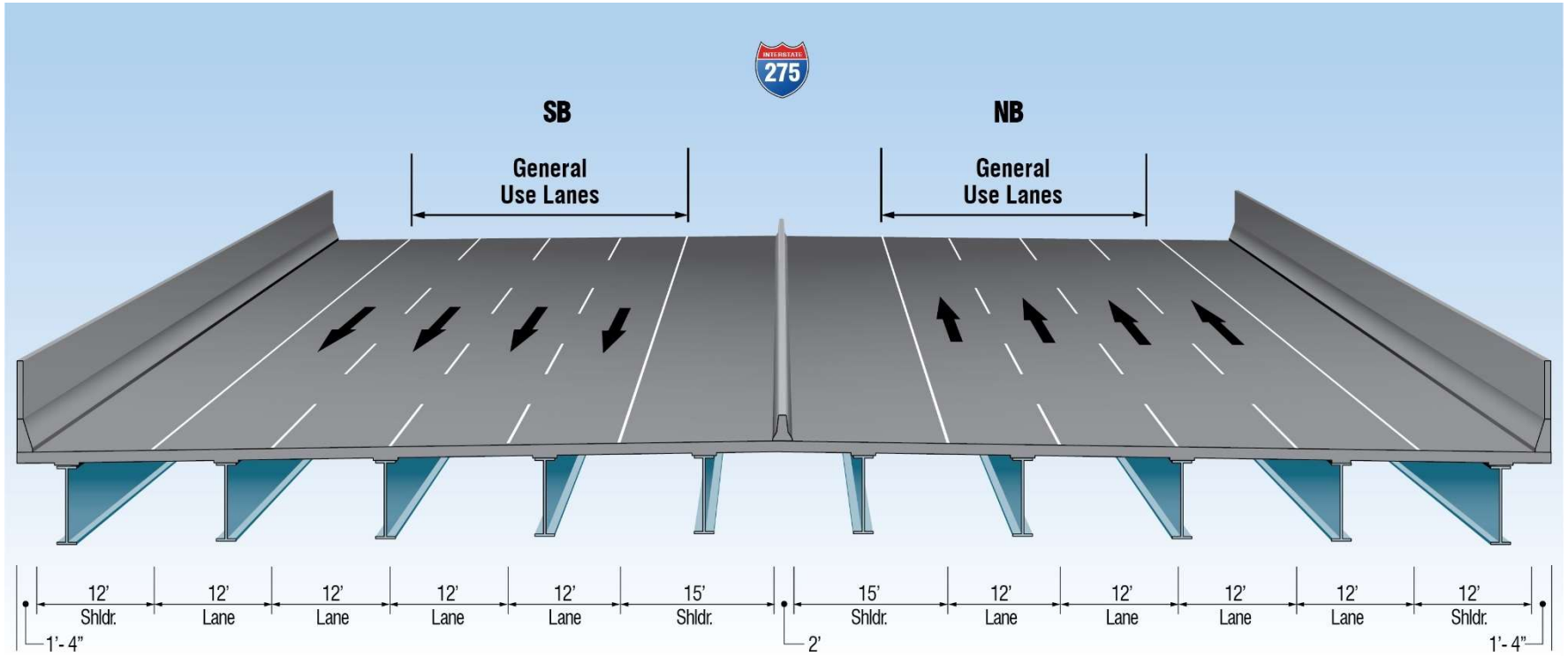


Figure 17: I-275 Over Bearss Avenue Bridge Typical Section



NB=Northbound, SB=Southbound

7.9 Evaluation Matrix

The No-Build and Build Alternatives were evaluated and compared for socio-economic, engineering, safety, costs, and environmental impacts. The Preferred Build Alternative is chosen based on the results of the engineering and environmental analyses and public input. Based on the comparison, the Preferred Alternative is the Build Alternative. The Build Alternative includes four general purpose lanes in each direction and accommodations for transit on the inside shoulders from north of MLK Boulevard to north of Bearss Avenue.

The Build Alternative effects were identified using the proposed right of way "footprint," base maps, and data collection performed for this PD&E Study. The construction cost estimates were developed using FDOT's Long Range Estimates (LRE) program. The comparative evaluation matrix, including impacts and costs, is shown in **Table 44**.

Table 44: Alternatives Evaluation Matrix

Evaluation Criteria	No-Build Alternative Impacts	Build Alternative Impacts
Potential Relocations		
Number of Businesses and Residences	0	0
Potential Right of Way Impacts		
Additional Right of Way for Roadway (acres)	0	0
Additional Right of Way for Ponds (acres)	0	3.40[1]
Potential Environmental Effects		
Archaeological Sites	0	1
Historic Sites	0	8
Section 4(f) Sites	0	0
Noise Sensitive Sites[2]	448	749
Wetlands (acres)	0	0.64
Floodplains (acre-feet)	0	1.00
Surface Waters (acres)	0	2.81
Threatened & Endangered Species	0	Minimal
Contamination and Hazardous Material Sites -Sites ranked as Medium and High	0	15
Estimated Costs (in millions)		
Right of Way Acquisition	$0.00	$2.3M
Wetland & Surface Water Mitigation[3]	$0.00	$0.2M
Construction and Engineering Inspection (8%)	$0.00	$23.3M
Design-Build	$0.00	291.6M
Preliminary Estimate of Total Costs	**$0.00**	**$317.4M**

Notes: [1]Right of way for stormwater management facilites near Bearss Avenue interchange.
[2]Number of impacted sites based on the Noise Study Report.
[2]Wetlands mitigation cost is $117,551 [er acre" 2018/19 fiscal year cost from the *Environmental Mitigation Payment Processing Handbook* (May 2017).

8.0 DESIGN DETAILS OF PREFERRED ALTERNATIVE

The Preferred Build Alternative provides improvements along the 7.70-mile segment of I-275 from north of MLK Boulevard to north of Bearss Avenue. The improvements include widening I-275 to include one additional general purpose lane in each direction and accommodations for transit on the inside shoulders.

8.1 Open and Design Year Traffic Volumes

The open year 2025 and design year 2045 AADTs and DDHVs for the No-Build and Build Alternatives are described in **Section 7.5.**

8.2 Typical Section Package

The Preferred Build Alternative typical section contains four 12-foot general purpose lanes, a 15-foot inside shoulder to accommodate transit, and a 12-foot outside shoulder in each direction, with a 2-foot concrete barrier separating each direction of travel. The design speed is 60 mph.

Widening will occur to the outside with the existing inside shoulders being reconstructed to accommodate the 15-foot shoulders that will accommodate transit.

The recommended I-275 mainline typical section is described **in Section 7.4** and depicted in **Figure 15**.

8.3 Alignments

The proposed improvements will not change the existing horizontal and vertical alignments.

8.4 Right of Way Requirements

The I-275 mainline improvements associated with the Preferred Build Alternative will not require any right of way.

Minimal right of way will be required for the stormwater ponds at the Bearss Avenue interchange. Approximately 3.4 acres of right of way will be required for the stormwater management facilities near Bearss Avenue.

8.5 Relocations

There are no relocations associated with the proposed improvements.

8.6 Cost Estimates

An estimate of capital cost for constructing the Preferred Build Alternative is approximately $292 million in 2018 dollars, based on the FDOT's Long Range Estimates (LRE) system. The estimated costs are shown in **Table 45**.

Table 45: Estimated Project Costs

Estimated Costs (in millions)	Build Alternative
Right of Way Acquisition[1]	$2.3 M
Wetland and Surface Water Mitigation[2]	$0.2 M
Construction & Engineering Inspection	$23.3 M
Design-Build	$ 291.6 M
Preliminary Estimate of Total Costs	**$317.4 M**

Notes: [1]Right of way for stormwater management facilities near Bearss Avenue interchange.
[2]Wetlands mitigation cost is $117,551 per acre 2018/2019 fiscal year cost from the *Environmental Mitigation Payment Processing Handbook* (May 2017).

8.7 Utilities

Most of the UAOs have the capability to adjust their services without causing major inconvenience to their customers. Mitigation measures should include minimizing service disruptions, allowing service disruptions only during periods of minimum usage and installing alternative or new services before disconnecting the existing service. Particular emphasis should be placed in mitigating impacts to Florida Gas Transmission within their easements to avoid relocation costs. Other consideration or emphasis should be placed on minimizing impacts on the Frontier, TECO Distribution, TECO Transmission, City of Tampa Water, and City of Tampa Wastewater.

Exact locations of utilities will be determined in the final design of the proposed improvements. Coordination with the known utility companies during the final design phase will assist in minimizing relocation adjustments and disruptions to service for the public.

8.8 Drainage and Floodplains

8.8.1 Stormwater Management

According to the project's 2019 Pond Siting Report, within the project study limits there are 13 roadway drainage basins that will be affected from the proposed improvements. One proposed stormwater management facility has been identified for each of the drainage basins. For drainage basins that cannot accommodate a stormwater management facility due to right of way constraints, compensatory stormwater management has been provided in an adjacent basin. The stormwater management facilities have been designed to treat and attenuate the new impervious area per the Southwest Florida Water Management District criteria. There are 17 proposed stormwater management facilities (swale treatment facilities and/or ponds) for this project. Except for SMF 14B and SMF 15B, all stormwater management facilities are located with the existing right of way. The required right of way for SMF 14B and SMF 15B is 1.40 acres and 2.00 acres respectively. For specific information regarding the design and location of the stormwater management facilities refer to the *Pond Siting Report Appendices F and G, respectively*.

8.8.2 Floodplains

Information obtained from the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) shows the project crosses through the limits of the 100-year floodplain at several locations along the project corridor. Segments where potential impacts to the 100-year floodplain could occur are shown on FEMA Map No. 12057C0214H and 12057C0204H.

According to FEMA, the Hillsborough River is a regulated floodway at the I-275 bridge crossing. The base flood elevation North American Vertical Datum of 1988 (NAVD 88) for the Hillsborough River at the bridge crossing is 10.0 feet. There are minor floodplain impacts anticipated at the River due to proposed piles being placed in the River.

According to the January 2019 project Pond Siting Report (PSR), the proposed roadway improvements have potential for impacts to the 100-year floodplain from roadway widening within Basin 14. A preliminary analysis indicates that 1.00 acre-feet of floodplain will be impacted in Basin 14. The impact is proposed to be compensated by grading a linear swale within the existing right of way between station 4110+00 and station 4120+33 on the east side of the roadway. The linear swale created for floodplain compensation is referred to as Floodplain Compensation 14 (FPC-14). For specific information regarding the floodplains refer to the referenced PSR.

8.9 Temporary Traffic Control Plan

The traffic control plan for the Build Alternative will be significant and will require a Transportation Management Plan. This plan shall consist of three major components: 1. Temporary Traffic Control, 2. Transportation Operations, and 3. Public Information. Reference: FDM, Section 240.2. Detailed Temporary Traffic Control Plan will need to be analyzed for specifics in the next phase of the project.

The Temporary Traffic Control Plan can be accomplished in three phases to accommodate the proposed inside and outside widening of roadway and bridge structures along both directions of I-275. In the first phase, traffic would shift into the median in order to construct the proposed outside widening. During this phase, MSE walls, noise barriers and stormwater ponds would also be constructed. The ramp connections to the mainline will be maintained with temporary asphalt connections and diversions while the permanent connections are constructed. The second phase will shift traffic to the outside lanes while the proposed inside widening in the median is completed. The third phase will resurface the existing pavement to provide a smooth surface to place striping for the final lane configuration and sign placement will be completed.

Bridge widening would follow the same roadway phasing plan. Temporary night-time detours for the local roads under I-275 may be required while overhead work is being performed on I-275 to construct the bridge widenings.

8.10 Pedestrian and Bicycle Facilities

Consistent with federal and state policies, no facilities for bicyclists or pedestrians are planned on this limited access interstate highway.

Proposed improvements on the local road at underpasses may include a combination of pedestrian friendly aesthetics such as:

- Wider Sidewalks
- Enhanced Lighting
- Painted Bridge Sub-Structures
- Cut-back Walls for an Improved Bike/Pedestrian Experience
- Addition of Public Art (in cooperation with the City of Tampa)
- Identification of Landscape Opportunities

8.11 Access Points and Spacing

I-275 is a limited access facility. Access to the interstate is allowed only at the interchanges within the study limits. No new access points are planned.

9.0 PUBLIC INVOLVEMENT

The FDOT recognizes the importance of comprehensive public outreach to the success of any transportation improvement. The Public Involvement Program (PIP) was developed at the onset of the study in June 2014. The PIP was updated in September 2014. In late 2016, the PD&E Study took a step back in association with the reset of FDOT's interstate improvement program to reevaluate the alternatives. When the study resumed, the PIP was again updated in October 2018 to adjust the plan to reflect the changes made to the study. The PIP focused on strategies and activities to solicit community participation throughout the project development process as this report will demonstrate.

The purpose of the PIP was to assist in providing information to and obtaining input from concerned citizens, agencies, private groups (residential/business), and governmental entities. The overall goal of the PIP was to help ensure that the study reflects the values and needs of the communities it is designed to benefit. A schedule of events and list of documentation exhibiting compliance with these procedures were included in the PIP.

The PIP followed the requirements set forth in the FDOT PD&E Manual, F.S. Section 339.155, Executive Orders 11990 and 11988, Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 23 Code of Federal Regulations 771, and the Civil Rights Acts of 1964 and 1968, under Titles VI and VIII of the United States Civil Rights Act.

The Public Involvement Program included:

- Coordination with newspapers, radio, and television, as appropriate
- Newsletters (distributed to elected and appointed officials, property owners/tenants, business owners/operators, and interested parties)
- News/press releases
- Public notices/legal display advertisements
- Public announcements
- Direct mailing for public hearing
- Presentations to local officials
- Informal meetings
- Website
- Public hearing

The PIP is included in Appendix A of the Comments and Coordination Report for this project.

9.1 Advance Notification

The FDOT initiated early project coordination through distribution of the Advance Notification (AN) package. Through this process, the FDOT informed federal, state, regional, and local agencies of this project and its scope of anticipated activities. The AN Package was mailed to the Florida State Clearinghouse on July 29, 2013. On the same date, a separate letter and copy of the AN Package was also sent to the five Indian tribes listed in the FDOT PD&E Manual. Copies of the AN Package and agency responses received are included in Appendix

B of the Comments and Coordination Report. The following agencies received an AN Package:

Federal Agencies

- Federal Highway Administration, Division Administrator
- Federal Highway Administration - ETAT Representative
- Federal Emergency Management Agency - Mitigation Division, Chief
- Federal Railroad Administration - Director
- Federal Transit Administrator - ETAT Representative
- U.S. Department of the Interior - Bureau of Land Management, Southeastern States Office U.S. Department of Housing and Urban Development, Regional Environmental Officer
- U.S. Department of the Interior - U.S. Geological Survey, Chief
- U.S. Environmental Protection Agency- ETAT Representative
- U.S. Department of Interior - U.S. Fish and Wildlife Service - ETAT Representative
- U.S. Army Corps of Engineers - Regulatory Branch - ETAT Representative
- U.S. Department of Commerce - National Marine Fisheries Service - Habitat Conservation Division - ETAT Representative
- U.S. Department of Commerce-National Marine Fisheries Service - Southeast Regional Administrator
- Superintendent Conservation Division - ETAT Representative
- U.S. Department of Agriculture - Natural Resources Conservation Service
- U.S. Department of Interior - National Park Service - Southeast Regional Office - ETAT Representative
- Federal Aviation Administration - Airports District Office
- U.S. Department of Health and Human Services - National Center for Environmental Health U.S. Department of Interior-Bureau of Indian Affairs - Office of Trust Responsibilities - Environmental Services Staff
- U.S. Coast Guard - Seventh District- Commander (oan) - ETAT Representative
- U.S. Forest Service - ETAT Representative

State Agencies

- Florida Inland Navigation District
- Florida Fish and Wildlife Conservation Commission - ETAT Representative
- Florida Department of Environmental Protection - ETAT Representative
- Florida Department of Environmental Protection - State Clearinghouse
- Florida Department of Economic Opportunity - ETAT Representative
- Florida Department of State - ETAT Representative
- Florida Department of Agriculture and Consumer Services - ETAT Representative Florida Intrastate Highway System, Central Office
- Florida Department of Transportation Environmental Management Office, Engineer/Manager

Regional Agencies

- Tampa Bay Regional Planning Council
- Southwest Florida Water Management District - ETAT Representative

- FDOT, District Seven
- Hillsborough MPO

Native American Tribal Officials

- Poarch Band of Creek Indians of Alabama
- Muscogee (Creek) Nation of Oklahoma
- Seminole Tribe of Florida
- Miccosukee Tribe of Indians of Florida
- Seminole Nation of Oklahoma

No comments were received for the AN package, per the FDOT Environmental Screening Tool (EST).

9.2 Coordination

The FDOT coordinated with numerous federal, state, and local agencies throughout the PD&E study process. The following summarizes the coordination efforts.

9.2.1 Agency Coordination

Agency coordination was conducted continuously throughout the study. Following the reset, agency coordination included:

- Providing the Florida Department of State, Division of Historic Resources State Historic Preservation Officer (SHPO) with an update to the project through an addendum to the 2015 Cultural Resources Assessment Survey (CRAS) as well as a CRAS Update Technical Memorandum for Proposed Stormwater Management Facility Sites. The SHPO concurred with the CRAS update on March 19, 2019.
- Preparing a Cultural Resources Case Study Report for submittal to the SHPO for concurrence.
- Preparing a Natural Resources Evaluation for Pond Siting for submittal to the U.S. Fish and Wildlife Service as well as the U.S. Army Corps of Engineers for review and approval.

9.2.2 Local Government Coordination

Local government coordination was conducted continuously throughout the study. Following the reset, local government coordination included:

- Hillsborough MPO Citizens Advisory Committee - February 13, 2019
- Hillsborough MPO Technical Advisory Committee February 25, 2019
- Hillsborough MPO Bicycle Pedestrian Advisory Committee - March 13, 2019
- Hillsborough MPO Livable Roadways Committee - March 20, 2019.

The City of Tampa, the Hillsborough Area Regional Transit Authority, the Tampa Bay Area Regional Transit Authority were all coordinated with throughout the study process as part of the Tampa Bay Next program associated with the downtown interchange project. Since these are adjacent projects, meetings for the two projects were combined. These entities will

continue to receive updates and information throughout the projects continued development and completion.

9.2.3 Coordination with Local Groups

Prior to the reset, the project was presented to various groups as part of the Tampa Bay Express program. In addition, two project specific meetings were held including:

- Seminole Heights Roundtable – June 23, 2015
- Tampa Heights Roundtable – May 12, 2015

Following the reset, a series of informal small group meetings were held, including:

- Southeast Seminole Heights Civic Association - July 17, 2018
- Old Seminole Heights Neighborhood Association - August 9, 2018
- Hampton Terrace Neighborhood Association - September 8, 2018
- New North Transportation Alliance - September 12, 2018
- Forest Hills Neighborhood Association - September 18, 2018
- East Tampa - September 25, 2018
- South Seminole Heights Civic Association - October 17, 2018
- Sulphur Springs Community - October 23, 2018
- Tampa Innovation - December 12, 2018

Summaries of these meetings are included in Appendix C of the Comments and Coordination Report.

9.3 Mailing List

A mailing list was developed at the study onset and updated throughout the effort. The mailing list included:

- Property owners and/or tenants whose property lies, in whole or part, between Florida Avenue and Nebraska Avenue within the study limits F.S. Section 339.155 states property owners within 300 feet of the centerline of each alternative shall be notified about the project; however, due to the neighborhood, the boundary of notified properties was extended to cover a larger area); the mailing list was based on information obtained from the property appraiser's database in Hillsborough County.
- Elected and appointed public officials
- Federal, state, regional, and local agencies as described in Section 3.0 (Advance Notification Package)
- Public and private groups, organizations, agencies, and businesses that have an interest in the project
- Individuals or groups who requested to be placed on the project mailing list

The property owner mailing list included 8,938 homeowners and/or tenants. The official, agency, and interested party mailing list contained 188 people. Individuals requesting to be added to the mailing list were handled as they were received. The mailing list was used to disseminate project information and announce the public hearing. Newsletters were mailed to all those on the mailing list.

9.4 Newsletters

Newsletters were mailed to those on the project mailing list as noted in **Section 9.3**. A public hearing newsletter was distributed in August 2016 for the public hearing that was schedule for September 13, 2016. Following the newsletter mailing, a postcard was sent out to the same mailing list as the newsletter, to communicate that the hearing was postponed.

A newsletter was then sent out March 1, 2019 to announce the rescheduled public hearing and to encourage participation and comment. The newsletter presented background information about the project, description of the existing conditions and existing typical sections, description of the Preferred Build Alternative and preferred build typical section, evaluation matrix of the Preferred Build Alternative and No-Build Alternative, and study schedule. Contact information and instructions for those needing special assistance or language support were also provided. This newsletter was mailed to the project mailing list and served as an invitation to attend the public hearing. The newsletter was also handed out at the hearing.

When the FDOT issues project Location and Design Concept Acceptance an additional newsletter will be distributed. A copy of the newsletter is provided in Appendix D of the Comments and Coordination Report.

9.5 Website

Public participation is an integral part of the transportation process which helps to ensure that decisions are made in consideration of public needs and preferences. To engage and inform the public throughout the study process, a project website was developed as part of the Tampa Bay Next website. The web address was http://active.fdotd7studies.com/i275/mlk-to-bearss/.

The project website was used as an educational tool for the general public; explaining what a PD&E study evaluates and why, listing contact information for comments and questions, and providing links to other sites and projects.

In addition, the website was used to share information about the project. Site visitors could read about project details, read past and current newsletters, follow the project schedule, and review available project documents, information sheets, and frequently asked questions (FAQs). The site was also one of several methods used to notify the public about stakeholder meetings and the public hearing.

Successful public participation is a continuous process that not only informs the public but also obtains meaningful input. As of April 2019, 93 written comments have been submitted and 15 people have asked to be added to the mailing list. For copies of all comments received, please refer to Appendix F of the project Comments and Coordination Report.

9.6 Public Hearing

9.6.1 Public Hearing Summary

A public hearing was scheduled for September 2016 but was postponed. Following additional technical work, the public hearing was rescheduled for March 26, 2019. The hearing was held at the Seminole Heights United Methodist Church located at 6111 N. Central Avenue Tampa, Florida from 5:30 p.m. to 7:30 p.m. From 5:30 p.m. to 6:30 p.m. an informal open house was held and from 6:30 p.m. to 7:30 p.m. the formal portion of the meeting was held. A total of 239 people from the public signed in as well as 30 FDOT staff. A total of 26 verbal comments were made during the formal portion of the public hearing, 42 written comments were received

and 10 comments are recorded by the court reporter. These numbers represent only the comments received at the public hearing. Some attendees submitted comments using multiple formats. For copies of all comments received, please refer to Appendix F of the project Comments and Coordination Report.

The hearing was held to inform citizens and allows those interested the opportunity to provide comments and express views concerning the location, conceptual design, and social, economic, and environmental effects of the proposed project. The hearing consisted of a 1-hour open house beginning at 5:30 p.m. and a formal portion, beginning at approximately 6:30 p.m. Attendees were encouraged to watch a narrated PowerPoint presentation, view the display boards, and speak with staff about the recommendations. During this time, the court reporter was available to take verbal comments in a one-on-one setting. The following display boards were available during the open house portion of the meeting:

- Welcome
- Citation (Federal and State Requirements followed)
- Comment (how attendees could provide/submit comments)
- Project Location Map
- About the Project (limits, length, and other summary points)
- Alternatives No Longer Considered (alternatives considered but eliminated)
- Roadway Typical Sections (existing and preferred)
- Bridge Typical Sections (existing and preferred)
- Ponds (site of the proposed pond)
- Noise Barriers (background and photos of example barriers)
- Evaluation Matrix (summary of evaluation between No-Build and Preferred Build Alternative)
- Section 106 Process (summary of historic resources evaluation)
- PD&E Study Schedule
- Project Funding Status
- Roll Plot (proposed improvements over an aerial image)

The public hearing display boards were posted to the project website on the day after the public hearing.

At 6:31 p.m., Kirk Bogen, P.E., District Seven Environment Management Engineer, welcomed the audience and discussed the purpose of the hearing. He then opened the formal portion, in which attendees were able to provide a formal verbal comment for the record. The proceedings were recorded by the court reporter that was on hand throughout the evening. The formal portion ended at 7:47 p.m., and the open house resumed until all members of the public left the meeting.

9.6.2 Draft Documents on Display

The following draft documents were available to members of the public to review prior to, at, and following the public hearing:

- Preliminary Engineering Report
- Air Quality Memorandum
- Section 106 Evaluation and Determination of Effects Case Study Report

- Cultural Resources Assessment Survey
- Cultural Resource Assessment Survey Update Technical Memorandum
- Contamination Screening Evaluation Report
- Location Hydraulics Memorandum
- Noise Study Report
- Wetland Evaluation and Biological Assessment Report
- Natural Resources Evaluation Addendum to the Wetland Evaluation and Biological Assessment Report
- Natural Resources Evaluation for Pond Siting
- Pond Siting Report
- Project Traffic Analysis Report
- Type 2 Categorical Exclusion
- Contamination Screening Evaluation Report (Pond Sites)
- Cultural Resources Assessment Survey Addendum

The draft project documents were uploaded to the project website and printed and placed on display for public review from March 5, 2019 through April 5, 2019 at the following locations:

Seminole Heights Public Library
4711 N. Central Avenue
Tampa, Florida 33603

Florida Department of Transportation District Seven
11201 N. McKinley Drive
Tampa, Florida 33612

9.6.3 Public Hearing Notification

9.6.3.1 Newsletter

On Friday, March 1, 2019, a project newsletter was sent electronically to public officials and via direct mail to everyone on the mailing list, including homeowners and/or tenants, elected officials, agency representatives, and interested citizens. For more information about the mailing list, see **Section 9.3**.

9.6.3.2 Legal Display Advertisements

The following legal display ads were published as notification of the public hearing:

- Florida Administrative Register (FAR): March 18, 2019
- Tampa Bay Times: March 1, 2019 and March 15, 2019
- Florida Sentinel: March 1, 2019 and March 15, 2019
- La Gaceta: March 1, 2019 and March 15, 2019

An advertisement was also placed on the project website on March 13, 2019. Copies of the advertisements are included in the Public Hearing Scrapbook.

9.6.4 Public Hearing Transcript

The court reporter created a transcript from the public hearing. The public hearing transcript is included in Appendix E of the Comments and Coordination Report.

9.6.5 Summary of Public Hearing Comments

The public comment period was advertised to end April 5, 2019. All comments received by April 5, 2019 are included in this public hearing record. Written or verbal comments were encouraged in the following ways:

- Complete and place a comment form in the comment box at the hearing
- Make a verbal comment directly to the court reporter during the open house portion of the hearing
- Make a verbal comment during the formal portion of the hearing
- Mail comments to the FDOT (address was preprinted on the comment form)
- Email comments to Kirk Bogen, P.E.
- Enter comments online (active.fdotd7studies.com/i275/mlk-to-bearss)

A total of 139 comments were received, 117 as part of the public hearing and 23 before and after the public hearing comment period. Some commenters submitted comments using multiple methods (e.g., email and written, written and verbal, etc.). In total, there were 105 unique commenters (five forms were submitted with no name and were assumed to be unique). **Table 46** shows the breakdown of how the comments were received and the general sentiment of the comments. In the table, “Other” refers to topics or opinions that did not explicitly state support or opposition to the Build or No-Build Alternative, such as requests for noise barriers or support for other projects.

Table 46. Public Comments Received

Public Comments Received	Support	Not Support	Unknown	Other	Total
In-Person	0	10	0	0	**10**
Written (at hearing)	2	25	2	13	**42**
Written (mailed)	3	9	2	20	**34**
Emailed	0	1	0	4	**5**
Website*	3	2	0	7	**12**
Verbal (during formal portion of hearing)	0	10	2	14	**26**
Verbal (one-on-one with court reporter)	0	6	0	4	**10**
Total	**8**	**63**	**6**	**63**	**139**

Please note: some commenters submitted the same comment in multiple formats (e.g., email and written, written and verbal, etc.)
*** Includes comments received before the hearing but following the study reset**

All comments received are provided in Appendix F of the Comments and Coordination Report.

10.0 LIST OF TECHNICAL REPORTS

In addition to this Preliminary Engineering Report, numerous reports have been submitted or are being prepared in support of this I-275 PD&E Study. These reports are listed below.

9.7 Engineering Reports

- Project Traffic Analysis Report, July 2019
- Location Hydraulics Report, November 2018
- Pond Siting Report, January 2019
- Build Alternative Concept Design Plan Sets, November 2018 (included as **Appendix A** of this Preliminary Engineering Report)

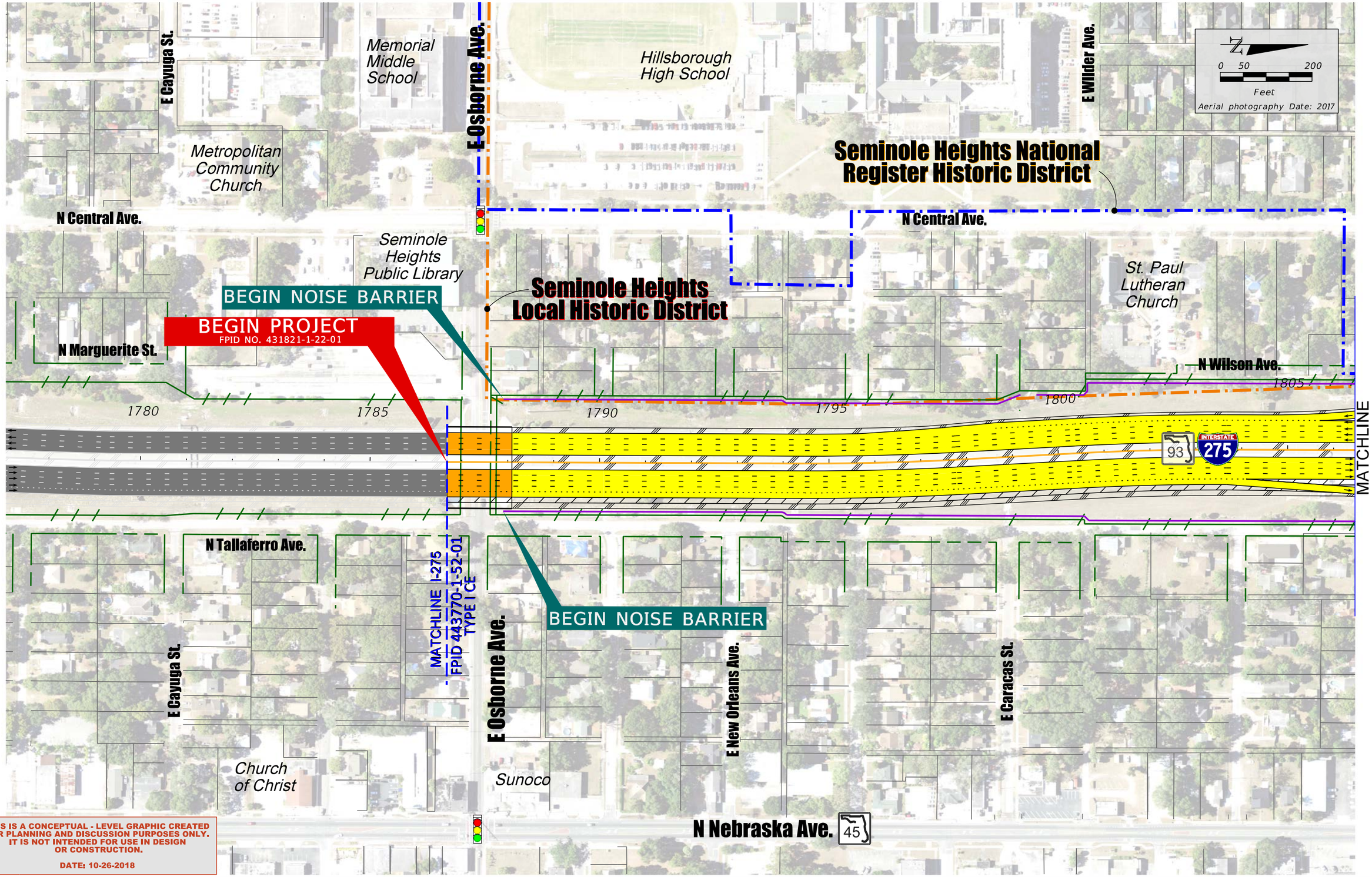
9.8 Environmental Reports

- Air Quality Technical Memorandum, February 2019
- Noise Study Report, April 2019
- Contamination Screening Evaluation Report, January 2019
- Contamination Screening Evaluation Report for Pond Sites, January 2019
- Wetland Evaluation and Biological Assessment Report, May 2015
- Natural Resources Evaluation Addendum to the Wetland Evaluation and Biological Assessment Report, February 2019
- Natural Resources Evaluation for Pond Sites, February 2019
- Cultural Resources Assessment Survey, December 2015
- Cultural Resources Assessment Survey Addendum, February 2019
- Cultural Resources Case Study Report for Pond SItes, February 2019

9.9 Public Involvement Reports

- Public Involvement Program, September 2014 (updated October 2018)
- Public Hearing Scrapbook, May 2019
- Public Hearing Transcript, May 2019
- Comments and Coordination Report, May 2019

Appendix A
Build Alternative Concept Design Plans



THIS IS A CONCEPTUAL - LEVEL GRAPHIC CREATED FOR PLANNING AND DISCUSSION PURPOSES ONLY. IT IS NOT INTENDED FOR USE IN DESIGN OR CONSTRUCTION.

DATE: 10-26-2018

LEGEND

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- PROPOSED RIGHT OF WAY
- TRAFFIC SIGNAL
- EXISTING NOISE BARRIER
- POTENTIAL NOISE BARRIER
- SEMINOLE HEIGHTS LOCAL HISTORIC DISTRICT
- SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT

FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (1 OF 15)

SHEET NO. 1

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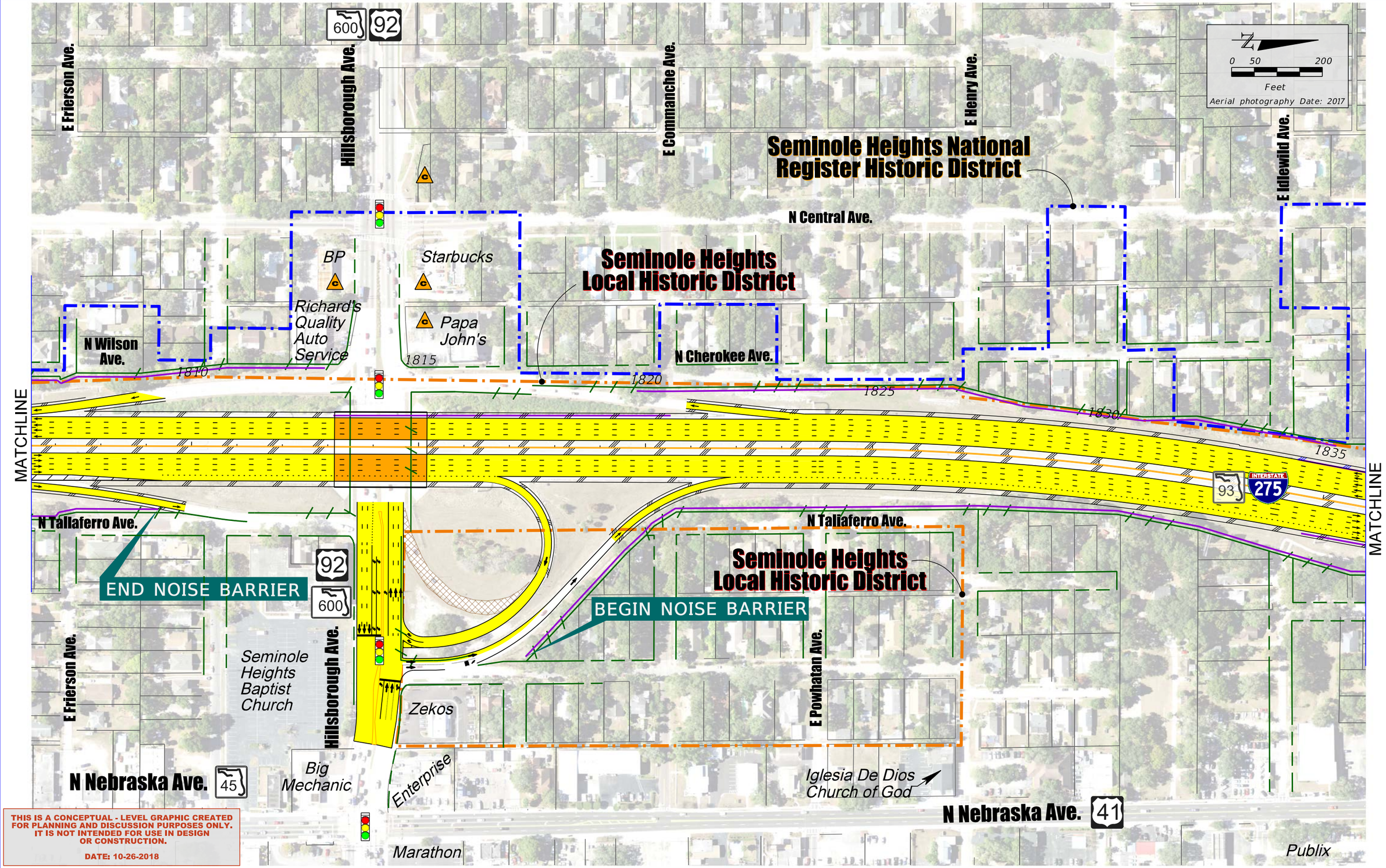

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (2 OF 15)

SHEET NO. 2

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Seminole Heights Local Historic District

Seminole Heights National Register Historic District

Hampton Terrace Local Historic District

END NOISE BARRIER

BEGIN NOISE BARRIER

MATCHLINE

MATCHLINE

N Central Ave.

N Taliaferro Ave.

N King St.

N Harer St.

N Nebraska Ave. 41

INTERSTATE 275 93

E North St.

E Hanna Ave.

E Fern St.

E North St.

E Lambright St.

E Knollwood St.

E Pocahontas Ave.

E Elm St.

E Hiawatha St.

Watermark Church

All God's Kids Academy

Seminole Heights United Methodist Church

Seminole Heights Elementary School

TECO Fern St. Substation

Alamo Motel

R&B Mechanic Shop

Calvin's Transmissions

Tampa Fire Station #7

Tampa Cars 360

Swan Motel

Sulphur Springs US Post Office

Bay Auto Wholesale Inc.

Bedrock Collision Center

Vacant

1840 1845 1850 1855 1860 1865

N

0 50 200

Feet

Aerial photography Date: 2017

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DATE: 10-26-2018

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- SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (3 OF 15)

SHEET NO. 3

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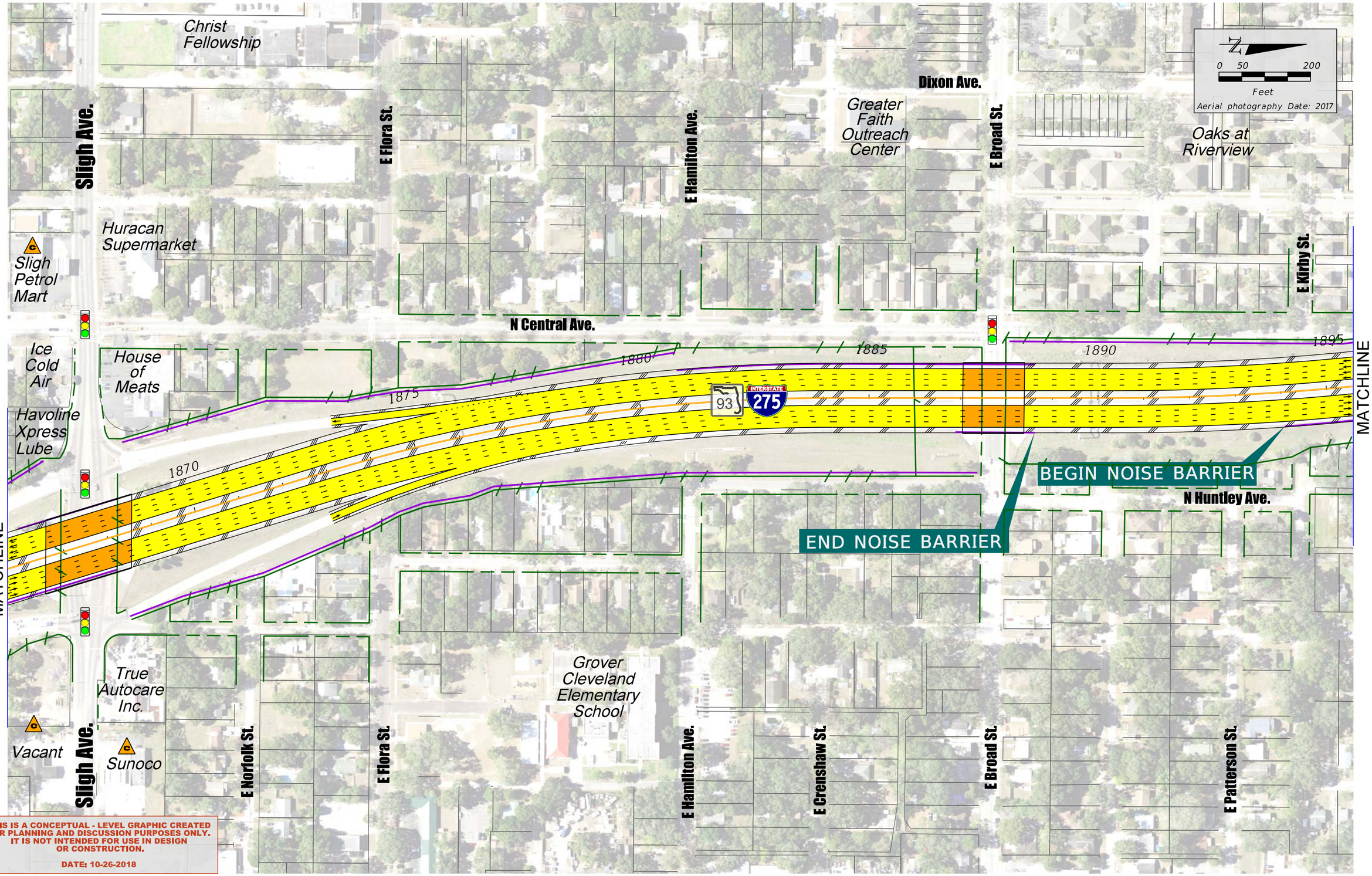

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (4 OF 15)

SHEET NO. 4

Riverview Terrace Playground

E Hanlon St.

N Branch Ave.

E Hollywood St.

HILLSBOROUGH RIVER

E Bird St.

E Waters Ave.

0 50 200

Feet

Aerial photography Date: 2017

HILLSBOROUGH 584 COUNTY

Sears Outlet

Vacant

BEGIN NOISE BARRIER

Gomez 5 Auto Repair

N Seminole Ave.

END NOISE BARRIER

1915

1920

1910

1905

1900

N Central Ave.

93 INTERSTATE 275

MATCHLINE

MATCHLINE

BEGIN NOISE BARRIER

N Lamar Ave.

Bay Area Imports

END NOISE BARRIER

Vacant

Sulphur Springs Pool & Park

E Hanlon St.

E Hollywood St.

E Bird St.

Tampa Greyhound Track

HILLSBOROUGH 584 COUNTY

Auto Care

E Waters Ave.

E Rampart St.

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FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (5 OF 15)

SHEET NO. 5

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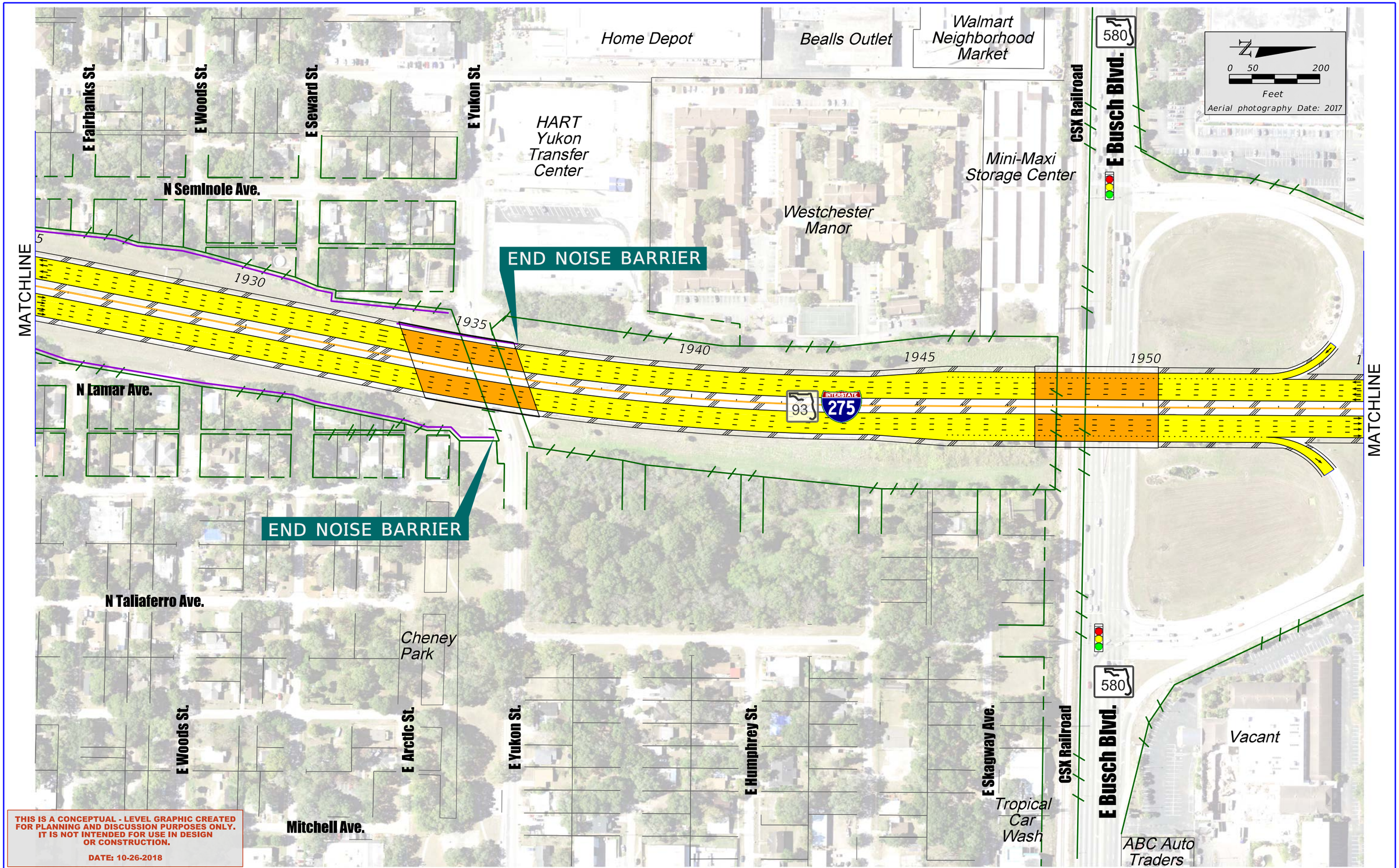

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (6 OF 15)

SHEET NO. 6

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Floriland Office Center

Central Mobile Home Park

Jersey Mobile Home Park

Legacy Prepatory Academy

Most Holy Redeemer Catholic Church

E Linebaugh Ave.

Althea Ave.

N Central Ave.

N Florence Ave.

N Taliaferro Ave.

E Wilma St.

E Annie St.

Castle Court N

Orchid Ave.

E Linebaugh Ave.

McEwen Ave.

BEGIN EXIST. NOISE BARRIER

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955 1960 1965 1970 1975 1980

93 INTERSTATE 275

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MATCHLINE

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Feet

Aerial photography Date: 2013

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DATE: 10-26-2018

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- SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT

FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (7 OF 15)

SHEET NO. 7

N Dixon Ave.

E Bougainvillea Ave.

E Seneca Ave.

E 109th Ave.

N Dixon Ave.

END EXIST. NOISE BARRIER

Brooks DeBartolo Collegiate High School

Vacant

BEGIN EXIST. NOISE BARRIER

END NOISE BARRIER

N Central Ave.

1985 1990 1995 2000 2005 2010

MATCHLINE

MATCHLINE

93 INTERSTATE 275

N Florence Ave.

Exist. Pond

END NOISE BARRIER

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END EXIST. NOISE BARRIER
BEGIN NOISE BARRIER

E Seneca Ave.

N Annette Ave.

E Bougainvillea Ave.

E 109th Ave.

E 112th Ave.

Camp Nebraska RV Park

Family Dollar

N

0 50 200

Feet

Aerial photography Date: 2017

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DATE: 10-26-2018

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (8 OF 15)

SHEET NO. 8

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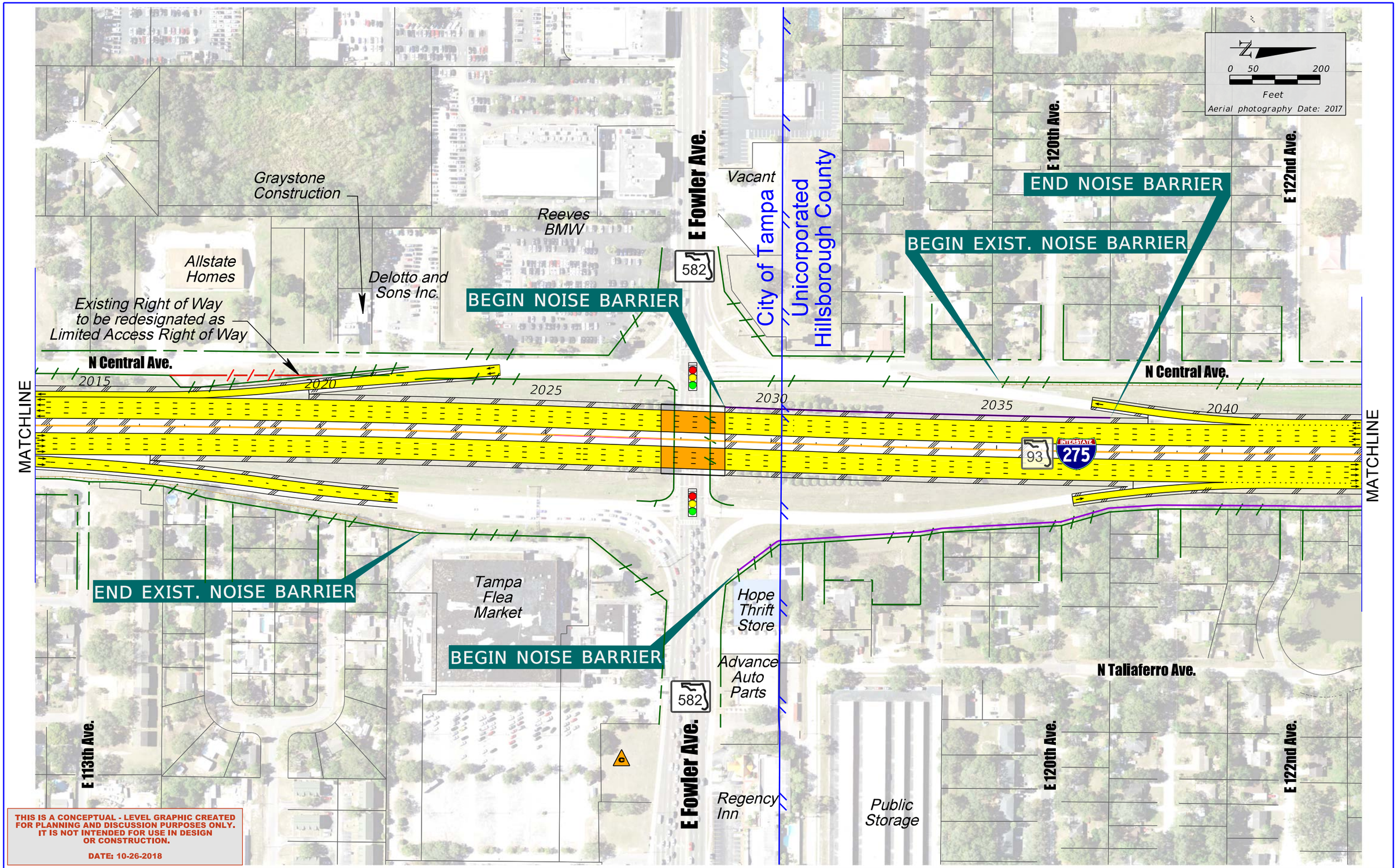

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (9 OF 15)

SHEET NO. 9

Rennaissance Condominiums

Frank D. Miles Elementary School

E 124th Ave.

Step Ahead Academy

Royal Sun Park Assisted Living Facility

E 127th Ave.

Chinese Christian Alliance Church

E 131st Ave.

Boy Scouts of America

0 50 200

Feet

Aerial photography Date: 2017

END EXIST. NOISE BARRIER

BEGIN EXIST. NOISE BARRIER

END EXIST. NOISE BARRIER

N Central Ave.

MATCHLINE

2045

2050

2055

2060

2065

2070

93

INTERSTATE 275

MATCHLINE

END EXIST. NOISE BARRIER

END NOISE BARRIER
BEGIN EXIST. NOISE BARRIER

Bridge Over Existing Sink Hole

END EXIST. NOISE BARRIER

BEGIN EXIST. NOISE BARRIER

TECO McFarland Substation

N Taliaferro Ave.

N Taliaferro Ave.

E 124th Ave.

E 126th Ave.

E 127th Ave.

Hoffman Blvd.

Lexington Blvd.

E 131st Ave.

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DATE: 10-26-2018

LEGEND

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (10 OF 15)

SHEET NO. 10

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Ed Morse Cadillac

Shooter's World

Oak Grove Apartments

Central Professional Building

Cadillac Collision

Marathon

Fletcher Ave.

E 137th Ave.

E 138th Ave.

Boy Scouts of America

Super 8 Motel

Fisker Jaguar Tampa

BEGIN NOISE BARRIER

N Central Ave.

N Central Ave.

MATCHLINE

2075

2080

2085

2090

2095

2100

MATCHLINE

93

275

Hidden Oaks Mobile Home Park

Days Inn

St. Croix Professional Center

BEGIN EXIST. NOISE BARRIER

END EXIST. NOISE BARRIER

Summit Ave.

Fletcher Ave.

Orange Ave.

Grove Ave.

E 137th Ave.

E Hollywood St.

Frontier Travel Park

LifeStorage

Auto Gallery of Tampa

Atlantic Automotive

Salvation Army

0 50 200

Feet

Aerial photography Date: 2017

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DATE: 10-26-2018

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (11 OF 15)

SHEET NO. 11

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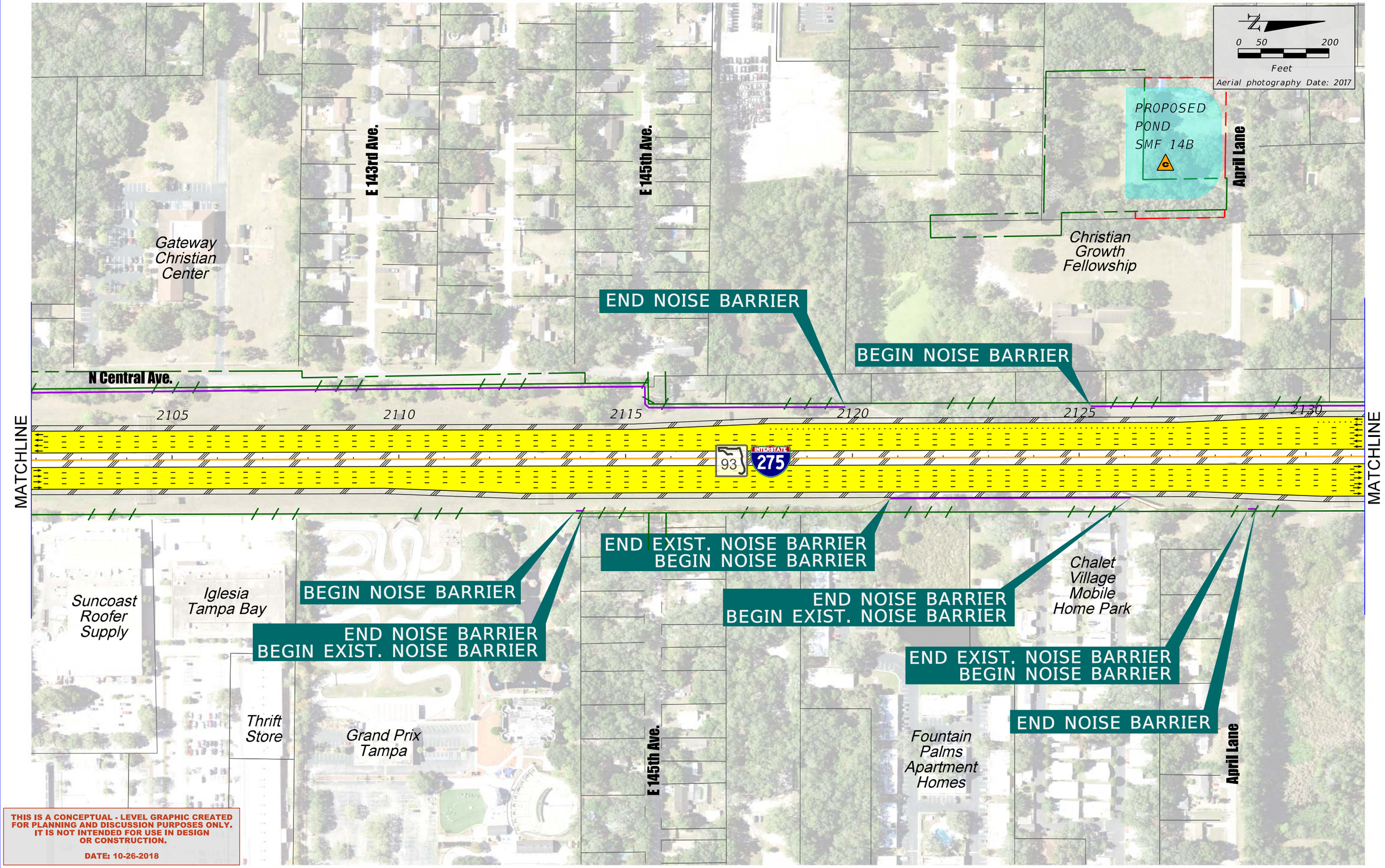

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STATE OF FLORIDA
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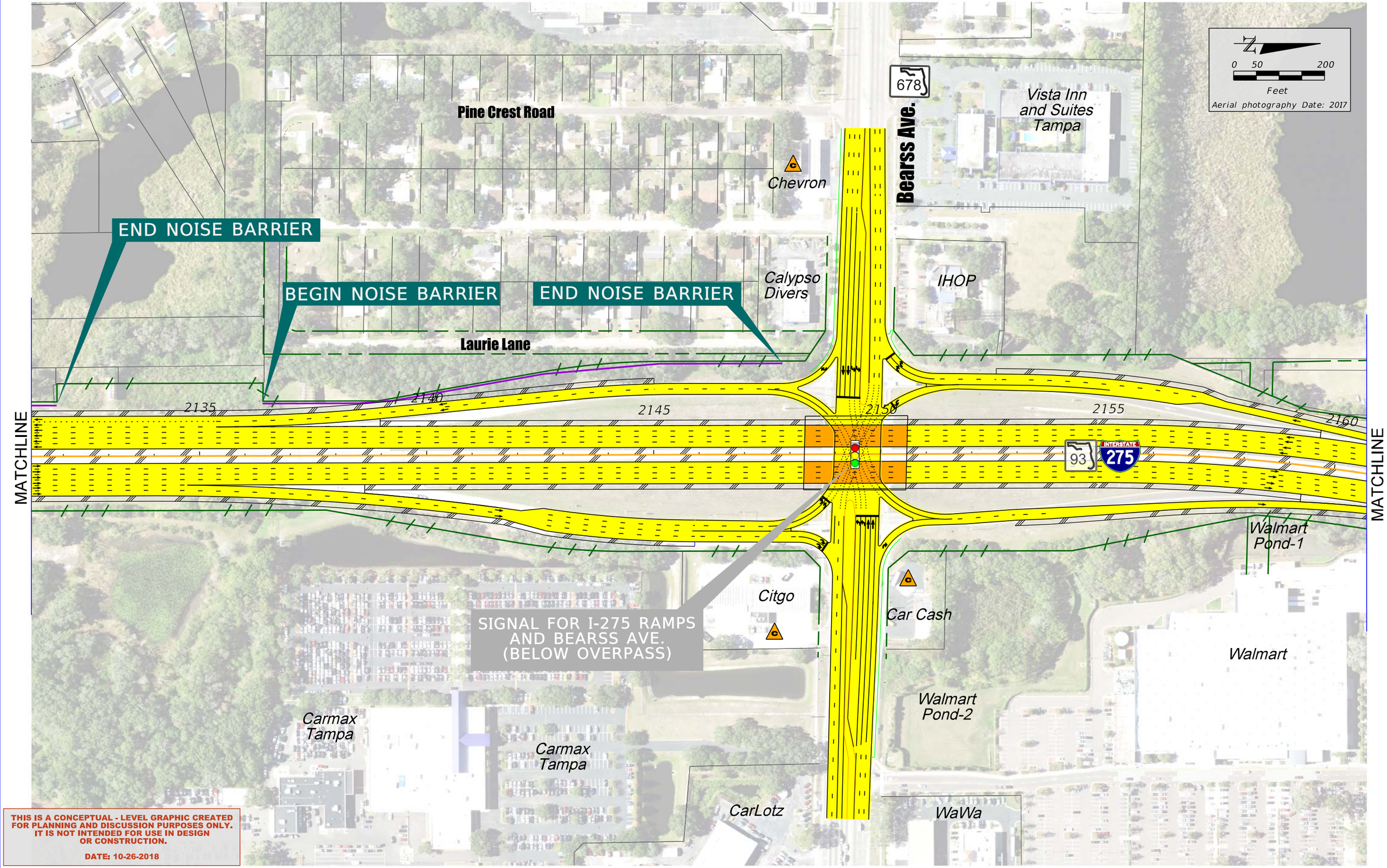
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (12 OF 15)

SHEET NO. 12



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DATE: 10-26-2018

LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- PROPOSED BRIDGE IMPROVEMENT
- PROPOSED POND
- POTENTIAL CONTAMINATION
- EXISTING RIGHT OF WAY
- EXISTING LA RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TRAFFIC SIGNAL
- EXISTING NOISE BARRIER
- POTENTIAL NOISE BARRIER
- SEMINOLE HEIGHTS LOCAL HISTORIC DISTRICT
- SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (13 OF 15)

SHEET NO. 13

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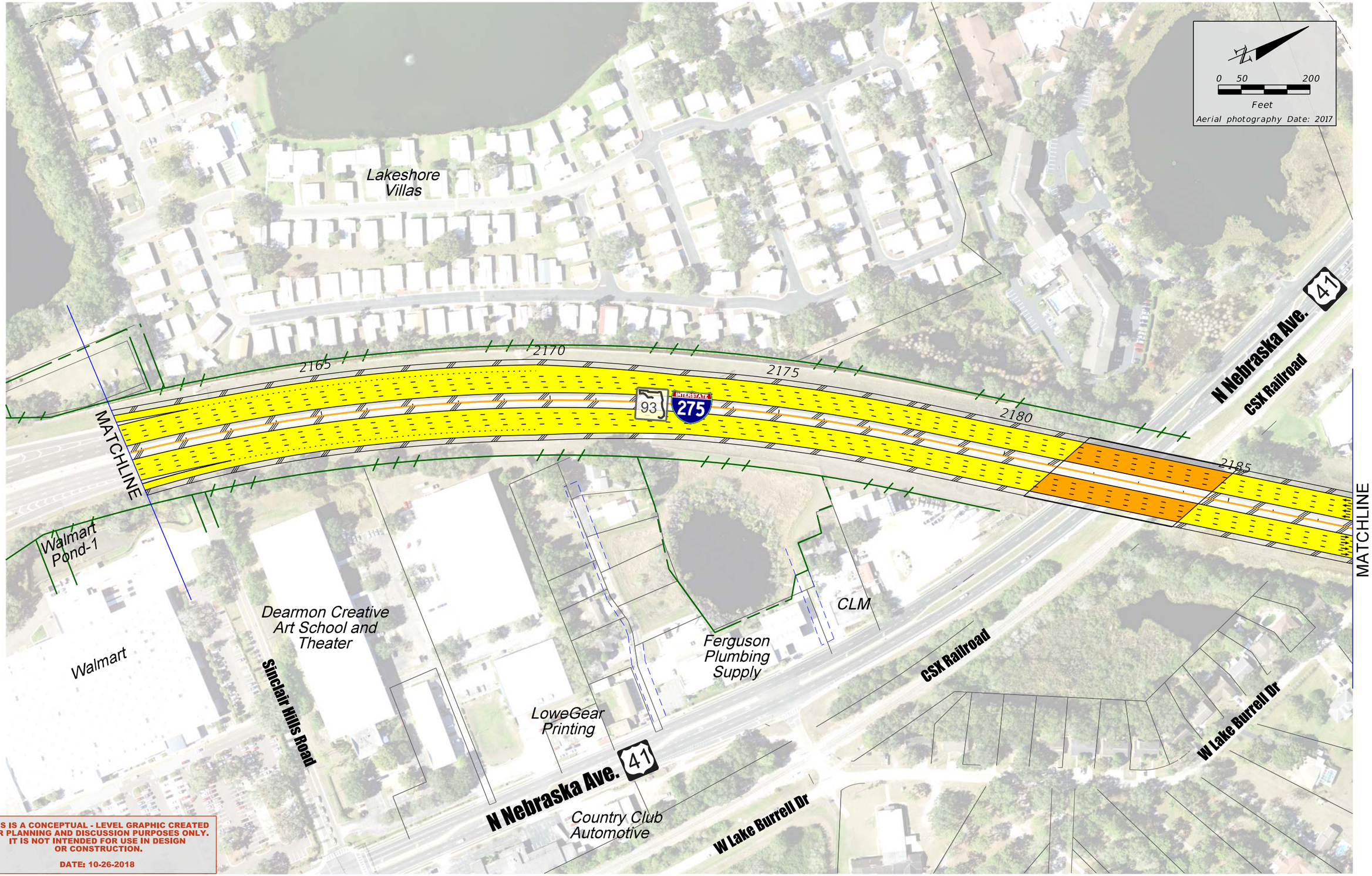

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DATE: 10-26-2018

LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- PROPOSED BRIDGE IMPROVEMENT
- PROPOSED POND
- POTENTIAL CONTAMINATION
- EXISTING RIGHT OF WAY
- EXISTING LA RIGHT OF WAY
- PROPOSED RIGHT OF WAY
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- POTENTIAL NOISE BARRIER
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- SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT

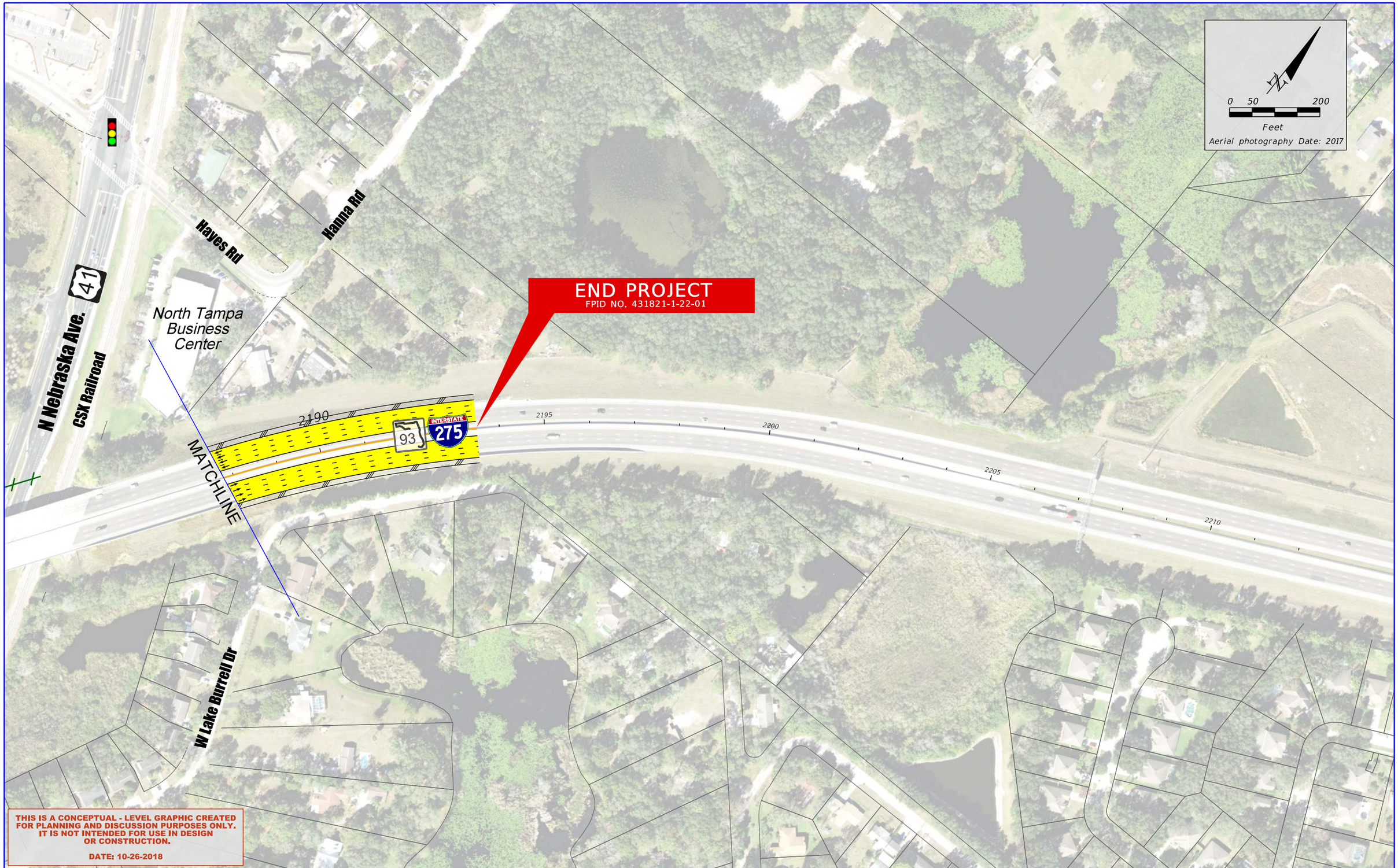
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (14 OF 15)

SHEET NO. 14



LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- PROPOSED BRIDGE IMPROVEMENT
- PROPOSED POND
- POTENTIAL CONTAMINATION
- EXISTING RIGHT OF WAY
- EXISTING LA RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TRAFFIC SIGNAL
- EXISTING NOISE BARRIER
- POTENTIAL NOISE BARRIER
- SEMINOLE HEIGHTS LOCAL HISTORIC DISTRICT
- SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE

PLAN SHEET (15 OF 15)

SHEET NO. 15

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PROP.
POND
SMF 15B

C

N

0 50 200

Feet

Aerial photography Date: 2017

Sinclair Hills Rd.

CSX Railroad

N Nebraska Ave.

41

678 Bearss Ave.

2165

2160

2155

2150

Walmart
Pond-1

Walmart

Vista Inn
and Suites
Tampa

Bank of
America

IHOP

Car Cash

Walmart
Pond-2

WaWa

93 INTERSTATE 275

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DATE: 10-26-2018

LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- PROPOSED BRIDGE IMPROVEMENT
- PROPOSED POND
- POTENTIAL CONTAMINATION
- EXISTING RIGHT OF WAY
- EXISTING LA RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- TRAFFIC SIGNAL
- EXISTING NOISE BARRIER
- POTENTIAL NOISE BARRIER
- SEMINOLE HEIGHTS LOCAL HISTORIC DISTRICT
- SEMINOLE HEIGHTS NATIONAL REGISTER HISTORIC DISTRICT

FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	431821-1-22-01

I-275 PD&E BUILD ALTERNATIVE
POND SHEET (1 OF 1)

SHEET NO. 15A

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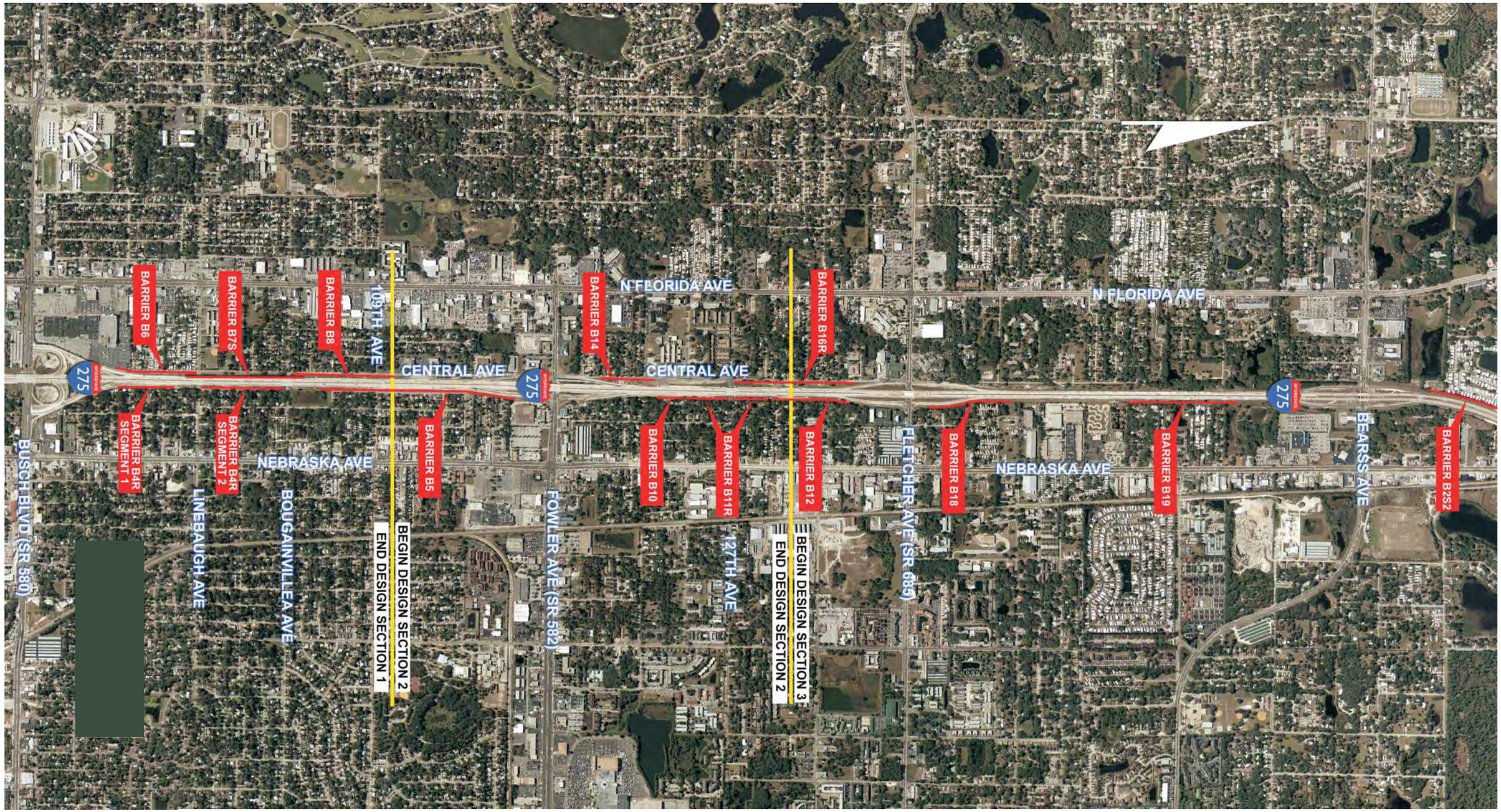
Appendix B
Location Map of Existing Noise



		Location Map of Existing Noise Barriers