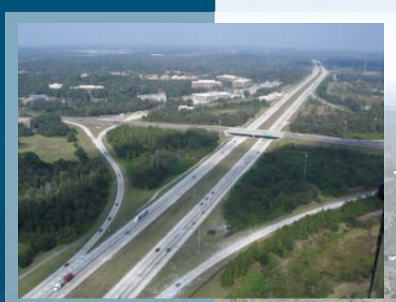
Project Development & Environment Study

I-75 (SR 93A)

From South of US 301 (SR 43) to North of Fletcher Avenue, Hillsborough County



Work Program Item Segment Number: 419235-3

DRAFT
Project Development Engineering Report

Prepared for
Florida Department of Transportation
District Seven

Manuel Santos, E.I.
FDOT Project Manager

INTERSTATE 75

April, 2010

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Prepared by
Jacobs Engineering Group, Inc.

In association with
PB Americas, Inc.

Manuel Santos, E.I.
FDOT Project Manager

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INTERSTATE 75

Project Development & Environment Study

I-75 (SR 93A)
From South of US 301 (SR 43)
to North of Fletcher Avenue (CR 582A)

Draft Project Development Engineering Report

WPI Segment No. 419235-3
Hillsborough County

Prepared for:

Florida Department of Transportation
District Seven

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April 2010
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EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate capacity improvements along approximately 15.5 miles of Interstate 75 (I-75) (State Road (SR) 93A), from south of US 301 (SR 43) to north of Fletcher Avenue (County Road (CR) 582A) in Hillsborough County, Florida (see **Figure 1-1**). The design year for the improvements is 2035.

This PD&E Study is being conducted concurrently with the PD&E Study for the portion of I-75 that extends from Moccasin Wallow Road in Manatee County to south of US 301 in Hillsborough County (WPI Segment No. 419235-2).

The objective of this PD&E Study is to assist the FDOT and the Federal Highway Administration reach a decision on the type, location, and conceptual design of the necessary improvements for I-75 to safely and efficiently accommodate future travel demand. This study will document the need for the improvements as well as the procedures utilized to develop and evaluate various improvements including elements such as proposed typical sections, preliminary horizontal alignments, and interchange enhancement alternatives. The social, physical, and natural environmental effects and costs of these improvements will be identified. The alternatives will be evaluated and compared based on a variety of parameters utilizing a matrix format. This process will identify the alternative that will best balance the benefits (such as improved traffic operations and safety) with the impacts (such as environmental effects and construction costs).

The PD&E Study satisfies all applicable requirements, including the National Environmental Policy Act, in order for this project to qualify for federal-aid funding of subsequent development phases (design, right of way acquisition, and construction).

The project was evaluated through the FDOT's Efficient Transportation Decision Making (ETDM) process. This project is designated as ETDM Project #8002. An ETDM Programming Screen Summary Report was published on March 29, 2007, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. Based on the ETAT comments, the FHWA has determined that this project qualifies as a Type 2 Categorical Exclusion.

This *Project Development Engineering Report* (PDER) has been prepared to document existing conditions and the alternatives analysis process. A *Project Development Summary Report* (PDSR) has also been prepared that documents the selection of the preferred alternative, and the impacts associated with the preferred build alternative. The purpose of these two reports is to document the project development decision-making process and make future roadway designers aware of the project history as well as pertinent design issues.

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1.0 Summary of Project

1.1 Description of Proposed Action

The Florida Department of Transportation (FDOT), District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate improvements along 15.5 miles of Interstate 75 (I-75) (State Road (SR) 93A), from south of US 301 (SR 43) to north of Fletcher Avenue (County Road (CR) 582A) in Hillsborough County, Florida. The design year for the improvements is 2035. A project location map is shown in **Figure 1-1.**

The objective of this PD&E Study is to help the FDOT and the Federal Highway Administration (FHWA) reach a decision on the type, location, and conceptual design of the necessary improvements for I-75 to safely and efficiently accommodate future travel demand. This study will document the need for the improvements as well as the procedures utilized to develop and evaluate various improvements including elements such as proposed typical sections, preliminary horizontal alignments, and interchange enhancement alternatives. The social, physical, and natural environmental effects and costs of these improvements will be identified. The alternatives will be evaluated and compared based on a variety of parameters, utilizing a matrix format. This process will identify the alternative that will best balance the benefits (such as improved traffic operations and safety) with the impacts (such as environmental effects and construction costs).

The PD&E Study satisfies all applicable state and federal requirements, including the National Environmental Policy Act (NEPA), in order for this project to qualify for federal-aid funding of subsequent development phases (design, right-of-way acquisition, and construction).

The sections, townships, and ranges where the project is located are summarized in **Table 1-1**.

Table 1-1: Study Area Sections, Townships, and Ranges

Sections	Townships	Ranges
12, 13	28 S	19 E
7, 18, 19, 29, 30, 32	28 S	20 E
5, 8, 17, 20, 29, 31, 32	29 S	20 E
6, 7	30 S	20 E

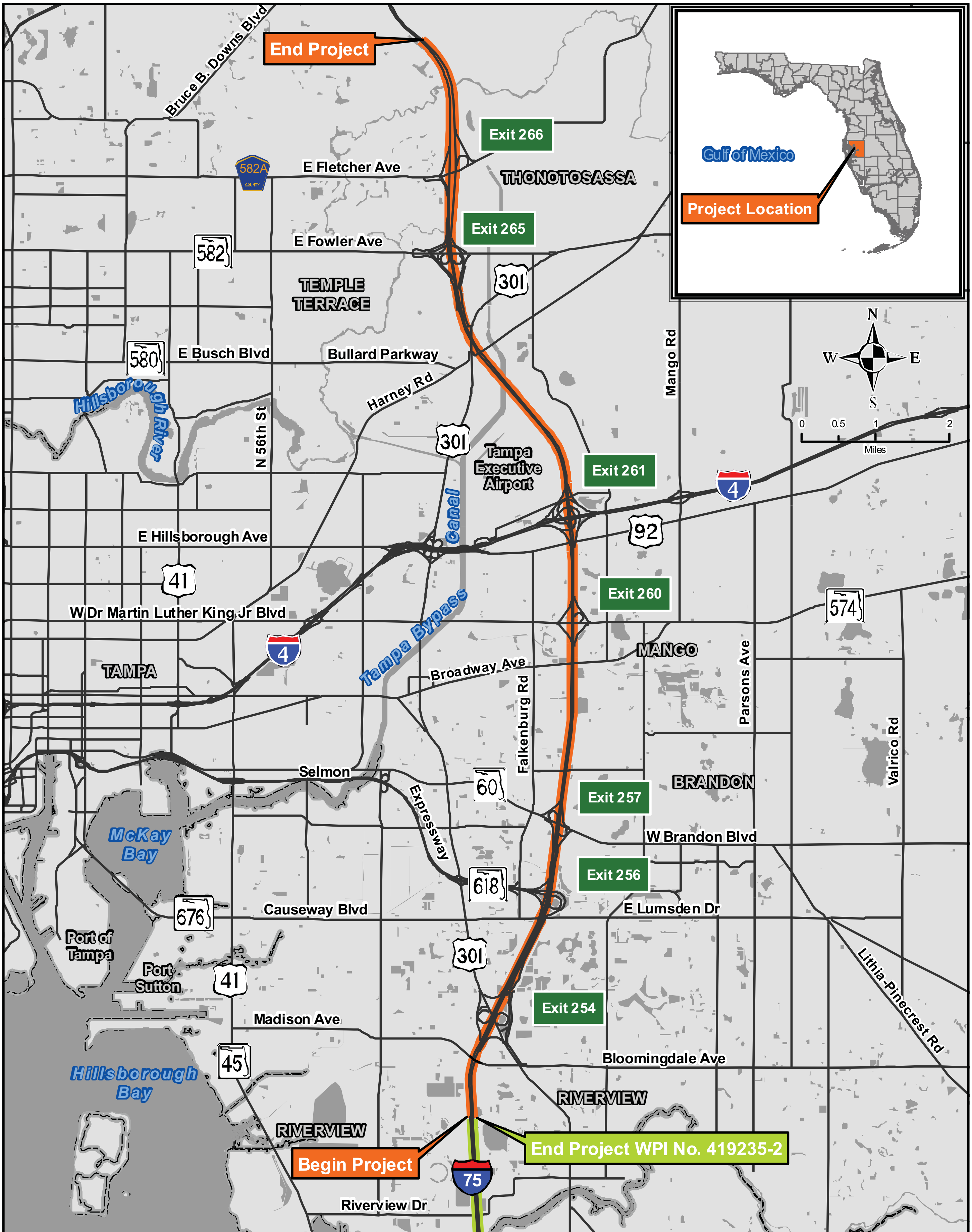
This PD&E Study is being conducted concurrently with the PD&E Study for the section of I-75 that extends from Moccasin Wallow Road in Manatee County to south of US 301 in Hillsborough County (WPI Segment No. 419235-2).

This study is considering both interim and ultimate improvements; interim improvements may include interchange improvements. The proposed ultimate improvements include widening I-75 to an ultimate configuration of twelve lanes with six general use lanes

(GUL) and six special use lanes (SUL), along with improvements to all interchanges within the project limits. There are seven interchanges along I-75 within the project limits. They are located at:

- US 301 (SR 43)
- Selmon Expressway (SR 618)
- SR 60 (Adamo Drive)
- MLK Boulevard (Dr. Martin Luther King Jr. Boulevard – SR 574)
- I-4 (Interstate 4 – SR 400)
- Fowler Avenue (SR 582)
- Fletcher Avenue (CR 582A)

Mainline widening will generally occur within the existing FDOT right-of-way (ROW), but additional ROW will be required for some interchange improvements, slip ramps to provide access between the GULs and SULs, stormwater management facilities, and floodplain compensation sites.



I-75 (SR 93A) PD&E Study

South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Project Location Map

Figure 1-1

1.2 Project Purpose and Need

Interstate 75 (I-75) is a limited access, 1,786-mile-long freeway that travels in a generally north/south direction from a southern terminus at SR 826 (Palmetto Expressway) in Hialeah, Florida, to a northern terminus in Sault Sainte Marie, Michigan, near the border with Canada. The study area for this project extends from south of US 301 to north of Fletcher Avenue in Hillsborough County, Florida. The portion of I-75 located within the project corridor was opened in 1985, linking the northern and southern sections of I-75, thereby completing the Tampa Bay Bypass. The opening of I-75 in this area has spurred significant development over the years, and as development along the interstate and interchanges continues, traffic continues to increase. Improvements to I-75 within the project corridor have occurred since its construction to accommodate for these traffic increases, including adding an auxiliary lane between MLK Boulevard and I-4, and adding the Selmon Expressway interchange to I-75. Interim improvements to several of the interchanges are anticipated; however, these improvements will not adequately accommodate the projected 2035 year traffic.

I-75 is a vital link in the local and regional transportation network as well as a critical evacuation route as shown on the Florida Division of Emergency Management's evacuation route network. As a major north/south corridor, I-75 links the Tampa Bay region with the remainder of the state and the nation, supporting commerce, trade, and tourism. I-75 is part of the Florida Intrastate Highway System (FIHS), a statewide transportation network that provides for the movement of goods and people at high speeds and high traffic volumes. The FIHS is comprised of interconnected limited and controlled access roadways, such as Florida's Turnpike, selected urban expressways, and major arterial highways. The FIHS is the Highway Component of the Strategic Intermodal System (SIS), which is a statewide network of highways, railways, waterways, and transportation hubs that handle the bulk of Florida's passenger and freight traffic. As an SIS/FIHS facility and part of the regional roadway network, I-75 is included in the 2025 Regional Long-Range Transportation Plan (LRTP) developed by the West Central Florida Metropolitan Planning Organization's (MPO) Chairs Coordinating Committee (CCC). Preserving the operational integrity and regional functionality of I-75 is critical to mobility and economy, as it is a vital link in the transportation network that connects the Tampa Bay region to the remainder of the state and the nation.

A portion of the study corridor, from SR 60 to I-4, is included in the FIHS 2025 Cost Feasible Plan Update, August 2003. Due to the intense traffic growth and high levels of congestion, the portion of the study corridor from north of I-4 to south of Fowler Avenue is proposed to be included in the next update of the SIS 2035 Cost Feasible Plan. The project is identified in the SIS Multimodal Unfunded Needs Plan (May 2006) and in the earlier SIS 2030 Highway Component Unfunded Needs Plan (April 2004). This project is consistent with the Transportation Element of the Hillsborough County Comprehensive Plan, adopted in March 2001 and last amended in January 2005. The Hillsborough County MPO's 2035 LRTP Needs Assessment map, adopted on December 9, 2009, indicates the need for managed lanes throughout the length of the project and a total of 12 travel lanes from south of US 301 to I-4 and ten travel lanes from I-4 to north of Fletcher Avenue.

In 2007, the traffic volumes along I-75 in the study area ranged from 73,300 vehicles per day (vpd) south of the Selmon Expressway to 144,800 vpd south of I-4. These volumes included truck traffic that varied from 8.9 to 11.0 percent of the daily volumes. As a result of this high travel demand, several sections of I-75 already operate at congested conditions and levels of service (LOS) worse than the FIHS minimum level of service standard for "urbanized areas," which is LOS D. Without improvements, the operating conditions along I-75 and connecting roadways will likely continue to deteriorate, resulting in unacceptable levels of service throughout the entire study corridor. Capacity improvements could also enhance travel safety by reducing congestion, thereby decreasing vehicle conflicts.

According to the crash records for the years 2005 through 2007, obtained from the FDOT crash database, a total of 1,973 crashes were reported along I-75 within the project limits. Ten crashes resulted in one or more fatalities, 637 crashes resulted in personal injuries, and 1,326 crashes resulted in property damage only. The total economic loss from these crashes is estimated to be approximately $58 million.

A *Programming Screen Summary Report* was published as part of the FDOT's Efficient Transportation Decision Making (ETDM) process on March 29, 2007. This project is designated as ETDM Project #8002. The FHWA has determined that this project, along with the project directly to the south (WPI Segment No. 419235-2), qualifies as a Type 2 Categorical Exclusion.

This *Project Development Engineering Report* (PDER) is one of several reports prepared as part of this PD&E study. This report documents the existing conditions, the need for improvements and the procedures used to evaluate the alternatives developed for this study. This report also presents a summary of the alternatives analysis. The *Project Development Summary Report* (PDSR) documents the selection of the preferred alternative, and the impacts associated with the preferred build alternative if it is to be implemented. The PDSR presents the recommendations and commitments for the project, a summary of the alternatives analysis, a description of the preferred alternative, a summary of the environmental impacts – including potential locations of noise abatement walls (denoted on the concept plans), a summary of permitting and mitigation issues, and a summary of the public involvement activities performed in conjunction with this study.

1.3 Other Programmed Projects

This project is consistent with other similar projects planned along the I-75 corridor throughout the state and provides continuity with these projects. This study is being conducted concurrently with the PD&E Study for the section of I-75 that extends from Moccasin Wallow Road in Manatee County to south of US 301 (SR 43) in Hillsborough County (WPI Segment No. 419235-2). Also, FDOT District One is currently completing two PD&E Studies for the widening of two continuous portions of I-75, which, when combined, extend from south of SR 681 in Sarasota County to Moccasin Wallow Road in Manatee County (WPI Segment Nos. 201277-1 and 201032-1). FDOT District Seven is currently designing capacity improvements to I-75 from Fowler Avenue in Hillsborough County to the Pasco/Hernando County Line (WPI Segment Nos. 408459-2, 408459-3, 408459-4, 258736-2, and 411014-2), and from the Pasco/Hernando County Line north to the Sumter County Line (WPI Segment Nos. 411011-2 and 411012-2).

2.0 Existing Conditions

2.1 Functional Classification

I-75 is part of the primary Federal Highway System (National Highway System), Interstate System, and the Florida Intrastate Highway System (FIHS)/Strategic Intermodal System (SIS). Per the 2000 Urban Area Boundaries and Federal Function Classification Map, the functional classification of I-75 within the project limits is Urban Principal Arterial – Interstate. **Figure 2-1** shows the Functional Classification of I-75 and the surrounding roadway networks.

2.2 Typical Sections

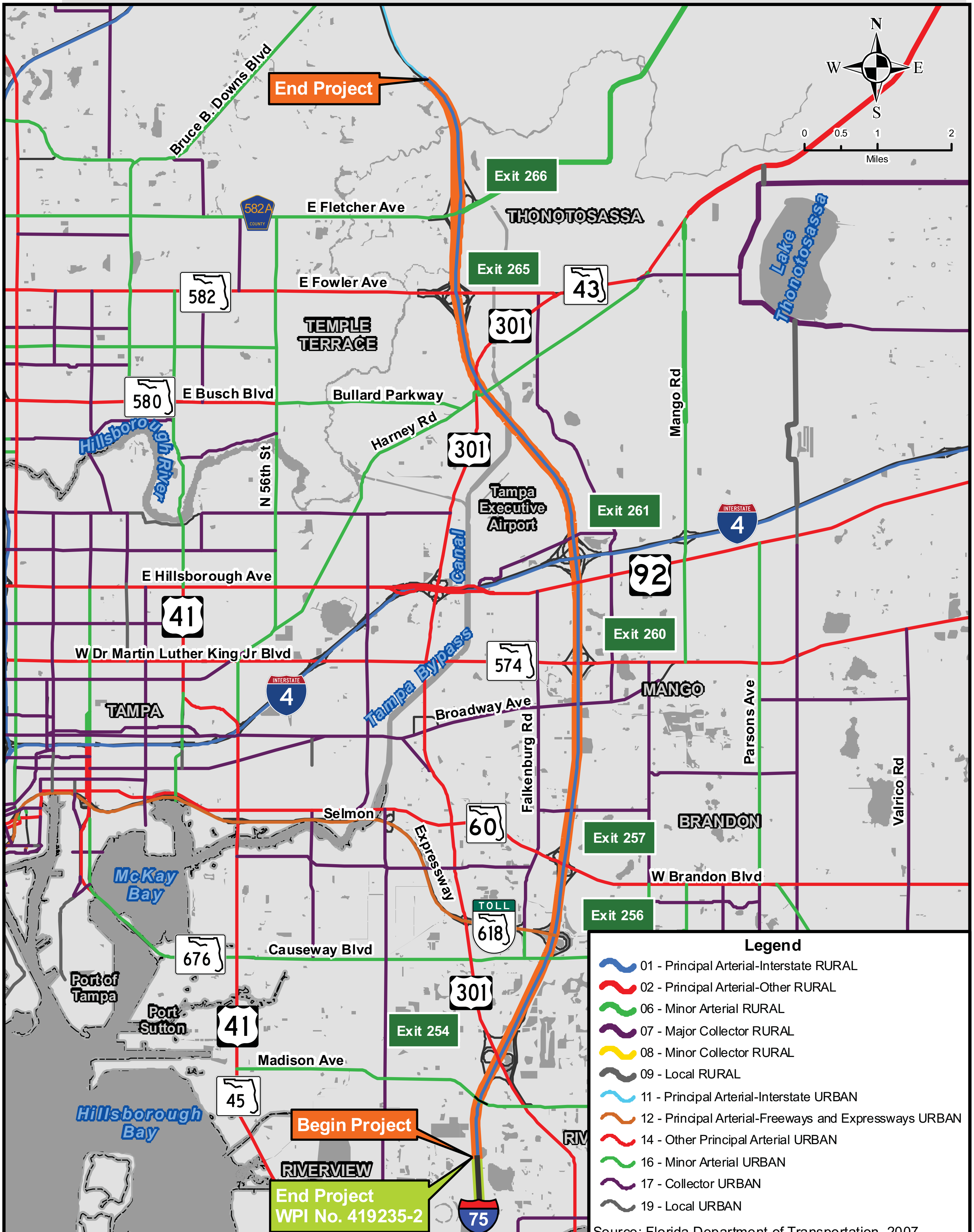
I-75 was designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) standards for a 70 mph design speed. The existing typical section consists of a six-lane divided freeway with three 12-foot travel lanes and 12-foot (10-feet paved) outside and inside shoulders in each direction. The segment of I-75 between US 301 and the Selmon Expressway provides seven travel lanes (three northbound (NB) lanes and four southbound (SB) lanes). The segment between Fowler Avenue and Fletcher Avenue provides two travel lanes and one merge/diverge lane (in each direction) between the entrance and exit ramps. Between US 301 and State Road 60, the typical section widens to include collector-distributor (C-D) roadways in each direction. A minimum 88-foot median separates the travel lanes with a maximum median width of 295 feet in the bifurcated areas. The existing typical sections are shown in **Figures 2-2a – 2-2f**.

2.3 Pedestrian Facilities

I-75 is a limited-access, high-speed freeway, so there are no existing or planned pedestrian facilities on I-75.

2.4 Bicycle Facilities

I-75 is a limited-access, high-speed freeway, so there are no existing or planned bicycle facilities on I-75.



I-75 (SR 93A) PD&E Study

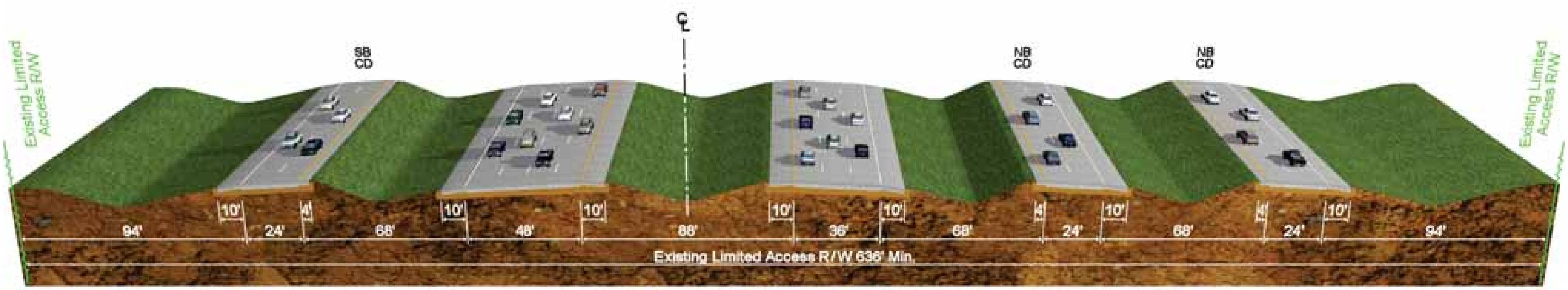
South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Functional Classifications

Figure 2-1



I - 75 (SR 93A) PD&E Study

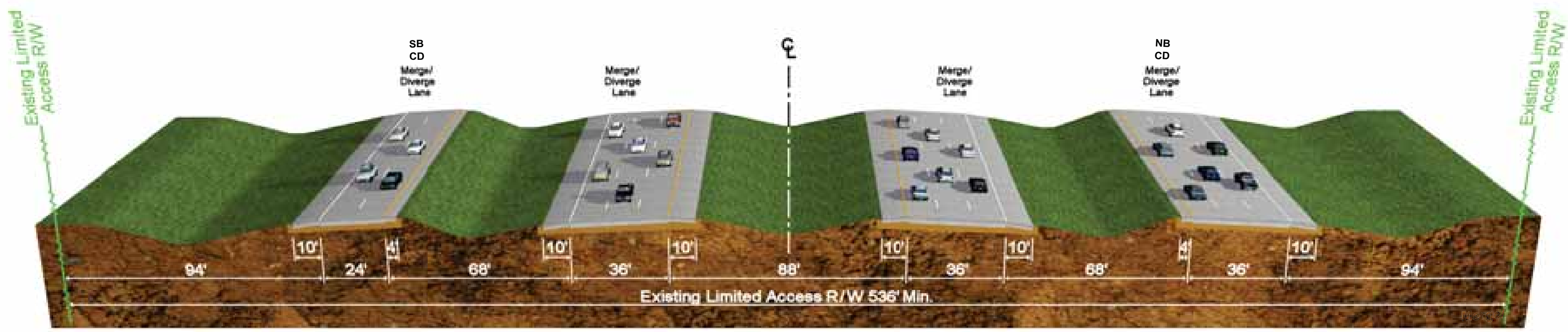
From South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Existing Roadway Typical Section from US 301 to South of Selmon Expressway

Figure 2-2a



I - 75 (SR 93A) PD&E Study

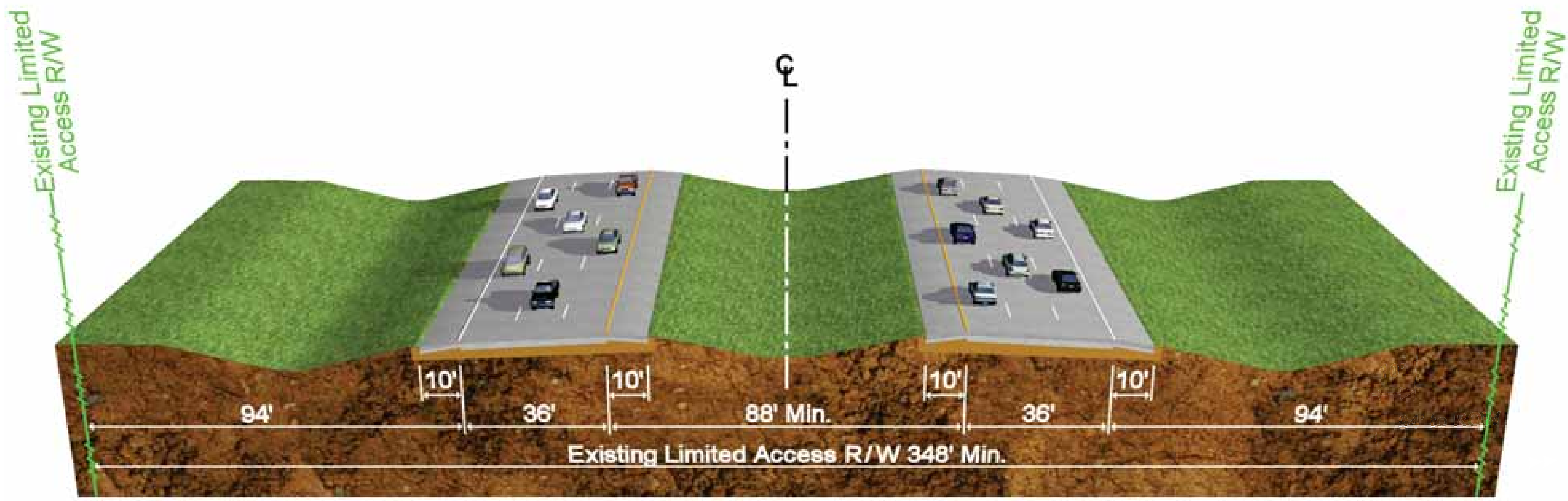
From South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Existing Roadway Typical Section from South of Selmon Expressway to South of SR 60

Figure 2-2b



I - 75 (SR 93A) PD&E Study

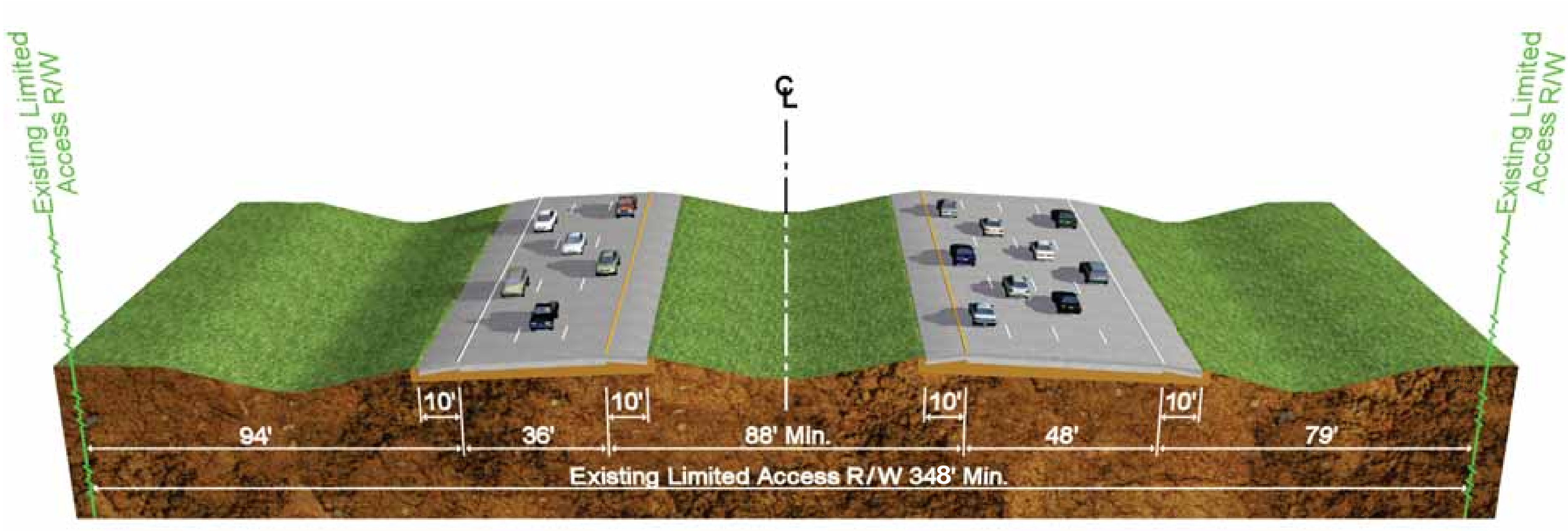
From South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Existing Roadway Typical Section from South of SR 60 to Martin Luther King Jr. Boulevard

Figure 2-2c



I - 75 (SR 93A) PD&E Study

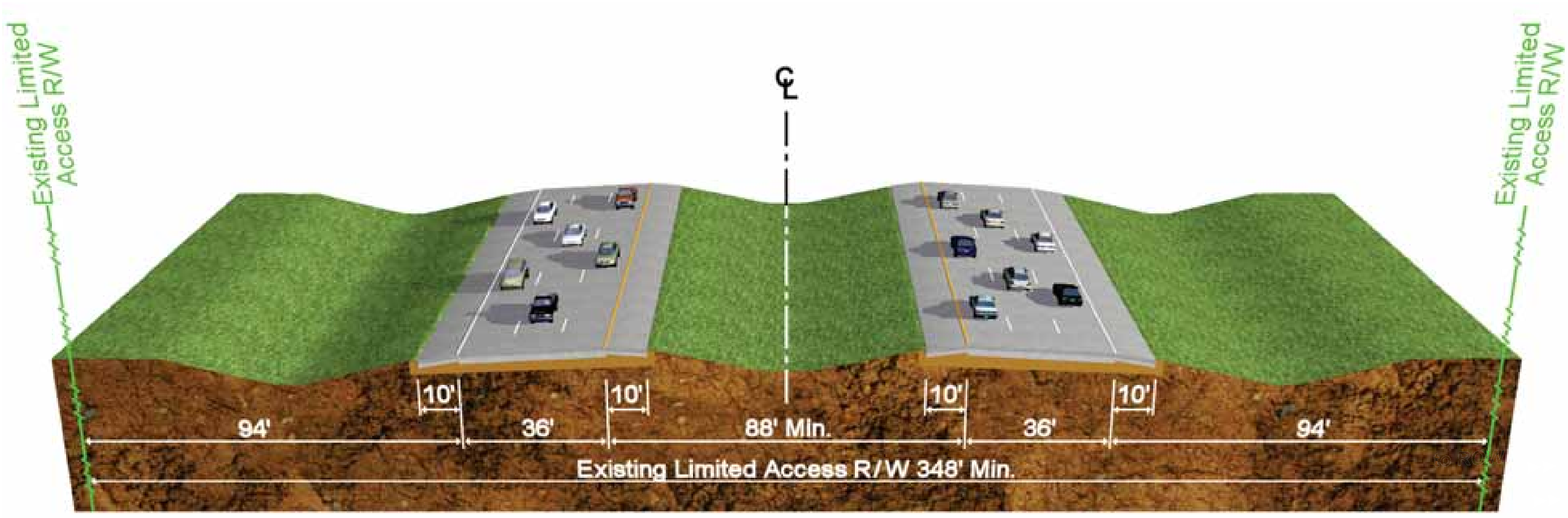
From South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Existing Roadway Typical Section from Dr. Martin Luther King Jr. Boulevard to I-4

Figure 2-2d



I - 75 (SR 93A) PD&E Study

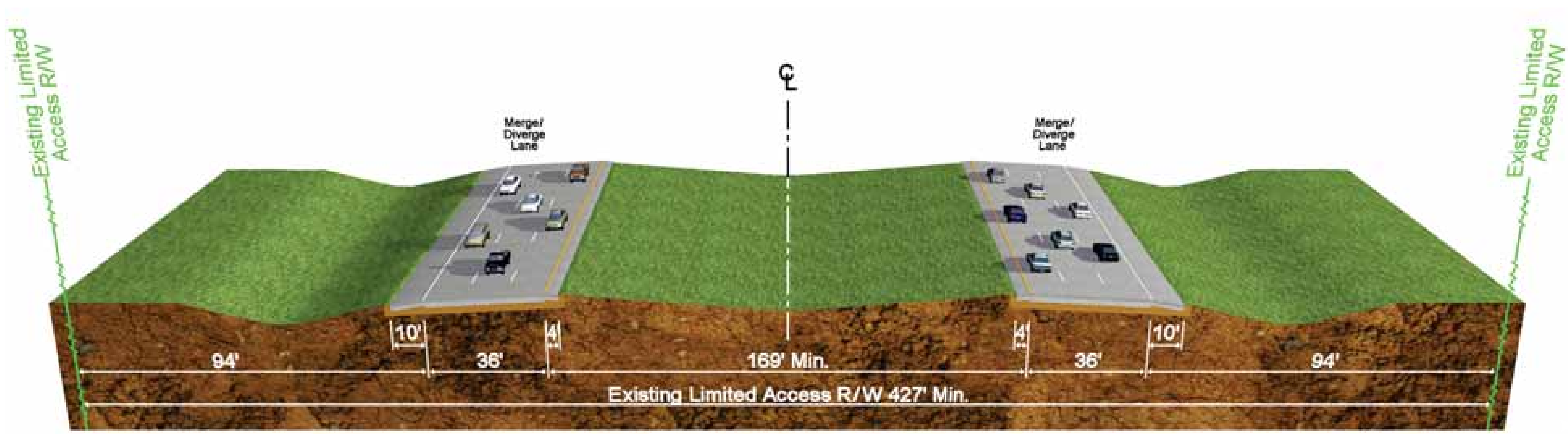
From South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Existing Roadway Typical Section from I-4 to Fowler Avenue

Figure 2-2e



I - 75 (SR 93A) PD&E Study

From South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Existing Roadway Typical Section from Fowler Avenue to Fletcher Avenue

Figure 2-2f

2.5 Right-of-Way

The existing right-of-way (ROW) information was obtained from FDOT I-75 ROW maps and existing I-75 roadway plans. The existing ROW width along I-75 ranges from a minimum of 348 feet between I-4 and Fowler Avenue to a maximum of 636 feet between US 301 and the Selmon Expressway. **Table 2-1** summarizes the existing ROW between and at the interchanges along the project segment.

Table 2-1: I-75 Existing Right-of-Way

Limits	Interchanges	No. of Lanes	ROW Width (feet) *
South of US 301 Interchange	None	6	372 to 425
US 301 Interchange	US 301	8 to 10	396 to 636
US 301 Interchange North to SR 60 (Adamo Drive) Interchange South	Selmon Expressway	10	636 to 536
SR 60 Interchange	SR 60	6 to 10	536 to 348
SR 60 Interchange North to MLK Boulevard (Dr. Martin Luther King Jr. Blvd. – SR 574) South	None	6	348
MLK Boulevard Interchange	MLK Jr. Blvd.	6	348 to 364
MLK Boulevard North to I-4 Interchange South	None	6	348
I-4 Interchange	I-4	6	348 to 364
I-4 Interchange North to Fowler Avenue Interchange South	None	6	348 to 394
Fowler Avenue Interchange	Fowler Avenue	6	348 to 2,500
Fowler Avenue Interchange North to Fletcher Avenue (CR 582A) Interchange South	None	6	427 to 448
Fletcher Avenue Interchange	Fletcher Avenue	4 to 6	448 to 552
North of Fletcher Avenue Interchange	None	4	348 to 552

Notes: * Excludes ROW widths within the interchange

2.6 Geometric Elements

2.6.1 Cross Section

I-75 currently consists of six lanes, three northbound and three southbound, throughout much of the project limits. The existing mainline cross section, throughout the six-lane sections, slopes from the median to the outside. For both the northbound and southbound lanes, the crown, or high point, is at the inside edge of the inside travel lane. For both northbound and southbound lanes, the inside lane and the middle lane are sloped at 2% and the outside lane is sloped at 3%. The inside paved and unpaved shoulders are sloped at 5% and the outside paved and unpaved shoulders are sloped at 6%. All front slopes, both inside and outside, are sloped at 6:1.

2.6.2 Horizontal Alignment

The existing horizontal alignment was obtained from I-75 as-built plans and ROW surveys provided by FDOT. **Table 2-2** summarizes the existing horizontal alignment within the project limits. This segment of I-75 contains eight horizontal curves, all of which are based off the centerline (see **Figure 2-3**). The degree of horizontal curvature ranges from 0° - 30' - 00" with no superelevation to 1° - 00' - 00" with a superelevation rate of 0.039 feet/feet. All of the existing horizontal curves, with related superelevation rates, meet the minimum FDOT current design criteria for a design speed of 70 mph.

Table 2-2: I -75 Horizontal Alignment

Curve No.	Location (Station) CL of Survey	Milepost		P.I. Station	Degree of Curvature	Super-elevation Rate (feet/feet)	Horizontal Curve Radius (feet)
		From	To				
1	1273+61.24-1302+62.16	19.100	19.650	1288+50.20	1° - 00' - 00"	0.039	5729.58
2	1397+28.12-1434+68.14	21.443	22.151	1416+14.91	0° -30' - 00"	RC	11,459.16
3	1546+58.33-1561+08.66	24.270	24.545	1553+84.46	0° -30' - 00"	RC	11,459.16
4	1661+32.61-1682+93.54	26.443	26.853	1672+13.88	0° -15' - 00"	RC	22,918.31
5	1725+35.75-1760+49.30	27.657	28.323	1743+49.73	1° - 00' - 00"	0.039	5,729.58
6	1830+37.24-1871+74.55	29.649	30.430	1851+57.95	0° -45' - 00"	0.029	7,639.44
7	1908+70.30-1921+63.09	31.130	31.374	1915+18.24	0° -45' - 00"	0.029	7,639.44
8	2018+67.97-2069+52.28	33.212	34.176	2045+91.22	1° - 00' - 00"	0.039	5,729.58

Notes: RC = Reverse Crown

I-75 (SR 93A) PD&E Study

South of US 301 to North of Fletcher Avenue

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Hillsborough County

Horizontal Curve Locations

Figure 2-3

2.6.3 Vertical Alignment

The existing vertical alignment was obtained from I-75 as-built plans. Within the project limits, I-75 contains 42 vertical curves, as shown in **Table 2-3**. All vertical curves within the project limits meet the minimum required K values listed in the FDOT *Plans and Preparation Manual* (PPM) Volume 1, Tables 2.8.5 and 2.8.6 (January 2009). For a 70 mph design speed, the FDOT PPM requires a minimum K value of 206 for sag vertical curves and a minimum K value of 506 for crest vertical curves. All 42 vertical curves also meet the minimum required K value for AASHTO criteria. For a 70 mph design speed, AASHTO requires a minimum K value of 181 for sag vertical curves and a minimum K value of 247 for crest vertical curves.

There are six vertical curves within the project limits that have a minimum vertical curve length below the minimum standard. For a 70 mph 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 not within an interchange. For a 70 mph design speed, FDOT requires a minimum vertical curve length of 800 feet for sag vertical curves regardless of location. The six vertical curves that do not meet minimum standards are all crest vertical curves, and their locations are:

- STA 1402+00 – STA 1412+00 (NB) (Causeway Boulevard)
- STA 1405+00 – STA 1415+00 (SB) (Causeway Boulevard)
- STA 1634+00 – STA 1642+00 (MLK Boulevard)
- STA 1696+76 – STA 1709+76 (I-4 & Sligh Avenue)
- STA 1960+50 – STA 1976+50 (NB) (Fletcher Avenue)
- STA 1960+50 – STA 1976+50 (SB) (Fletcher Avenue)

Although the existing vertical curves listed above fail to meet FDOT criteria, they all meet AASHTO standards. To meet the FDOT standard for these vertical curves, the roadway would need to be reconstructed, which would significantly increase costs and construction duration and complicate construction staging.

Table 2-3: I-75 Vertical Alignment

Vertical Curve Location (Station) (Roadway)	Milepost		Crest or Sag (C/S)	Vertical Curve Length (ft)		Grades		Stopping Sight Distance		
	From	To		Actual Length	Design Var.	In (%)	Out (%)	K Value	Min. K per PPM	Design Var.
*1304+50 - 1312+50 (SB)	19.685	19.837	S	800		0.0500	2.1000	381	206	
*1306+00 - 1314+00 (NB)	19.713	19.865	S	800		0.0500	2.2900	357	206	
*1315+25 - 1337+25 (NB)	19.889	20.306	C	2200		2.2900	-1.8300	534	506	
*1316+25 - 1338+25 (SB)	19.908	20.324	C	2200		2.1000	-1.8900	551	506	
*1340+00 - 1348+00 (NB)	20.358	20.509	S	800		-1.8300	-0.0500	449	206	
*1340+00 - 1348+00 (SB)	20.358	20.509	S	800		-1.8900	-0.0500	435	206	
1371+60 - 1379+60 (NB)	20.956	21.108	S	800		-0.0500	0.0000	16,000	206	
1372+50 - 1380+50 (SB)	20.973	21.125	S	800		-0.0500	0.1000	5,333	206	
*1402+00 - 1412+00(NB)	21.532	21.721	C	1000	V	0.0000	-0.0500	20,000	506	
*1405+00 - 1415+00 (SB)	21.589	21.778	C	1000	V	0.1000	-0.1980	5,333	506	
*1429+50 - 1437+50 (NB)	22.053	22.204	S	800		-0.0500	0.1100	5,000	206	
*1429+50 - 1437+50 (SB)	22.053	22.204	S	800		-0.1980	0.1100	2,597	206	
1496+75 - 1517+75 (NB/SB)	23.326	23.724	C	2100		1.5400	-1.8586	618	506	
1520+50 - 1528+00(NB/SB)	23.776	23.928	S	800		-1.8586	-0.3400	527	206	
1570+00 - 1578+00 (NB/SB)	24.714	24.865	S	800		-0.3400	2.3507	297	206	
*1578+00 - 1600+00 (NB/SB)	24.865	25.282	C	2200		2.3507	-1.8505	524	506	
*1605+00 - 1613+00 (NB/SB)	25.376	25.528	S	800		-1.8505	0.5240	337	206	
*1622+50 - 1630+50 (NB/SB)	25.708	25.859	S	800		0.5240	1.1165	1,350	206	
*1634+00 - 1642+00 (NB/SB)	25.926	26.077	C	800	V	1.1165	-0.2000	608	506	
*1680+50 - 1688+50 (NB/SB)	31.828	31.980	S	800		-0.2000	0.5200	1,143	206	
*1696+76 - 1709+76 (NB/SB)	27.115	27.362	C	1300	V	0.5000	-2.0000	520	506	
*1717+35 - 1725+35 (NB/SB)	27.504	27.656	S	800		-2.0000	0.0000	400	206	
1754+00 - 1764+00 (NB/SB)	28.198	28.388	C	1000		0.0000	-0.5108	1,958	506	
1764+15 - 1772+15 (NB/SB)	28.391	28.542	S	800		-0.5108	0.0000	1,566	206	
1781+00 - 1789+00 (NB/SB)	28.71	28.861	S	800		0.0000	0.2449	618	206	
1816+00 - 1824+00 (NB/SB)	29.373	29.524	S	800		0.2449	1.5900	527	206	

Vertical Curve Location (Station) (Roadway)	Milepost		Crest or Sag (C/S)	Vertical Curve Length (ft)		Grades		Stopping Sight Distance		
	From	To		Actual Length	Design Var.	In (%)	Out (%)	K Value	Min. K per PPM	Design Var.
1837+40 - 1858+60 (NB)	29.778	30.180	C	2120		1.5900	-1.7000	644	506	
1838+00 - 1858+00 (SB)	29.789	30.168	C	2000		1.5900	-1.7000	608	506	
1859+00 - 1867+00 (NB/SB)	30.187	30.339	S	800		-1.7000	0.3000	400	206	
1870+00 - 1880+00 (NB/SB)	30.395	30.585	C	1000		0.3000	-0.2400	1,852	506	
*1888+00 - 1896+00 (NB/SB)	30.736	30.888	S	800		-0.2400	1.4900	462	206	
*1901+00 - 1919+00 (NB/SB)	30.983	31.134	C	1800		1.4900	-1.4900	604	506	
*1922+00 - 1930+00 (NB)	31.380	31.532	S	800		-1.4900	0.5944	384	206	
*1922+00 - 1930+00 (SB)	31.380	31.532	S	800		-1.4900	0.7600	356	206	
1930+00 - 1940+00 (NB)	31.532	31.721	C	1000		0.5944	-0.3500	1,059	506	
1930+00 - 1940+00 (SB)	31.532	31.721	C	1000		0.7600	-0.3667	888	506	
*1946+50 - 1954+50 (NB)	31.844	31.996	S	800		-0.3500	0.9700	606	206	
*1947+50 - 1955+50 (SB)	31.863	32.014	S	800		-0.3667	1.0200	577	206	
*1960+50 - 1976+50 (NB)	32.109	32.413	C	1600	V	0.9700	-2.0000	539	506	
*1960+50 - 1976+50 (SB)	32.109	32.413	C	1600	V	1.0200	-2.0000	530	506	
*1978+22 - 1986+22 (SB)	32.445	32.597	S	800		-2.0000	0.0000	400	206	
*1978+60 - 1986+60 (NB)	32.453	32.604	S	800		-2.0000	0.0000	400	206	

Notes: *Within an interchange.
Bold text = Curves that do not meet FDOT PPM criteria for vertical curve length.

2.6.4 Horizontal and Vertical Clearances

The existing horizontal clearance information was obtained from I-75 as-built plans and field reviews. The field review evaluated border width, roadside slopes, clear zone width, horizontal clearance to fixed non-frangible objects, vertical clearances and canal hazards (canal hazards were not applicable to this project). Descriptions of these evaluations are summarized below:

Border Width: The existing border width throughout the project limits is 94 feet or greater which meets the minimum current FDOT design criteria in accordance with the PPM, Volume 1, Section 2.5 and Table 2.5.3.

Roadside Slopes: The roadside slopes (front, back, and transverse) within the project limits, including mainline and side streets, either meet current FDOT design criteria in accordance with the PPM, Volume 1, Section 2.4 and Table 2.4.1, or are properly protected per current standards if a possible hazard exists. The typical front slope is 6:1 both in the median and the outside clear zone.

Clear Zone: The clear zone within the project limits, including mainline, interchange ramps, and side streets within the project limits, either meets current FDOT design criteria in accordance with the PPM, Volume 1, Chapter 4 and Table 2.11.11, or are properly protected per current standards if a possible hazard exists. The required clear zone for I-75 mainline is 36 feet.

Horizontal Clearance: With the exception of one truss sign structure pole, the horizontal clearance to all fixed non-frangible objects within the project limits either meets FDOT design criteria in accordance with the PPM, Volume 1, Section 2.11 and Table 2.11.11, or possible hazards are properly protected per current standards. The one exception is pole number 10S066, which is located near the I-75 northbound exit ramp to US 301, immediately south of the Progress Boulevard overpass. The offset for this pole is 30 feet (Rt.) which is below the required 36-foot clear zone for unprotected structures.

Vertical Clearance: Vertical clearance for structures is described in detail in **Section 2.13** (Existing Bridges) of this report.

2.6.5 Posted Speeds and Roadway Signing

The existing speed limit on I-75 through the entire project limits is 70 mph. The speed limits on the cross roads at the seven interchanges are:

- US 301: 50 mph
- Selmon Expressway: 65 mph
- SR 60: 50 mph
- MLK Boulevard: 50 mph
- I-4: 65 mph
- Fowler Avenue: 55 mph
- Fletcher Avenue: 45 mph

Existing signage along I-75, shown in **Appendix C,** is based on a field inventory conducted in early 2008.

2.7 Drainage and Floodplains

Information on existing watersheds, drainage basins and outfalls, floodplains, and impaired waters, etc. is included in the *Alternative Stormwater Management Facilities Report*, and in the *Location Hydraulic Report*, both prepared by ICON Consultant Group, Inc. **Figure 2-4** shows the floodplains within the project area. The existing and proposed drainage system is briefly described below.

2.7.1 Existing Drainage Patterns

The study area is within the jurisdiction of the Southwest Florida Water Management District (SWFWMD). The study area is located within the North Archie Creek Watershed, the Delaney Creek Watershed, and the Tampa Bypass Canal Watershed. There are 30 drainage basins, 25 of which were analyzed. The northern-most five basins, from Fowler Avenue to Bruce B. Downs Boulevard, have been previously designed for the ultimate interstate conditions as part of FPID 408459-2-52-01.

The study area includes six waterways: Archie Creek, Delaney Creek, Tampa Bypass Canal Tributary, Tampa Bypass Canal Main Ditch, Cow House Creek, and Hillsborough River.

Currently there is little to no treatment of stormwater runoff from I-75. The existing conveyance system is an open channel system consisting of depressed medians, roadside ditches, and interchange infields created during the original construction of the roadway.

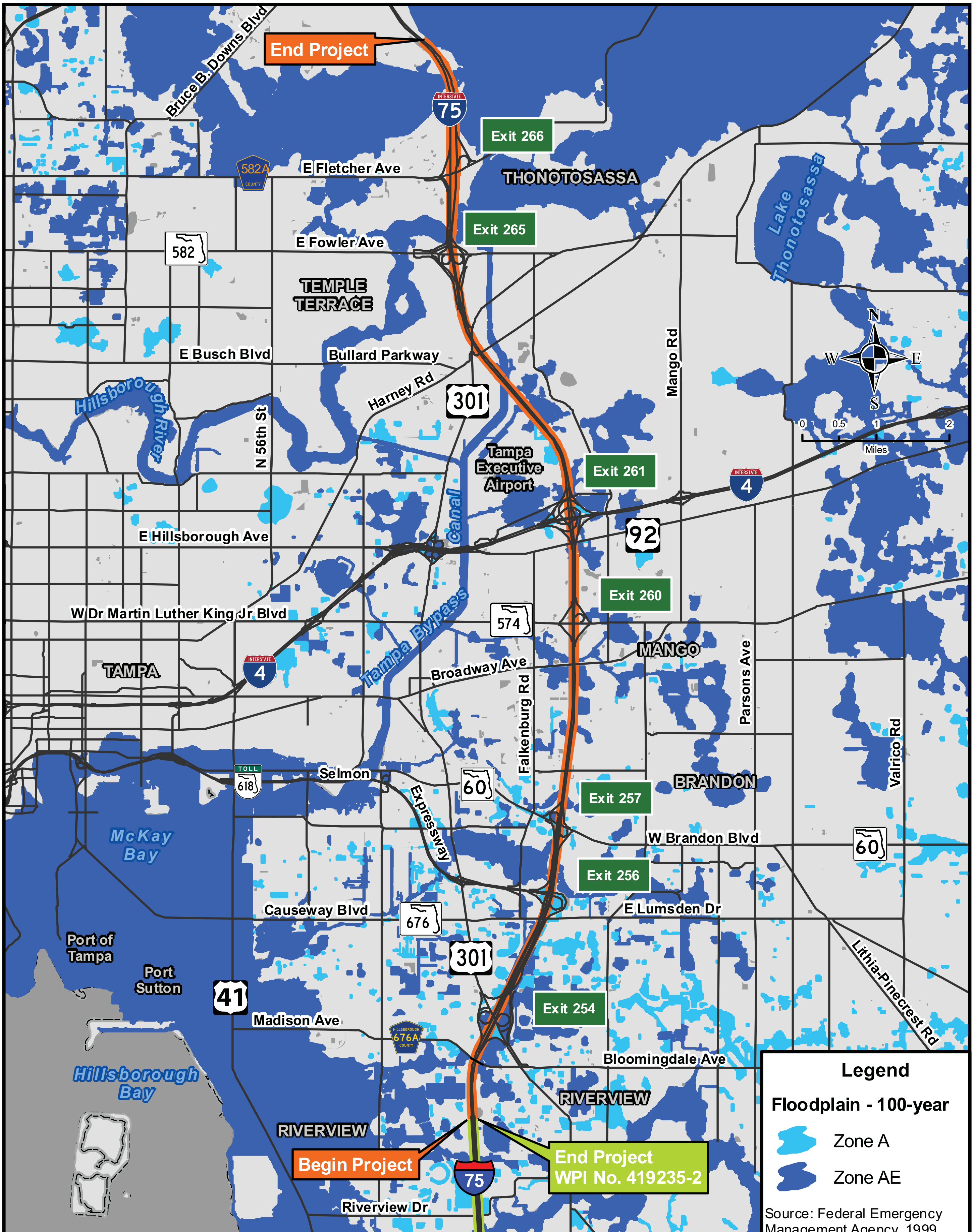
2.7.2 Proposed Drainage System

The proposed drainage system will convey stormwater to ponds for water quality treatment and discharge attenuation. This PD&E Study considered one stormwater management facility (SMF) site per project basin, which was conceptually sized and placed to meet the anticipated treatment and attenuation requirements. The proposed Florida Department of Environmental Protection (FDEP) Total Maximum Daily Load (TMDL) nutrient loading criteria are expected to supersede the current water quality criteria at the time permits will be applied for. SMFs have been sized based on estimated future nutrient loading criteria. If the nutrient loading criteria is met, then it is assumed that all water quality criteria are met. The required attenuation volumes have been estimated based on the more stringent of the SWFWMD criteria and Chapter 14-86 F.A.C. critical duration criteria.

It was assumed that the runoff from ROW line to ROW line will be treated. The SMF sites were sized pursuant to the pending Statewide Stormwater Rule which is scheduled for implementation in the summer of 2010 and not finalized yet. Two sizes were calculated for each SMF based on the following assumptions:

- Assuming the average of ROW widths and typical sections of the recommended alternative
- Assuming the average of ROW widths proposed for the recommended alternative and a 324-foot wide impervious section

Detailed information regarding the proposed SMF sites in each basin is included in the *Alternative Stormwater Management Facilities Report*.



I-75 (SR 93A) PD&E Study

South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Floodplains

Figure 2-4

2.8 Crash Data

I-75 traffic crash data within the project limits for the years 2005 through 2007 were obtained from the FDOT crash database. Crash data for the project corridor were compiled and analyzed. A total of 1,973 crashes were reported within the project limits for the years 2005 through 2007, for an average of 658 crashes per year. This translates to 43 crashes per mile per year along the 15.5 mile project corridor. **Figure 2-5** shows the total number of crashes within the project area involving property damage, injury, or fatality. There were 1,326 crashes that involved property damage, 637 crashes that involved injury, and 10 crashes that involved a fatality within the project limits for the years 2005 through 2007.

For the purpose of this crash analysis, the corridor has been divided into thirteen segments as described in **Table 2-4**.

Table 2-5 provides a summary of the number of crashes, by segment, along the project corridor. 51% of the crashes occurred within four of the 13 segments – Segments 6, 9, 10 and 11.

Segment 10 had the highest total number of crashes (318). **Figure 2-6** and **Figure 2-7** show the crash totals and crash percentages by segment. Segment 10, the longest segment along the corridor, had the highest number of injury crashes during the analysis period (108), but had no fatalities. **Figure 2-8** shows Segments 1 and 6 shared ranking for the highest number of crashes with associated fatalities (2).

Figure 2-5: Number of Crashes involving Property Damage, Injury, or Fatality (2005-2007)

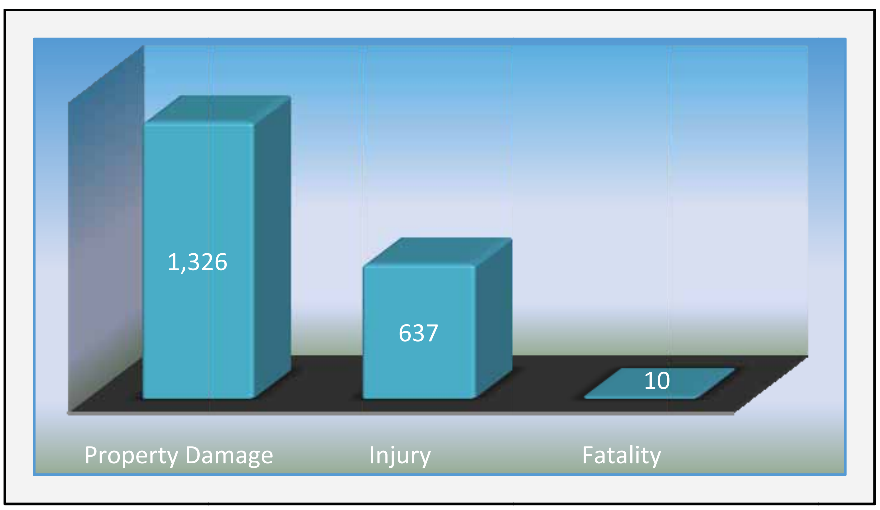


Table 2-4: Crash Analysis Segments Used for Analysis

Segment	Mile Marker Range	Segment Termini
1	18.800 – 20.694	US 301 Interchange
2	20.695 – 21.156	North of US 301 to South of Selmon Expressway
3	21.157 – 22.100	Selmon Expressway Interchange
4	22.101 – 22.439	North of Selmon Expressway to South of SR 60
5	22.440 – 23.205	SR 60 Interchange
6	23.206 – 25.306	North of SR 60 to South of MLK Boulevard
7	25.307- 25.986	MLK Boulevard Interchange
8	25.987 – 26.640	North of MLK Boulevard to South of I-4
9	26.641- 27.503	I-4 Interchange
10	27.504 – 30.617	North of I-4 to South of Fowler Avenue
11	30.618 – 31.435	Fowler Avenue Interchange
12	31.436 – 31.938	North of Fowler Avenue to South of Fletcher Avenue
13	31.939 – 35.160	Fletcher Avenue Interchange

Table 2-5: Corridor Crash Type Summary (2005-2007)

Segment		Fatality	Injury	Property Damage	Total
1	Total	2	41	73	116
	3-year Avg.	*0.7*	*13.7*	*24.3*	*38.7*
2	Total	-	11	24	35
	3-year Avg.	-	*3.7*	*8.0*	*11.7*
3	Total	1	28	59	88
	3-year Avg.	*0.3*	*9.3*	*19.7*	*29.3*
4	Total	-	8	24	32
	3-year Avg.	-	*2.7*	*8*	*10.7*
5	Total	1	54	116	171
	3-year Avg.	*0.3*	*18*	*38.7*	*57.0*
6	Total	2	66	180	248
	3-year Avg.	*0.7*	*22.0*	*60.0*	*82.7*
7	Total	1	56	98	155
	3-year Avg.	*0.3.*	*18.7*	*32.7*	*51.7*
8	Total	1	35	81	117
	3-year Avg.	*0.3*	*11.7*	*27.0*	*39.0*
9	Total	1	76	156	233
	3-year Avg.	*0.3*	*25.3*	*52.0*	*77.7*
10	Total	-	108	210	318
	3-year Avg.	-	*36.0*	*70.0*	*106.0*
11	Total	-	61	144	205
	3-year Avg.	-	*20.3*	*48*	*68.3*
12	Total	-	15	31	46
	3-year Avg.	-	*5.0*	*11.3*	*15.3*
13	Total	1	78	130	209
	3-year Avg.	*0.3*	*26.0*	*43.3*	*69.7*
Corridor Total	Total	10	637	1,326	1,973
	3-year Avg.	*3.3*	*212.3*	*442.0*	*657.7*

Source: FDOT Crash Data Reporting System – Crash Data, February 2009; Jacobs, 2009.

Figure 2-6: Number of Crashes by Segment (2005 – 2007)

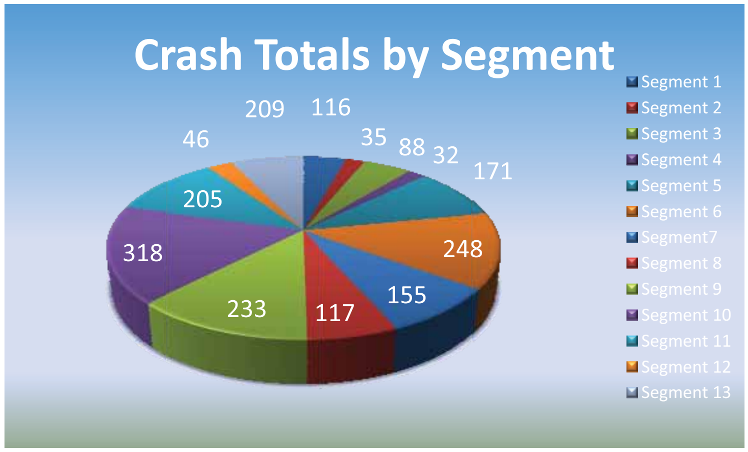


Figure 2-7: Percentage of Crashes by Segment (2005 - 2007)

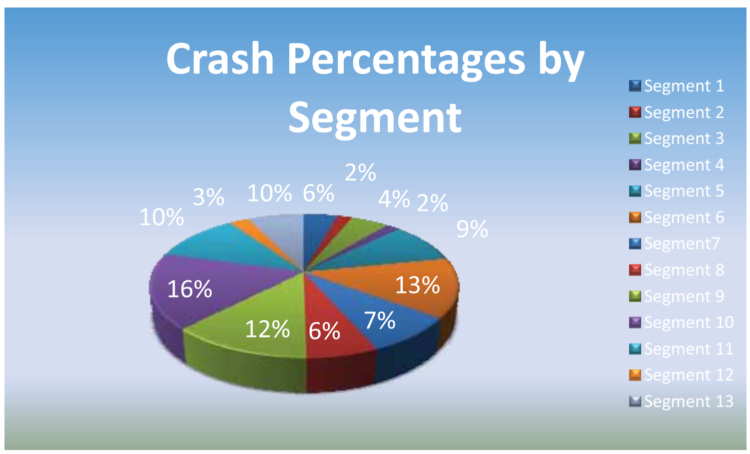
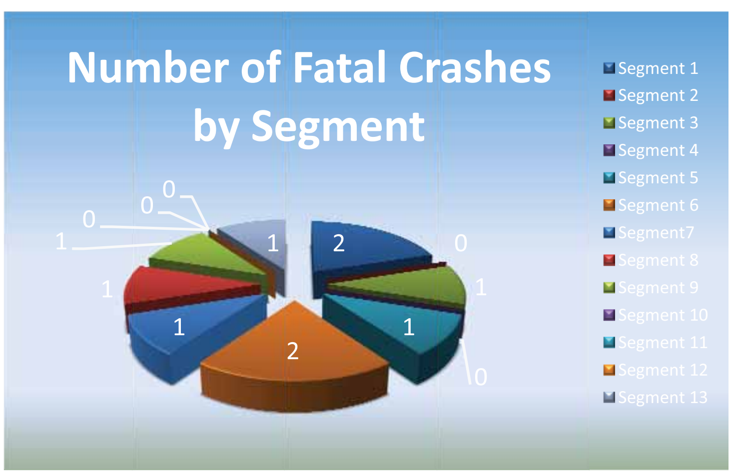


Figure 2-8: Number of Fatal Crashes by Segment (2005 - 2007)



The average number of crashes for the study corridor is approximately 658 crashes per year. The corridor exhibited a rate of 0.948 crashes per million vehicle miles traveled (VMT) over a three-year period. The higher crash rates are generally associated with segments that correspond to interchanges. Segments 6 (between the SR 60 and MLK Blvd interchanges), 9 (the I-4 interchange) and 10 (between the I-4 and Fowler Avenue interchanges), contained the highest crash frequencies. These segments typically involve a significant number weaving and lane changing movements as drivers position their vehicles to enter or exit the I-75 mainline.

As shown in **Figure 2-5**, 1,326 crashes involved property damage, 637 crashes involved injury and 10 crashes involved a fatality. Based on unit costs from the National Safety Council for 2006, the economic loss, or cost to society of these crashes, is estimated to be approximately $58.01 million over the 3 year period, as shown in **Table 2-6.**

Table 2-6: Estimated Economic Loss from Crashes

	Estimated 2006 Unit Cost	Estimated Number 2005 thru 2007*	Economic Loss ($ millions)
Fatality	$1,210,000	10	12.10
Nonfatal Disabling Injury	$55,000	637	35.04
Property Damage Crash	$8,200	1326	10.87
Totals			58.01

Note: *Within the project study limits

Seven of the top ten highest crash locations are within or adjacent to the I-4 and Fowler Avenue interchanges. Four of the top ten crash locations are within a 1.3 mile stretch of the project corridor from the southern limit of the I-4 interchange to 0.5 miles north of the interchange. This segment includes the I-4 interchange and the adjacent segments. Although this segment of the project corridor included several locations with high crash frequency, there was only one fatality and the number of injury crashes at three of the four locations was below the average of the other high crash locations. Another shorter segment of the project corridor, from 0.5 miles south of the Fowler Avenue interchange to the center of the interchange contained three of the top ten highest crash locations. Although these locations were closely spaced and produced high crash numbers, zero fatalities were recorded during the measured time period.

2.9 Intersections/Interchanges

Within the project limits, I-75 currently has interchanges at the following crossroads (south to north):

- US 301
- Selmon Expressway
- SR 60
- MLK Boulevard

- I-4
- Fowler Avenue
- Fletcher Avenue

Each of the existing interchanges is described in detail below.

2.9.1 US 301

US 301 is a north-south six-lane divided arterial located in an urban area between the communities of Brandon and Riverview. US 301 provides access to Riverview to the south and Brandon to the north.

The I-75/US 301 interchange (**Figure 2-9)** is a combination diamond/partial cloverleaf configuration with loop ramps in the northeast and southwest quadrants of the interchange. The northbound entrance ramp and southbound exit ramp connect to C-D roads that run parallel to I-75. The northbound C-D road allows access to the I-75 mainline north of the Selmon Expressway. To reach US 301 traveling southbound on I-75, the driver must exit onto the southbound C-D road before the Selmon Expressway Interchange. The I-75 northbound exit and southbound entrance ramps are diamond interchange ramps. All entrance/exit ramps are single-lane ramps and the C-D roads are two lanes. All ramp termini on US 301 are merge/diverge intersections.

The adjacent quadrants of the interchange are mostly vacant; however, a small townhome development exists adjacent to the C-D road near the northeast quadrant. Along US 301, a traffic signal is located 3,850 feet south of I-75 at Bloomingdale Avenue/Progress Boulevard. Bloomingdale Avenue/Progress Boulevard is a collector roadway providing access to large residential and commercial areas. A traffic signal is located 3,300 feet north of I-75 at Crescent Park Drive. Crescent Park Drive provides access to a large office park that is currently approximately 50% built-out. A traffic signal also exists another 1,400 feet to the north at Falkenburg Road. Falkenburg Road is a major collector that provides access to residential, commercial and office development to the east and large residential communities to the west.

2.9.2 Selmon Expressway

The I-75/Selmon Expressway interchange is located in Brandon, a suburban area of Hillsborough County. The Selmon Expressway is a four-lane divided freeway with two reversible lanes in the middle. The Selmon Expressway provides access from I-75 to Downtown Tampa and areas south of downtown. The reversible lanes traverse over I-75 and terminate at the intersection of Brandon Parkway and Town Center Boulevard.

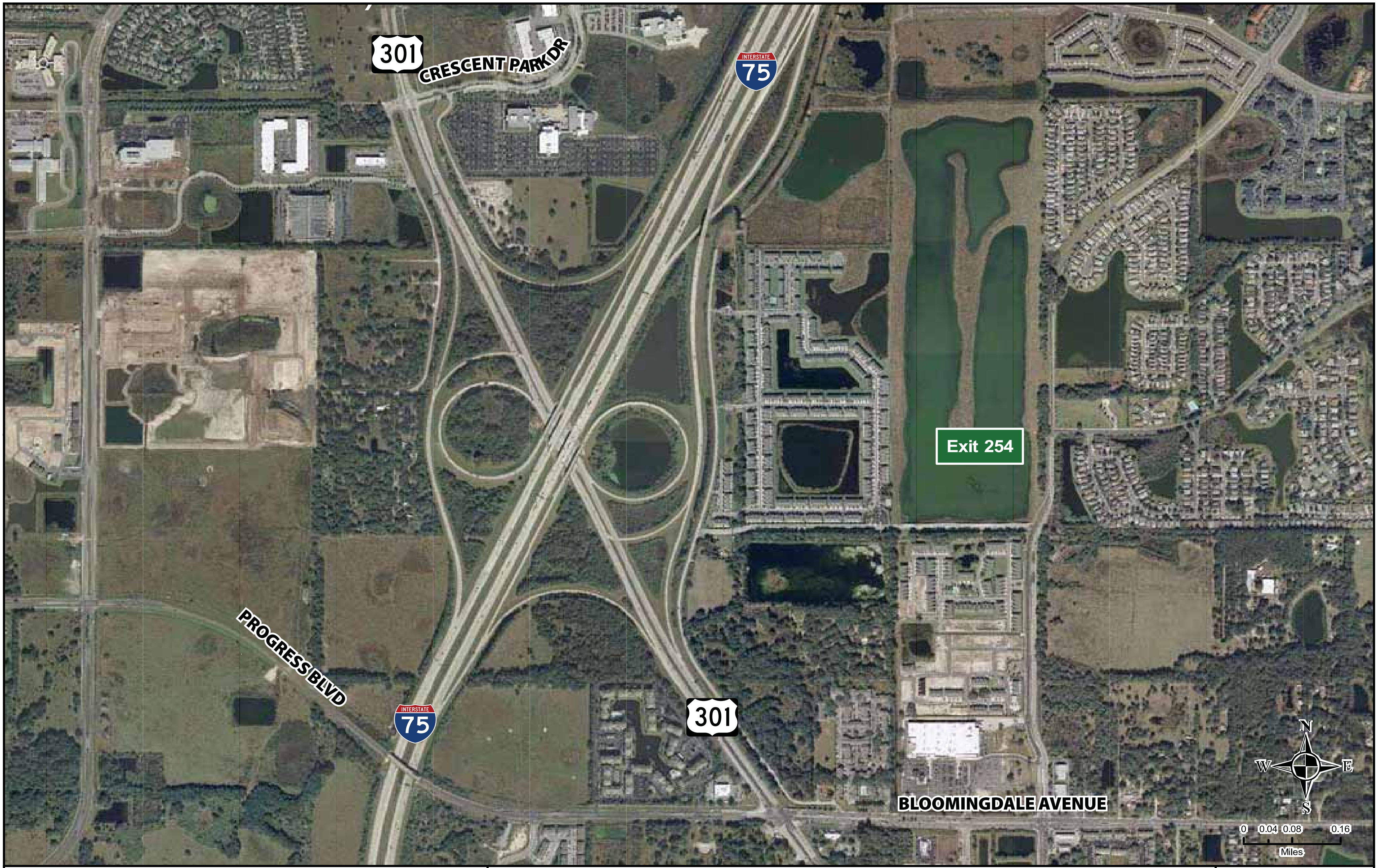
The interchange (**Figure 2-10**) is a combination diamond/partial cloverleaf configuration with a loop ramp in the east quadrant. The northbound I-75 exit ramp is configured as a flyover from I-75 to the westbound Selmon Expressway.

The southbound entrance and exit ramps connect to a C-D road that runs parallel to I-75. The southbound C-D road provides access to and from the I-75 southbound entrance and exit ramps. Access to the elevated, reversible lanes is not directly available from I-75.

The quadrants adjacent to the interchange west of I-75 are vacant. The quadrants adjacent to the interchange east of I-75 are developed with commercial uses, including the Westfield Brandon Shopping Center.

Existing traffic issues documented and observed at or near the Selmon Expressway interchange are as follows:

- Separation between the I-75 southbound exit ramp to the southbound C-D road and the Selmon Expressway on-ramp from the southbound C-D road is not sufficient to handle existing traffic volumes.



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (SR 93A) PD&E Study

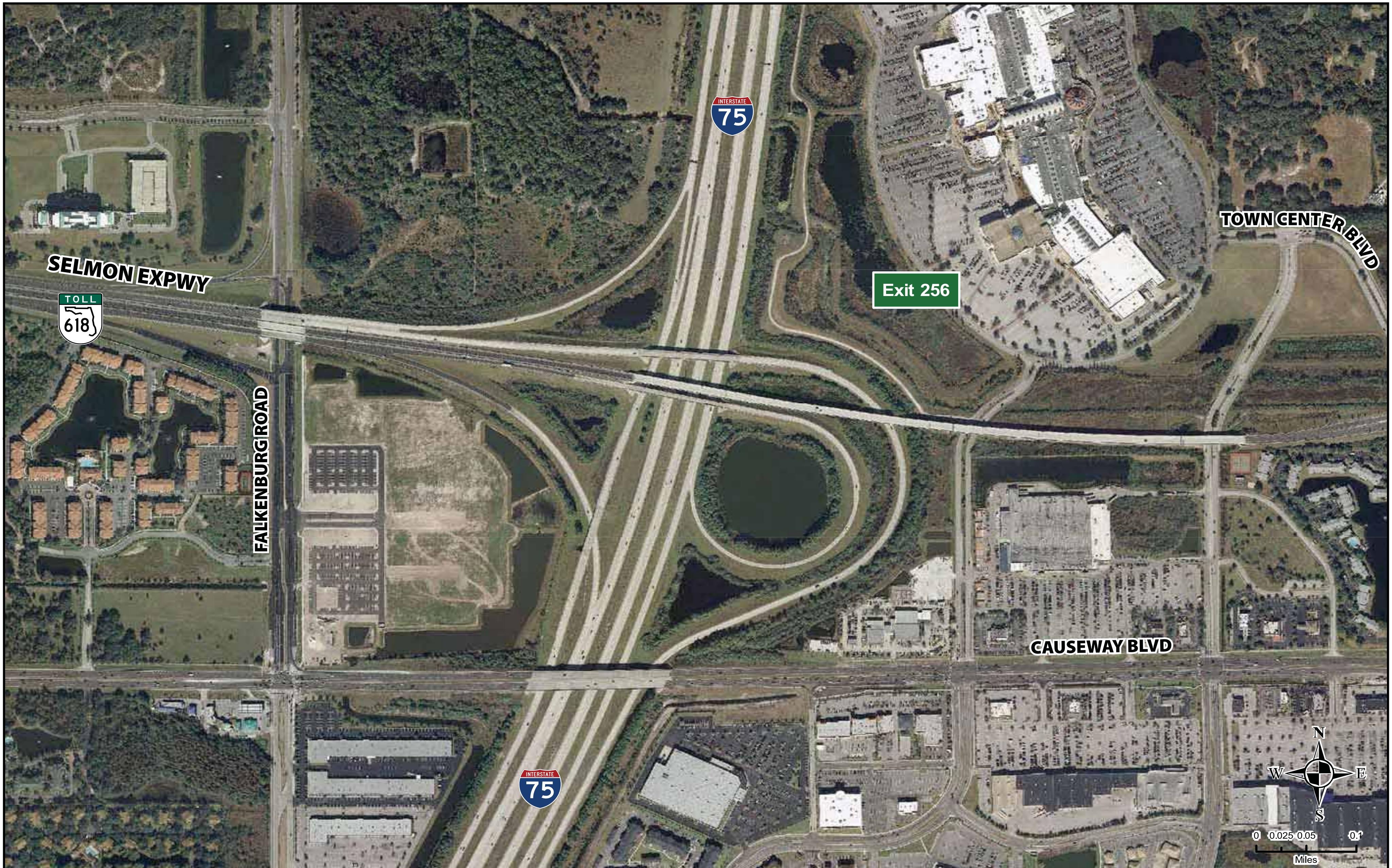
South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Aerial Photo of I-75 at U.S. 301

Figure 2-9



I-75 (SR 93A) PD&E Study

South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Aerial Photo of I-75 at Selmon Expressway

Figure 2-10

2.9.3 SR 60

The I-75/SR 60 interchange is located in Brandon, a suburban area of Hillsborough County. SR 60 is a six- to eight-lane divided arterial that provides access to Brandon to the east and Downtown Tampa to the west.

The interchange (**Figure 2-11**) is a combination diamond/partial cloverleaf configuration with loop ramps in the northwest and southeast quadrants. The interchange is at the northern end of a series of C-D roadways that begin at US 301 and continue along both sides of I-75. The southbound C-D road allows access to the I-75 mainline south of the Selmon Expressway. To reach SR 60 while traveling northbound on I-75, the driver must exit onto the northbound C-D road south of the Selmon Expressway interchange. The I-75 northbound entrance ramp and southbound exit ramps are normal diamond interchange ramps. All entrance/exit ramps are single-lane ramps and the C-D roads are two lanes. All exit ramp termini on SR 60 are signalized intersections.

The quadrants adjacent to the interchange are mostly developed with dense commercial land uses. A traffic signal is located at Falkenburg Road – 1,100 feet west of the I-75 southbound exit ramp terminal intersection. Falkenburg Road is a major collector roadway providing access to large residential, industrial and commercial land use areas, including the Hillsborough County Sheriff's Department and the County Jail, located approximately one mile to the north. A traffic signal is located 950 feet west of the SR 60/Falkenburg Road intersection at a shopping plaza entrance. This intersection provides access to a commercial plaza to the south and a Wendy's restaurant and a hotel to the north. A traffic signal is located 1,100 feet east of the I-75 northbound exit ramp terminal intersection at Brandon Town Center Drive/Grand Regency Boulevard. Brandon Town Center Drive is the main access into and out of the Westfield Brandon Shopping Center as well as other commercial businesses surrounding the mall. Grand Regency Boulevard provides access to a large shopping plaza, a Best Buy, and a variety of restaurants. Further north of the intersection on Grand Regency Boulevard, some office, residential, and additional commercial development exists. A traffic signal is also located at Gornto Lake Road – 1,870 feet east of the SR 60/Brandon Town Center Drive/Grand Regency Boulevard intersection. Gornto Lake Road provides access to a Sam's Club Warehouse to the south where it currently dead-ends, and provides access to residential development to the north.

Existing traffic issues documented and observed at or near the SR 60 interchange are as follows:

- The I-75 southbound exit ramp triple left turn lane, left turn movement, at SR 60 currently operates at LOS F during the Design Hour and PM peak hour.

- Analysis of the Design Hour Intersection LOS shows that the I-75 northbound exit ramp triple right turn movement operates at LOS F.

- Inadequate signal spacing between the I-75 southbound exit ramp terminal intersection and the Falkenburg Road/SR 60 intersection.

- Inadequate signal spacing between the I-75 northbound exit ramp/ terminal intersection and the Brandon Town Center Drive/SR 60 intersection.

- Inadequate capacity on SR 60 at the Brandon Town Center Drive Intersection degrades the operation of both I-75 ramp intersections.

- Poor signal coordination between adjacent signalized intersections.

2.9.4 MLK Boulevard

The I-75/MLK Boulevard interchange is located in Brandon/Mango, a suburban area of Hillsborough County. MLK Boulevard is a six-lane divided arterial and provides access to Mango and Seffner to the east and Tampa and I-4 to the west.

The interchange (**Figure 2-12**) is a combination diamond/partial cloverleaf configuration with a loop ramp in the northeast quadrant. The single loop ramp is for northbound vehicles exiting I-75 to westbound MLK Boulevard. All other movements are served by diamond ramps. All entrance/exit ramps are single-lane ramps. Only the southbound exit ramp terminal on MLK Boulevard is a signalized intersection.

The quadrants adjacent to the interchange are mostly developed with dense office land uses. A traffic signal is located 2,040 feet west of the I-75 southbound exit ramp terminal intersection at Falkenburg Road. Another traffic signal is located 2,460 feet east of I-75 on MLK Boulevard at Williams Road. Williams Road provides access to a mixed use of residential development both to the north and the south of MLK Boulevard.

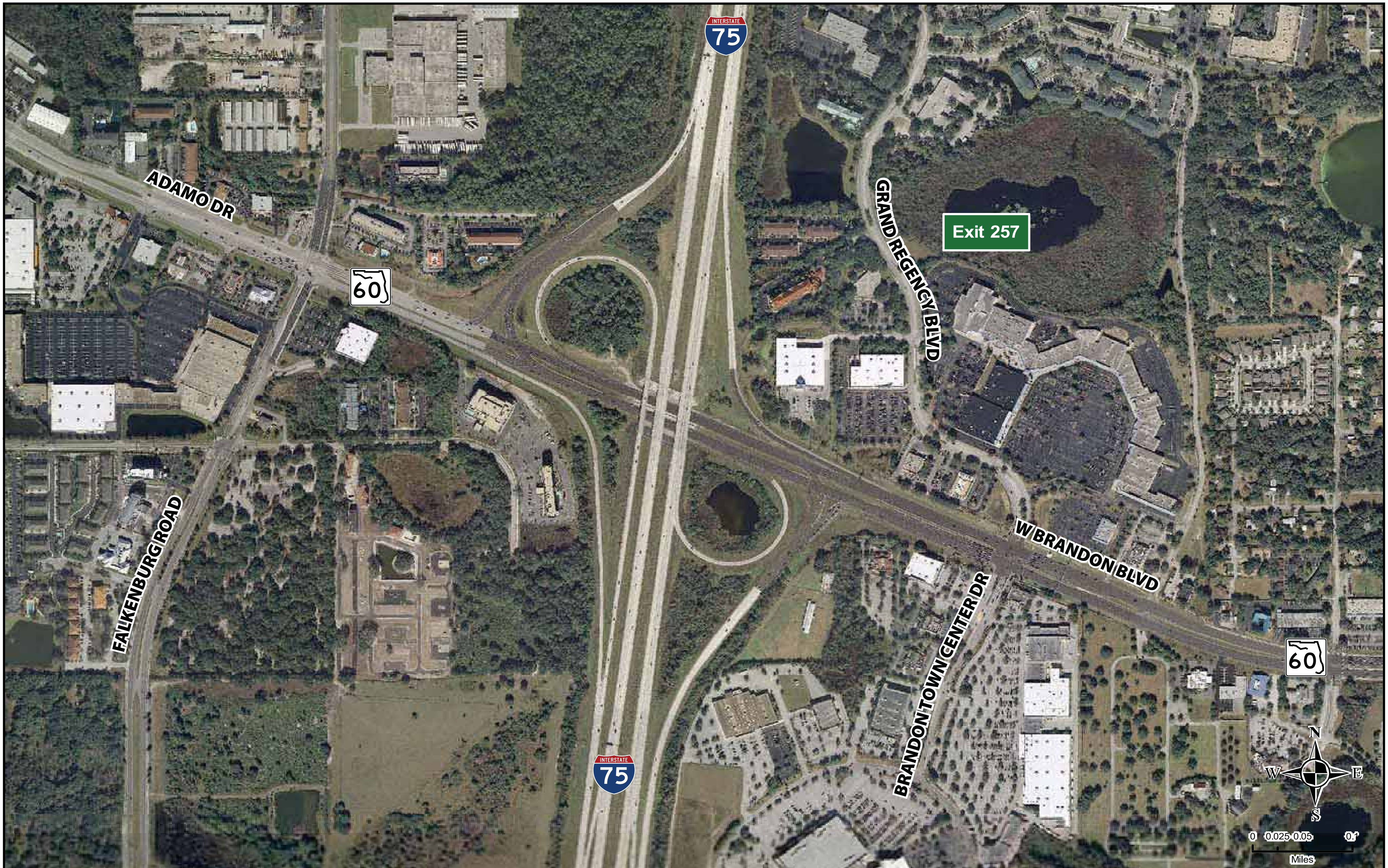
Existing traffic issues documented and observed at or near the MLK Boulevard interchange are as follows:

- The existing eastbound MLK Boulevard to northbound I-75 movement is currently a single left turn lane at an unsignalized intersection. During PM peak hours, backups of traffic on eastbound MLK Boulevard have been observed to extend through the signalized southbound ramp terminal intersection. Driver behavior includes jumping lanes along eastbound MLK Boulevard trying to cut in front of drivers already in the left turn lane to access the northbound ramp, creating potential safety and traffic issues.

- The existing northbound entrance ramp from MLK Boulevard becomes an auxiliary lane once it reaches I-75. The existing outside lane of northbound I-75 becomes a merge/diverge lane until it exits I-75 to eastbound/westbound I-4. Many drivers use the configuration as intended, but a weaving issue exists.

- The existing southbound entrance ramp to MLK Boulevard from southbound I-75 has recently been improved with the addition of an auxiliary lane (Exit Only) and the creation of a two-lane exit ramp. These improvements have helped with the traffic flow at MLK Boulevard, but a weaving issue has been observed to remain here.

- During peak periods, southbound I-75 has been observed to be backed up to I-4, likely because of the traffic volume trying to exit to SR 60 approximately 3 miles to the south. This condition further complicates the weave movements between I-4 and MLK Boulevard.



I-75 (SR 93A) PD&E Study

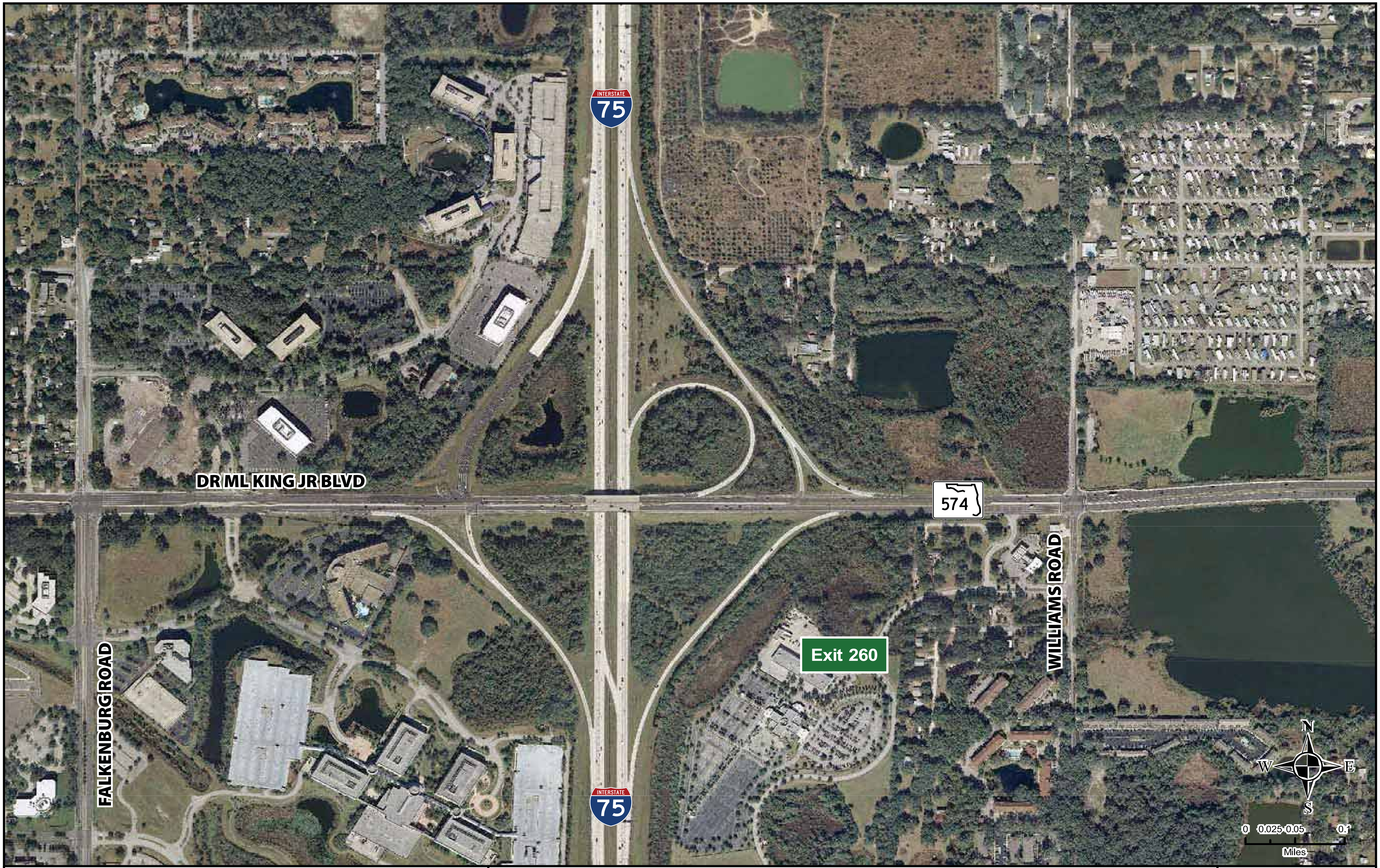
South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Aerial Photo of I-75 at SR 60

Figure 2-11



I-75 (SR 93A) PD&E Study

South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Aerial Photo of I-75 at Dr. Martin Luther King Jr. Boulevard

Figure 2-12

2.9.5 I-4

The I-75/I-4 interchange is located in a suburban area of Hillsborough County near Mango and Seffner. I-4 is a six lane divided freeway that provides the Tampa area access to Orlando and the Central Florida area as well as the Daytona Beach and northeastern areas of the state. I-4 is included in the SHS (designated as SR 400), the FIHS, the SIS, and the Federal Aid Interstate System. I-4 also serves as a major evacuation route throughout the state.

This system interchange (**Figure 2-13**) is a turbine configuration with a four-legged directional interchange and four flyover ramps. The four flyover ramps include the movements for the northbound I-75 exit ramp to westbound I-4, the southbound I-75 exit ramp to eastbound I-4, the westbound I-4 exit ramp to southbound I-75, and the eastbound I-4 exit ramp to northbound I-75. The four-legged diamond interchange ramps include the movements for westbound I-4 to northbound I-75, eastbound I-4 to southbound I-75, southbound I-75 to westbound I-4, and northbound I-75 to eastbound I-4. All ramps terminate in merge-diverge movements.

The quadrants adjacent to the interchange are sparsely developed south of the interchange with some residential, agriculture, industrial and commercial. Sparse residential development exists in the northwest quadrant. The northeast quadrant is vacant.

Existing traffic issues documented and observed at or near the I-4 interchange are as follows:

- The southbound I-75 exit ramp to eastbound/westbound I-4 is a single-lane ramp which diverges to eastbound and westbound ramps once the exiting ramp clears the I-75 mainline. However, with the volume of traffic exiting, the ramp backs up during the peak periods onto the mainline of southbound I-75. Weather, accidents and drivers who jump lanes or wait until the last minute to exit (some crossing the painted gore area) create an “accordion effect” on the southbound I-75 mainline, creating backups regularly extending to the Bypass Canal Bridge (approximately 2 miles north of I-4).

- The eastbound I-4 exit ramp to the northbound/southbound I-75 exit ramps experiences similar operational problems as described above, exacerbated by the relatively short weaving distance between the US 301 entrance and I-75 exits, and the high volumes of weaving traffic, particularly during the PM peak period.

- The southbound I-75 eastbound to I-4 ramp is a single-lane ramp with a taper-style connection to I-4, which can result in some merging issues during peak periods. This can create an “accordion effect” which extends to southbound I-75. The northbound I-75 to eastbound

I-4 ramp is also a single lane ramp. However, since it terminates into an auxiliary lane, traffic flows more smoothly.

2.9.6 Fowler Avenue

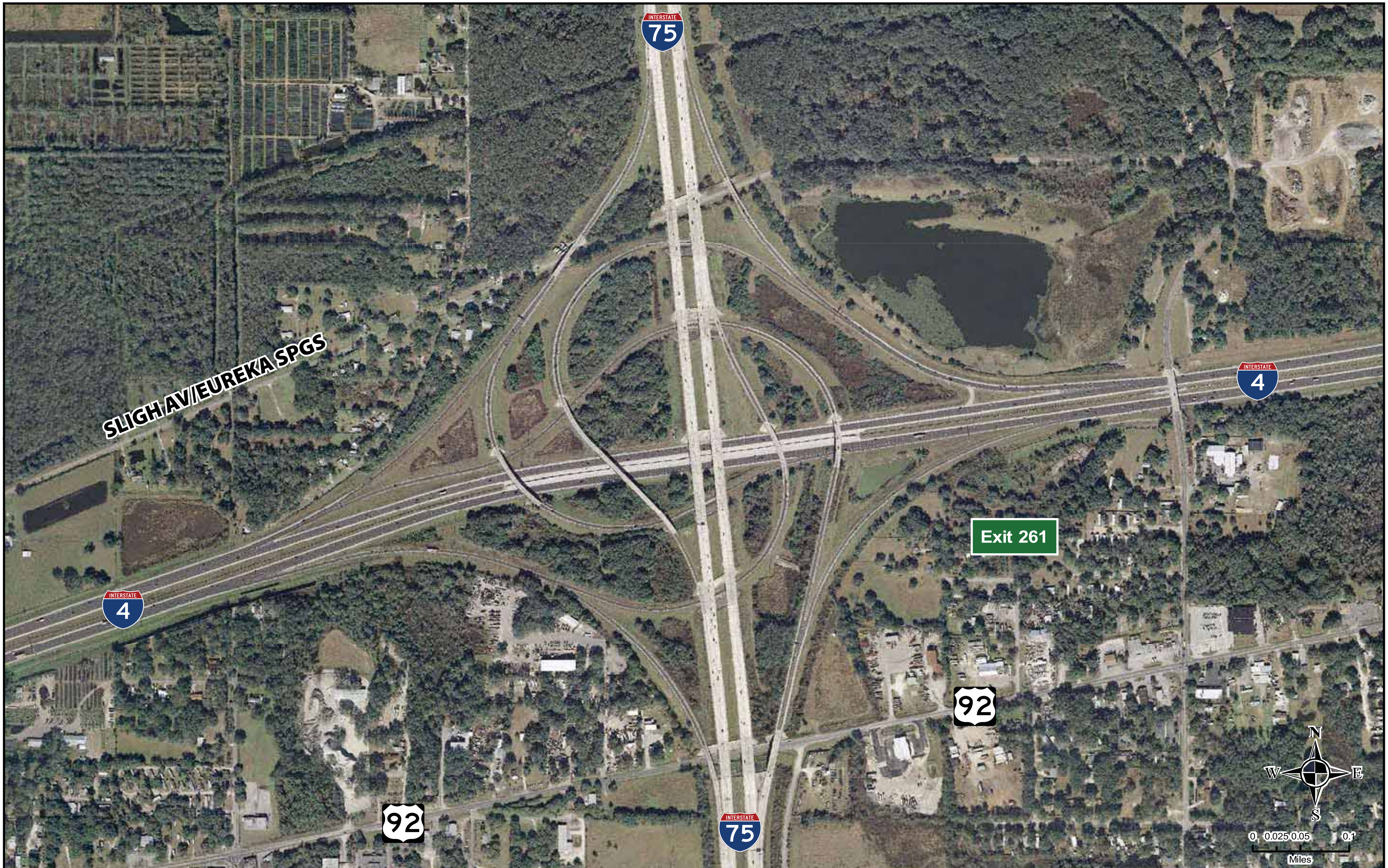
The I-75/Fowler Avenue interchange is located in a suburban area of Hillsborough County near the University of South Florida and Temple Terrace. Fowler Avenue is a six-lane divided arterial and provides access to the University of South Florida, Temple Terrace, and the northern parts of the city of Tampa to the west. To the east, Fowler Avenue provides access to some commercial and residential development before it terminates at US 301, approximately 1 mile east of I-75.

The Fowler Avenue interchange (**Figure 2-14**) is a combination diamond/partial cloverleaf configuration with a flyover serving the northbound I-75 to westbound Fowler Avenue movement. There are two loop ramps in the southeast and southwest quadrants of the interchange. The loop ramps serve the southbound to eastbound and eastbound to northbound movements. All other movements are served by diamond ramp legs. All entrance/exit ramps are single-lane. All ramps terminate in merge/diverge movements on Fowler Avenue.

The adjacent quadrants of the interchange are mostly vacant except for the southwest quadrant (residential) and the northwest quadrant (sparse residential). A traffic signal is located 2,600 feet west of I-75 at Morris Bridge Road. Morris Bridge Road is a collector roadway providing access to residential land uses south and north of Fowler Avenue.

Existing traffic issues documented and observed at or near the Fowler Avenue interchange include:

- The results of traffic analyses show that the weaving segment between the Fowler Avenue and Fletcher Avenue interchanges operates at LOS E. This substandard level of service may be attributed to exit jumping between Fowler Avenue and Fletcher Avenue as drivers use the interstate as a local road.
- Field observations suggest that the weaving patterns between the terminus of the direct connection from I-75 northbound to westbound Fowler Avenue and the Morris Bridge Road signalized intersection is a cause for concern.



I-75 (SR 93A) PD&E Study

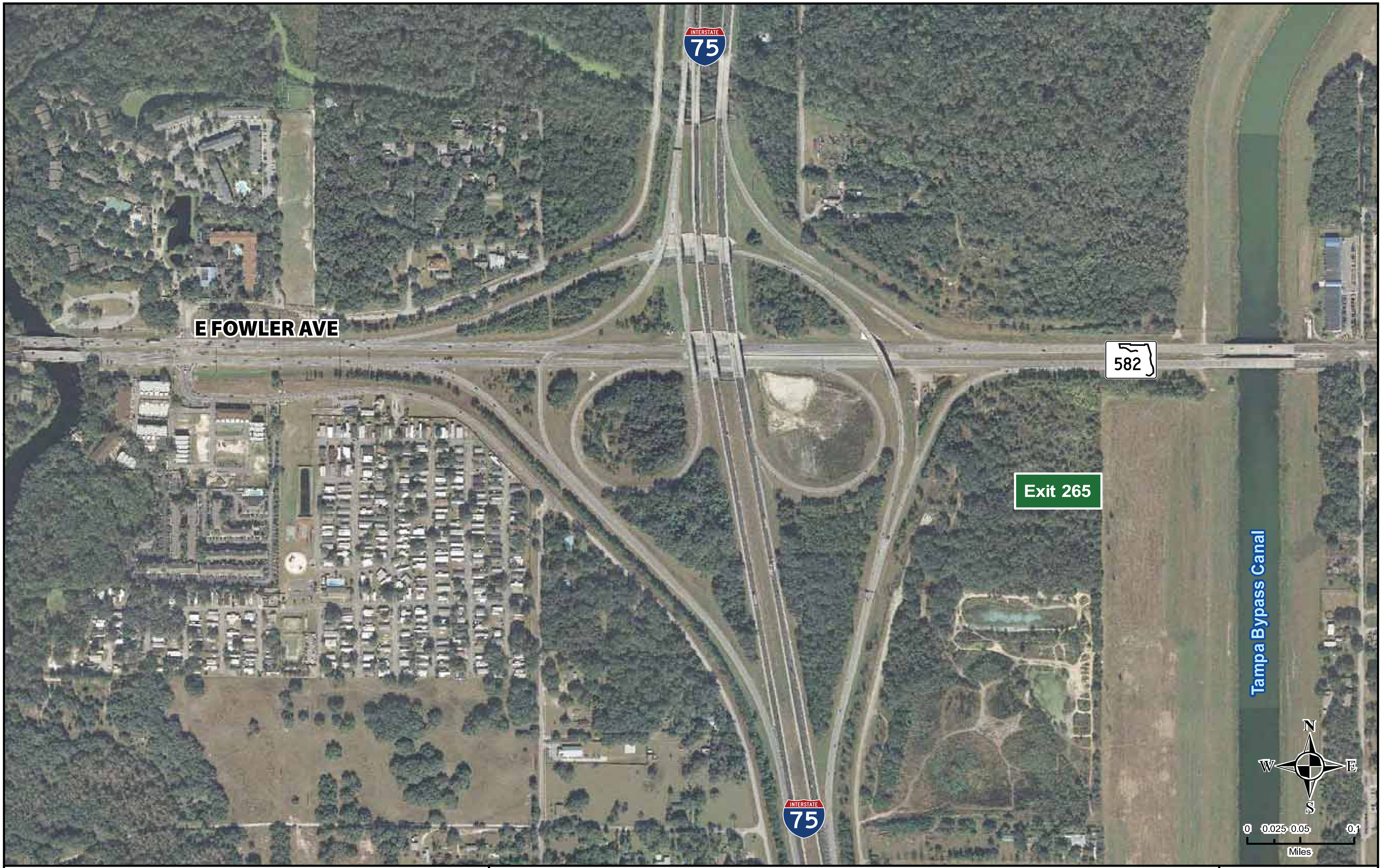
South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Aerial Photo of I-75 at I-4

Figure 2-13



I-75 (SR 93A) PD&E Study

South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Aerial Photo of I-75 at Fowler Avenue

Figure 2-14

2.9.7 Fletcher Avenue

The I-75/Fletcher Avenue interchange is located in a suburban area of Hillsborough County near the University of South Florida and Temple Terrace. Fletcher Avenue is a four-lane divided arterial that provides access to the University of South Florida, Temple Terrace, and the northern parts of the city of Tampa to the west. To the east, Fletcher Avenue provides access to sparse residential development and transitions to a two-lane undivided roadway.

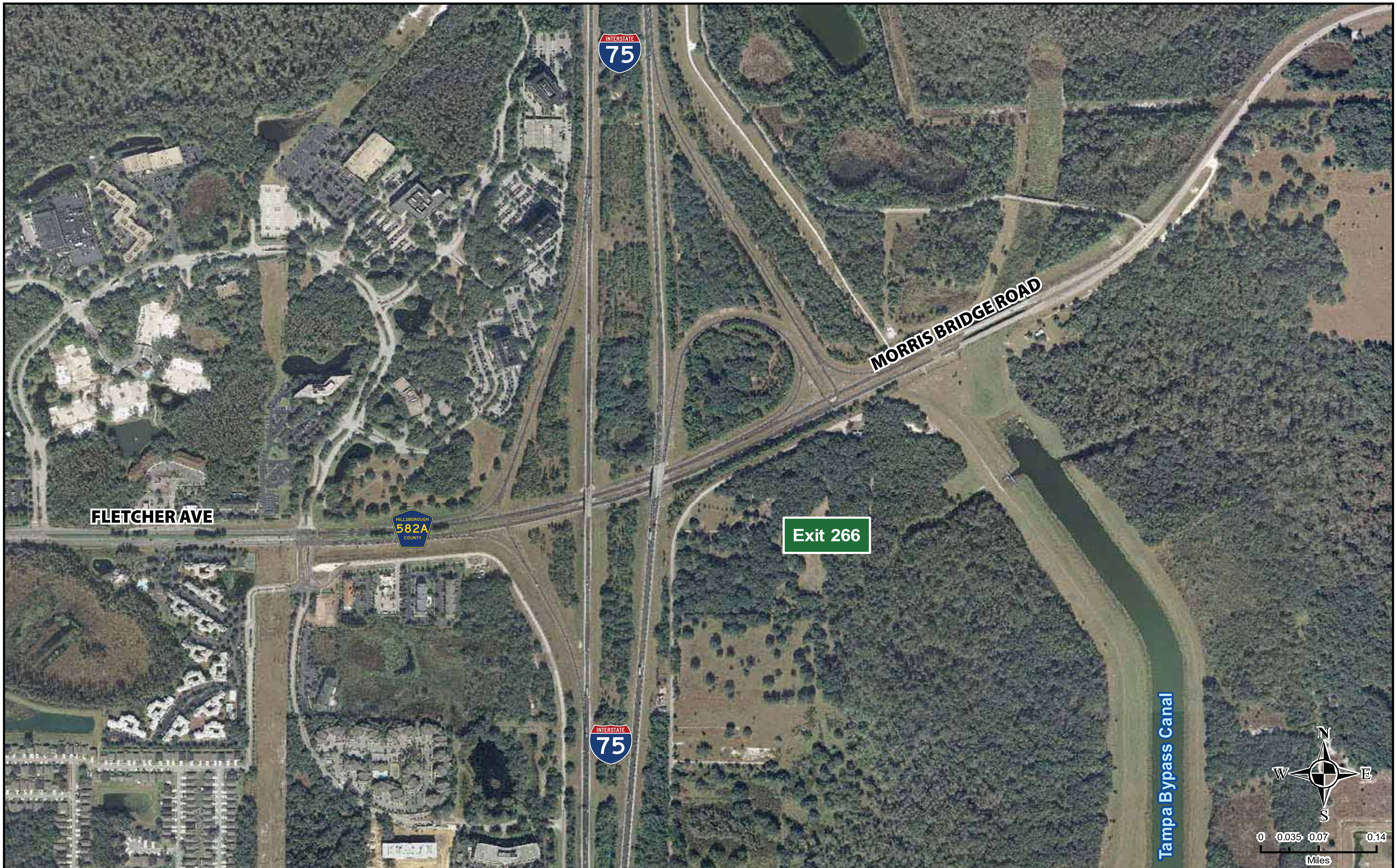
The Fletcher Avenue interchange (**Figure 2-15**) is a combination diamond/partial cloverleaf configuration with a single-lane northbound exit loop ramp in the northeast quadrant of the interchange. All other movements are served by diamond ramp legs.

All entrance/exit ramps are single-lane. All of the ramp termini on Fletcher Avenue are unsignalized intersections.

The adjacent quadrants of the interchange are mostly vacant except for the northwest quadrant, which is heavily developed with office/commercial land uses and the southwest quadrant, which has sparse residential development. A traffic signal is located 2,600 feet west of I-75 at Morris Bridge Road/Hidden River Parkway. Morris Bridge Road/Hidden River Parkway is a local roadway providing access to office/commercial land uses to the north, and office, commercial, and residential land uses to the south.

Existing traffic issues documented and observed at or near the Fletcher Avenue interchange include:

- As described in the Fowler Avenue description, the traffic analyses show that the weaving segment between the Fowler Avenue and Fletcher Avenue interchanges operates at LOS E. This substandard level of service may be at least partially attributed to “exit jumping” between Fowler Avenue and Fletcher Avenue as drivers use the interstate as a local road.



I-75 (SR 93A) PD&E Study

South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Aerial Photo of I-75 at Fletcher Avenue

Figure 2-15

2.10 Lighting

Lighting within the project limits is generally high-mast type lighting located in the vicinity of the interchanges.

2.11 Utilities

Existing utilities present within the project limits are listed in **Table 2-7.**

Table 2-7: Existing Utilities in Project Limits

Utility Type	Utility Owner	Contact Name	Daytime Phone #
Fiber-optic Communications	AT&T	Steve Eriksson	407-578-8000
CATV	Bright House Networks	Barry Beatty	813-436-2163
Water	City of Tampa Water Department	Janice Davis	813-274-7096
Water/Sewer	City of Temple Terrace	Joe Motta	813-98-7170
Fiber Optic	Fiberlight LLC	Tim Green	813-877-7183
Gas Pipeline	Florida Gas Transportation	Joseph Sanchez	407-838-7171
Fiber-optic Communications	Level 3 Communications LLC	Clinton Hinish	813-508-1419
Fiber-optic Communications	MCI	Nathan Whitfield	813-262-1909
Fiber-optic Communications	Qwest Communications	Mike Fitzgerald	941-855-0117
Electric	Tampa Electric Company	Arlene Brown	813-275-3428
Water Lines	Tampa Bay Water	Rick Menzies	813-929-2181
Gas	TECO Peoples Gas	Frank Kistner	813-275-3731
Telephone	Verizon Florida LLC	David Wynns	813-627-8343
Fiber-optic Communications	XO Communications	Gary Walker	813-301-4026
Fiber-optic Communications	AT&T	Steve Eriksson	407-578-8000

Source: Omni Communications, June 2009.

2.12 Pavement Conditions

FDOT conducted a pavement survey within the project corridor in 2008. 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. Any rating of 6.4 or less is considered deficient pavement and is marked by an asterisk. Except for the northern 3 miles, the majority of pavement within the project limits is concrete or rigid pavement. **Table 2-8** identifies the existing (year 2008) and projected (year 2013) pavement conditions for this portion of I-75. The existing pavement is generally in good condition except for the first 1.5-mile segment, which is projected to be deficient in 2013. The first three segments shown in the table are scheduled for rehabilitation in 2010. The higher-rated sections shown in the table have recently been rehabilitated or resurfaced.

Table 2-8: Pavement Conditions Survey

Work Program Beginning Milepost	Work Program Ending Milepost	Condition Ratings	Year 2008	Year 2013 (projected)
Hillsborough County				
18.956	20.415	Cracking	9.2 – 9.3	9.0
*White Construction Co. (1987)		Ride	6.6	6.3*
20.415	22.266	Cracking	9.2	9.0
White Construction Co. (FY 1987)		Ride	7.3	6.9
22.266	23.134	Cracking	9.3	9.5
White Construction Co. (FY 1987)		Ride	7.6	7.3
23.134	24.690	Cracking	9.3	-
Phoenix Const (FY 2008)		Ride	7.7	-
24.690	26.594	Cracking	8.0	7.0
White Construction Co. (FY 2003)		Ride	7.6	6.8
26.594	30.198	Cracking	8.8	-
Phoenix Const (FY 2007)		Ride	8.1	-
30.198	32.300	Cracking	10.0	10.0
J. W. Conner & Sons (M&R in FY 2005)		Ride	8.3	8.3
32.300	39.835	Cracking	10.0	10.0
J. W. Conner & Sons (M&R in FY 2005)		Ride	8.4	8.4

Notes: * Company that completed the survey. M&R = Milling and Resurfacing
Source: FDOT's Interstate System Pavement Condition Forecast report, extracted on 01/20/09

Flexible Pavement

2.13 Existing Bridges

There are 67 bridges located along I-75 within the project limits. Of these bridges, 57 are I-75 mainline bridges over roadways, railways or waterways; 6 bridges are overpasses over I-75; and 4 bridges are located along ramps connecting I-4 and I-75. **Table 2-9** provides a comprehensive list of existing data for these bridges including year built, span lengths, and minimum vertical and horizontal clearances. **Figures 2-16 and 2-17** show the location for all structures.

2.13.1 Bridge Conditions

Bridge sufficiency ratings are used to help determine whether a bridge that is structurally or functionally obsolete should be repaired or replaced. This rating considers a number of factors, of which approximately half relate to the condition of the bridge itself. **Table 2-9** catalogs the condition ratings of the bridges within the project limits along I-75. The load ratings can also be found in the table. All bridges have Operating Load ratings greater than 1.0. The Inventory Rating on all the bridges are greater than 1.0 for AASHTO and steel girder structures and 1.25 for the cast-in-place slab as required in section 7.1.1 in the FDOT Structures Design Guidelines, except for I-75 Ramp A-1 over Ramp C-1 and I-4 (Bridge No. 100423). This bridge has an Inventory Rating of 0.956. These ratings were performed using either Allowable Stress or Load factor methods. A Load and Resistance Factor Rating (LRFR) will need to be completed as required by section 7.1.1.1.A of the Structures Design Guidelines to ensure that the bridges are suitable for widening.

2.13.2 Bridge Clearances

Existing bridge vertical clearances are also shown in **Table 2-9**. FDOT's Plans Preparation Manual (Table 2.10.1) requires a minimum vertical clearance over roadways of 16.5 feet (which includes a 0.5-foot allowance for future resurfacing). Within the project limits, existing bridge clearances over roadways range from 15.7 feet to 27.03 feet. The minimum vertical clearance required by AASHTO standards is 16.0 feet. As shown in **Table 2-9**, the following structures along the project segment are considered deficient per FDOT vertical clearance standards:

- I-75 SB over Fletcher Avenue – 16.1 feet
- I-75 NB over Fletcher Avenue – 16.0 feet
- I-75 SB over 127th Avenue – 16.4 feet
- I-75 NB over 127th Avenue – 16.4 feet
- I-75 NB over Harney Road – 16.2 feet
- I-75 Ramp C over Sligh Ave – 16.1 feet
- I-75 Ramp D over Sligh Avenue – 16. 1 feet
- I-75 NB over Sligh Ave and Ramp D1 – 15.9 feet
- Ramp C1 over I-4 and Ramp A1 – 16.07 feet
- I-75 Ramp D over I-4, Ramp A1 and Ramp C1 – 16.3 feet

- I-75 Ramp A1 over Ramp C1 and I-4 – 16.07 feet
- I-75 SB over Ramp B-1 – 15.9 feet
- I-4 EB Ramp B over US 92 – 16.2 feet
- MLK Boulevard over I-75 – 15.9 feet
- I-75 NB over Woodberry Road – 16.2 feet
- I-75 NB over CSX RR – 22.7 feet
- I-75 NB over SR 60 – 16.4 feet
- SR 618 Ramp C over I-75 – 16.4 feet
- I-75 NB Ramp E over I-75 NB Ramp G – 16.3
- I-75 SB over US 301 – 15.7 feet
- I-75 SB Ramp to US 301 – 16.19 feet
- I-75 NB Ramp to US 301 – 15.7 feet

Table 2-9: Existing Bridge Conditions

Approx. Milepost	Location Description (Structures from North to South)	Structure Number	Year Built (Deck Replaced)	Structure Type	Skew Angle (degrees)	Structure Length	Spans	Span Lengths	Out to Out Width (ft)	Travel Lane Widths (ft)	Inside Shoulder Width (ft)	Outside Shoulder Width (ft)	Vertical Clearance (ft)	Minimum Horizontal Clearance (ft)	Structural Ratings Operating/ Inventory		Date of Last Inspection	Sufficiency Rating
Hillsborough County																		
33.386	I-75 SB Over Hillsborough River	100387	1984	AASHTO	0, 0, 0, 15, 0, 0, 0	454.5'	7	66' - 66' - 57.9' - 67.3' - 65.3' - 66' - 66'	42.75'	12'	6'	10'	N/A	62.5'	1.500	1.333	11/1/2007	96.1
33.358	I-75 NB Over Hillsborough River	100388	1984	AASHTO	0, 0, 0, 15, 0, 0, 0	452.3'	7	65.7' - 65.7' - 64.8' - 67.3' - 57.4' - 65.7' - 65.7'	42.75'	12'	6'	10'	N/A	62.5'	1.500	1.333	11/1/2007	95.8
32.198	I-75 SB Over Fletcher Ave	100391	1982	AASHTO	17	221.0'	4	31' - 79.5' - 79.5' - 31'	42.75'	12'	6'	10'	16.1'	17.3'	1.556	1.361	11/1/2007	97.0
32.218	I-75 NB Over Fletcher Ave	100420	1982	AASHTO	26	231.3'	4	32' - 83.7' -83.7' - 32'	Varies	12'	6'	6'	16.0'	16.6'	1.750	1.444	11/1/2007	98.0
31.613	I-75 SB Over 127th Ave	100400	1985	AASHTO	0	133.0'	3	37.6' - 57.8' - 37.6'	54.75'	12'	6'	10'	16.4'	16.0'	1.583	1.389	11/7/2007	93.1
31.613	I-75 NB Over 127th Ave	100401	1985	AASHTO	5	133.0'	3	37.6' - 57.8' - 37.6'	54.75'	12'	6'	10'	16.4'	16.0'	1.583	1.389	11/7/2007	91.1
31.372	I-75 SB Over Cowhouse Creek	100481	1984	AASHTO	0	340.0'	4	90' - 90' - 90' - 70'	42.75'	12'	6'	Varies	N/A	86.5'	2.817	1.683	11/7/2007	92.1
31.372	I-75 NB Over Cowhouse Creek	100482	1984	AASHTO	0	350.0'	4	90' - 90' - 90' - 80'	54.75'	12'	6'	10'	N/A	86.0'	2.775	1.931	11/7/2007	92.1
0.028	I-75 Ramp C Over Cowhouse Creek	100480	1984	AASHTO	0	340.0'	4	90' - 90' - 90' - 70'	29.75'	15'	6'	6'	N/A	86.0'	2.167	1.917	11/7/2007	97.0
31.22	I-75 SB Over Ramp A-1 at I-75 and SR 582 Interchange	100407	1985	AASHTO	4	151.3'	3	38' - 80' - 33.25'	42.75'	12'	6'	10'	19.7'	31.2'	1.611	1.194	11/6/2007	95.1
31.22	I-75 NB Over Ramp A-1 at I-75 and SR 582 Interchange	100408	1985	AASHTO	11	147.3'	3	35' - 81.5' - 30.75'	54.75'	12'	6'	10'	17.6'	30.1'	1.694	1.444	11/6/2007	91.1
0.029	I-75 Ramp C-1 to SR 582 WB Over Ramp A-1 at SR 582 Interchange	100409	1985	AASHTO	28	165.3'	3	38.75' - 91' - 35.5'	29.75'	15'	6'	6'	17.1'	31.7'	2.167	1.861	11/6/2007	98.0
0.21	I-75 Ramp C-1 to SR 582 EB Over Ramp A-1 at SR 582 Interchange	100410	1985	AASHTO	3	147.5'	3	36' - 80.5' - 31'	29.75'	15'	6'	6'	19.3'	31.2'	2.306	2.000	11/6/2007	97.0
31.102	I-75 SB Over SR 582	100403	1985	AASHTO	9	243.0'	4	32.25' - 89.25' - 89.25' - 32.25'	42.75'	12'	6'	10'	18.0'	17.0'	1.583	1.389	11/6/2007	93.1

Table 2-9: Existing Bridge Conditions

Approx. Milepost	Location Description (Structures from North to South)	Structure Number	Year Built (Deck Replaced)	Structure Type	Skew Angle (degrees)	Structure Length	Spans	Span Lengths	Out to Out Width (ft)	Travel Lane Widths (ft)	Inside Shoulder Width (ft)	Outside Shoulder Width (ft)	Vertical Clearance (ft)	Minimum Horizontal Clearance (ft)	Structural Ratings Operating/ Inventory		Date of Last Inspection	Sufficiency Rating
31.102	I-75 NB Over SR 582	100404	1985	AASHTO	9	243.0'	4	32.25' - 89.25' - 89.25' - 32.25'	54.75'	12'	6'	10'	16.5'	17.0'	1.667	1.444	11/27/2007	96.0
0.312	I-75 Ramp C Over SR 582	100405	1985	AASHTO	8	236.5'	4	29' - 89.25' - 89.25' - 29'	29.75'	15'	6'	6'	16.8'	17.0'	2.139	1.833	11/6/2007	96.6
0.168	I-75 Ramp A-1 Over SR 582	100406	1985	AASHTO	28	263.5'	4	32' - 96' - 100.4' - 35.1'	29.75'	15'	6'	6'	16.5'	17.0'	2.667	1.389	11/6/2007	99.0
29.878	I-75 SB Over US 301	100477	1983	Steel Girders	63	480.6'	4	65.2' - 165.3' - 172.7' - 77.4'	58.75'	12'	10'	10'	17.4'	10.6'	2.775	1.000	10/9/2007	91.1
29.922	I-75 NB Over US 301	100478	1983	Steel Girders	63	496.4'	4	73.5' - 165.3' - 172.7' - 84.9'	58.75'	12'	10'	10'	17.8'	12.3'	2.011	1.222	10/9/2007	92.1
29.698	I-75 SB Over Harney Rd	100475	1983	AASHTO	3	167.0'	3	36.8' - 88.2' - 42'	58.75'	12'	10'	10'	16.7'	0.0'	1.639	1.083	10/9/2007	91.1
29.698	I-75 NB Over Harney Rd	100476	1983	AASHTO	3	167.0'	3	37.2' - 87.5' - 42.3'	58.75'	12'	10'	10'	16.2'	0.0'	1.639	1.083	10/9/2007	93.1
29.135	I-75 SB Over Tampa Bypass Canal	100473	1984	AASHTO	50	828.0'	12	69' - 69' - 69' - 69' - 69' - 69' - 69' - 69' - 69' - 69' - 69' - 69'	58.75'	12'	10'	10'	N/A	66.0'	1.444	1.250	10/4/2007	94.1
29.161	I-75 NB Over Tampa Bypass Canal	100474	1985	AASHTO	50	828.0'	12	69' - 69' - 69' - 69' - 69' - 69' - 69' - 69' - 69' - 69' - 69' - 69'	58.75'	12'	10'	10'	N/A	66.0'	1.444	1.250	10/4/2007	94.2
27.514	I-75 Over Harney Flats Canal	100418	1985	Concrete Bridge Culvert	13	52.1'	4	13' - 13' - 13' - 13'	N/A	12'	10'	10'	N/A	11.0'	2.775	2.775	10/4/2007	70.0
0.516	I-75 Ramp C Over Sligh Ave	100430	1985	AASHTO	57	233.0'	3	58' - 117' - 58'	29.75'	15'	6'	6'	16.1'	20.0'	2.139	1.833	12/11/2007	95.3
0.54	I-75 Ramp D Over Sligh Ave	100431	1984	AASHTO	4	126.0'	3	31' - 64' - 31'	29.75'	15'	6'	6'	16.1'	8.8'	2.056	1.806	12/11/2007	90.2
27.295	I-75 NB Over Sligh Ave and Ramp D-1	100398	1984 (2004)	AASHTO	11, 11, 11, 19, 19	360.8'	5	35.0' - 82.0' - 82.0' - 54.8' - 107'	Varies	12'	10'	6'	15.9'	8.8'	2.442	1.464	12/6/2007	89.0
27.295	I-75 SB Over Sligh Ave and Ramp D-1	100397	1984 (2004)	AASHTO	0, 0, 19, 19	321.0'	4	34.5' - 79.5' - 100' - 107'	59.08'	12'	10'	10'	16.7'	8.8'	2.400	1.439	12/6/2007	89.0

Table 2-9: Existing Bridge Conditions

Approx. Milepost	Location Description (Structures from North to South)	Structure Number	Year Built (Deck Replaced)	Structure Type	Skew Angle (degrees)	Structure Length	Spans	Span Lengths	Out to Out Width (ft)	Travel Lane Widths (ft)	Inside Shoulder Width (ft)	Outside Shoulder Width (ft)	Vertical Clearance (ft)	Minimum Horizontal Clearance (ft)	Structural Ratings Operating/ Inventory		Date of Last Inspection	Sufficiency Rating
															Operating	Inventory		
27.197	I-75 NB Over Ramp A-1 at I-4	100396	1983	AASHTO	4	164.8'	3	45' - 79.5' - 40.25'	58.75'	12'	10'	10'	22.5'	17.0'	1.444	1.306	12/11/2007	93.1
27.197	I-75 SB Over Ramp A-1 at I-4	100395	1983	AASHTO	7	165.3'	3	45.0' - 80.0' - 40.25'	58.75'	12'	10'	10'	23.1'	17.0'	1.472	1.306	12/11/2007	93.1
0.496	Ramp B-1 Over Ramp A-1	100425	1984	AASHTO	24	177.3'	3	42.25' - 85.5' - 42.5'	29.75'	15'	6'	6'	18.7'	17.0'	2.139	1.861	12/11/2007	96.3
26.993	I-75 SB Over I-4 and Ramp C-1	100393	1984	AASHTO	24, 24, 24, 3, 3, 3, 3	501.5'	7	45' - 86' - 74' - 56.5' - 100.5' - 93' - 46.5'	58.75'	12'	10'	10'	23.8'	10.4'	1.583	1.389	12/4/2007	91.1
27.004	I-75 NB Over I-4 and Ramp C-1	100394	1984	AASHTO	24, 24, 24, 3, 3, 3	468.1'	6	45' - 86' - 97.1' - 100.5' - 93' - 46.5'	58.75'	12'	10'	10'	23.8'	10.5'	1.500	1.333	12/4/2007	93.1
0.121	Ramp C-1 Over I-4 and Ramp A-1	100426	1985	AASHTO	40, 36, 27, 19, 11	389.5'	5	47.25' - 108.25' - 103.5' - 98.25' - 32.25'	29.75'	15'	6'	6'	16.07'	10.4'	2.056	1.417	12/11/2007	93.5
0.412	I-75 Ramp D Over I-4, Ramp A-1 and Ramp C-1	100432	1984	AASHTO	Varies	1007.8'	12	34' - 79' - 96.9' - 99' - 79.5' - 112.5' - 112.5' - 83.5' - 84.7' - 86.2' - 87' - 33'	29.75'	15'	6'	6'	16.3'	13.4'	2.056	1.611	12/6/2007	97.3
0.326	I-4 Ramp B-1 Over Ramp C-1 and I-4	100428	1984	Steel Girders	18, 13, 15	319.0'	3	135' - 155' - 29'	29.75'	15'	6'	6'	16.8'	10.4'	1.722	1.028	12/4/2007	95.1
0.183	I-75 Ramp A-1 Over Ramp C-1 and I-4	100423	1984	AASHTO	18, 15, 5	287.5'	3	41.5' - 120' - 126'	29.75'	15'	6'	6'	16.07'	10.4'	1.592	0.956	12/5/2007	93.3
26.875	I-75 SB Over Ramp B-1	100416	1983 (2004)	AASHTO	18	151.5'	3	30.5' - 85' - 36'	Varies	12'	10'	6'	15.9'	20.0'	1.750	1.500	12/4/2007	94.1
26.898	I-75 NB Over Ramp B-1	100417	1983 (2004)	AASHTO	30	166.5'	3	33.5' - 93.5' - 39.5'	59.08'	12'	10'	10'	17.5'	20.0'	1.778	1.583	12/4/2007	94.1
26.703	I-75 SB Over US 92 (SR 600)	100414	1983	AASHTO	8	189.8'	3	41.5' - 106.75 ' - 41.5'	Varies	12'	10'	6'	18.3'	11.1'	1.889	1.500	12/5/2007	92.1
26.703	I-75 NB Over US 92 (SR 600)	100415	1983 (2004)	AASHTO	8	189.8'	3	41.5' - 106.75' - 41.5'	66.75'	12'	10'	6'	18.3'	11.1'	1.528	1.250	12/5/2007	92.1
0.547	I-4 EB Ramp B Over US 92	100424*	1983	AASHTO	2, 5, 7	188.5'	3	41.0' - 106' - 41.5'	29.75'	15'	6'	6'	16.2'	11.1'	2.056	1.722	12/5/2007	94.9

Table 2-9: Existing Bridge Conditions

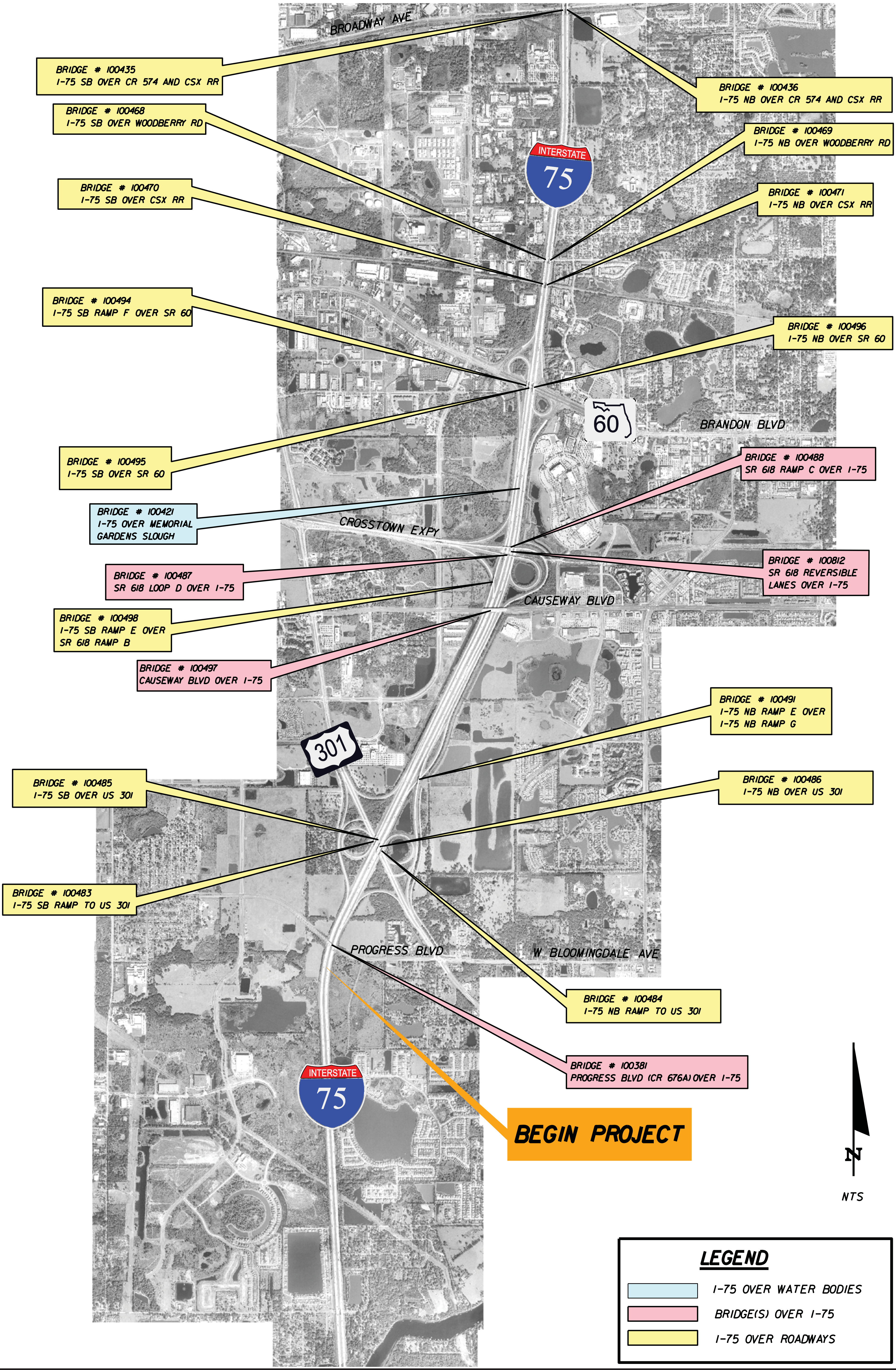
Approx. Milepost	Location Description (Structures from North to South)	Structure Number	Year Built (Deck Replaced)	Structure Type	Skew Angle (degrees)	Structure Length	Spans	Span Lengths	Out to Out Width (ft)	Travel Lane Widths (ft)	Inside Shoulder Width (ft)	Outside Shoulder Width (ft)	Vertical Clearance (ft)	Minimum Horizontal Clearance (ft)	Structural Ratings Operating/ Inventory		Date of Last Inspection	Sufficiency Rating
0.041	I-75 NB Ramp A Over US 92	100422	1983	AASHTO	23	205.5'	3	45' - 115.5' - 45'	42.75'	12'	6'	10'	16.8'	12.9'	1.806	1.583	12/5/2007	84.0
10.908	SR 574 (MLK) Over I-75	100427	1984	AASHTO	0	288.0'	2	144' - 144'	100.75'	12'	11'	EB:10' WB:6'	15.9	24.2'	2.139	1.278	10/9/2007	82.0
25.115	I-75 Over Mango Lake Drainage Canal	100437	1983	Concrete Bridge Culvert	14	25.3'	2	11.8' - 11.8'	N/A	12'	10'	10'	N/A	10.0'	2.775	2.775	10/16/2007	83.0
25.037	I-75 SB Over CR 574 and CSX RR	100435*	1983	AASHTO	5	360.0'	5	51' - 91' - 91' - 76' - 51'	58.75'	12'	10'	10'	26.67'	19.0'	1.528	1.361	10/10/2007	92.9
25.037	I-75 NB Over CR 574 and CSX RR	100436*	1983	AASHTO	5	360.0'	5	51' - 91' - 91' - 76' - 51'	58.75'	12'	10'	10'	27.03'	19.0'	1.528	1.361	10/10/2007	94.9
23.605	I-75 SB Over Woodberry Rd	100468*	1983	AASHTO	8	160.0'	3	37' - 89' - 34'	58.75'	12'	10'	10'	18.72'	32.1'	1.889	1.528	10/11/2007	94.9
23.609	I-75 NB Over Woodberry Rd	100469*	1983	AASHTO	8	160.0'	3	37' - 89' - 34'	58.75'	12'	10'	10'	16.2'	32.1'	1.889	1.528	10/11/2007	94.9
23.464	I-75 SB Over CSX RR	100470*	1983	AASHTO	2	148.5'	3	49.5' - 49.5' - 49.5'	58.75'	12'	10'	10'	23.98'	19.5'	1.694	1.500	10/16/2007	94.9
23.464	I-75 NB Over CSX RR	100471*	1983	AASHTO	2	148.5'	3	49.5' - 49.5' - 49.5'	58.75'	12'	10'	10'	22.7'	19.5'	1.694	1.500	10/16/2007	94.9
0.32	I-75 SB Ramp F Over SR 60	100494	1985	AASHTO	17	290.0'	4	40' - 105' - 105' - 40'	29.75'	15'	6'	6'	16.67'	17.3'	2.250	1.583	10/11/2007	99.0
22.86	I-75 SB Over SR 60	100495	1985	AASHTO	17	290.0'	4	40' - 105' - 105' - 40'	58.75'	12'	10'	10'	17.1'	17.3'	1.806	1.500	10/11/2007	93.9
22.853	I-75 NB Over SR 60	100496	1985	AASHTO	17	290.0'	4	40' - 105' - 105' - 40'	66.75'	12'	10'	6'	16.4'	17.3'	1.806	1.527	10/11/2007	93.9
22.203	I-75 Over Memorial Gardens Slough	100421	1985	Concrete Bridge Culvert	0	39'	3	13' - 13' - 13'	N/A	12'	10'	10'	N/A	11.0'	2.775	1.778	10/16/2007	83.0
14.123	SR 618 Ramp C Over I-75	100488	1985	AASHTO	8	494.2'	4	130' - 119.1' - 113.1' - 132'	42.75'	12'	6'	10'	16.4'	20.3'	1.444	1.028	10/3/2007	89.5
14.119	SR 618 Reversible Lanes Over I-75	100812	2005	Concrete Segmental Box	0	3272.7'	24	143.5' (max)	47.08'	12'	10'	10'	16.8'	13.2'	2.081	1.000	8/8/2006	96.9

Table 2-9: Existing Bridge Conditions

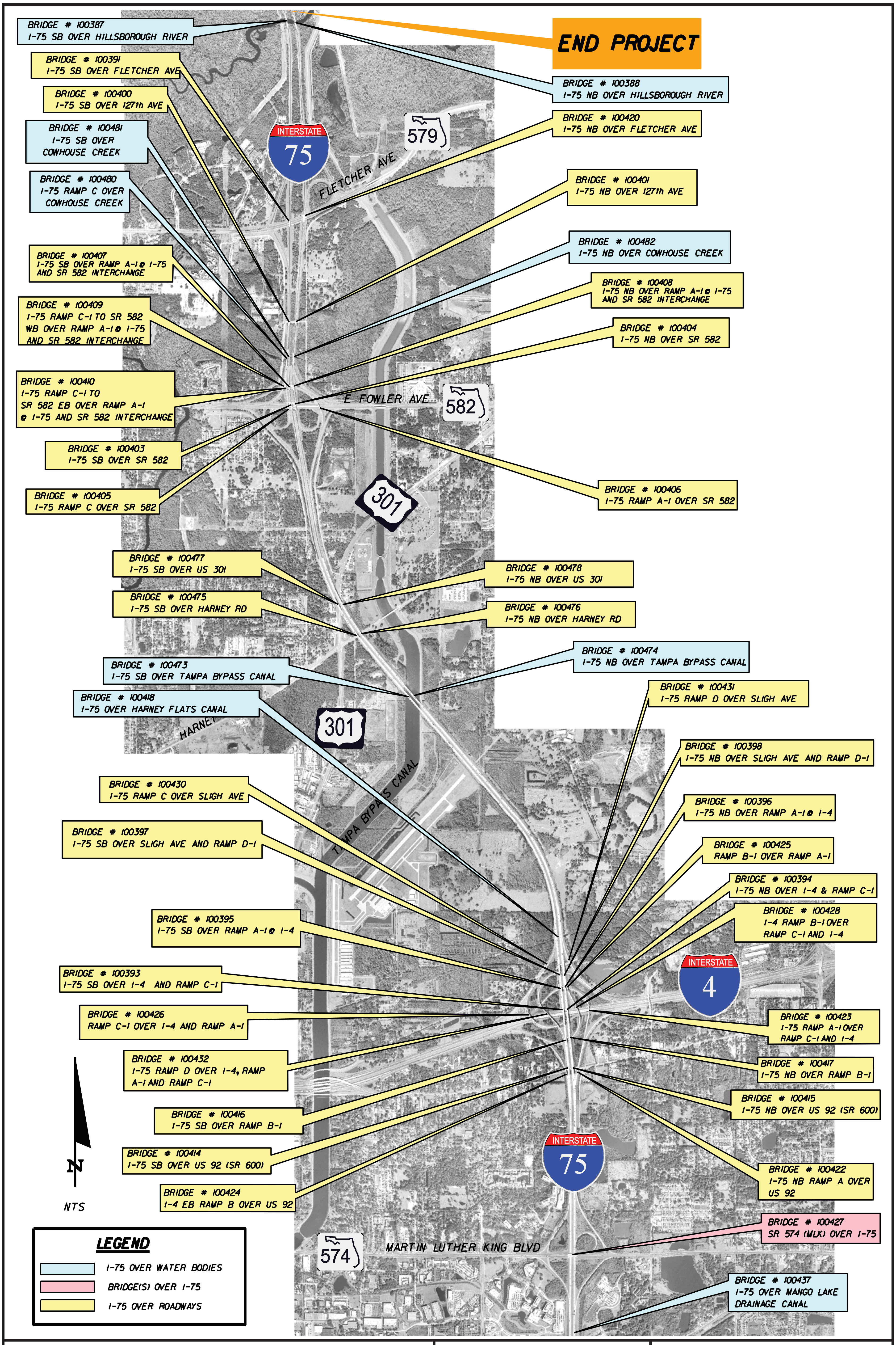
Approx. Milepost	Location Description (Structures from North to South)	Structure Number	Year Built (Deck Replaced)	Structure Type	Skew Angle (degrees)	Structure Length	Spans	Span Lengths	Out to Out Width (ft)	Travel Lane Widths (ft)	Inside Shoulder Width (ft)	Outside Shoulder Width (ft)	Vertical Clearance (ft)	Minimum Horizontal Clearance (ft)	Structural Ratings Operating/ Inventory		Date of Last Inspection	Sufficiency Rating
14.119	SR 618 Loop D Over I-75	100487	1985	AASHTO	0	508.0'	4	133' - 133' - 112' - 130'	29.75'	15'	6'	6'	16.73'	20.9'	1.694	1.111	10/3/2007	92.6
1.458	I-75 SB Ramp E Over SR 618 Ramp B	100498	1987	Steel Box Girders	0	286.0'	1	286'	42.75'	12'	6'	10'	16.57'	21.3'	2.694	1.028	10/3/2007	82.0
0	Causeway Blvd Over I-75	100497	1985	Steel Box Girders	22	731.0'	5	134' - 151.5' - 121.25' - 136.25' - 188'	116.75'	12'	1.5'	10'	17.1'	30.1'	2.139	1.000	10/10/2007	93.5
0.736	I-75 NB Ramp E Over I-75 NB Ramp G	100491	1985	Steel Box Girders	0	264.0'	1	264'	42.75'	12'	10'	6'	16.3'	30.8'	2.775	1.667	10/3/2007	91.9
19.599	I-75 Over Archie Creek	100384	1985	Concrete Bridge Culvert	26	21'	2	10.5' – 10.5'	400'	12'	10'	10'	N/A	36'	2.775	2.775	10/2/2007	76.7
20.052	I-75 SB Over US 301	100485	1985	AASHTO	39	319.3'	4	46' - 113.7' - 113.7' - 46'	70.75'	12'	10'	10'	15.7'	18.0'	1.861	1.500	10/2/2007	92.4
20.031	I-75 NB Over US 301	100486	1985	AASHTO	39	319.3'	4	46' - 113.7' - 113.7' - 46'	82.75'	12'	10'	10'	16.53'	18.0'	2.000	1.611	10/2/2007	92.4
0.357	I-75 SB Ramp to US 301	100483	1985	AASHTO	39	319.3'	4	46' - 113.7' - 113.7' - 46'	29.75'	15'	6'	6'	16.19'	18.0'	2.139	1.778	10/2/2007	97.0
0.521	I-75 NB Ramp to US 301	100484	1985	AASHTO	39	319.3'	4	46' - 113.7' - 113.7' - 46'	29.75'	15'	6'	6'	15.7'	18.0'	2.139	1.778	10/2/2007	96.7
3.22	Progress Blvd (CR 676A) Over I-75	100381	1984	Steel Girders	23	360.0'	2	180' - 180'	46.75'	12'	10'	10'	17.0'	22.8'	1.472	0.889	9/19/2007	92.4

Legend
- I-75 bridges over roadways
- I-75 bridges over water bodies
- Roads crossing over I-75
- Does not satisfy FDOT minimum vertical clearance requirements
- * Replacement of precast panel deck is required
- Interchange Area

Sources
1) Straight Line Diagram Inventories, FDOT D7
2) As-Built Plans and Bridge Inspection Reports from FDOT (various years)



I-75 (SR 93A) PD&E Study South of US 301 to North of Fletcher Avenue WPI Segment No.: 419235-3 Hillsborough County	Existing Structure Locations	Figure 2-16



I-75 (SR 93A) PD&E Study *South of US 301 to North of Fletcher Avenue* WPI Segment No.: 419235-3 Hillsborough County	**Existing Structure Locations**	Figure 2-17

2.13.3 Summary

In general, all of the bridges within the project limits are in good condition. The I-75 Ramp A-1 Bridge over Ramp C-1 and I-4 has a substandard inventory load rating. 22 bridges are considered deficient per FDOT vertical clearance standards. An LRFR will need to be performed on all the bridges that are proposed to be widened to verify they meet the current code requirements. Those that meet these requirements can be considered suitable for widening in the future but appropriate protection will still be needed to meet the horizontal clearance requirements outlined in the *Plans Preparation Manual*.

2.14 Geotechnical Data

Hillsborough County is in the Floridian section of the Atlantic Coastal Plain. The surface drainage in the county is toward Old Tampa Bay, Hillsborough Bay, and Tampa Bay.

A large part of northwestern Hillsborough County has sinkholes due to the absence or thinning of the underlying clayey residuum. Karst topography is characteristic of the geomorphology of the I-75 project area and is evident of a high variability of the top of a relatively shallow competent limestone and has the potential for the occurrence of cavities in the limestone strata. This information was verified based on a review of soil borings performed in the vicinity of the Fletcher Avenue interchange during the 2004 I-75 PD&E Study from South of Fowler Avenue in Hillsborough County to South of SR 56 in Pasco County. A sinkhole located at Fletcher Avenue and I-75 receives stormwater discharge from the interstate via a concrete and riprap outfall. The top of the limestone was found to be about 40 to 50 feet below land surface at the Fletcher Avenue interchange. The small, circular, steep-sided sink is located between the northbound and southbound lanes of I-75. The sinkhole has characteristics of cover-collapse, with steep to moderate slopes, and cover subsidence, with soils dominated by fine, permeable sands. The surrounding area is generally undeveloped with the exception of the interstate.

The United States Department of Agriculture, Soil Conservation Service (now Natural Resources Conservation Service), Soil Survey of Hillsborough County, Florida (May 1989) was reviewed for this study.

The American Association of State Highway and Transportation Officials (AASHTO) system classifies soils according to properties that affect roadway construction and maintenance. The fraction of a mineral soil that is less than 3 inches in diameter is classified in groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index.

The Unified Soil Classification System (USCS) classifies soils according to properties that affect their use as construction material. Soils are classified according to grain size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils along the I-75 project corridor are identified as GM, GC, SP, SM, and SC; highly organic soils are identified as PT. Soils exhibiting engineering properties of two groups can have a dual classification (SP-SM).

The soil groups are summarized in **Table 2-10**. A copy of the soil survey map for the project corridor is shown in **Appendix E**.

Table 2-10: Summary of Soil Groups

Soil Name (Map Unit No.)	Depth (inches)	Classification		Permeability (inch/hour)	Seasonal High Water Table Depth (ft)	Hydro-logic Group
		AASHTO Group	USCS Group			
Archbold (3)	0 – 4 4 – 80	A-3 A-3	SP SP	6.0 – 20 6.0 – 20	3.5 – 6.0	A
Basinger (5)	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
Holopaw	0 – 6 6 – 52 52 – 80	A-3 A-3 A-2-4	SP, SP-SM SP, SP-SM SM, SM-SC	6.0 – 20 6.0 – 20 0.2 – 2.0	+2 – 1.0	D
Samsula	0 – 34 34 – 80	-- A-3, A-2-4	PT SP-SM, SM, SP	6.0 – 20 6.0 – 20	+2 – 1.0	D
Broward (6)	0 – 4 4 – 26 26 – 80	A-3, A-2-4 A-3, A-2-4 --	SP-SM SP, SP-SM --	6.0 – 20 6.0 – 20	1.5 – 2.5	C
Candler (7)	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
Candler (8)	0 – 6 6 – 74 74 – 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
Chobee (10)	0 – 16 16 – 49 49 – 80	A-2-4 A-2-6, A-2-7, A-6, A-7 A-2-6, A-2-7, A-6, A-7	SP-SM, SM SC SP-SM, SM, SC, SM-SC	2.0 – 6.0 <0.2 0.2 – 6.0	0 – 1.0	B/D
Chobee (11)	0 – 6 4 – 12 12 – 49 49 – 80	-- A-2-4 A-2-6, A-2-7, A-6, A-7 A-2-4, A-6, A-7	PT SP-SM, SM SP-SM, SM, SC, SM-SC SP-SM, SM	6.0 – 20 2.0 – 6.0 <0.2 2.0 – 6.0	+2 – 1.0	D
Chobee (12)	0 – 15 15 – 60 60 – 80	A-2-4 A-2-4, A-2-6, A-6, A-7 A-2-4	SP-SM, SM SC SP-SM, SM, SC, SM-SC	2.0 – 6.0 <0.2 2.0 – 6.0	0 – 1.0	B/D
Felda (15)	0 – 22 22 – 45 45 – 80	A-3 A-2-4, A-2-6 A-3, A-2-4	SP, SP-SM SM, SM-SC, SC SP, SP-SM	6.0 – 20 0.6 – 6.0 6.0 – 20	0 – 1.0	B/D

Table 2-10: Summary of Soil Groups

Soil Name (Map Unit No.)	Depth (inches)	Classification		Permeability (inch/hour)	Seasonal High Water Table Depth (ft)	Hydro-logic Group
		AASHTO Group	USCS Group			
Felda (16)	0 – 22 22 – 38 38 – 80	A-3 A-2-4, A-2-6 A-3, A-2-4	SP, SP-SM SM, SM-SC, SC SP, SP-SM	6.0 – 20 0.6 – 6.0 6.0 – 20	0 – 1.0	B/D
Fort Meade (18)	0 – 26 26 – 80	A-2-4 A-2-4	SM SM	6.0 – 20 6.0 – 20	>6.0	A
Malabar (27)	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
Myakka (29)	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
Ona (33)	0 – 4 4 – 22 22 – 80	A-3 A-3, A-2-4 A-3	SP-SM, SP SP-SM, SM SP-SM, SP	6.0 – 20 0.6 – 2.0 6.0 – 20	0 – 1.0	B/D
Pomello (41)	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	2.0 – 3.5	C
Pomello (42)	0 – 42 42 – 54 54 – 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	2.0 – 3.5	C
St. Johns (46)	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 (47)	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
Smyrna (52)	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 – 1.0	B/D
Winder (59)	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
Winder (60)	0 – 14 14 – 17 17 – 33 33 – 80	A-3, A-2-4 A-2-4 A-2-4, A-2-6, A-1-B A-3, A-2-4, A-1-B	SP, SP-SM SM SM, SM-SC, SC, GM-GC SP, SP-SM, SM	6.0 – 20 0.2 – 0.6 >0.2 6.0 – 20	0 – 1.0	B/D
Zolfo (61)	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

2.15 Existing Traffic and Levels of Service

Detailed information on existing traffic volumes and levels of service may be found in the *Design Traffic Technical Memorandum – Technical Reports 1 and 2* prepared by PB Americas, Inc. **Tables 2-11** and **2-12** below show the existing LOS, average annual daily traffic (AADT), and directional design hourly volumes (DDHV) for freeway segments, ramp termini and ramp merge/diverge areas within the project limits.

Table 2-11: Existing (2007) LOS, AADT and DDHV - Freeway Segments

Mainline Segment	LOS	AADT	DDHV (PM Peak)
I-75 Northbound			
Gibsonton Drive to US 301	B	60,900	4,120
US 301 to Selmon Expressway	B	43,000	2,455
Selmon Expressway to SR 60	B	48,500	3,025
SR 60 to Martin Luther King Boulevard	D	73,200	4,880
Martin Luther King Boulevard to I-4	C	76,600	5,490
I-4 to Fowler Avenue	D	62,000	4,910
Fowler Avenue to Fletcher Avenue	D	54,100	4,405
I-75 Southbound			
Fletcher Avenue to Fowler Avenue	D	60,700	4,600
Fowler Avenue to I-4	E	69,600	5,815
I-4 to Martin Luther King Boulevard	D	68,200	6,390
Martin Luther King Boulevard to SR 60	F	65,200	6,710
SR 60 to Selmon Expressway	C	41,900	4,680
Selmon Expressway to US 301	B	43,000	4,055
US 301 to Gibsonton Drive	D	54,300	6,200
Weave Segment	**LOS**		
I-75 SB Fletcher Avenue to Fowler Avenue	F	15,400	1,915
I-75 NB CD Selmon Expressway to SR 60	B	27,000	900
I-75 SB CD SR 60 to Selmon Expressway	D	27,000	2,710

Source: Design Traffic Technical Memorandum – Technical Report No. 1

Table 2-12: Existing (2007) LOS – Ramp Termini and Ramp Merge/Diverge Areas

Interchange	Ramp Termini LOS (Best/Worse)	Ramp Merge/Diverge LOS (Best/Worse)
US 301	-	A/D
Selmon Expressway	-	B/D
SR 60	B/F	B/F
MLK Boulevard	A/F	C/F
I-4	-	D/F
Fowler Avenue	C	C/F
Fletcher Avenue	D/F	B/F

Source: Design Traffic Technical Memorandum – Technical Report No. 1

2.16 Rest Areas

There are no rest areas on I-75 within the project limits.

3.0 Planning Phase/Corridor Analysis

Previous plans and studies include:

- Florida Intrastate Highway System (FIHS) Cost Feasible Plan
- Strategic Multimodal System (SIS) Unfunded Needs Plan
- I-75 Master Plan
- Hillsborough County Comprehensive Plan
- Hillsborough County Metropolitan Planning Organization (MPO) Long Range Transportation Plan (LRTP)
- I-75 Interchange Operational Study
- Corridor Needs Assessment Study for I-75 from North of Moccasin Wallow Road to South of Fowler Avenue

The I-75 Master Plan, dated November 1989, recommended eight general purpose lanes throughout the project limits, based on a design year of 2010.

A portion of the study corridor, from SR 60 to I-4, is included in the Florida Intrastate Highway System (FIHS) 2025 Cost Feasible Plan Update, August 2003. Due to the intense traffic growth and high levels of congestion, the portion of the study corridor from north of I-4 to south of Fowler Avenue is proposed to be included in the next update of the SIS 2035 Cost Feasible Plan. The project is identified in the SIS Multimodal Unfunded Needs Plan (May 2006) and in the earlier SIS 2030 Highway Component Unfunded Needs Plan (April 2004).

The I-75 Interchange Operational Study (June 2006) and the I-75 Corridor Needs Assessment Study (May 2006), both completed for FDOT District Seven, were reviewed and several of the improvements recommended in those studies were incorporated into the interchange build alternatives analyzed as a part of this study.

This project is consistent with the Transportation Element of the Hillsborough County Comprehensive Plan, adopted in March 2001 and last amended in January 2005.

It is included in the Hillsborough County Metropolitan Planning Organization's Long Range Transportation Plan (amended June 5, 2007) Cost Affordable Plan and Needs Plan. This plan calls for the addition of four special use lanes on I-75 from the Manatee/Hillsborough County line to I-275 and four general use lanes on I-75 between SR 60 and I-4.

The project is also consistent with the TBARTA Master Plan which recommends Express Buses running in managed lanes along I-75.

With respect to a corridor analysis, no mention of a corridor analysis is included in the *ETDM Programming Summary Report* published March 29, 2007. The I-75 corridor would be classified as a Level 1 analysis: "Projects on existing alignments for which alternate corridors are not under consideration, and the development and analysis of an interconnected multimodal transportation system is not feasible. No corridor report is necessary."

4.0 Project Design Standards

Design criteria were developed based on the FDOT *Plans Preparation Manual* (January 2009); and *A Policy on Geometric Design of Highways and Streets* (AASHTO, 2004). **Table 4-1** summarizes the design criteria to be used for this project. The I-75 corridor was originally designed using a 70 mph design speed; the same design speed will be used for this project. **Figure 4-1** illustrates the FHWA-classified urban and rural areas within the study limits.

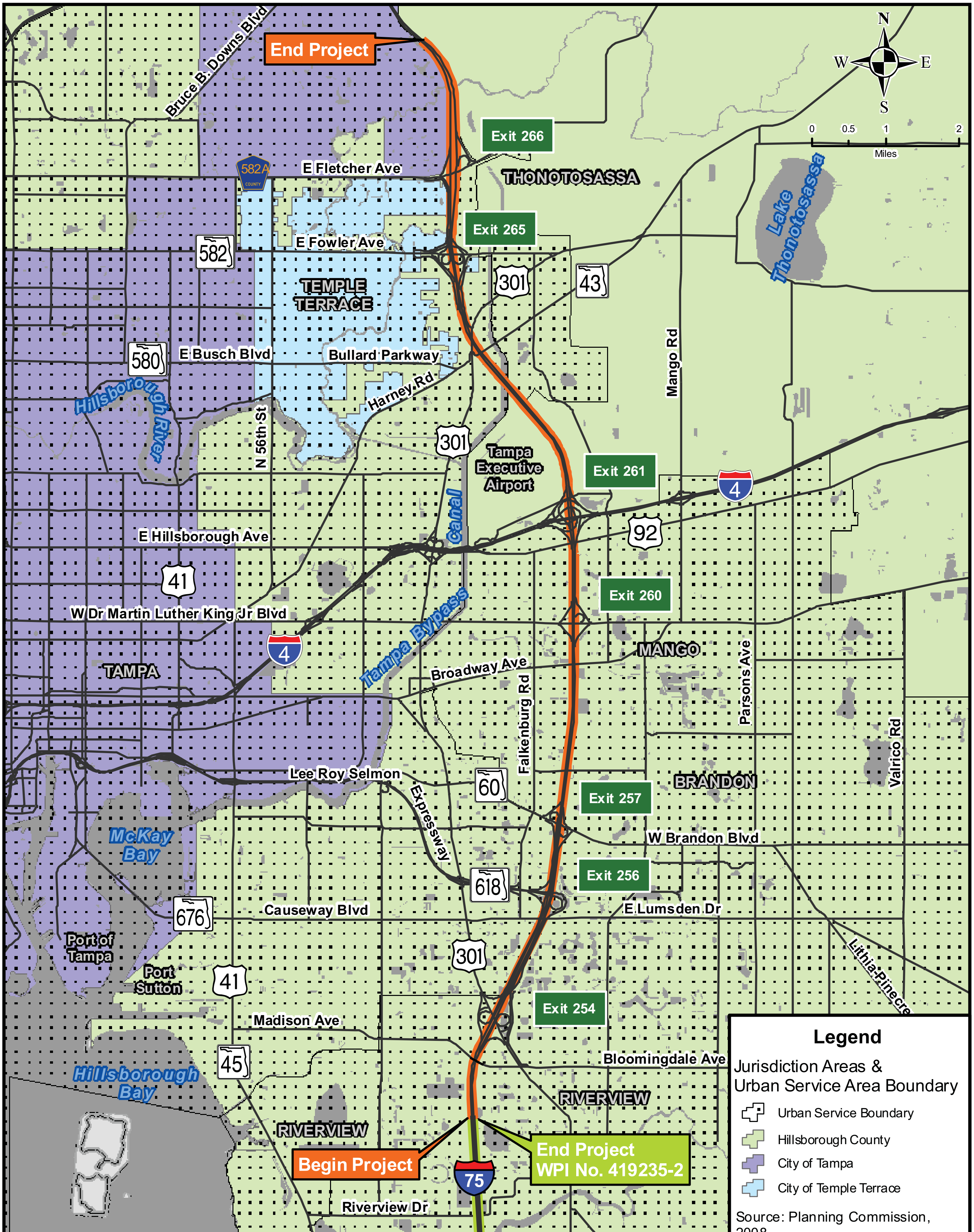
Table 4-1: Roadway Design Criteria for Mainline I-75

Design Element	Design Standard	Sources
Functional Classification	Urban Principal Arterial-Interstate	2000 Urban Boundaries and Federal Functional Classification Map
Design Speed		PPM* Volume 1, Table 1.9.2
Mainline - GUL/SUL	70 mph	
Collector-Distributor (C-D) Road System	50 mph	
Diamond Ramp	45 mph	
Loop Ramp	30 mph	
Maintenance of Traffic	Not less than 10 mph below posted speed limit	Design Standard Index 600
Median Width	64’ without barrier 26’ with barrier	PPM Volume 1, Table 2.2.1
Maximum Degree of Curve		PPM Volume 1, Table 2.8.3
Mainline (GUL/SUL)	3°00’	
C-D Road System	8°15’	
Diamond Ramp	10°15’	
Loop Ramp	24°45’	
Length of Horizontal Curve		PPM Volume 1, Table 2.8.2a
Desired	30V (2,100’)	
Minimum	15V (1,050’)	
Minimum Stopping Sight Distance		PPM Volume 1, Table 2.7.1
Mainline – GUL/SUL	820’	
C-D Road System	570’	
Diamond Ramp	360’	
Loop Ramp	200’	
Maximum Lane Roll-Over		PPM Volume 1, Figure 2.2.1 & Table 2.1.4
Travel Lanes	0.04	
Roadway Terminals	0.05	
Maximum Shoulder Roll-Over	0.07	PPM Volume 1, Figure 2.3.1

Design Element	Design Standard	Sources
Superelevation Transition		PPM Volume 1, Pg. 2-47
Tangent	80% desirable, 50% min	
Curve	20% desirable, 50% max	
Maximum Superelevation	0.10	PPM Volume 1, Table 2.9.1
Entrance Ramp Taper Length	1,200’	Design Standards Index 525
Exit Ramp Taper Angle	4°	Design Standards Index 525
Maximum Profile Grade		PPM Volume 1, Table 2.6.1
Mainline – GUL/SUL	3%	
C-D Road System	3%	
Diamond Ramp	3-5%	
Loop Ramp	5-7%	
Max Change in Grade w/o V.C.	0.20	PPM Volume 1, Table 2.6.2
Crest Vertical Curve		PPM Volume 1, Table 2.8.5
Mainline – GUL/SUL	K = 506	
C-D Road System	K = 245	
Diamond Ramp	K = 98	
Loop Ramp	K = 31	
Sag Vertical Curve		PPM Volume 1, Table 2.8.6
Mainline – GUL/SUL	K = 206	
C-D Road System	K = 136	
Diamond Ramp	K = 79	
Loop Ramp	K = 37	
Minimum Vertical Curve Length		PPM Volume 1, Tables 2.8.5 & 2.8.6
Crest	1,800’ w/in interchanges/ 1,000’ b/w interchanges	
Sag	800’	
Minimum Vertical Clearance	16’-6” over roadway	PPM Volume 1, Table 2.10.1
Lane Widths		PPM Volume 1, Tables 2.1.1 & 2.1.3
Mainline – GUL/SUL	12’	
C-D Road System	12’	
One-Lane Ramps	15’	
Two-Lane Ramps	24’	
Inside Shoulder Width		PPM Volume 1, Table 2.3.1
Mainline – GUL/SUL	12’/10’ paved, 12’ paved against barrier	
Two-lane C-D Road System	4’ paved 10’ paved against barrier	

Design Element	Design Standard	Sources
Three-lane C-D Road System	10' paved 10' paved against barrier	
Two-Lane Barrier Separated HOV	12' paved against barrier	
One-Lane Ramps	6'/2' paved	
Two-Lane Ramps	8'/4' paved	
Outside Shoulder Width		PPM Volume 1, Table 2.3.1
Mainline – GUL/SUL	12'/10' paved 12' paved against barrier	
Two-lane C-D Road System	10' paved 10' paved against barrier	
Three-lane C-D Road System	10' paved 10' paved against barrier	
Two-Lane Barrier Separated HOV	12' paved against barrier	
One-Lane Ramps	6'/4' paved	
Two-Lane Ramps	12'/10' paved	
Cross Slopes		PPM Volume 1, Figure 2.1.1 & Table 2.3.1
Mainline – GUL/SUL	0.02-0.03	
C-D Road System	0.02-0.03	
Inside Shoulder	0.05-0.06	
Outside Shoulder	0.06	
Horizontal Clearance		PPM Volume 1, Table 2.11.11
Mainline – GUL/SUL	36'	
C-D Road System	Outside Clearance Zone	
Auxiliary Lane	24'	
One-Lane Ramps	14' diamond/10' loop	
Two-Lane Ramps	24' diamond/18' loop	
Border Width	94'	PPM Volume 1, Table 2.5.3
Vertical Clearance		PPM Volume 1, Table 2.10.1 & Section 2.10.1
Roadway Over Roadway	16'-6"	
Roadway Over Railroad	23'-6"	
Roadway Over Water	12'	

Note: *Plans Preparation Manual (PPM), Revised January 2009.



I-75 (SR 93A) PD&E Study

South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Jurisdiction Areas and Urban Service Area Boundary

Figure 4-1

5.0 Alternatives Analysis

5.1 No-Build Alternative

The No-Build Alternative assumes that the existing conditions would remain within the project limits for I-75 beyond the design year 2035, with only routine maintenance activities.

The No-Build traffic analysis indicates that by the year 2035 a significant portion of the mainline freeway segments, merge/diverge areas, and ramp terminal intersections within the study limits are projected to operate below acceptable levels of service.

Distinct advantages and limitations associated with the No-Build Alternative are outlined below:

Advantages:

- No additional relocations;
- No additional inconvenience to the traveling public and property owners during construction;
- No additional design, ROW acquisition, and construction costs; and
- No additional impacts to the adjacent natural, physical and human environment.

Disadvantages:

- Increase in traffic congestion and user costs associated with increased travel times;
- Increase in crash potential due to congestion;
- Inconsistency with local transportation plans;
- Increase in emergency vehicle response time;
- Increase in carbon monoxide and other pollutants due to increased traffic congestion; and
- Increased costs in the movement of goods and services.

These advantages and disadvantages, along with other established criteria, will be used in the evaluation process with the various Build Alternatives. The No-Build Alternative will remain a viable alternative through the Public Hearing process.

5.2 Transportation Systems Management

Transportation Systems Management (TSM) alternatives involve improvements designed to maximize the utilization and efficiency of the existing facility through improved system and demand management. The various TSM options generally include traffic signal and intersection improvements, ITS system implementation/improvement and transit improvements. The additional capacity required to meet the projected traffic volumes along I-75 in the design year cannot be provided solely through the implementation of TSM improvements. However, the various improvements discussed in the *Design Traffic Technical Memorandum –*

Technical Report No. 2: Evaluation of Build Alternative Concepts for intersections within 0.5 miles of the project interchanges enhance traffic operations on both the side streets and the mainline. Additionally, the Tampa Bay Area Regional Transportation Authority (TBARTA) has taken an active approach in studying various forms of mass transit alternatives such as light rail and buses on shoulders. TBARTA's Master Plan indicates that "Express Bus Service" in managed lanes is planned for the I-75 corridor.

5.3 Projected Traffic Volumes and Level of Service

5.3.1 No-Build Alternative

Projected traffic volumes and LOS for the No-Build Alternative may be found in the *Design Traffic Technical Memorandum – Technical Report 1* prepared by PB Americas, Inc. These traffic volumes and LOS have been summarized below in **Table 5-1** and **Table 5-2**.

Table 5-1: No-Build Alternative LOS, AADT and DDHV (2035) - Freeway GUL Segments

Mainline Segment	LOS AM (PM)	AADT	DDHV	
			AM Peak	PM Peak
I-75 Northbound				
Gibsonton Drive to US 301	F(E)	91,900	8,650	7,675
US 301 to Selmon Expressway	B(C)	65,600	5,810	5,300
Selmon Expressway to SR 60	C(E)	73,500	5,620	5,640
SR 60 to Martin Luther King Boulevard	D(D)	105,100	9,900	8,780
Martin Luther King Boulevard to I-4	C(C)	109,900	10,360	9,185
I-4 to Fowler Avenue	D(D)	91,000	8,640	9,625
Fowler Avenue to Fletcher Avenue	F(E)	81,100	7,755	8,580
I-75 Southbound				
Fletcher Avenue to Fowler Avenue	E(E)	91,100	8,580	8,710
Fowler Avenue to I-4	D(E)	102,100	9,625	8,535
I-4 to Martin Luther King Boulevard	C(C)	98,000	9,190	10,130
Martin Luther King Boulevard to SR 60	C(C)	93,600	8,780	9,900
SR 60 to Selmon Expressway	B(B)	62,100	4,795	5,990
Selmon Expressway to US 301	A(B)	48,200	4,335	5,275
US 301 to Gibsonton Drive	E(F)	81,800	7,670	8,650
Weave Segment[2] LOS				
I-75 NB CD – Selmon Expressway to SR 60	F(E)	17,300	3,430	3,120
I-75 SB CD – SR 60 to Selmon Expressway	B(B)	35,700	3,095	4,130

Source: Design Traffic Technical Memorandum – Technical Report 1

Table 5-2: No-Build Alternative LOS (2035) – Ramp Termini and Ramp Merge/Diverge Areas

Interchange	Ramp Termini LOS (Best/Worse)	Ramp Merge/Diverge LOS (Best/Worse)
US 301	A/B	B/C
Selmon Expressway	-	A/F[1]
SR 60	B/E	B/F[1]
MLK Boulevard	C/F	B/F
I-4	-	A/F
Fowler Avenue	A/B	A/D
Fletcher Avenue	A/E	B/D

Source: Design Traffic Technical Memorandum – Technical Report 1
Note: [1] Deficient movements occur on a C-D roadway, not on the mainline.

5.3.2 Recommended Alternative

Projected traffic volumes may be found in the *Design Traffic Technical Memorandum – Technical Report 2* prepared by PB Americas, Inc. **Tables 5-3**, **5-4**, and **5-5** below show the projected LOS, assuming the recommended build alternative, for freeway segments (GUL and SUL), ramp termini and ramp merge/diverge areas within the project limits.

Table 5-3: Recommended Build Alternative LOS, AADT and DDHV (2035) - Freeway GUL Segments

Mainline Segment	LOS	AADT	DDHV	
			AM Peak	PM Peak
I-75 Northbound				
Gibsonton Drive to US 301	F[1]	82,500	5,720	6,085
US 301 to Selmon Expressway	B	30,300	3,425	3,680
Selmon Expressway to SR 60	B	46,600	2,320	2,450
SR 60 to Martin Luther King Boulevard	C	79,000	5,515	5,885
Martin Luther King Boulevard to I-4	C	65,200	6,175	6,350
I-4 to Fowler Avenue	F	58,700	5,150	5,915
Fowler Avenue to Fletcher Avenue	A	53,700	5,145	6,205
I-75 Southbound				
Fletcher Avenue to Fowler Avenue		49,700	6,400	6,770
Fowler Avenue to I-4	E	61,500	7,585	4,915
I-4 to Martin Luther King Boulevard	F	61,100	6,625	5,450
Martin Luther King Boulevard to SR 60	F	75,000	6,005	5,915
SR 60 to Selmon Expressway	B	42,600	4,870	2,605
Selmon Expressway to US 301	B	39,900	3,490	3,135
US 301 to Gibsonton Drive	C	78,400	6,985	7,300
Weave Segment[2]	**LOS**			
NB CD Roadway US 301 to Selmon Expressway	C	13,000	1,130	1,075

Source: Design Traffic Technical Memorandum – Technical Report 2

Note: [1]The LOS deficiency is due to upstream operational deficiencies and not due to mainline capacity constraints along this segment
[2] Only the weave sections that correspond to the HCM definition of weaving influence areas (less than 2,500 feet between ramps) are included in this table.

Table 5-4: Recommended Build Alternative LOS, AADT and DDHV (2035) - Freeway SUL Segments

Mainline Segment	LOS	AADT	DDHV	
			AM Peak	PM Peak
I-75 Northbound				
Gibsonton Drive to US 301	C	21,500	1,975	1,900
US 301 to Selmon Expressway	B	35,700	4,260	3,830
Selmon Expressway to Slip Ramp (S of I-4)	B	31,500	3,020	2,850
Slip Ramp (S of I-4) to I-4	B	52,000	4,300	4,140
I-4 to Slip Ramp (N of I-4)	B	48,900	3,480	4,190
Slip Ramp (N of I-4) to Fowler and Fletcher Avenue	B	42,000	2,450	2,850
I-75 Southbound				
Fowler and Fletcher Avenue to Slip Ramp (N of I-4)	B	42,000	2,930	2,780
Slip Ramp (N of I-4) to I-4	C	48,900	4,480	4,410
I-4 to Slip Ramp (S of I-4)	B	52,000	4,490	4,550
Slip Ramp (S of I-4) to Selmon Expressway	A	31,500	2,790	2,840
Selmon Expressway to US 301	A	35,700	1,830	2,350
US 301 to Gibsonton Drive	B	21,500	3,430	3,340

Source: Design Traffic Technical Memorandum – Technical Report 2

Table 5-5: Recommended Build Alternative LOS (2035) – Ramp Termini and Ramp Merge/Diverge Areas

Interchange	Ramp Termini LOS (Best/Worse)	Ramp Merge/Diverge LOS (Best/Worse)
US 301	A/B	B/C
Selmon Expressway	-	A/F[1]
SR 60	B/E	B/F[1]
MLK Boulevard	C/F	B/F
I-4	-	A/F
Fowler Avenue	A/B	A/D
Fletcher Avenue	A/E	B/D

Source: Design Traffic Technical Memorandum – Technical Report 2
Note: [1] Deficient movements occur on a C-D roadway, not on the mainline.

5.4 Alternatives Evaluation

5.4.1 Mainline Alternatives

After several coordination meetings with the study team and the FDOT, as discussed in the *Preliminary Alternatives Analysis Memorandum (PAAM)*, two mainline build alternative alignments were developed and evaluated based on two alternate typical sections (**Figure 5-1** and **Figure 5-2**). Both typical sections generally consisted of 12 travel lanes with six GULs (three in each direction) and six SULs (three in each direction). The two main differences between the typical sections were the type of separation provided between the SULs and the GULs and whether widening takes place mainly within the median or to the outside.

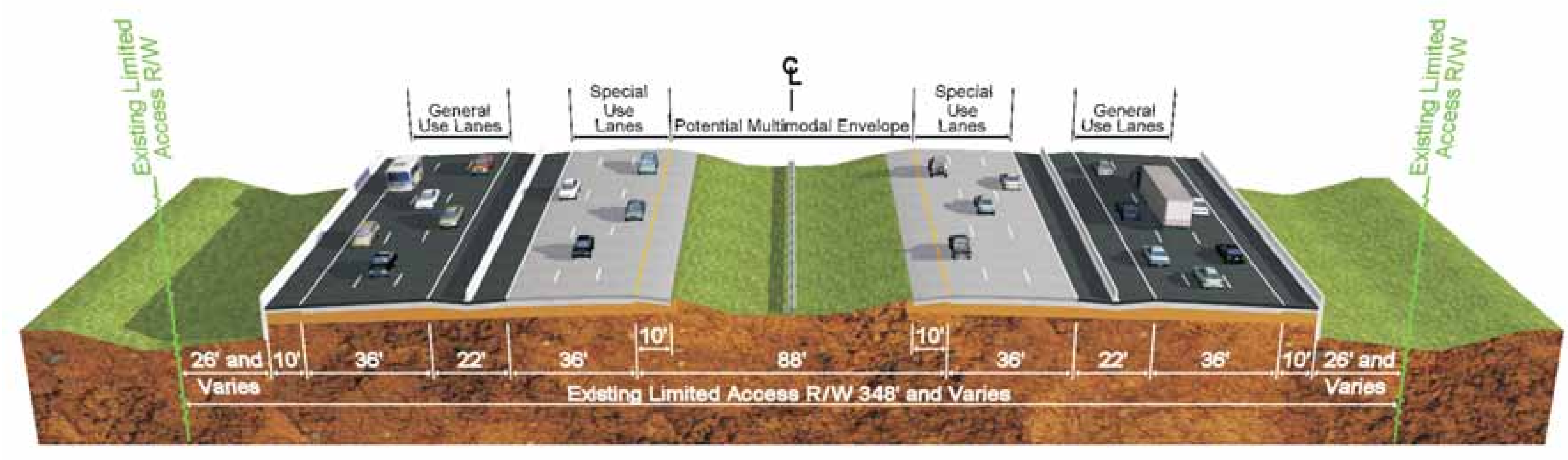
Either mainline alternative could be constructed within the existing ROW. Additional ROW may be required, however, for interchange enhancements, slip ramps, stormwater management facilities, and floodplain compensation sites for both Build Alternatives.

Mainline Alternative 1 Typical Section

Under Mainline Alternative 1, the proposed widening of I-75 would mainly occur to the outside. The 12-lane typical section would provide for a minimum 88-foot median (for potential future use as a multi-modal envelope), which would include 12-foot inside shoulders (10-foot paved), and a double-faced concrete barrier to separate the SULs from the GULs. The proposed typical section for this alternative is shown in **Figure 5-1.**

Mainline Alternative 2 Typical Section

Under Mainline Alternative 2, the proposed widening of I-75 would mainly occur to the inside within the existing median. A 9-foot widening would also be typically required to the outside on both sides of I-75. The proposed typical section would provide for a minimum 22-foot median that would include a 2-foot barrier wall in the center and a 10-foot paved shoulder on each side. The proposed median width meets the American Association of State Highway and Transportation Officials (AASHTO) recommendation for minimum freeway median width, but is less than the recommended 26-foot minimum median width – which accounts for a 2-foot barrier wall and a 12-foot shoulder on each side – in the FDOT's *Plans Preparation Manual (PPM)*. The 22-foot median width was chosen to minimize pavement reconstruction costs and impacts to the existing interchange ramps. The median width requirements will be re-assessed during the final design phase of this project. A 6-foot buffer consisting of paint and/or plastic pylons would separate the SULs from the GULs. Should a multi-modal envelope be desired to be added to the typical section, this envelope would be placed to the outside on either side of I-75. The proposed typical section for this alternative is shown in **Figure 5-2.**



I - 75 (SR 93A) PD&E Study

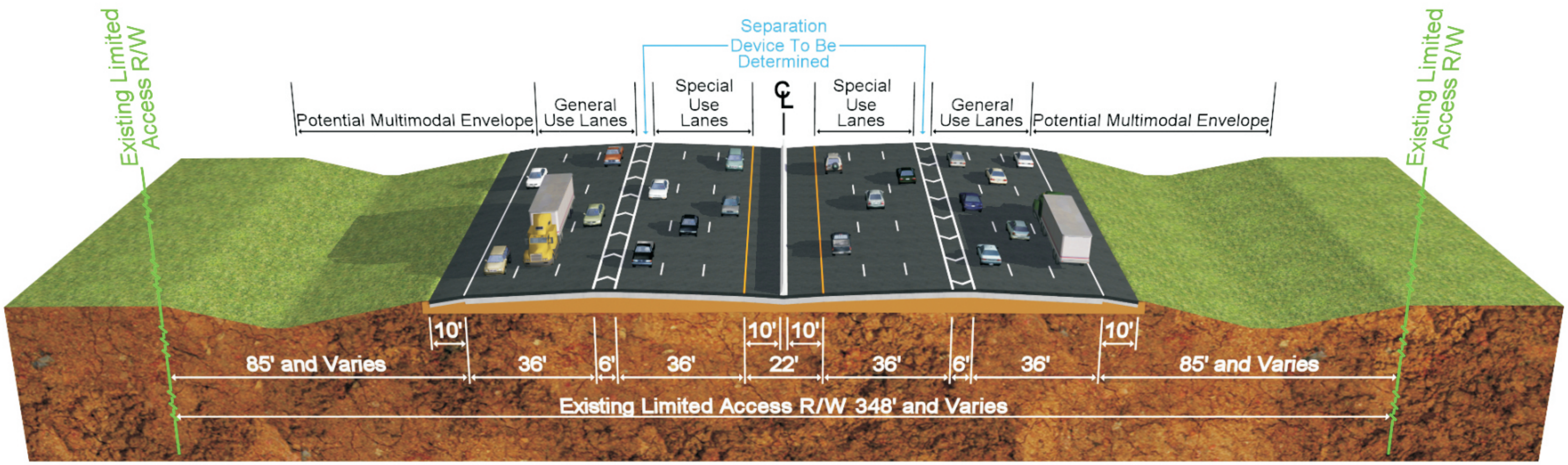
From South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Mainline Alternative 1 Typical Section

Figure 5-1



I - 75 (SR 93A) PD&E Study

From South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Mainline Alternative 2 Typical Section

Figure 5-2

5.4.2 Potential New Interchanges

No new interchanges are proposed within the project limits.

5.4.3 Interchange Alternatives

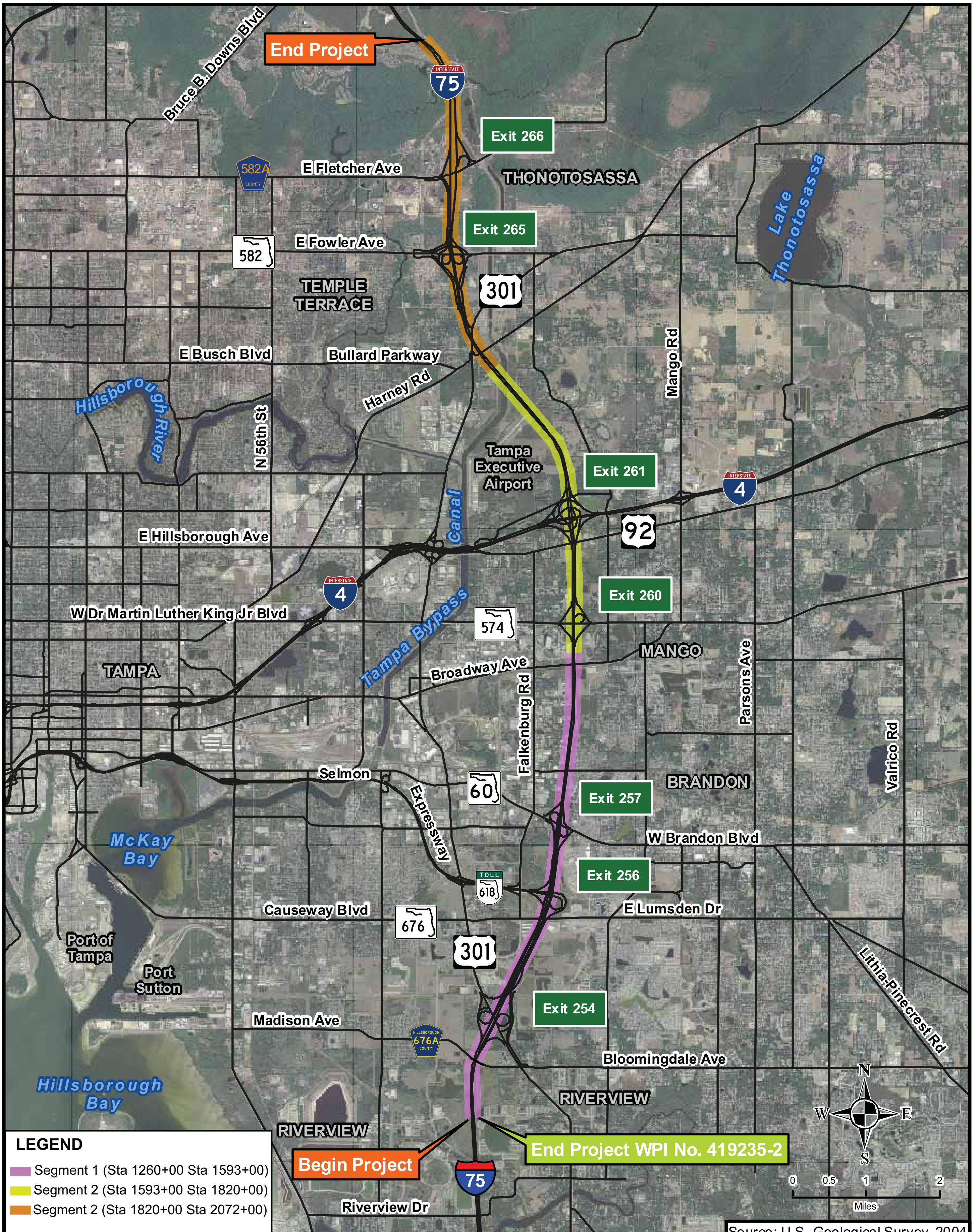
There are seven existing interchanges along I-75 within the project limits located at US 301, the Selmon Expressway, SR 60, MLK Boulevard, I-4, Fowler Avenue, and Fletcher Avenue. Due to the close spacing between the seven interchanges, improvements proposed at each interchange would affect the operations at adjacent interchanges. For this reason the study area was divided into three segments and alternative improvement conceptual design plans were developed for each segment. The three segments, depicted in **Figure 5-3**, are discussed below:

- Segment One – from south of US 301 to north of SR 60. This segment includes improvements for the interchanges at US 301, Selmon Expressway, and SR 60.

- Segment Two – from north of SR 60 to north of I-4. This segment includes improvements for the interchanges at MLK Boulevard and I-4.

- Segment Three – from north of I-4 to north of Fletcher Avenue. This segment includes improvements for the interchanges at Fowler Avenue and Fletcher Avenue.

For each segment and each of the mainline (typical section) alternatives, several improvement concepts, called "*options*" in this and other project documents, were considered. Three options were evaluated for Segment One and two options each were evaluated for Segments Two and Three. A description of improvement options evaluated for each segment follows below.



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (SR 93A) PD&E Study

South of US 301 to North of Fletcher Avenue

WPI Segment No.: 419235-3

Hillsborough County

Segment Location Map

Figure 5-3

5.4.3.1 Segment One Interchange Alternatives

The following improvement options were evaluated for Segment One:

- Option A
- Option B
- Option C

<u>**Option A**</u>

Option A generally provides the same configuration for both Mainline Alternatives (1 and 2). This option includes the following improvements:

- Minor changes at the US 301 interchange.
- Adding two loop ramps and two directional ramps at the Selmon Expressway interchange to directly connect the Selmon Expressway with the I-75 SULs. The loop ramps would accommodate the northbound I-75 SUL to westbound Selmon Expressway and the eastbound Selmon Expressway to northbound I-75 SUL movements. The directional ramps would accommodate entrance and exit movements for the southbound I-75 SULs to the Selmon Expressway. The I-75 SULs would be constructed through the interchange as third-level structures.
- Redesigning the entrance and exit ramps at SR 60 to increase the ramp storage lengths. An additional lane would be constructed on the I-75 southbound and northbound exit ramps. Quadruple left-turn lanes would be provided from the I-75 southbound exit ramp to SR 60 and triple left-turn lanes would be provided from the I-75 northbound exit ramp to SR 60.
- Relocating the southbound exit ramp to the C-D road approximately one mile north of SR 60 to improve weaving operations in this area.
- Extending the southbound C-D road at US 301 beyond the southbound I-75 exit ramp. This improvement would allow the eastbound US 301 to southbound I-75 movement to enter onto the southbound C-D road prior to entering the I-75 southbound mainline. The southbound I-75 to eastbound US 301 exit ramp would be reconstructed to accommodate the new mainline and southbound C-D road alignment.
- Widening of the northbound C-D and southbound C-D roads to provide three travel lanes and four travel lanes, respectively. Both C-D roads would be slightly realigned.

These concepts are shown in **Figures 5-4a–5-4c and Figures 5-5a–5-5c.**

INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 1 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

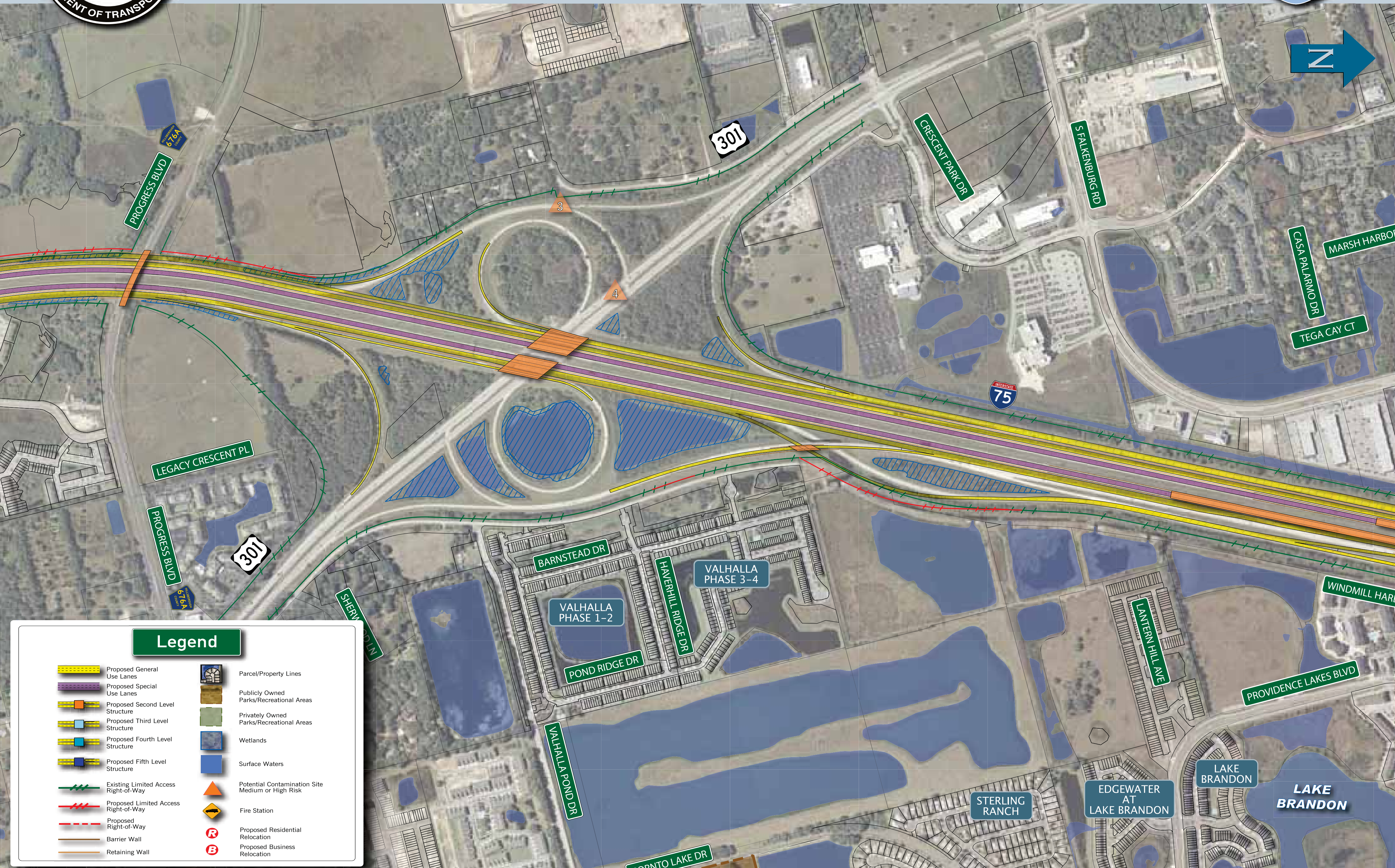
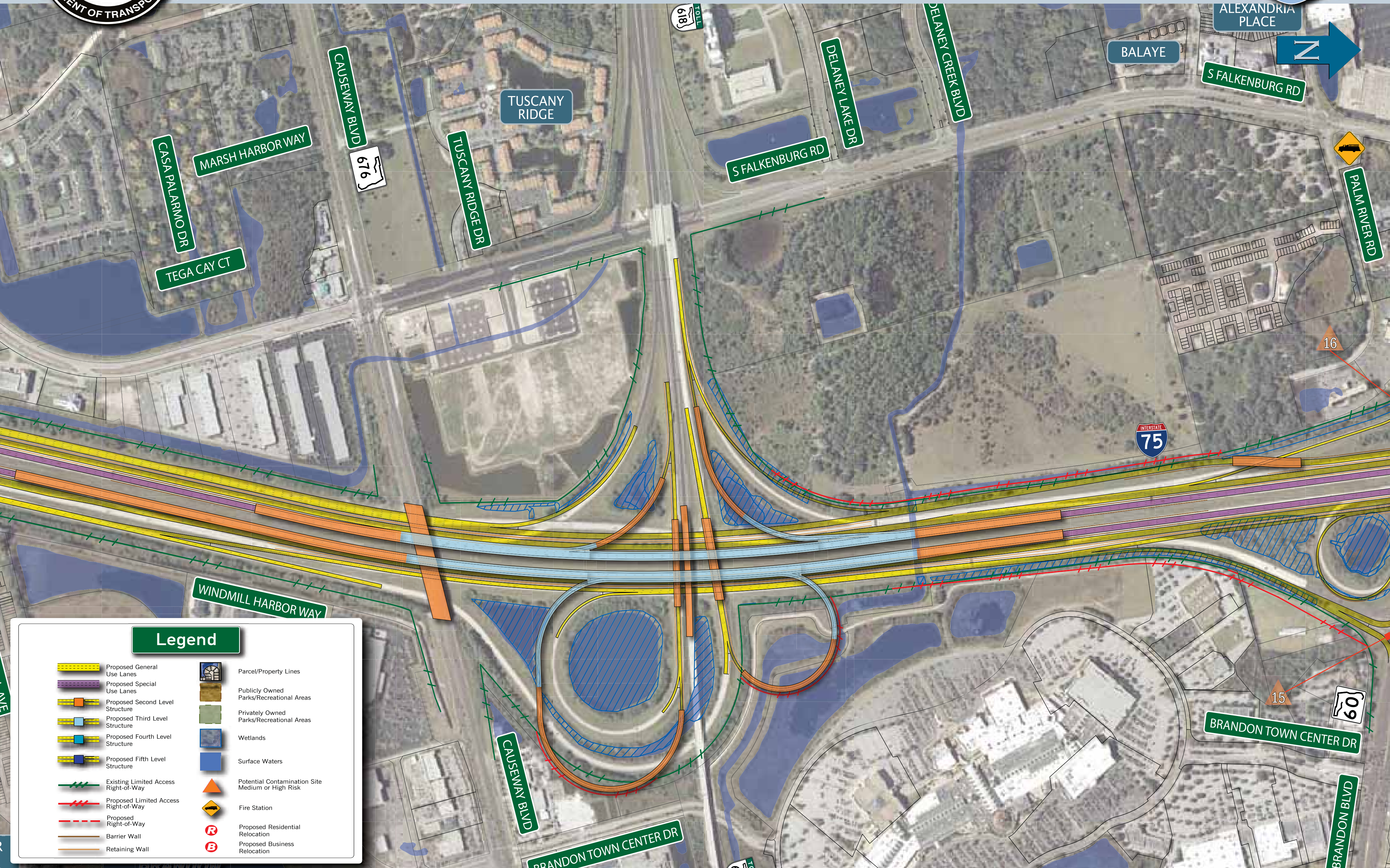


Figure 5 - 4a

INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 1 - OPTION A

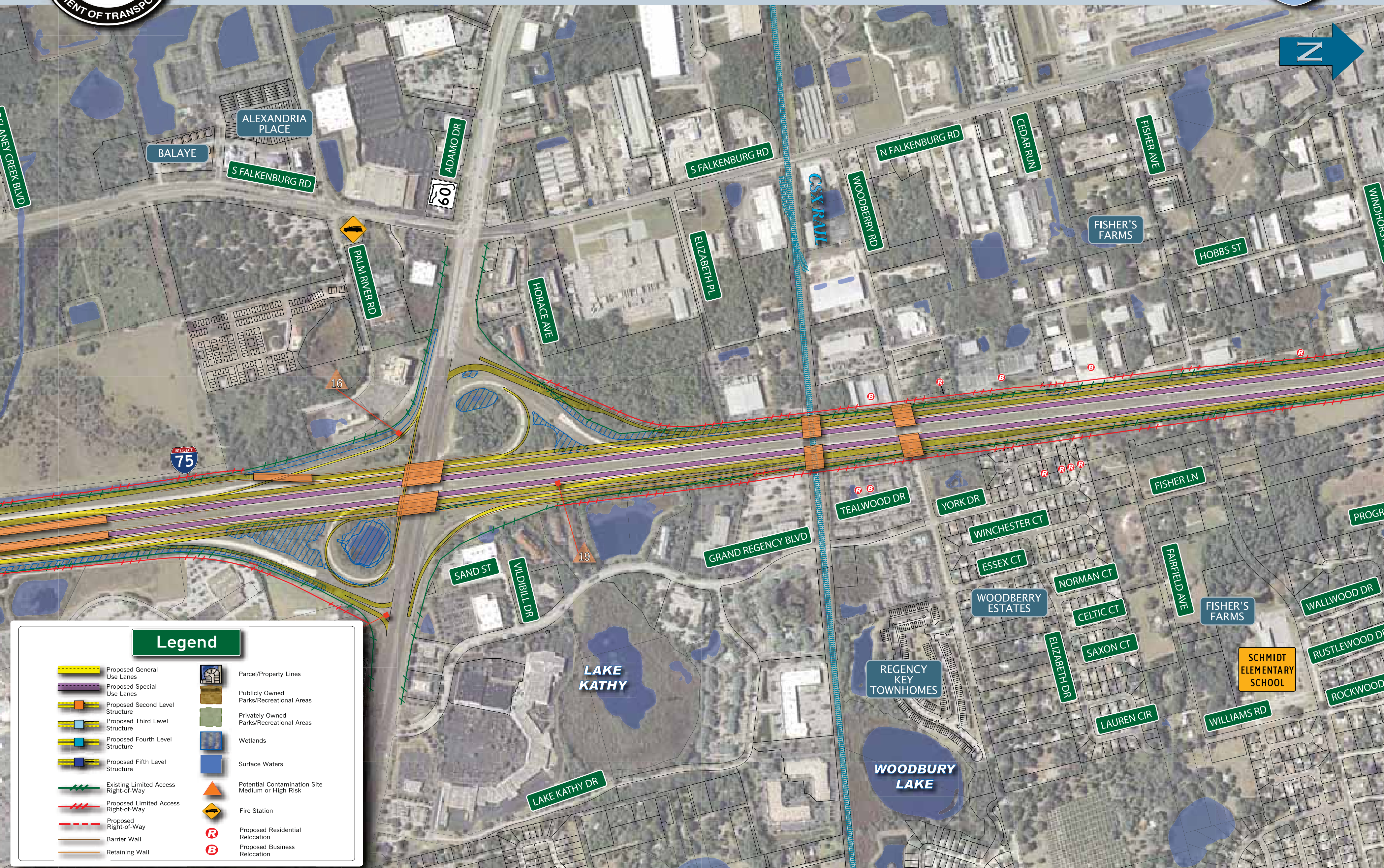
INTERSTATE 75

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



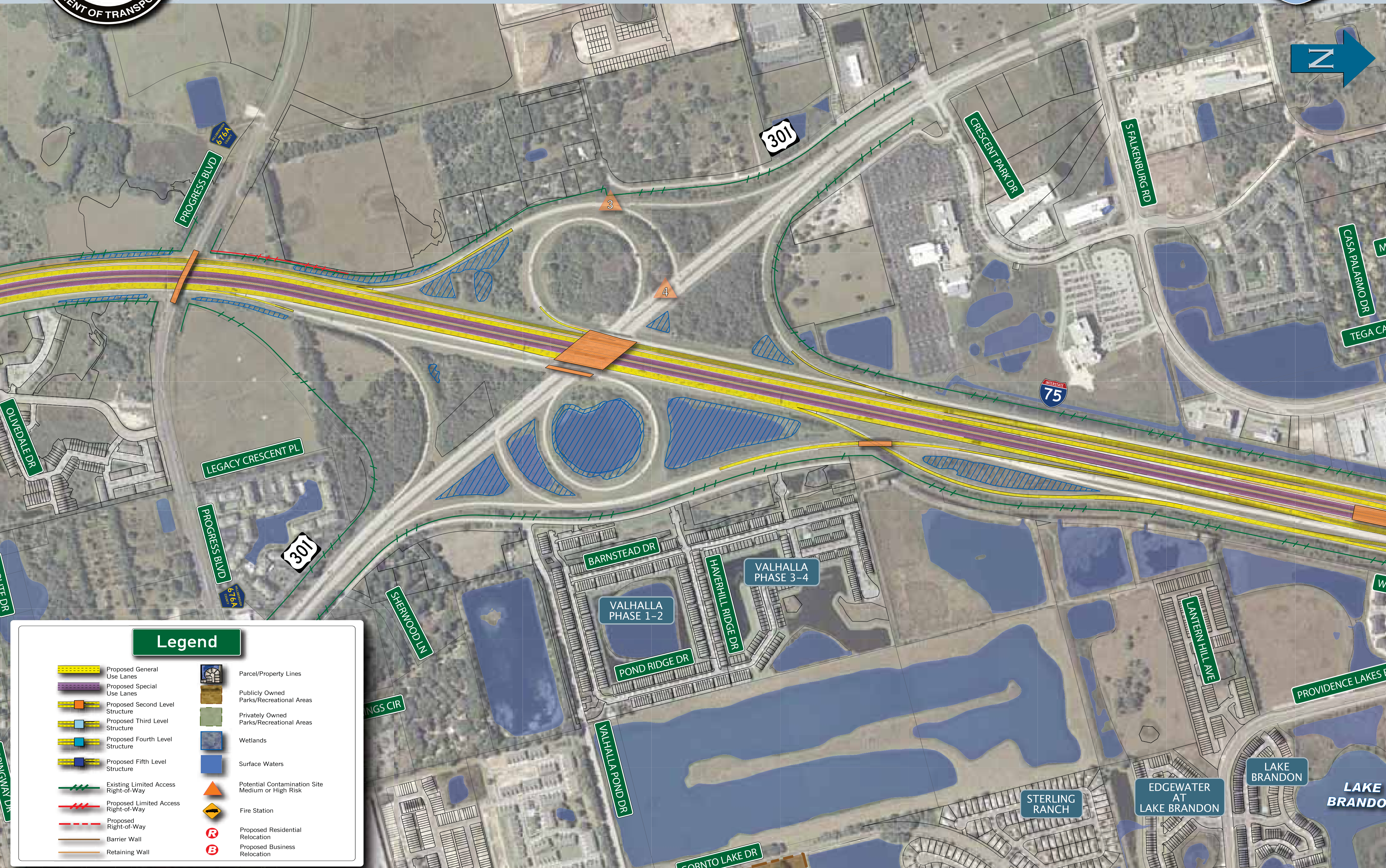
INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 1 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



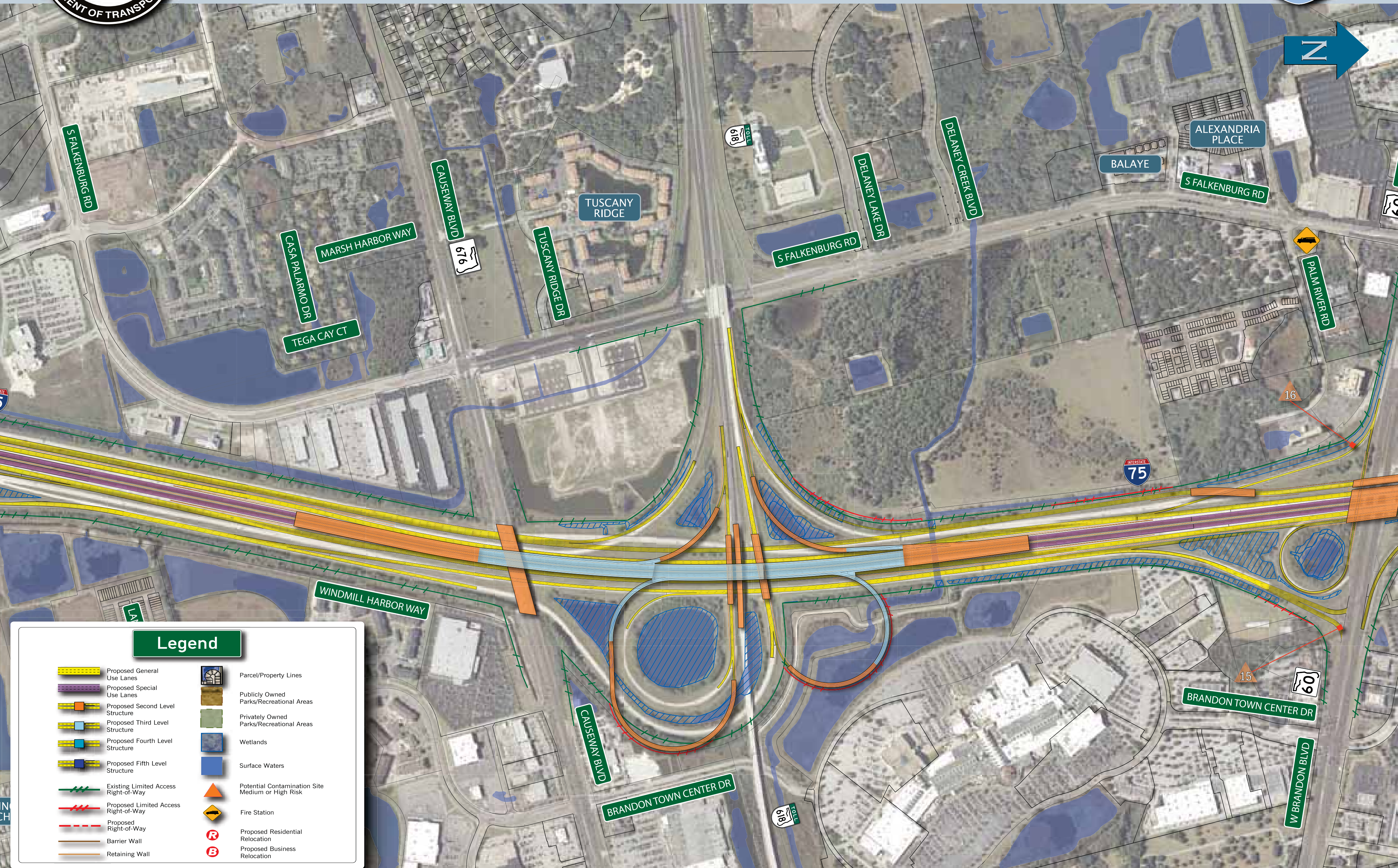
INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 2 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 2 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 2 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

Figure 5 - 5c

Option B

The Option B concepts for Mainline Alternatives 1 and 2 are slightly different.

Mainline Alternative 1

This concept includes the following improvements:

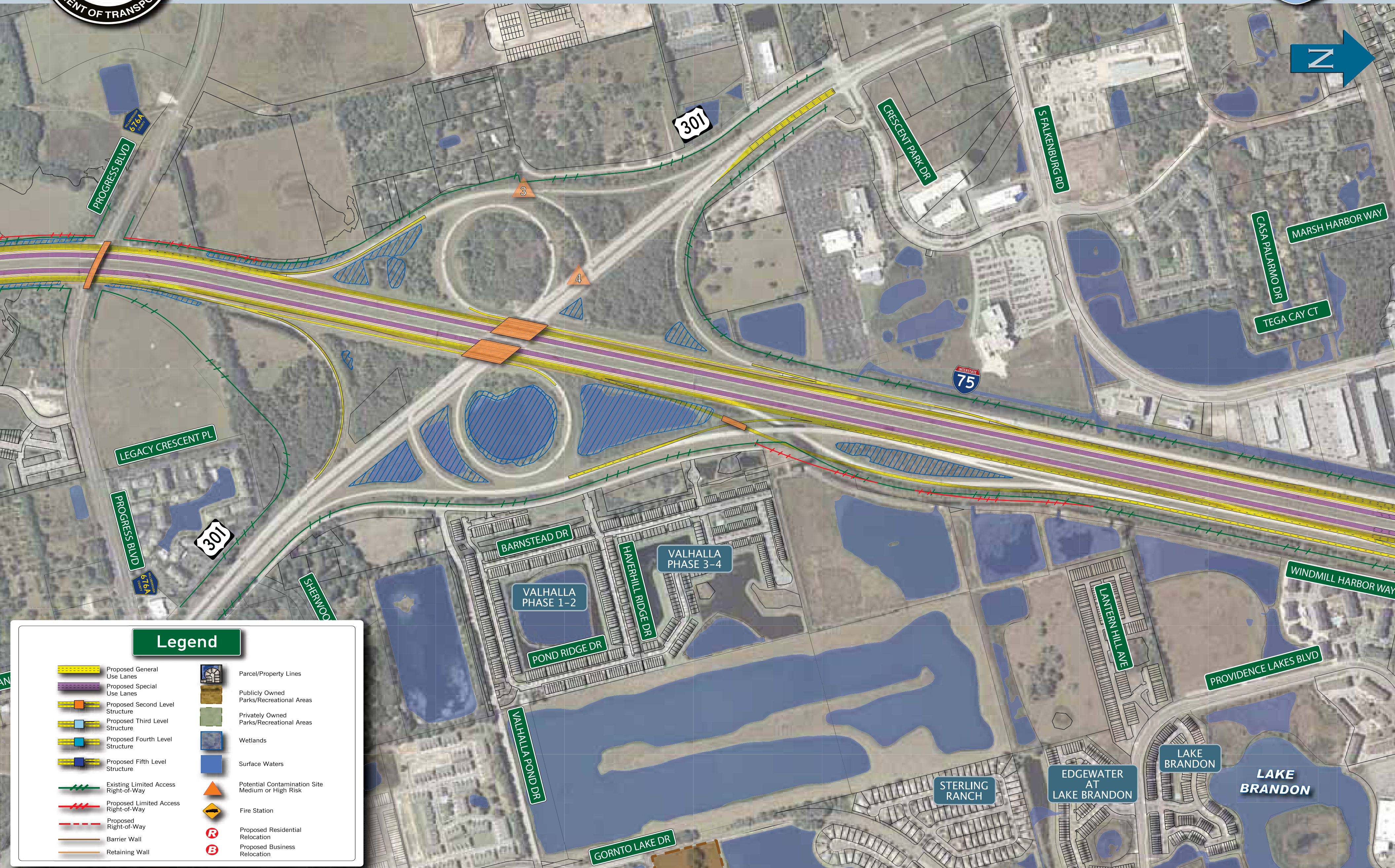
- At US 301, the existing interchange would remain unaltered except for the southbound I-75 to eastbound US 301 exit ramp, which would be relocated to accommodate the I-75 mainline widening.
- At Selmon Expressway, the existing interchange would remain unaltered except for the NB C-D road, which would be relocated to accommodate the I-75 mainline widening. Also, a direct exit ramp would be added to accommodate the southbound I-75 GUL to westbound Selmon Expressway movement to eliminate the existing weaving deficiency in this area.
- The existing northbound C-D road between US 301 and Selmon Expressway would be utilized as part of the northbound I-75 exit ramp to Selmon Expressway. The existing southbound C-D road would be eliminated.
- At SR 60, the existing interchange would be reconfigured as a single-point urban interchange (SPUI). The SPUI is similar to a diamond interchange, but has the advantage of allowing opposing left turns to proceed simultaneously by compressing the two ramp termini intersections of the typical diamond interchange into a single intersection over the interstate. The SPUI at this location would allow for efficient use of space relative to the amount of traffic it would accommodate and would increase the spacing between the traffic signals provided along SR 60 at Falkenburg Road, at the ramp termini intersections, and at Grand Regency Boulevard.

  The major disadvantage of a SPUI over other interchange types is the increased cost due to the need for a longer (or wider) bridge along the arterial (SR 60) over the interstate. Additionally, a SPUI generally has a very large area of uncontrolled pavement in the middle of the intersection, in order to allow vehicles to cross the pavement in six different ways, which can be confusing to drivers who are unfamiliar with this interchange type.

This concept is shown in **Figures 5-6a–5-6c.**

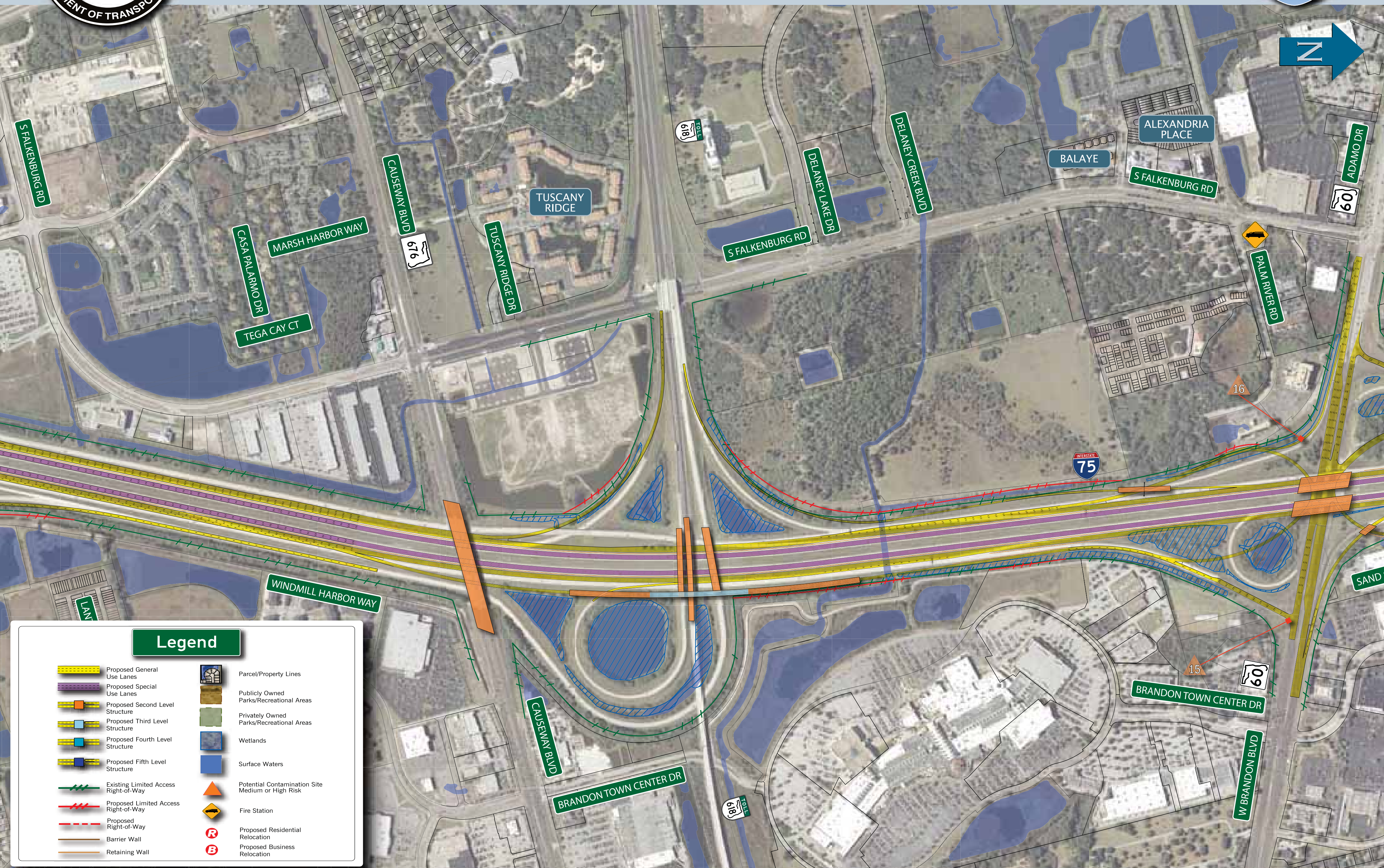
INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 1 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 1 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 1 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

Mainline Alternative 2

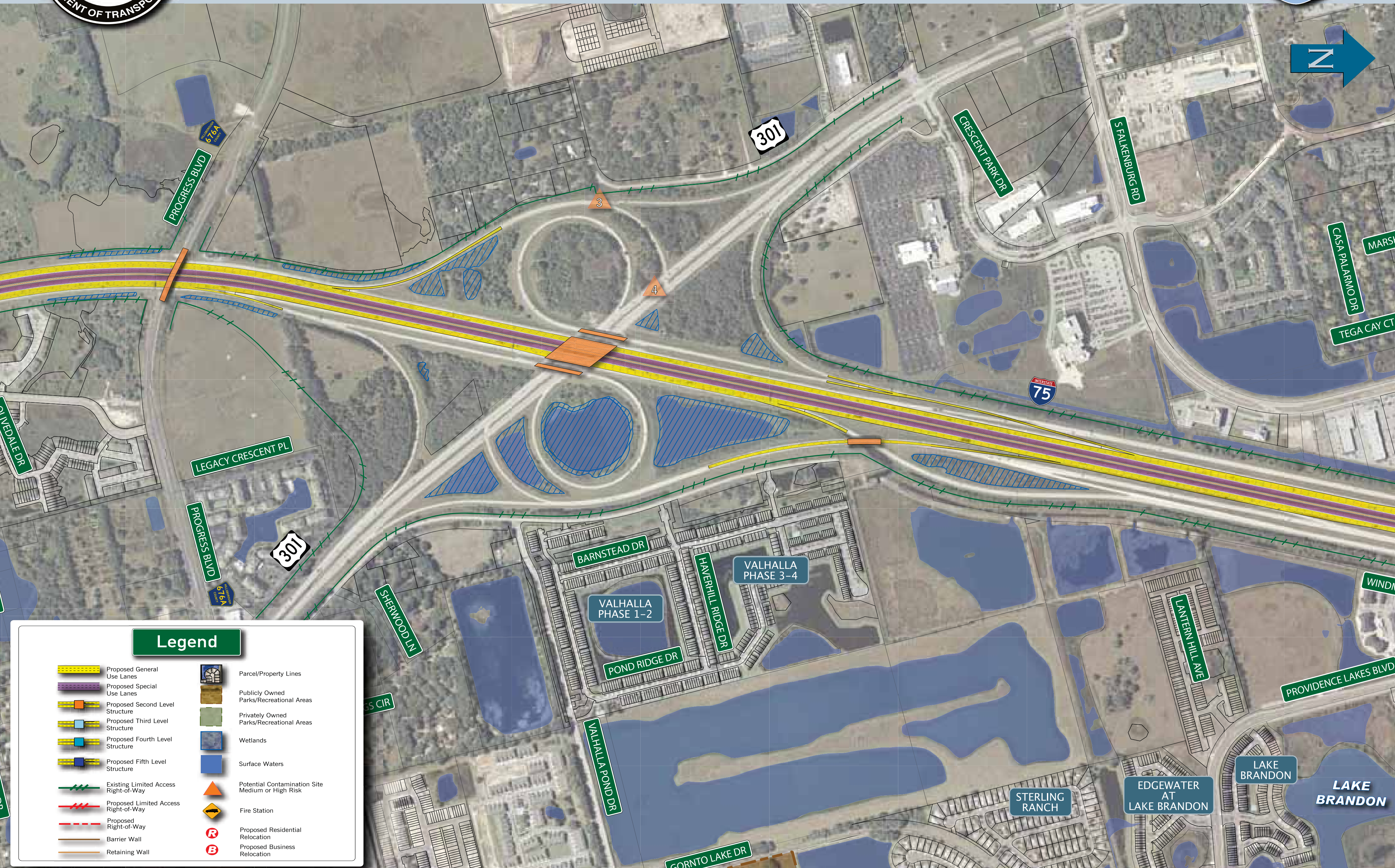
This concept includes the following improvements:

- At US 301, the existing interchange would remain unaltered.
- At Selmon Expressway, the existing interchange would remain unaltered except for the addition of a direct exit ramp to accommodate the southbound I-75 GUL to westbound Selmon Expressway movement. This ramp would eliminate the existing weaving deficiency in this area.
- The existing northbound and southbound C-D roads between US 301 and the Selmon Expressway would be eliminated. Access to the entrance and exit ramps would be provided directly from the I-75 GULs.
- Replacing the existing interchange at SR 60 with a SPUI. A SPUI at this location presents the same advantages and disadvantages as discussed above for Mainline Alternative 1.

This concept is shown in **Figures 5-7a–5-7c.**

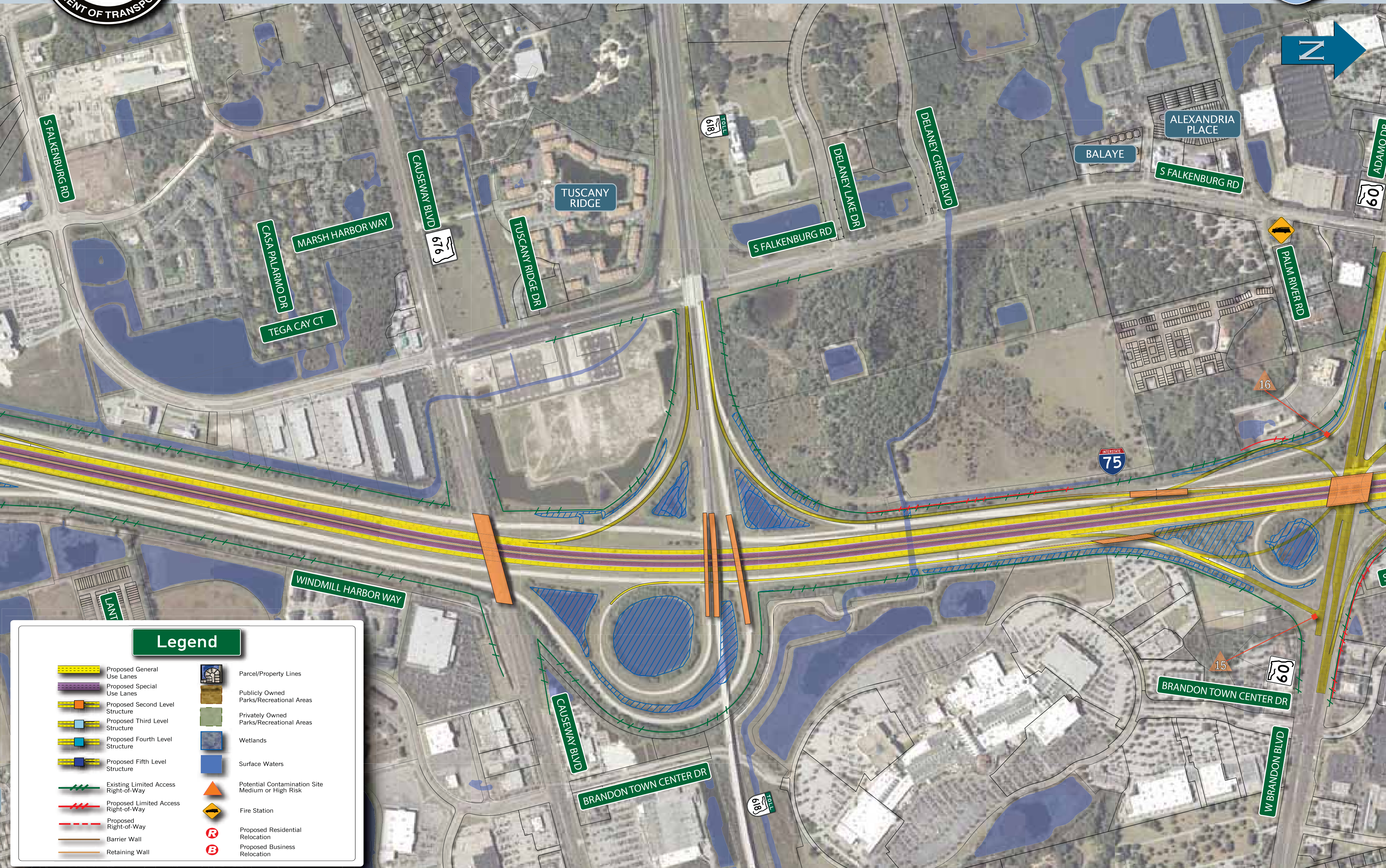
INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 2 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 2 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 2 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

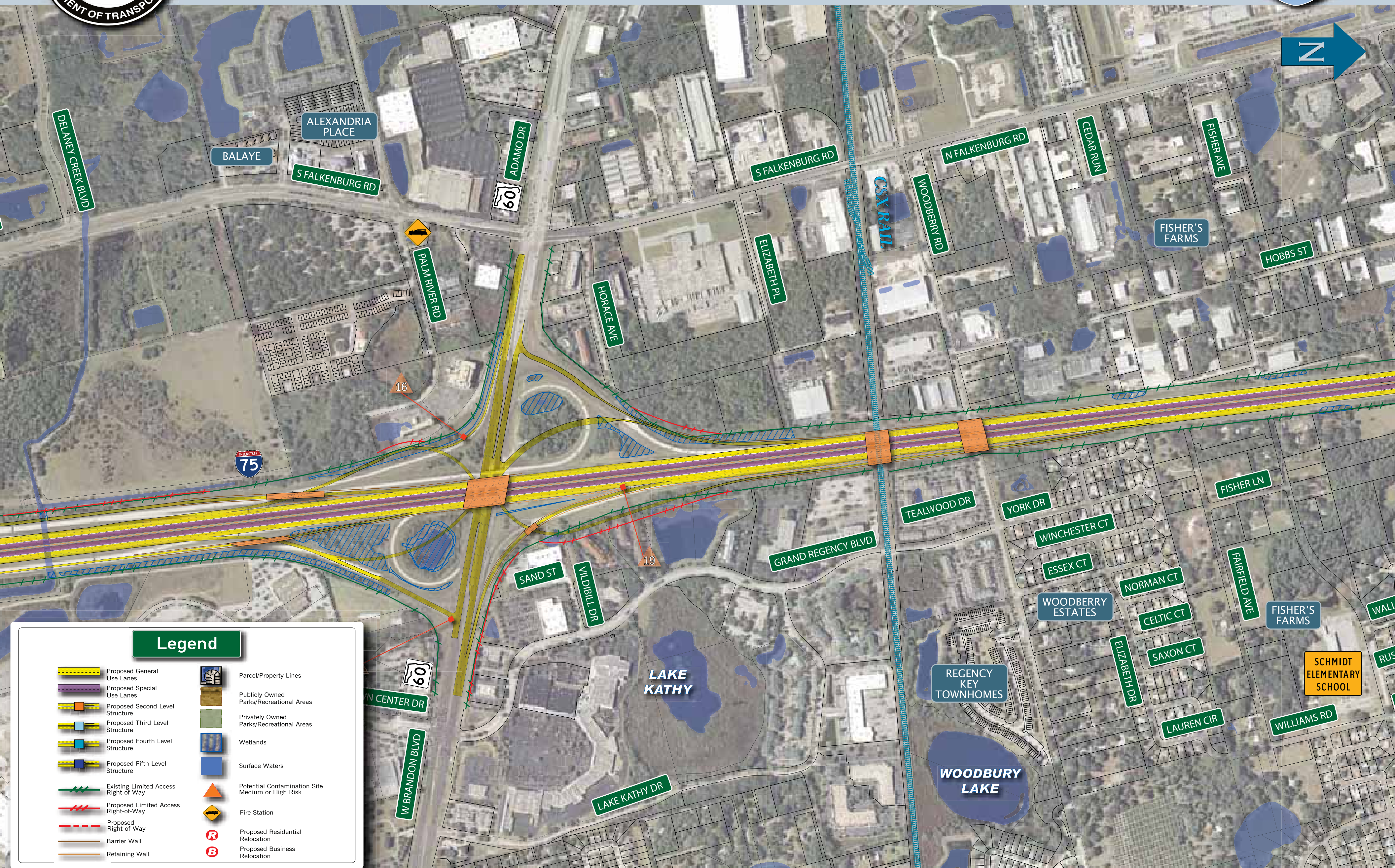


Figure 5 - 7c

Option C

Option C generally provides the same configuration for both Mainline Alternatives (1 and 2). This option includes the following improvements:

- At US 301, the existing interchange would remain unaltered.
- At the Selmon Expressway interchange, the southbound I-75 to westbound Selmon Expressway ramp and the eastbound Selmon Expressway to southbound I-75 ramp would be reconfigured to connect with the relocated southbound C-D road.
- A new ramp would be provided from the northbound C-D road to allow alternative access to the Brandon Town Center Drive, Causeway Boulevard, Gornto Lake Road, and other points south, and alleviate some congestion on SR 60. This ramp would diverge from the existing ramp that connects the northbound C-D road with westbound Selmon Expressway, would provide a short connection (entrance and exit) that would intersect with Brandon Town Center Drive at the south entrance to Westfield Brandon Shopping Center, and would continue to reconnect with the northbound C-D roadway north of the Selmon Expressway interchange.
- At the SR 60 interchange, the existing loop ramp that accommodates the westbound SR 60 to southbound I-75 movement would be eliminated. The existing eastbound SR 60 to northbound I-75 loop ramp would be slightly reconfigured and would connect to the northbound I-75 GULs. The southbound I-75 to SR 60 exit and entrance ramps would be reconfigured and would commence and operate at SR 60 as legs of a diamond interchange. An additional lane would be constructed at the southbound I-75 exit ramps to allow quadruple left-turn lanes at SR 60. The westbound SR 60 to northbound I-75 entrance ramp would be reconstructed and would connect to the proposed northbound C-D road.
- The existing northbound and southbound C-D roads between US 301 and SR 60 would be extended to approximately one mile north of SR 60. Access from the northbound C-D road to the northbound I-75 SULs and from the southbound I-75 SULs to the southbound C-D road would be accommodated via flyover ramps. The extension of the C-D roads north of SR 60 would eliminate the existing weaving deficiencies on the southbound C-D road caused by the insufficient separation between the southbound I-75 exit to the C-D road and the exit from the C-D road to westbound Selmon Expressway.

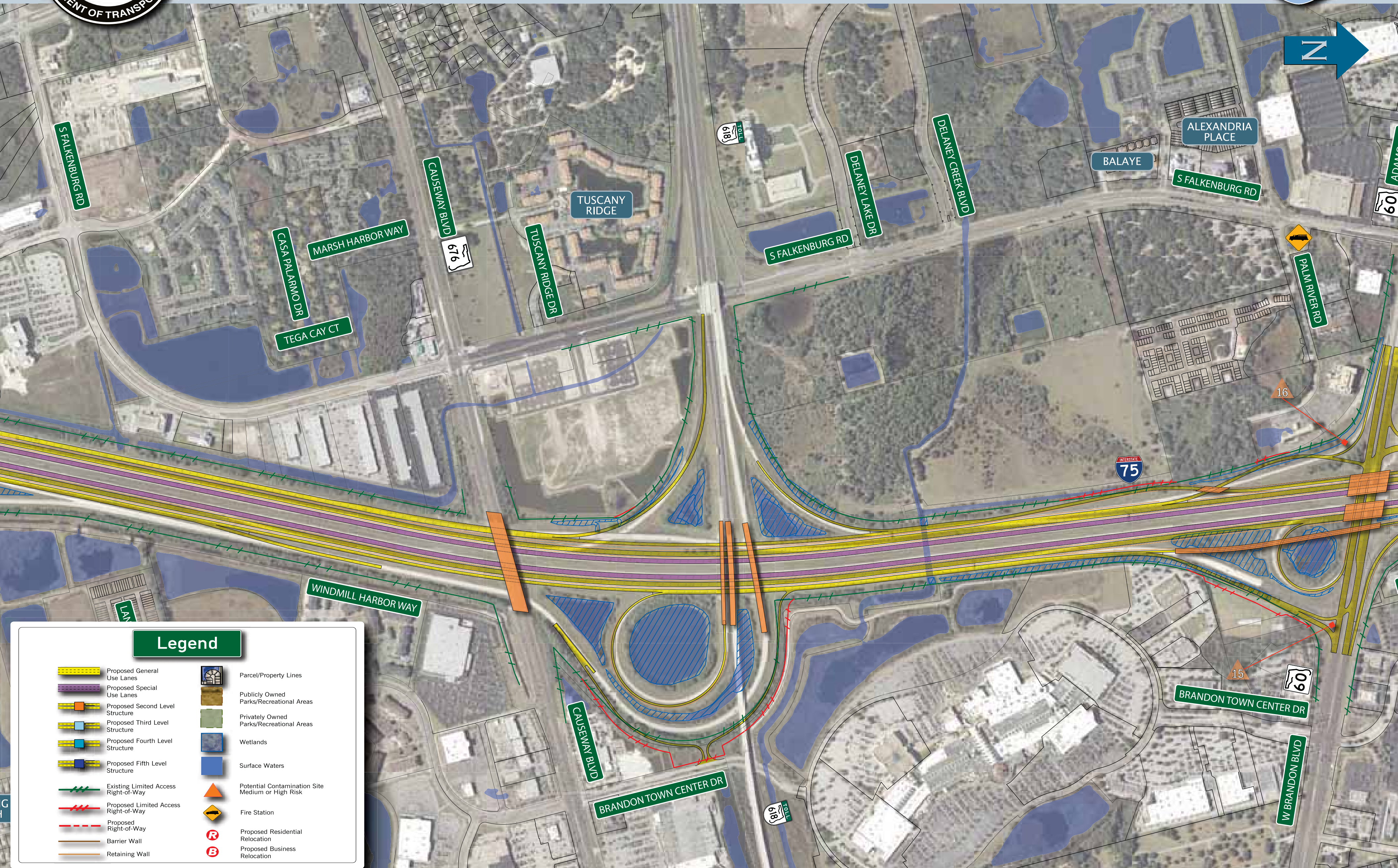
These concepts are shown in **Figures 5-8a–5-8c and Figures 5-9a–5-9c.**

INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 1 - OPTION C

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

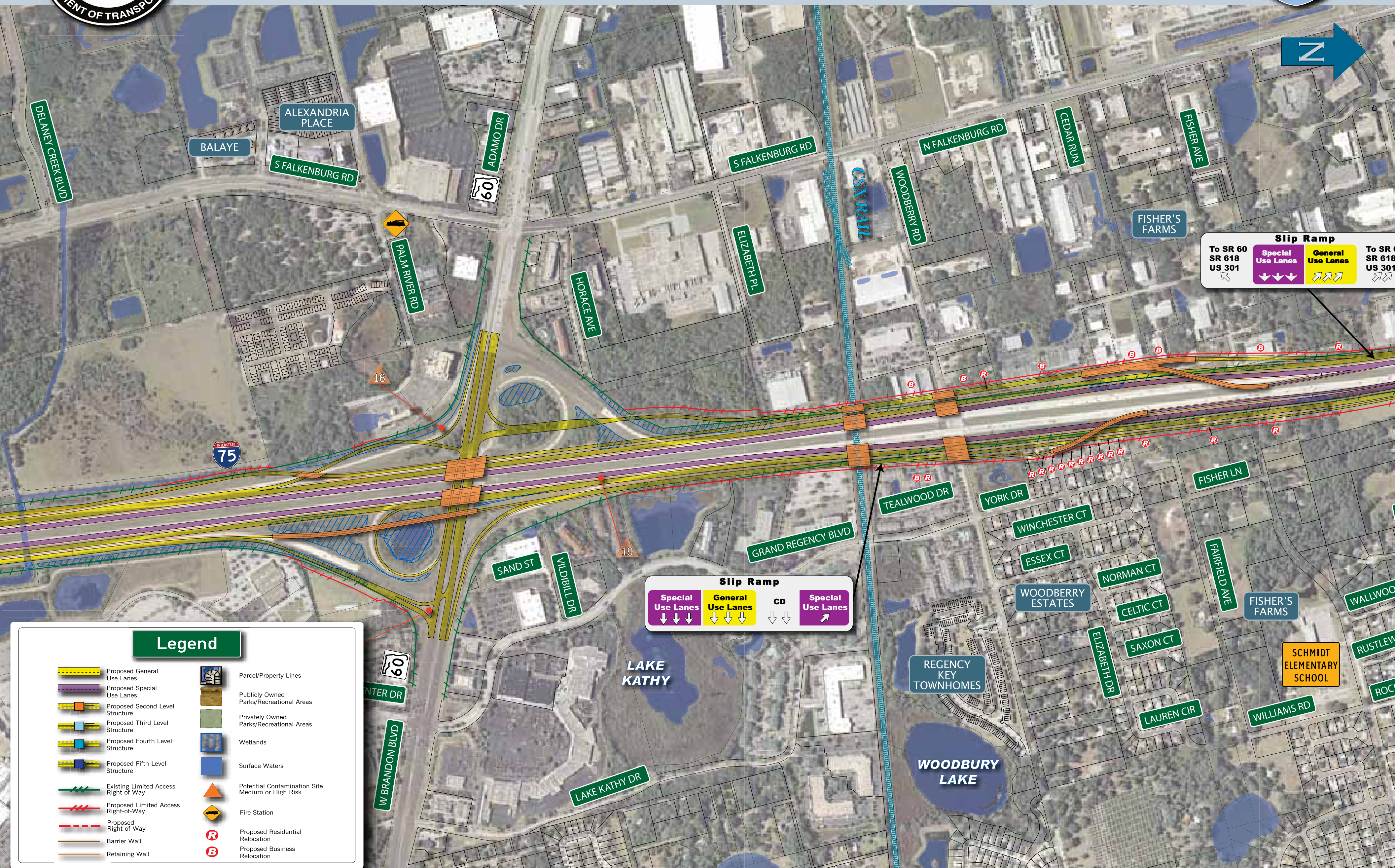
INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 1 - OPTION C

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 1 - OPTION C

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



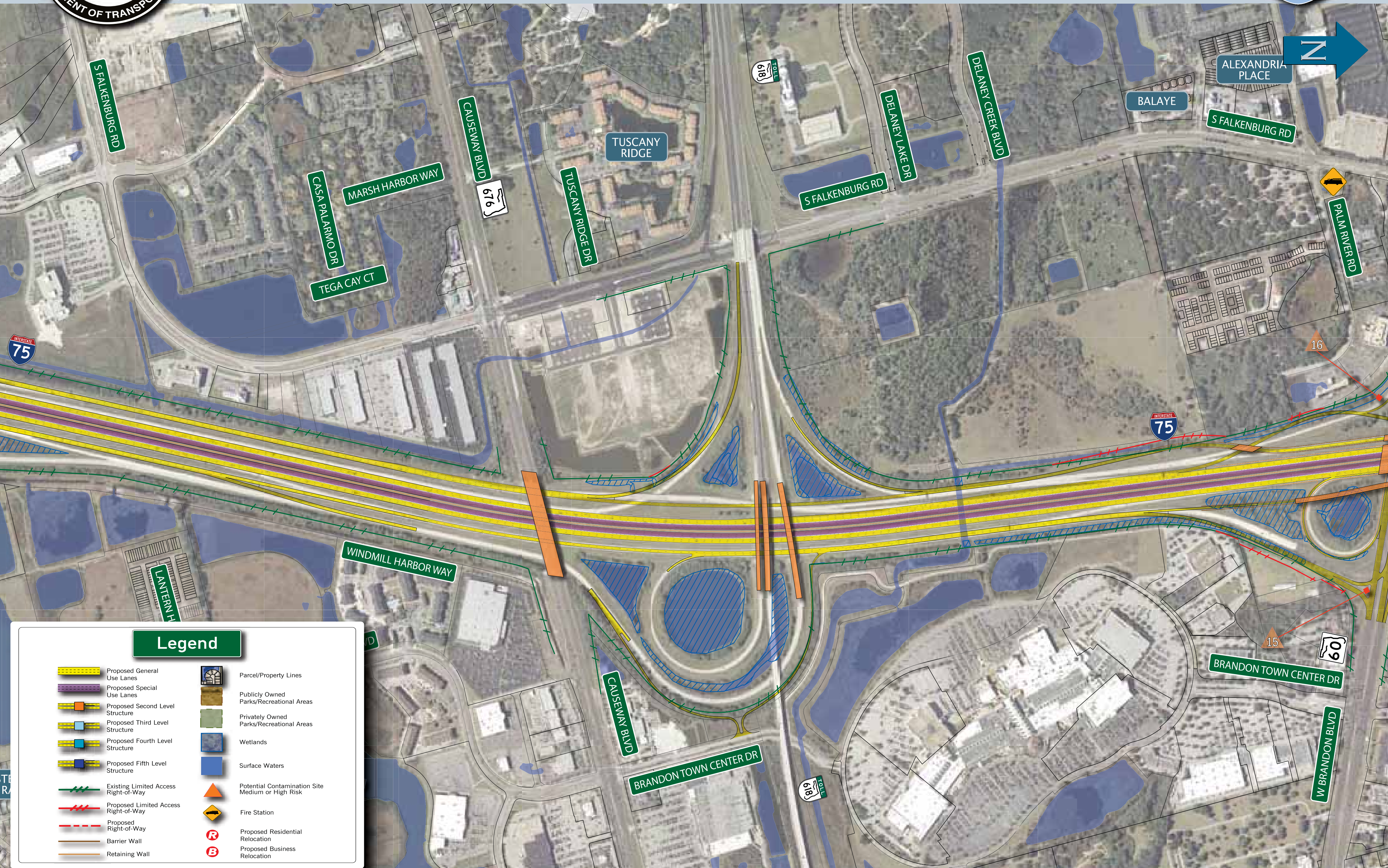
INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 2 - OPTION C

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

Figure 5 - 9a

INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 2 - OPTION C

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT ONE - MAINLINE ALTERNATIVE 2 - OPTION C

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

Segment One Alternatives Summary

The main features of each concept developed for Segment One are summarized in **Table 5-6.**

Table 5-6: Main Features of Improvement Options – Segment One

Location	Option A	Option B	Option C
US 301 Interchange	• No major improvements • Realign some ramps to match I-75 mainline improvements	• No major improvements • Realign some ramps to match I-75 mainline improvements	• No major improvements • Realign some ramps to match I-75 mainline improvements
US 301 to Selmon Expressway	• Expand/extend NB and SB CD roads • Combine NB exit slip ramps to CD road accessing Selmon Expressway and SR 60 • Eliminate existing slip ramp connecting NB US 301 with Selmon Expressway and SR 60	• Eliminate NB and SB CD roads • Eliminate existing slip ramp connecting NB US 301 with Selmon Expressway • Allow access to SR 60 from NB US 301	• Expand/extend NB and SB CD roads • Combine three NB exits from the I-75 GULs to US 301, Selmon Expressway and SR 60 into one • Maintain connection from NB US 301 to Selmon Expressway and SR 60
Selmon Expressway Interchange	• Direct access to/from the I-75 GULs and SULs in both directions • No access from NB US 301	• Direct access only to/from the I-75 GULs • I-75 SULs access Selmon Expressway by shifting to the GULs through slip ramps away from the interchange • No access from NB US 301	• Direct access only to/from the I-75 GULs • I-75 SUL traffic south of the interchange connects with Selmon Expressway by shifting to the GULs through slip ramps away from the interchange • I-75 SUL traffic north of the interchange connects with Selmon Expressway through braided ramps to the CD roads placed north of SR 60, thus avoiding weaving with GUL traffic • Allows access to Brandon Town Center Drive and Causeway Boulevard from/to NB I-75
Selmon Expressway to SR 60	• Extend/expand NB and SB CD roads to north of SR 60	• Eliminate NB and SB CD roads	• Extend/expand NB and SB CD roads to north of SR 60 • Combines entry points for NB traffic from Selmon Expressway and SR 60
SR 60 Interchange	• Maintain existing partial cloverleaf configuration • Expand/extend SB and NB exit ramps to provide more storage • Expand ramp terminal intersections to add turn lanes	• Replace existing interchange with a SPUI • Extend NB and SB exit ramps to provide more storage	• Modify west half of existing partial cloverleaf interchange to a diamond configuration • I-75 SUL traffic north of the interchange connects with SR 60 through braided ramps to the CD roads, thus avoiding weaving with GUL traffic

Costs and impacts for the concepts created for Segment One are presented **Table 5-7.**

Table 5-7: Segment One Evaluation Matrix

Evaluation Criteria	No-Build Alternative	Mainline Alternative 1			Mainline Alternative 2		
		Option A	Option B	Option C	Option A	Option B	Option C
Potential Business Impacts							
Number of business relocations	0	12	5	51	5	0	22
Potential Residential Impacts							
Number of residential relocations	0	26	1	54	1	0	28
Potential Right-of-Way (ROW) Impacts							
Roadway: Area of ROW anticipated to be acquired (Acres)	0	23.29	11.64	40.43	19.35	4.52	24.00
Drainage: Off-site ponds necessary (Yes/No)	No	Yes	Yes	No	Yes	Yes	No
Potential Environmental Effects							
Archaeological/historical sites(1)	NONE	3	3	3	3	3	3
Section 4(f) sites(2)	NONE	0	0	0	0	0	0
Noise-sensitive sites(3)	NONE	550	553	547	731	730	725
Wetlands (acres)	0.00	11.66	9.87	11.49	11.30	8.78	11.09
Floodplains (acres)	0.00	12.5	20.9	20.1	4.3	13.1	15.6
Surface waters (acres)	0.00	7.91	8.24	7.54	7.87	5.46	7.53
Threatened and endangered species(4)	NONE	Min	Min	Min	Min	Min	Min
Petroleum contamination or hazardous material sites	NONE	6	6	6	6	6	6
Estimated Costs(5)							
ROW acquisition	$0.00	$60.10	$30.99	$103.40	$21.25	$26.78	$80.23
Wetlands mitigation	$0.00	$1.16	$0.98	$1.14	$1.12	$0.87	$1.10
Roadway and bridge construction	$0.00	$576.02	$403.94	$454.62	$522.35	$292.16	$404.02
Engineering design (15% of construction)	$0.00	$86.40	$60.59	$68.19	$78.35	$43.82	$60.60
Construction engineering & inspection (15% of construction)	$0.00	$86.40	$60.59	$68.19	$78.35	$43.82	$60.60
Preliminary Estimate of Total Costs(5)	$0.00	$810.08	$557.09	$695.54	$701.42	$407.45	$606.55

Notes:

(1) Historic resources or archaeological sites associated with the study corridor. None are considered significant as contained within the project area of potential effect (APE).
(2) Includes 4(f) sites that will be directly affected, or will experience secondary impacts
(3) Sites located within 66dBA isopleth
(4) Mod = Moderate Min = Minimal
(5) Costs do not include stormwater management ponds; present day costs in million dollars

5.4.3.2 Segment Two Interchange Alternatives

The following improvement options were evaluated for Segment Two:

- Option A
- Option B

Option A

Option A generally provides the same configuration for both Mainline Alternatives (1 and 2). This option includes the following improvements:

- Adding three-lane C-D roads along both directions of I-75 to eliminate existing weaving deficiencies. The northbound C-D road would commence at the SPUI at MLK Boulevard and terminate at I-4. The southbound C-D road would commence approximately one mile north of I-4 and terminate at the SPUI at MLK Boulevard. The southbound C-D road would accommodate the southbound I-75 to westbound I-4 movement and would provide direct access to MLK Boulevard from eastbound I-4.
- Replacing the existing interchange at MLK Boulevard with a SPUI. A SPUI at this location would increase the spacing of the traffic signals provided along MLK Boulevard at Falkenburg Road, at the ramp termini intersections, and at Williams Road.
- Replacing the existing I-4 interchange with a modified five-level turbine interchange that would include additional directional ramps. The I-75 GULs would cross over I-4 on the second level while I-75 SULs would cross over I-4 on the third level. All of the existing ramps would be utilized in the proposed interchange and would connect the I-75 GULs with I-4. The proposed new directional ramps would be used to connect the I-75 SULs with I-4.

These concepts are shown in **Figures 5-10a–5-10c and 5-11a–5-11c.**

INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 1 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

Figure 5 - 10a

INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 1 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

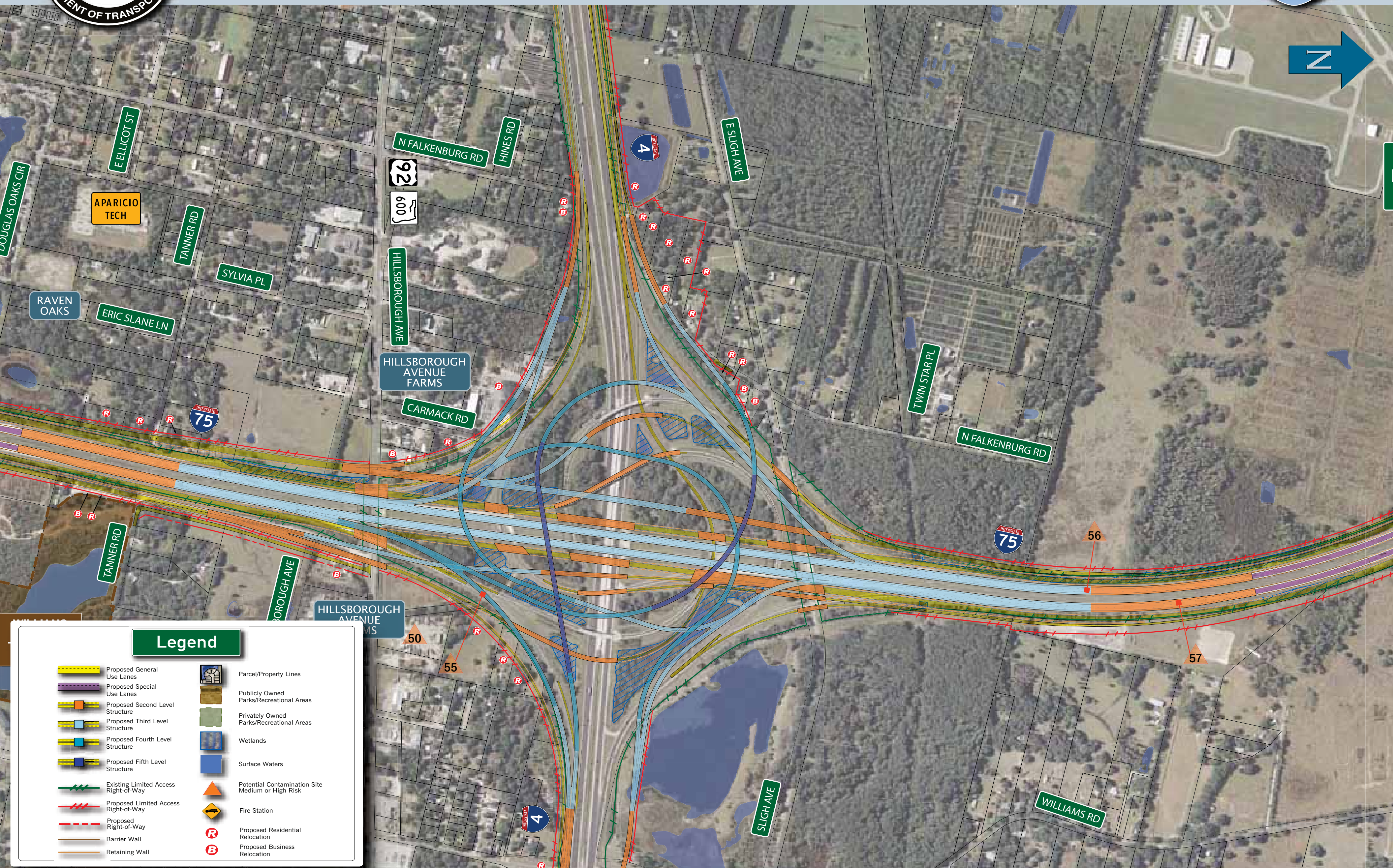


Figure 5 - 10b

INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 1 - OPTION A

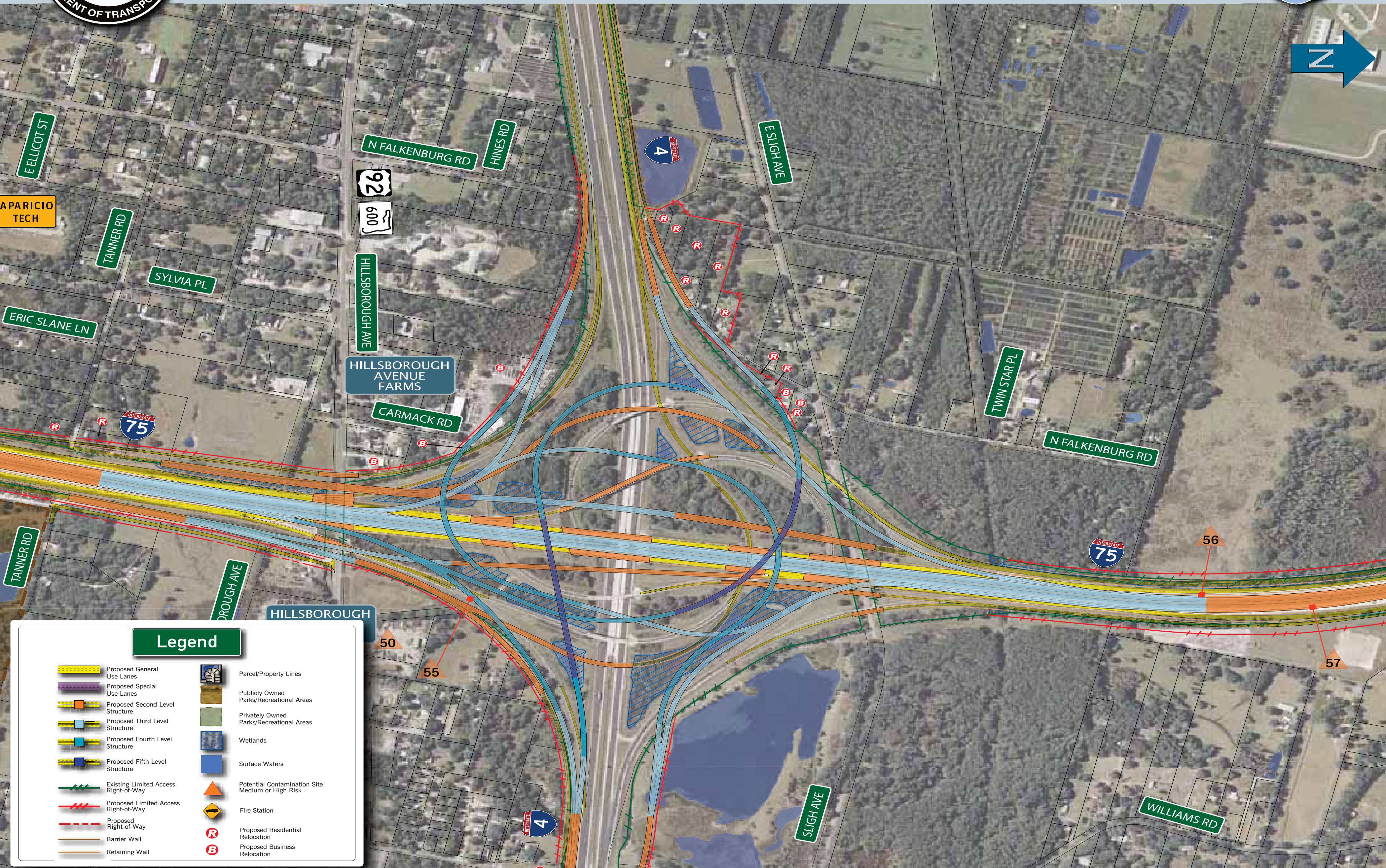
NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 2 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

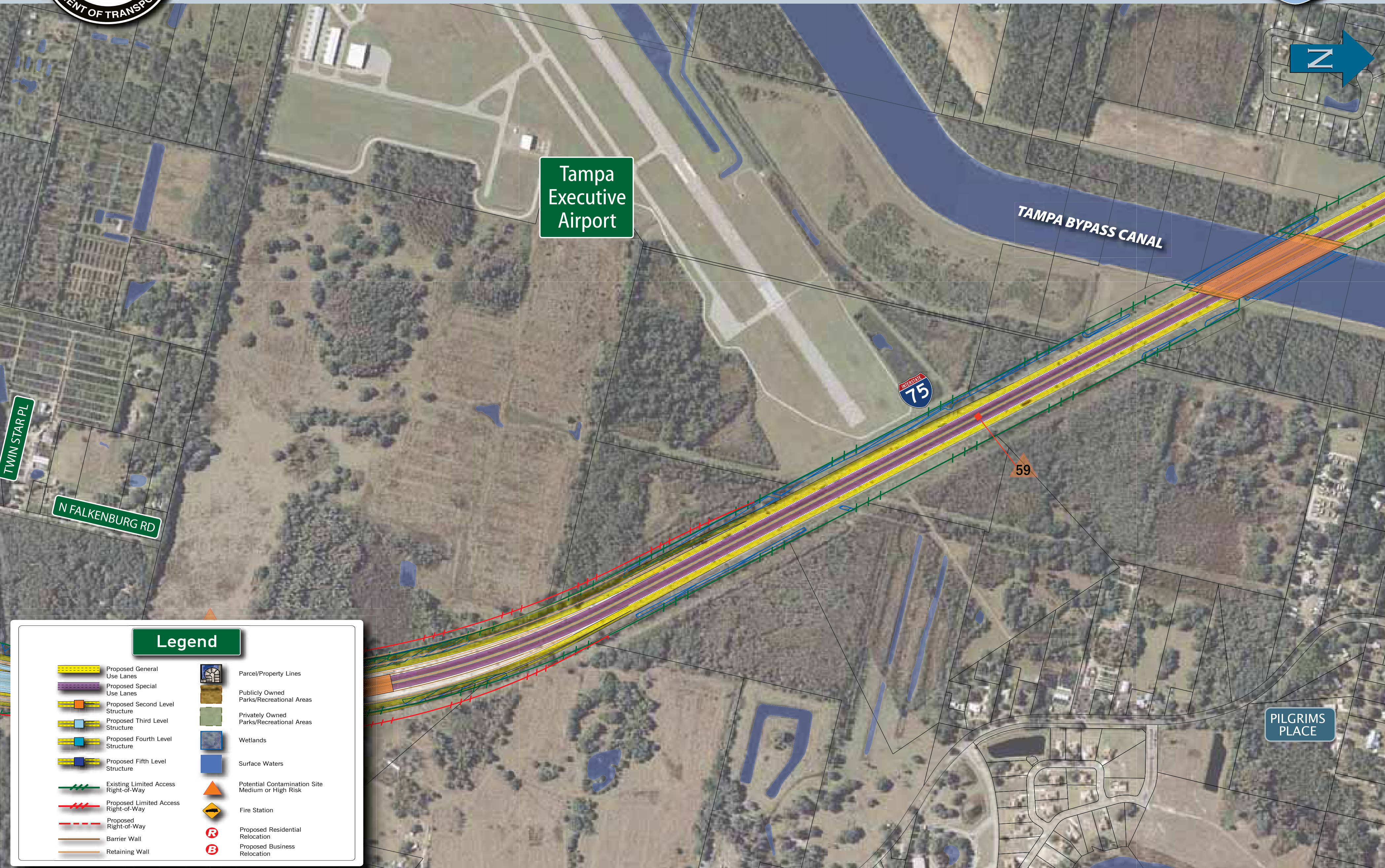
INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 2 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 2 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



Option B

Option B generally provides the same configuration for both Mainline Alternatives (1 and 2). This option includes the following improvements:

- Adding three-lane C-D roads along both directions of I-75 to eliminate existing weaving deficiencies. The northbound C-D road would commence at the SPUI at MLK Boulevard and terminate at I-4. The southbound C-D road would commence approximately one mile north of I-4 and terminate at the SPUI at MLK Boulevard. The southbound C-D road, by way of directional ramps, would provide access to and from eastbound and westbound I-4 GULs.
- Replacing the existing interchange at MLK Boulevard with a SPUI. A SPUI at this location would increase the spacing of the traffic signals provided along MLK Boulevard at Falkenburg Road, at the ramp termini intersections, and at Williams Road.
- Replacing the existing I-4 interchange with a combination directional "turbine/stack" interchange that would allow direct connections between the I-75 SULs and the potential SULs on I-4. All stack design structures would be fourth and fifth level ramps. The directional ramps would provide access between all of the I-75 and I-4 GULs not serviced by the proposed C-D roads. The directional ramp structures are proposed as first, second, and third level ramps.

These concepts are shown in **Figures 5-12a–5-12c and 5-13a–5-13c.**

INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 1 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 1 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

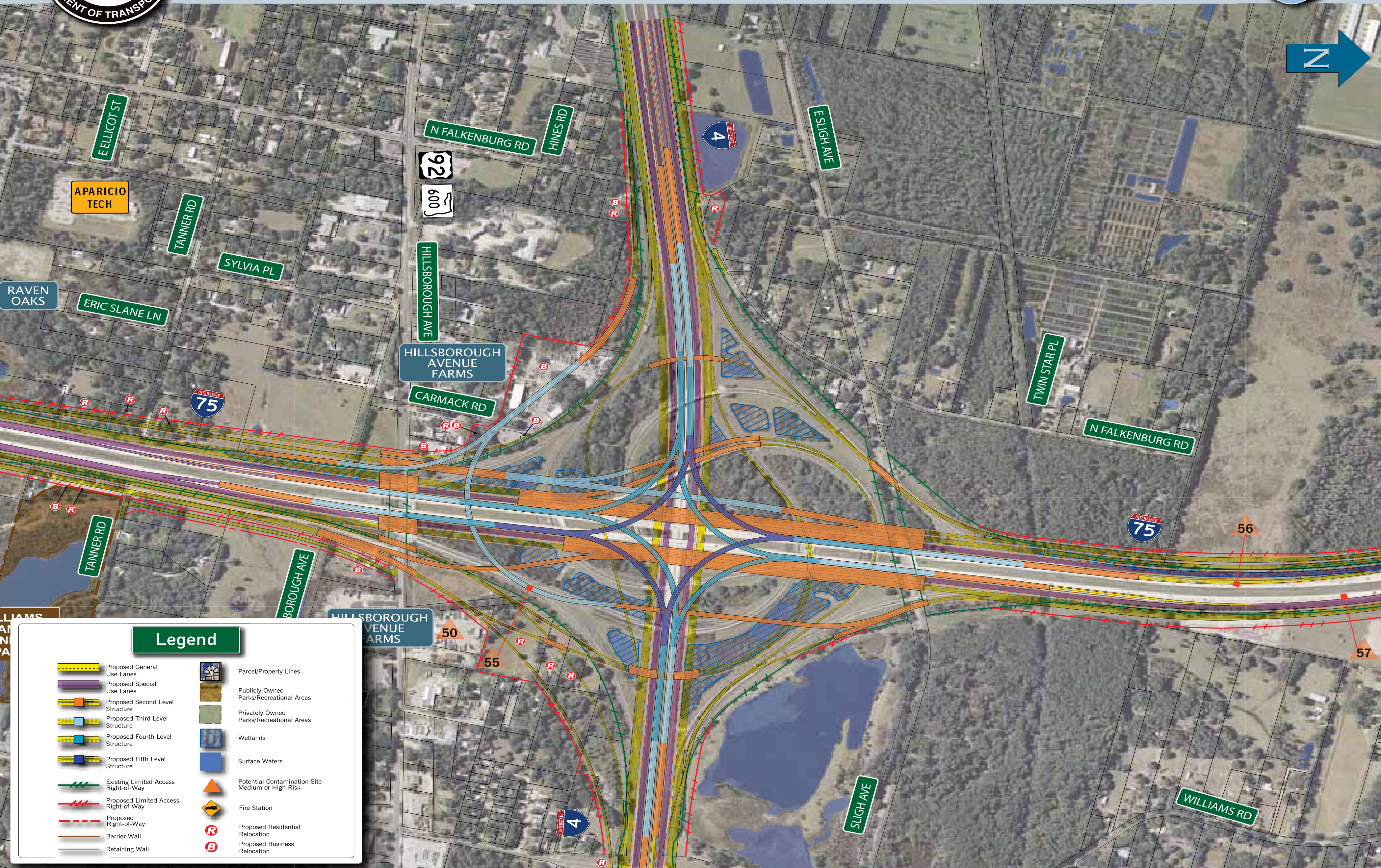


Figure 5 - 12b

INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 1 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

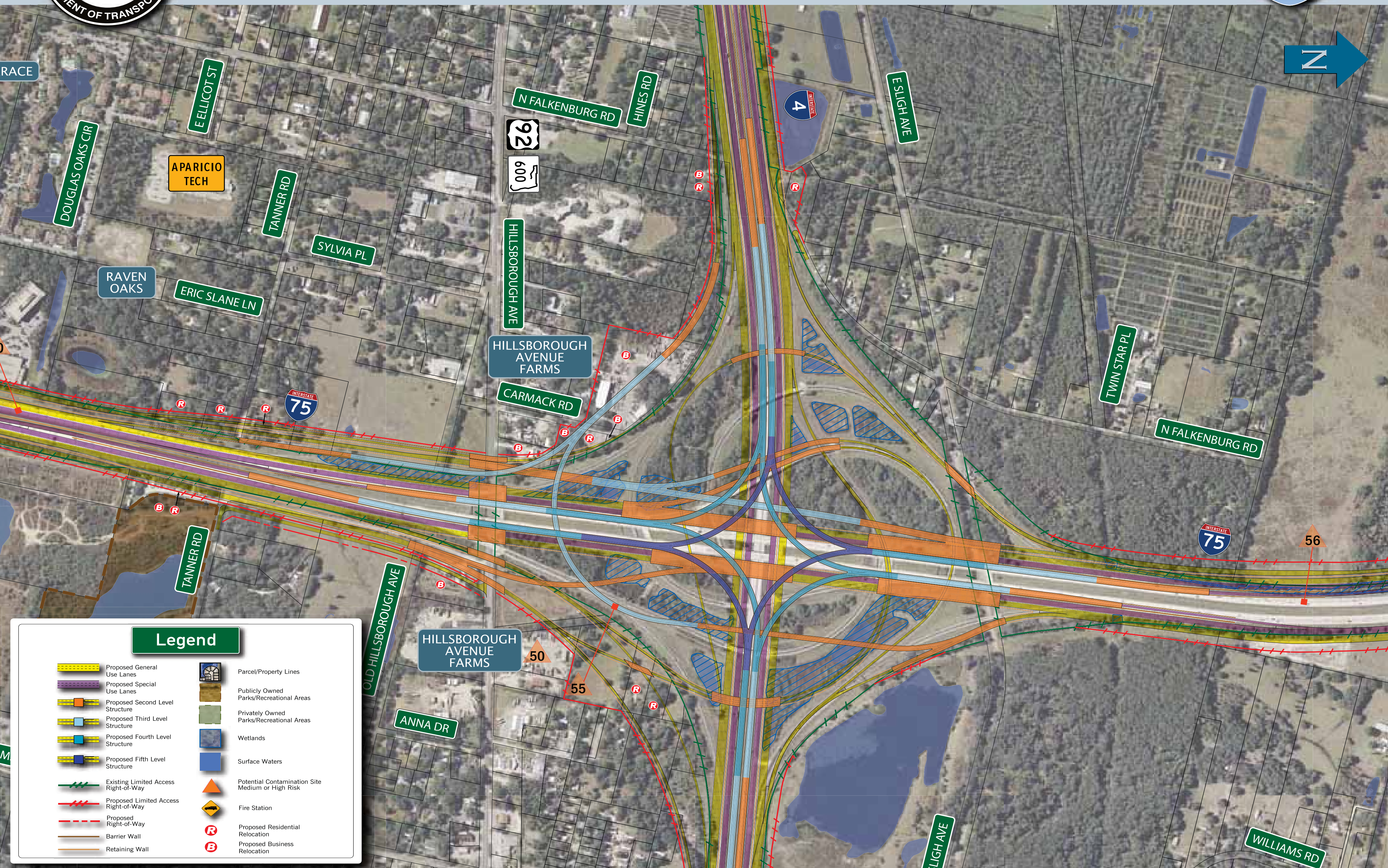
INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 2 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

Figure 5 - 13a

INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 2 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT TWO - MAINLINE ALTERNATIVE 2 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

Segment Two Alternatives Summary

The main features of each concept developed for Segment Two are summarized in **Table 5-8.**

Table 5-8: Main Features of Improvement Options – Segment Two

Location	Option A	Option B
MLK Boulevard Interchange	• Replace existing partial cloverleaf interchange with a SPUI • Begin NB CD road at interchange • End SB CD road at interchange	• Replace existing partial cloverleaf interchange with a SPUI • Begin NB CD road at interchange • End SB CD road at interchange
MLK Boulevard to I-4	• Provide NB and SB CD roads from north of I-4 to MLK Boulevard; MLK Boulevard traffic to/from I-4 never enters I-75	• Provide NB and SB CD roads from north of I-4 to MLK Boulevard; MLK Boulevard traffic to/from I-4 never enters I-75
I-4 Interchange	• Maintain existing turbine configuration and add directional ramps to connect the I-75 SULs with I-4	• Replace existing interchange with a combined directional turbine/stack configuration • SUL ramps touchdown in the median of I-4 to allow connection with the I-4 SULs to be constructed in the future • Requires reconstruction of I-4 at the interchange

Costs and impacts for the concepts associated with Segment Two are presented in **Table 5-9.**

Table 5-9: Segment Two Evaluation Matrix

Evaluation Criteria	No-Build Alternative	Mainline Alternative 1 Option A	Mainline Alternative 1 Option B	Mainline Alternative 2 Option A	Mainline Alternative 2 Option B
Potential Business Impacts					
Number of business relocations	0	6	6	4	6
Potential Residential Impacts					
Number of residential relocations	0	31	32	30	32
Potential Right-of-Way (ROW) Impacts					
Roadway: Area of ROW anticipated to be acquired (Acres)	0	74.57	83.55	70.60	81.29
Drainage: Off-site ponds necessary (Yes/No)	No	Yes	Yes	Yes	Yes
Potential Environmental Effects					
Archaeological/historical sites(1)	NONE	18	18	18	18
Section 4(f) sites(2)	NONE	2	2	2	2
Noise-sensitive sites(3)	NONE	16	16	20	20
Wetlands (acres)	0.00	42.85	44.56	44.64	47.74
Floodplains (acres)	0.00	13.1	17.4	9.3	16.9
Surface waters (acres)	0.00	3.07	3.07	3.07	3.07
Threatened and endangered species(4)	NONE	Min	Min	Min	Min
Petroleum contamination or hazardous material sites	NONE	6	6	6	6
Estimated Costs(5)					
ROW acquisition	$0.00	$94.97	$68.98	$32.52	$41.71
Wetlands mitigation	$0.00	$4.26	$4.43	$4.44	$4.75
Roadway and bridge construction	$0.00	$887.90	$772.91	$870.87	$739.61
Engineering design (15% of construction)	$0.00	$133.18	$115.94	$130.63	$110.94
Construction engineering & inspection (15% of construction)	$0.00	$133.18	$115.94	$130.63	$110.94
Preliminary Estimate of Total Costs(5)	$0.00	$1,253.49	$1,078.20	$1,169.09	$1,007.95

Notes:

(1) Historic resources or archaeological sites associated with the study corridor. One historic site is considered significant and may be eligible for listing in the National Register. No archaeological sites are considered significant as contained within the project area of potential effect (APE).
(2) Includes 4(f) sites that will be directly affected, or will experience secondary impacts
(3) Sites located within 66dBA isopleth
(4) Mod = Moderate Min = Minimal
(5) Costs do not include stormwater management ponds; present day costs in million dollars

5.4.3.3 Segment Three Interchange Alternatives

The following improvement options were evaluated for Segment Three:

- Option A
- Option B

<u>Option A</u>

Option A generally provides the same configuration for both Mainline Alternatives (1 and 2). This option includes the following improvements:

- Adding two-lane C-D roads along both directions of I-75 between SR 582 (Fowler Avenue) and Fletcher Avenue to eliminate existing weaving deficiencies along this segment of I-75. The northbound C-D road, which would commence approximately one mile south of Fowler Avenue and terminate at the northbound exit loop ramp at Fletcher Avenue, would provide the only access to the northbound exit ramps at Fowler Avenue and Fletcher Avenue. The southbound C-D road would commence approximately 0.75 miles north of Fletcher Avenue and terminate at the southbound loop ramp at Fowler Avenue. The southbound C-D road would provide the only access to the southbound exit ramps at Fletcher Avenue and Fowler Avenue. The proposed C-D roads would overpass all crossroads and ramps.
- Eliminating interchange “hopping” between the Fowler Avenue and Fletcher Avenue interchanges by eliminating the ability to exit at Flower Avenue or Fletcher Avenue when entering I-75 from the other of these two interchanges.
- The existing interchange configurations at Fowler Avenue and Fletcher Avenue would remain mostly intact.

These concepts are shown in **Figures 5-14a–5-14b and Figures 5-15a–5-15b.**

INTERSTATE 75 SEGMENT THREE - MAINLINE ALTERNATIVE 1 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

Figure 5 - 14a

INTERSTATE 75 SEGMENT THREE - MAINLINE ALTERNATIVE 1 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

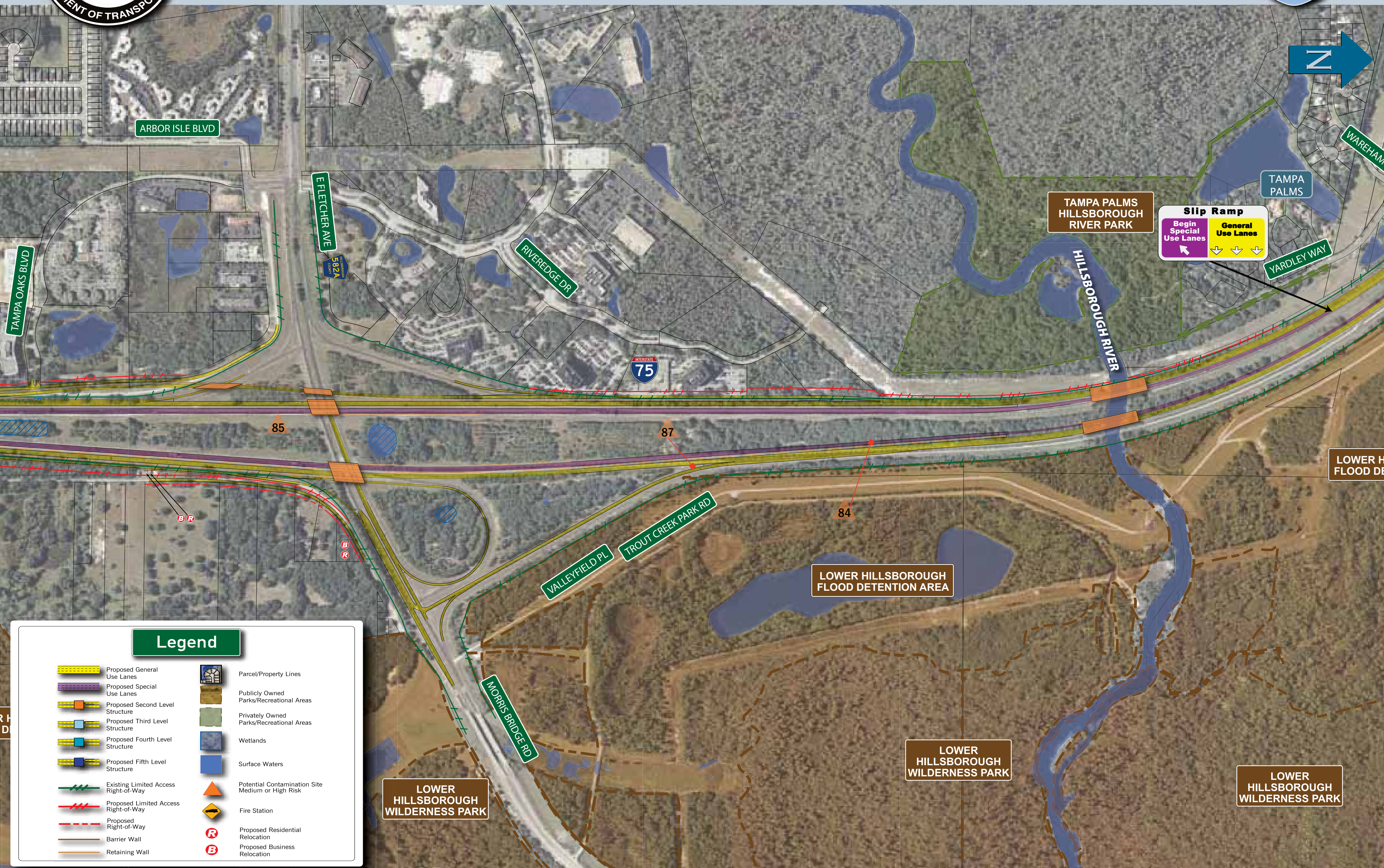
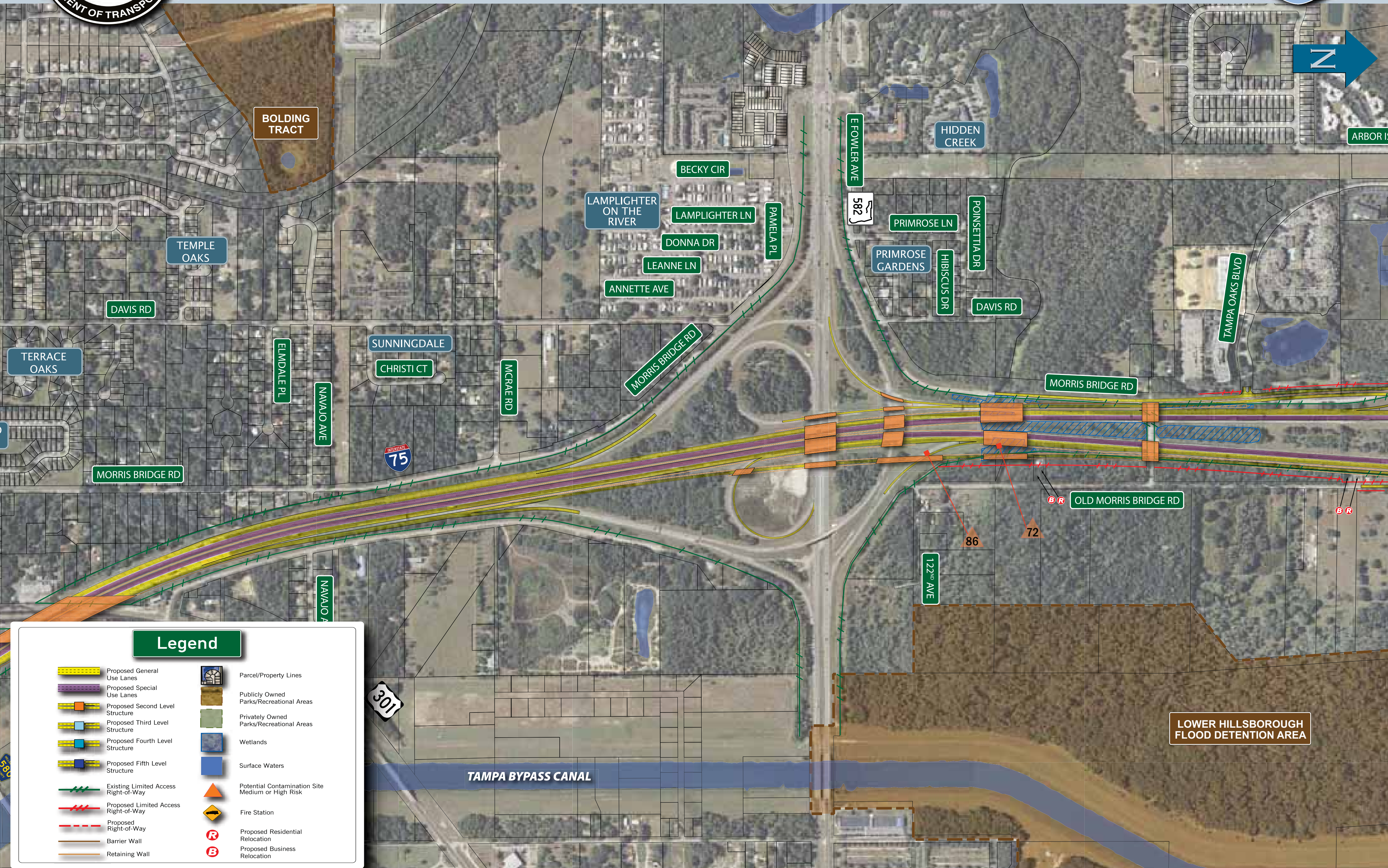


Figure 5 - 14b

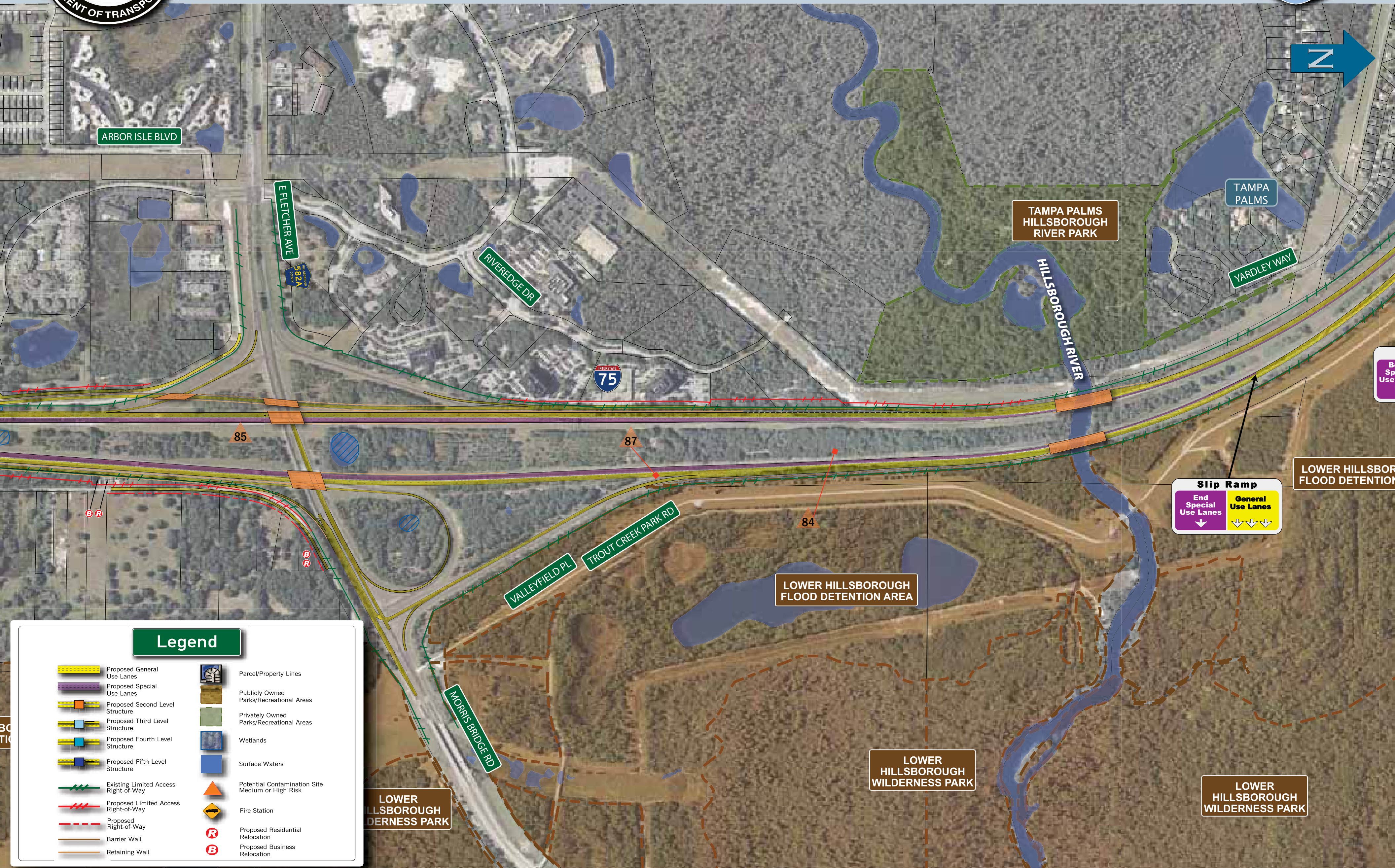
INTERSTATE 75 SEGMENT THREE - MAINLINE ALTERNATIVE 2 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT THREE - MAINLINE ALTERNATIVE 2 - OPTION A

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



Option B

Option B generally provides the same configuration for both Mainline Alternatives (1 and 2). This option includes the following improvements:

- Adding two-lane C-D roads along both directions of I-75 between SR 582 (Fowler Avenue) and Fletcher Avenue to eliminate existing weaving deficiencies along this segment of I-75. The northbound C-D road, which would commence approximately one mile south of Fowler Avenue and terminate at the northbound exit loop ramp at Fletcher Avenue, would provide the only access to the northbound exit ramps at Fowler Avenue and Fletcher Avenue. The southbound C-D road would commence approximately 0.75 miles north of Fletcher Avenue and terminate at the southbound loop ramp at Fowler Avenue. The southbound C-D road would provide the only access to the southbound exit ramps at Fletcher Avenue and Fowler Avenue. The proposed C-D roads would overpass all crossroads and ramps.
- Eliminating interchange “hopping” between the Fowler Avenue and Fletcher Avenue interchanges by eliminating the ability to exit at Flower Avenue or Fletcher Avenue when entering I-75 from either of these two interchanges.
- Replacing the northbound I-75 to westbound Fowler Avenue flyover exit ramp with a two-lane loop ramp to solve the existing weaving deficiency on Fowler Avenue between the existing ramp terminus and Morris Bridge Road. Also, the existing eastbound Fowler Avenue to northbound I-75 loop ramp would be eliminated. This movement would be accommodated by constructing a one-lane ramp in the northeastern quadrant that would connect with the existing westbound Fowler Avenue to northbound I-75 entrance ramp, which would be lengthened.
- The existing Fletcher Avenue interchange configuration would remain mostly intact.

These concepts are shown in **Figures 5-16a–5-16b and Figures 5-17a–5-17b.**

INTERSTATE 75 SEGMENT THREE - MAINLINE ALTERNATIVE 1 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

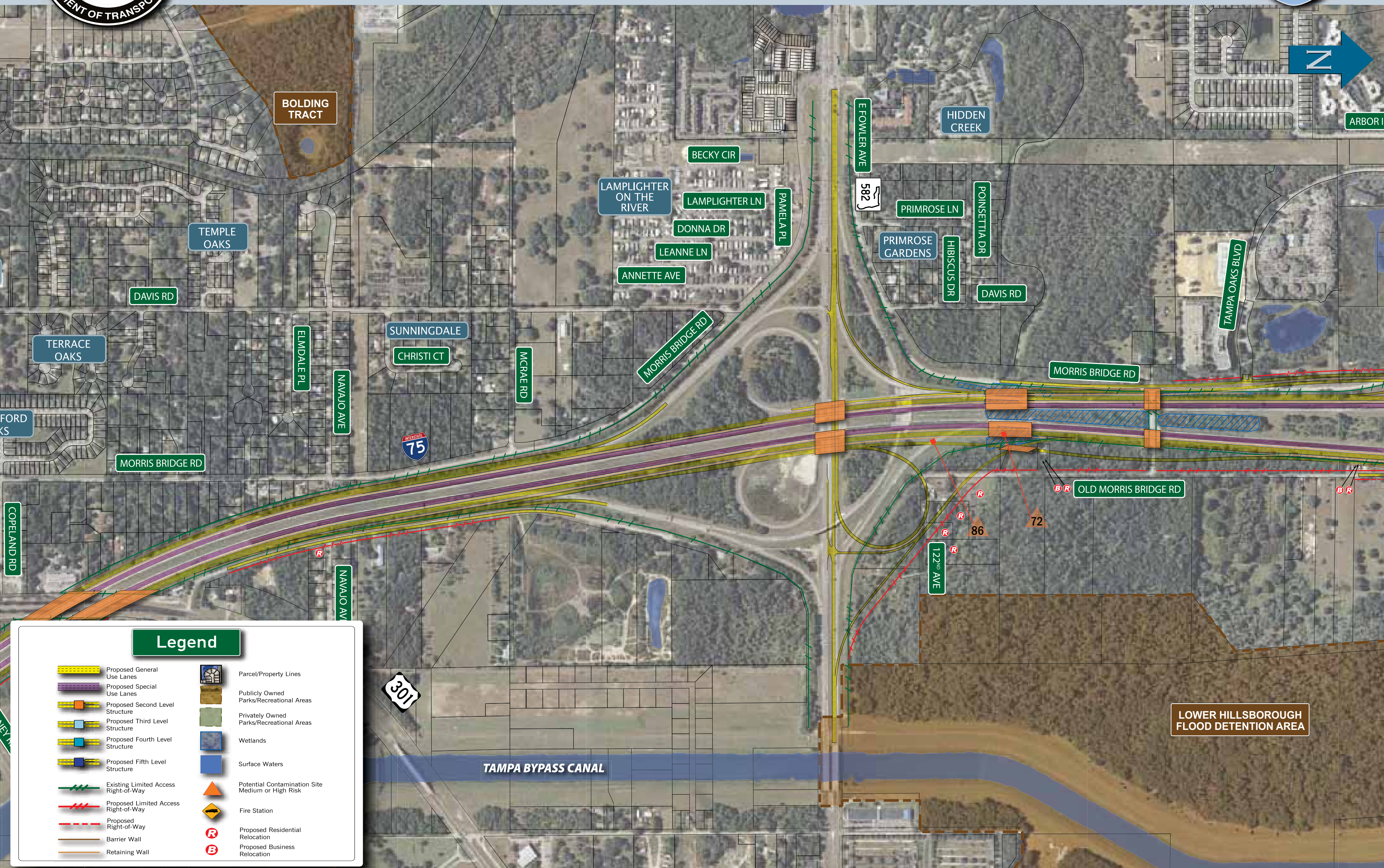


Figure 5 - 16a

INTERSTATE 75 SEGMENT THREE - MAINLINE ALTERNATIVE 1 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

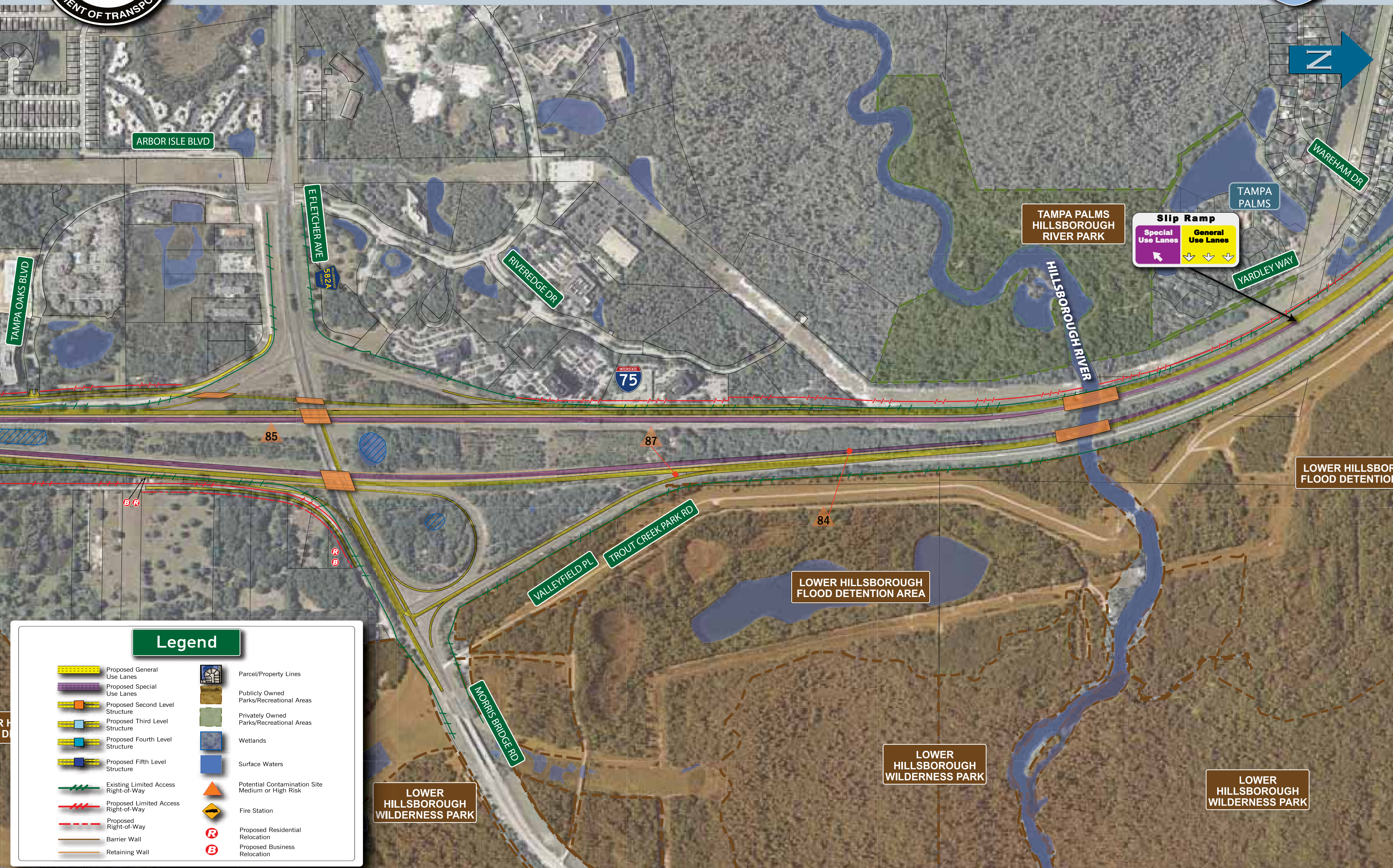
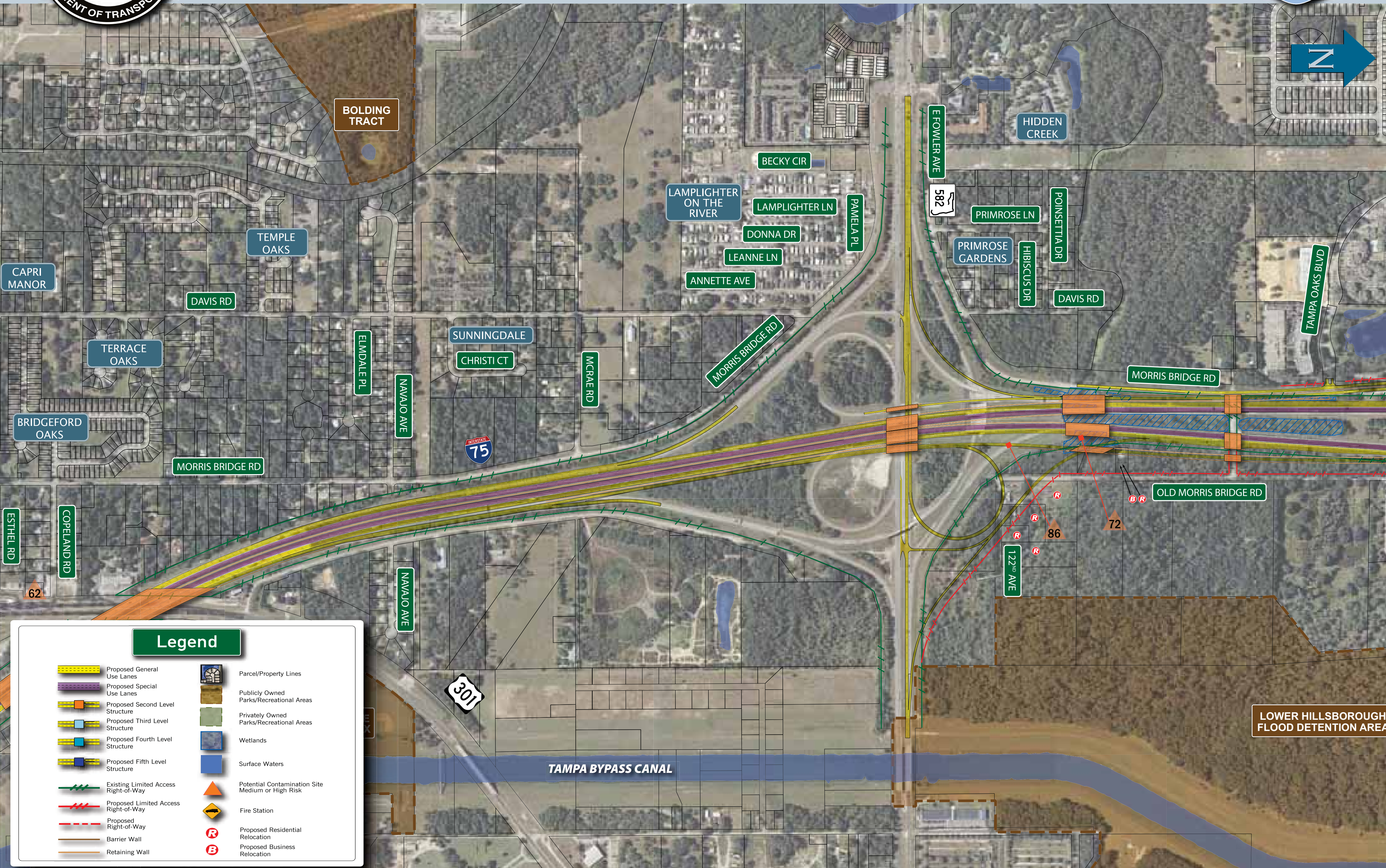


Figure 5 - 16b

INTERSTATE 75 SEGMENT THREE - MAINLINE ALTERNATIVE 2 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)



INTERSTATE 75 SEGMENT THREE - MAINLINE ALTERNATIVE 2 - OPTION B

NORTHERN STUDY - FROM SOUTH OF US 301 TO NORTH OF FLETCHER AVENUE IN HILLSBOROUGH COUNTY (WPI Segment No. 419235-3)

Segment Three Alternatives Summary

The main features of each concept developed for Segment Three are summarized in **Table 5-10.**

Table 5-10: Main Features of Improvement Options – Segment Three

Location	Option A	Option B
Fowler Avenue Interchange	• Maintain existing configuration with slight adjustments of some ramps to match CD roads and mainline alignments	• Eliminate existing flyover ramp carrying the NB I-75 to WB Fowler Avenue traffic and replace it with a two-lane loop ramp in NE quadrant • Eliminate loop ramp in SE quadrant carrying EB Fowler Avenue to NB I-75 traffic; accommodate this movement by allowing left turns from EB Fowler Avenue and connecting with the WB Fowler Avenue to NB I-75 ramp
Fowler Avenue to Fletcher Avenue	• NB and SB CD roads remove diverge areas at the interchanges from the mainline of I-75 onto the CD roads in both directions • Eliminate short trips between Fletcher Avenue and Fowler Avenue in both directions	• NB and SB CD roads remove merge and diverge areas from the mainline of I-75 onto the CD roads in both directions • Eliminate short trips between Fletcher Avenue and Fowler Avenue in both directions
Fletcher Avenue Interchange	• Maintain existing configuration with enhancements proposed by current design project (FPID No. 408456-2-52-01, Section No. 10075)	• Maintain existing configuration with enhancements proposed by current design project (FPID No. 408456-2-52-01, Section No. 10075)

Costs and impacts for the concepts associated with Segment Three are presented in **Table 5-11.**

Table 5-11: Segment Three Evaluation Matrix

Evaluation Criteria	No-Build Alternative	Mainline Alternative 1 Option A	Mainline Alternative 1 Option B	Mainline Alternative 2 Option A	Mainline Alternative 2 Option B
Potential Business Impacts					
Number of business relocations	0	1	1	1	1
Potential Residential Impacts					
Number of residential relocations	0	5	9	4	8
Potential Right-of-Way (ROW) Impacts					
Roadway: Area of ROW anticipated to be acquired (Acres)	0	16.66	36.56	15.30	30.16
Drainage: Off-site ponds necessary (Yes/No)	No	Yes	Yes	Yes	Yes
Potential Environmental Effects					
Archaeological/historical sites(1)	NONE	30	30	30	30
Section 4(f) sites(2)	NONE	3	3	3	3
Noise-sensitive sites(3)	NONE	77	77	178	178
Wetlands (acres)	0.00	5.74	6.72	4.61	5.75
Floodplains (acres)	0.00	7.6	11.1	7.0	10.1
Surface waters (acres)	0.00	0.00	0.00	0.00	0.00
Threatened and endangered species(4)	NONE	Min	Min	Min	Min
Petroleum contamination or hazardous material sites	NONE	6	6	6	6
Estimated Costs(5)					
ROW acquisition	$0.00	$45.79	$53.51	$41.34	$47.14
Wetlands mitigation	$0.00	$0.57	$0.67	$0.46	$0.57
Roadway and bridge construction	$0.00	$372.46	$369.64	$359.60	$350.11
Engineering design (15% of construction)	$0.00	$55.87	$55.45	$53.94	$52.52
Construction engineering & inspection (15% of construction)	$0.00	$55.87	$55.45	$53.94	$52.52
Preliminary Estimate of Total Costs(5)	$0.00	$530.56	$534.72	$509.28	$502.86

Notes:

(1) Historic resources or archaeological sites associated with the study corridor. None are considered significant as contained within the project area of potential effect (APE).
(2) Includes 4(f) sites that will be directly affected, or will experience secondary impacts
(3) Sites located within 66dBA isopleth
(4) Mod = Moderate Min = Minimal
(5) Costs do not include stormwater management ponds; present day costs in million dollars

5.5 Evaluation Matrix

The evaluation matrices, by segment, are provided in the preceding section after the description and illustration of each set of alternatives (**Tables 5-7**, **5-9**, and **5-11**). The matrices were developed to compare the Build Alternatives developed for each segment, based on preliminary estimates of costs (ROW acquisition, wetland mitigation, engineering and construction) and social and environmental factors. The data for each alternative was developed based on the proposed ROW "footprint" along with base map information collected and prepared for this study. The construction cost estimates were prepared using the FDOT's Long Range Estimates (LRE) program.

5.6 Selection of the Recommended Alternative

All alternatives were evaluated with regards to costs, operational factors, and environmental impacts. Based on these evaluations, a recommended alternative was identified and recommended for the I-75 mainline and the interchanges within the study area. These recommendations are listed below:

- I-75 Mainline - Mainline Alternative 2
- Segment 1 – Option C except for the SR 60 interchange where Option A is recommended
- Segment 2 – Option A
- Segment 3 – Option A

<u>Mainline Alternative</u>

Mainline Alternative 2 is the recommended alternative for the following reasons:

- Allows mainline lane additions to be implemented in stages without affecting and/or requiring simultaneous modifications to the interchanges;
- Allows easy and direct access to SULs for emergency response vehicles;
- Provides easier lane use for counter-flow operations during emergency evacuations;
- Has a less significant impact on the Tampa Executive Airport operational envelopes (northern study);
- Potentially requires lower costs for drainage (depending on requirements at time of construction) ; and
- Anticipated lower overall construction costs than the other mainline alternative.

<u>Segment One</u>

In Segment One, the recommended alternative includes the improvements associated with Option C except at the SR 60 interchange where maintaining the partial cloverleaf configuration, which is one of the features of Option A, is recommended. The recommended alternative also eliminates the direct access to Brandon Town Center Drive that was originally included in Option C. This alternative is recommended for the following reasons:

- Preserves existing infrastructure at US 301 with minor ramp adjustments;
- Eliminates multiple exits along NB I-75; and
- Provides adequate storage on both CD roads to minimize turbulence on the I-75 mainline.

Segment Two

In Segment Two, the recommended alternative includes the improvements associated with Option A. This alternative is recommended for the following reasons:

- The single point urban interchange (SPUI) at MLK Boulevard combines ramp terminal intersections, resulting in better progression along MLK Boulevard and longer storage bays for queues;
- The compressed design of the SPUI also supports the addition of CD roads
- The CD roads separate traffic travelling between the I-75 and I-4 interchanges, thus minimizing weaving with I-75 traffic exiting/entering the GULs to/from I-4;
- The I-4 interchange concept does not require immediate action/implementation of SULs on I-4, but allows for future connections;
- The I-4 interchange concept reserves more existing infrastructure than Option B;
- The I-4 interchange concept provides greater storage on the ramps, and the design speed for the SUL ramps is higher (and more conducive to truck traffic), thus preserving operations on both interstates' mainlines ; and
- All SUL exit ramps are on the right side, which is more consistent with driver expectancy.

Segment Three

In Segment Three, the recommended alternative includes the improvements associated with Option A. This alternative is recommended for the following reasons:

- Option A preserves existing flyover structure at Fowler Avenue which leads to significant cost savings over the other option;
- Removes deficient ramp diverge areas from mainline I-75 onto the CD roads in both directions; and
- At Fletcher Avenue, existing infrastructure is preserved and the concept is consistent with the ongoing design project.

6.0 Technical Reports Completed for this Project

The following reports have been submitted or are being prepared in conjunction with this PD&E Study. These reports include:

- *Existing Conditions Report Memorandum* prepared by Suncoast Design Services
- *Design Traffic Technical Memorandum – Technical Reports 1 and 2* prepared by PB Americas, Inc.
- *Contamination Screening Evaluation Report* prepared by PB Americas, Inc.
- *Wetlands Evaluation and Biological Assessment Report* prepared by Scheda Ecological Associates, Inc.
- *Cultural Resource Assessment Survey* prepared by Archaeological Consultants, Inc.
- *Preliminary Alternatives Analysis Memorandum* prepared by Jacobs
- *Noise Study Report* prepared by Environmental Science Associates
- *Location Hydraulic Report* prepared by Icon Consultant Group, Inc.
- *Conceptual Pond Siting Report prepared* by Icon Consultant Group, Inc.
- *Utilities Assessment Report* prepared by Omni Communications
- *Water Quality Impact Evaluation Checklist* prepared by Scheda Ecological Associates, Inc.
- *Comments and Coordination Report* prepared by PB Americas, Inc.
- *Project Development Summary Report* prepared by PB Americas, Inc.
- *Air Quality Report prepared by PB Americas, Inc.*