SELMON EXPRESSWAY

Whiting Street PD&E Study

DRAFT Preliminary Engineering Report

Tampa Hillsborough Expressway Authority

Whiting Street Project Development and Environment Study

Whiting Street from Jefferson Street to North Meridian Avenue; Reconfiguration of Selmon Expressway On-Ramp at Jefferson Street and Off-Ramps at Florida Avenue and Channelside Drive

Hillsborough County, Florida

THEA Project No: HI-0141

J 2

Professional Engineer Certification

Preliminary Engineering Report

Project: Whiting Street Project Development and Environment Study
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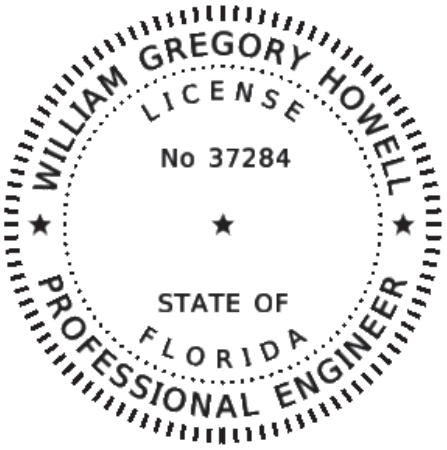
Study Limits: Whiting Street from Jefferson Street to North Meridian Avenue; Reconfiguration of Selmon Expressway On-Ramp at Jefferson Street and Off-Ramps at Florida Avenue and Channelside Drive.

Date: June 2022

This preliminary engineering report contains engineering information for the Whiting Street Project Development and Environment Study in Hillsborough County, Florida. I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of civil engineering as applied through professional judgment and experience. I hereby certify that I am a registered professional engineer in the State of Florida practicing with H.W. Lochner, Inc. and that I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice for this project.



This item has been digitally signed and sealed by William G. Howell, P.E. on the date adjacent to the seal.

William G Howell

Digitally signed by William G Howell
DN: CN=William G Howell, dnQualifier=A01410D0000017FF50D40190000C511, O=HW LOCHNER INC, C=US
Date: 2022.06.24 14:00:21-04'00'

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1.0 Project Summary

1.1 Project Description

The Tampa Hillsborough Expressway Authority (THEA), in coordination with the City of Tampa, conducted a Project Development and Environment (PD&E) Study to evaluate the needs, costs, and effects of extending Whiting Street and reconfiguring the Selmon Expressway on-ramps at Jefferson Street and off-ramps at Florida Avenue and Channelside Drive. The study considered extending Whiting Street to North Meridian Avenue and included improvements and realignment of the existing segment of Whiting Street, from Jefferson Street to North Brush Street. The extension will provide a direct connection of the Whiting Street corridor to North Meridian Avenue which will improve traffic flow and safety for all transportation modes and offer additional connections within the street network.

The study also evaluated reconfiguring the on-ramp to the Selmon Expressway at Jefferson Street and the off-ramps at Florida Avenue and Channelside Drive. It is anticipated that the Florida Avenue off-ramp will be widened to two lanes, the Channelside Drive off-ramp will be removed, and the new Whiting Street off-ramp will extend from the Selmon Expressway, near Morgan Street, to Nebraska Avenue and intersect with the new Whiting Street alignment to provide a direct connection from the Selmon Expressway. See **Figure 1.1** for the project location map.

Figure 1.1: Project Location Map

1.2 Project Purpose & Need

The purpose of this project is to provide a direct connection of the Whiting Street corridor to North Meridian Avenue to improve traffic flow and safety for all transportation modes and offer additional connections within the street network. The project will also reconfigure the on-ramps to the Selmon Expressway at Jefferson Street and the off-ramps at Florida Avenue and Channelside Drive to improve safety, traffic circulation, and access to Whiting Street and North Meridian Avenue.

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

System Linkage

Based upon the Tampa Bay Regional Planning Model (TBRPM) Version 8.2, the existing roadway network will be over capacity by the 2046 design year. Additional network connectivity, such as the Whiting Street extension and ramp configurations, are necessary to provide additional route choice and access to alleviate congestion.

Safety

Safety and operational concerns with the Florida Avenue and Channelside Drive off-ramps include a substandard radius and a free-flow merge movement onto Florida Avenue with a sidewalk/crosswalk conflict. The ramp termini onto Channelside Drive terminate into a 5-leg intersection at Channelside Drive and Morgan Street, which is a major pedestrian access point to the Amalie Arena. Six (6) years of data (2013-2018) were reviewed, and 14 crashes have occurred at this ramp. As the Water Street Project builds out to the east of the ramp system, the adverse impact of geometric issues and pedestrian conflicts are expected to be exacerbated. Also, the planned widening of the Selmon Expressway south of the downtown ramps will alleviate congestion issues and result in higher speed, higher volume interactions at this ramp. As such, improving the ramp geometry, eliminating pedestrian conflicts, and redirecting Downtown East traffic beyond the Water Street District is critical to proactively address safety concerns as both the Selmon Expressway and Downtown Tampa continue to develop.

Transportation Demand

Based upon the Tampa Bay Regional Planning Model (TBRPM), Version 8.2, Jefferson Street (39,000 average annual daily traffic (AADT)) and Kennedy Boulevard (34,000 AADT) are expected to reach their operational capacity by 2040. As the Water Street Project develops, the vehicle demand is expected to increase. The proposed connection of Whiting Street could carry up to 14,800 AADT, providing valuable route divergence and congestion relief to the parallel facilities.

1.3 Commitments

Tampa Hillsborough Expressway Authority (THEA) is committed to these measures to minimize impacts to the cultural and historic resources and contamination sites within the project study area.

1.3.1 Cultural Resources

- During project construction within the area of the Fort Brooke (8HI00013) archaeological site (including all areas associated with the existing Florida Avenue and Channelside Drive off ramp improvements), ground disturbance that goes beyond the depth of one meter (3.3 ft) shall be monitored by a qualified archaeologist. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project area, construction activities involving subsurface disturbance in the vicinity of the discovery will cease. The Florida Department of State, Division of Historical Resources, Compliance Review Section will be contacted. The subsurface construction activities will not resume without verbal and/or written authorization. In the event that unmarked human remains are encountered during construction activities, all work will stop immediately, and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

- Prior to the start of construction, the following actions will be undertaken by professionals that meet the Secretary of the Interior's Professional Qualification Standards (48 FR 44716) and the measures will be completed and approved by Florida Division of Historic Resources staff prior to removal of the resources.

    - A pictorial and narrative history of the Ardent Mills historic site will be developed and submitted to the Florida Memory repository at The State Archives of Florida, John F. Germany Public Library Florida History Room, and Tampa Bay Historic Center. This document shall include limited large format and digital photographs of current appearance, historic photographs, written history, and oral or video interviews with previous employees or persons with recollections of the mill operation.

    - A pictorial and narrative history of the Florida Central & Peninsular Railroad will be developed and submitted to the Florida Memory repository at The State Archives of Florida, John F. Germany Public Library Florida History Room, and

Tampa Bay Historic Center. This will include photographs of current appearance, historic photographs, and written history.

- A State Historic Marker will be produced that is two-sided with the history of Ardent Mills on one side of the marker and the history of the Florida Central & Peninsular Railroad on the other side of the marker. The marker text will be submitted to the State Historical Marker Council (SHMC) for approval. After approved by the SHMC, and completion of project construction, the marker will be erected at a location approved by the SHMC.

1.3.2 Contamination

- For those locations with a risk ranking of MEDIUM and HIGH, Level II field screening should be considered during future project implementation phases and prior to construction. Note that additional information may become available or site-specific conditions may change from the time the Contamination Screening Evaluation Report (CSER) was prepared and should be considered prior to proceeding with roadway construction.

1.4 Alternatives Analysis Summary

A brief description of the alternatives analysis is provided below. For the full detailed alternatives analysis evaluation as well as graphics, refer to Chapter 4 of this document.

The alternatives analysis evaluated proposed improvements to existing ramp configurations and the existing street network at multiple locations in the Downtown/Channelside area. The improvements are broken up into four distinct locations. Location A is the area between North Brush Street and North Meridian Avenue where Whiting Street will be extended. Location B is Whiting Street from Jefferson Street to North Brush Street. Location C is the proposed Whiting Street off-ramp. Location D is the Florida Avenue loop ramp. See **Figure 1.2** for a map depicting the locations of proposed improvements. **Table 1.1** provides a breakdown of the limits of proposed improvements.

Figure 1.2: Location of Proposed Improvements

Table 1.1: Location of Proposed Improvements

Improvement Location	Begin Limit	End Limit
A	North Brush Street	North Meridian Avenue
B	Jefferson Street	North Brush Street
C	Eastbound Selmon Expressway (SR 618) at Morgan Street	Whiting Street
D	Eastbound Selmon Expressway (SR 618) at Florida Avenue	Florida Avenue

In 2017, Kisinger Campo & Associates (KCA) contracted with THEA to develop conceptual plans for the Downtown Tampa Ultimate Meridian Avenue Improvements. The concepts developed during this study served as the base alternative for the alternatives analysis completed during the Whiting Street PD&E study. These alternatives will be referred to as "Alternative 1" for each improvement location.

During the PD&E study, it was determined that the alternatives previously developed for the Florida Avenue Loop ramp (Location D) and the Whiting Street off-ramp (Location C) would be the only alternatives evaluated against the No-build Alternative. Therefore, Locations C and D only carried one alternative through the PD&E study. For both of these locations the Preferred Alternative was selected as Alternative 1, or the Build Alternative.

For both Locations A and B, an additional alternative alignment was developed in order to perform a comparative evaluation against the alternative developed during the previous Downtown Tampa Ultimate Meridian Avenue Improvements study. The alternatives developed previously were labeled Alternative 1 and the alternatives developed during the Whiting Street PD&E study were labeled Alternative 2.

For Location A, both alternatives proposed to extend Whiting to intersect North Meridian Avenue at a signalized intersection, with the major difference being the connection point. Alternative 1 proposed to intersect North Meridian Avenue at the existing North Meridian Avenue and Whiting Street intersection, while Alternative 2 proposed to intersect North Meridian Avenue approximately 325 feet north of the existing North Meridian Avenue and Whiting Street intersection, creating an offset intersection configuration where the two signals would operate in conjunction with one another. Ultimately, Alternative 2 was selected as the Preferred Alternative for Location A.

For Location B, the selection of the Preferred Alternative was dependent on the Preferred Alternative for Location A. This would allow for consistency in the roadway typical section and the alignment of Whiting Street. Because Alternative 2 was selected as the Preferred Alternative for Location A, it followed that the Preferred Alternative for Location B would also be Alternative 2. **Table 1.2** provides a breakdown of the various alternatives considered and the Preferred Alternative selected for each.

Table 1.2: Alternatives Analysis and Preferred Alternatives

Improvement Location	Alternatives Considered	Preferred Alternative
A (North Brush Street to North Meridian Avenue)	No-build Alternative	Alternative 2
	Alternative 1	
	Alternative 2	
B (Jefferson Street to North Brush Street)	No-build Alternative	Alternative 2
	Alternative 1	
	Alternative 2	
C (Eastbound Selmon Expressway (SR 618) at Morgan Street to Whiting Street)	No-build Alternative	Alternative 1
	Alternative 1	
D (Eastbound Selmon Expressway (SR 618) at Florida Avenue to Florida Avenue	No-build Alternative	Alternative 1
	Alternative 1	

1.5 Description of Preferred Alternative

A brief description of the Preferred Alternative for each respective location is provided below. For a detailed description as well as graphics, refer to Chapter 6 of this document.

1.5.1 Location A - North Brush Street to North Meridian Avenue

The Preferred Alternative for this location is Alternative 2. Whiting Street currently ends at North Brush Street, west of the railroad tracks. The Preferred Alternative proposes to extend Whiting Street, from North Brush Street to North Meridian Avenue, with a new signal at the T-intersection of Whiting Street and North Meridian Avenue. The proposed typical section for the Whiting Street extension includes two 11-foot travel lanes in each direction, a 15-foot raised median, curb and gutter, and 10-foot sidewalks on both the north and south sides of the road. The eastbound approach to North Meridian Avenue includes two 11-foot dedicated left turn lanes and one 11-foot dedicated right turn lane. If necessary, the proposed 15-foot raised median can be converted to an additional dedicated left turn lane in the future. The existing raised curb median on North Meridian Avenue will be opened in order to accommodate the proposed signalized intersection. The Preferred Alternative includes the addition of a southbound dedicated right turn lane and a northbound dedicated left turn lane. The Preferred Alternative does not propose any other improvements to North Meridian Avenue. For detailed graphics depicting the improvements at Location A, refer to **Appendix A**, sheets 6-8.

1.5.2 Location B – Jefferson Street to North Brush Street

The Preferred Alternative for this location is Alternative 2. Whiting Street, from Jefferson Street to North Brush Street, is currently a two-lane roadway with on-street parking on both the north and south sides of the road. East of the Selmon Expressway, Whiting Street is a brick road. The Preferred Alternative proposes to widen/reconstruct Whiting Street from two to four lanes with two 11-foot travel lanes in each direction, curb and gutter, and 10-foot sidewalks on both the north and south sides of the road. The Preferred Alternative also includes installing two new traffic signals: one at the intersection of Whiting Street and the terminus of the proposed Whiting off-ramp, just east of the Selmon Expressway, and the other at the intersection of Whiting Street and North Brush Street. A dedicated eastbound left turn lane is proposed at the intersection of Whiting Street and North Brush Street. Right-of-way is required along the south side of Whiting Street, east of the Selmon Expressway (SR 618) in order to widen/reconstruct this portion of Whiting Street. For detailed graphics depicting the improvements at Location B, refer to **Appendix A**, sheets 4-6.

1.5.3 Location C – Eastbound Selmon Expressway (SR 618) at Morgan Street to Whiting Street

The Preferred Alternative for this location is Alternative 1. The existing eastbound Selmon Expressway (SR 618) Exit Ramp 6B provides users the ability to travel east along Channelside Drive, towards Amalie Arena and the Florida Aquarium. The Preferred Alternative proposes relocating exit Ramp 6B approximately 700 feet north and providing a direct connection to Whiting Street. The proposed ramp includes a single 15-foot ramp lane, which will remain on an elevated bridge structure beyond the existing Jefferson Street On-ramp. From this point, the ramp profile begins to decrease and the ramp will be supported by Mechanically Stabilized Earth (MSE) wall, which ends approximately 100 feet south of Whiting Street. The ramp widens to three 12-foot lanes at the intersection, with one dedicated left turn lane and two dedicated right turn lanes. The alignment of the proposed ramp will run along existing Nebraska Avenue for a short segment before intersecting Whiting Street. This will eliminate the Nebraska Avenue and Whiting Street connection and require realigning Nebraska Avenue to connect to Finley Street via a horizontal curve. The existing Jefferson Street On-ramp entrance will be shifted to the north to accommodate the new Whiting Street off-ramp. For detailed graphics depicting the improvements at Location C, refer to **Appendix A**, sheets 2-4.

1.5.4 Location D – Eastbound Selmon Expressway (SR 618) at Florida Avenue to Florida Avenue

The Preferred Alternative for this location is Alternative 1. The current configuration of Eastbound Selmon Expressway (SR 618) Exit Ramp 6A includes a single lane loop ramp that merges onto Florida Avenue under a free-flow condition. The short curve provides little room for vehicles to slow down and queue if there is any backup when trying to merge onto Florida Avenue. The Preferred Alternative proposes widening the ramp from one to two lanes as well as lengthening the ramp to provide a wider curve. The loop ramp terminates at Florida Avenue at a proposed signalized intersection. The proposed loop ramp includes two 12-foot ramp lanes and will remain on structure beyond the existing exit Ramp 6B to provide an open area underneath for mixed use and to promote pedestrian travel. Approximately 300 feet north of Florida Avenue, the ramp widens to three lanes to provide more vehicle storage and efficient queue dispersion onto Florida Avenue. The increased ramp length as well as the additional lanes will minimize backup and potential vehicle queueing onto the Selmon Expressway. The Preferred Alternative includes a 10-foot sidewalk on the inside edge of the proposed loop ramp, crossing underneath the ramp at the location of the existing exit Ramp 6B. Pedestrians will have the ability to cross the loop ramp, to access Channelside Drive, at a proposed crosswalk. No right-of-way is required to construct the proposed loop ramp. For detailed graphics depicting the improvements at Location D, refer to **Appendix A**, sheet 1.

1.6 List of Technical Documents

The technical documents that have been completed during this study can be found in **Table 1.3.**

Table 1.3: List of Technical Documents

Technical Document	Dated
Engineering	
Preliminary Engineering Report	March 2022
Project Traffic Analysis Report	January 2022
Utility Assessment Package	September 2021
Geotechnical Technical Memorandum	September 2021
Interchange Modification Report	December 2021
Environmental	
Project Environmental Impact Report	March 2022
Air Quality Technical Memorandum	January 2022
Cultural Resources Assessment Survey	August 2021
Cultural Resources Assessment Survey – Pond Site Addendum	January 2022
Cultural Resources Determination of Effect Case Study	February 2022
Contamination Screening Evaluation Report	January 2022
Location Hydraulic Report Technical Memorandum	January 2022
Pond Siting Report	March 2022
Water Quality Impact Evaluation	December 2021
Noise Study Report	January 2022
Natural Resources Evaluation	August 2021
Sociocultural Effects Evaluation	October 2021

2.0 Existing Conditions

2.1 Roadway Typical Sections

Within the project study area, the Selmon Expressway (SR 618) as well as multiple other roadways, have the potential to be affected by the proposed improvements. These roadways include exit Ramps 6A and 6B, Florida Avenue, and Whiting Street. Existing roadway characteristics are detailed in the subsequent paragraphs.

2.1.1 Selmon Expressway (SR 618)

The Selmon Expressway (SR 618) is a limited-access divided facility. Throughout the study area, the Selmon Expressway (SR 618) consists of two elevated concrete bridge structures, typically separated by 44 feet. The existing typical section for the Selmon Expressway (SR 618) includes two 12 foot travel lanes, a four foot paved inside shoulder, and an eight foot paved outside shoulder in each direction. **Figure 2.1** provides a detailed graphic of the existing bridge typical section for the Selmon Expressway (SR 618), within the study area.

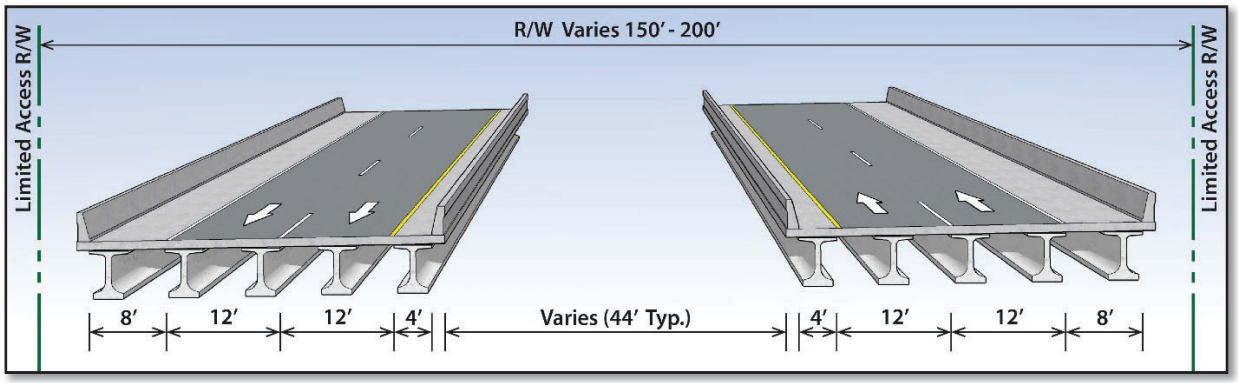


Figure 2.1: Existing Typical Section – Selmon Expressway (SR 618)

2.1.2 Exit Ramp 6A to Florida Avenue

The Downtown East/West interchange of the Selmon Expressway currently provides access to Florida Avenue (Exit 6A) on the eastbound exit. The Selmon Expressway off-ramp to Florida Avenue is a 15 foot, single-lane loop ramp. Outside shoulders are four feet on the right and left sides with two foot curb and gutter. Guardrail is present as a bridge barrier trailing end transition to protect against steep slopes and drop-off hazards adjacent to Channelside Drive, but this is not typical. For a short distance, adjacent to the Selmon Expressway (SR 618), the ramp is elevated on a concrete bridge structure. It then transitions to asphalt pavement along the embankment

portion. **Figure 2.2** provides a detailed graphic of the existing roadway typical section for exit Ramp 6A.

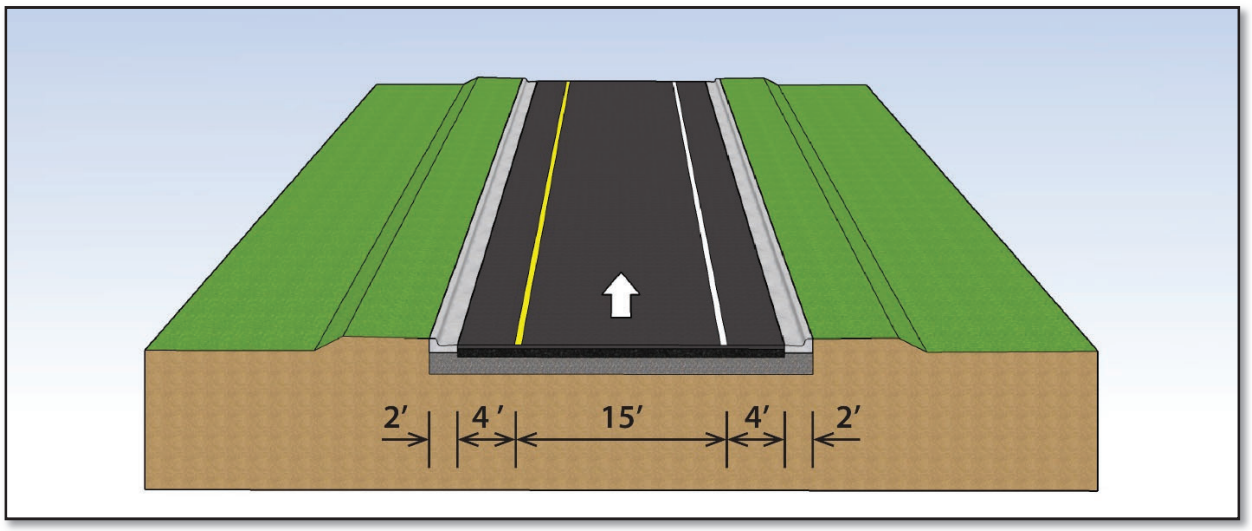


Figure 2.2: Existing Typical Section – Exit Ramp 6A

2.1.3 Florida Avenue

Within the study area, Florida Avenue is a one-way, northbound Urban Minor Arterial. North of Channelside Drive, Florida Avenue provides access into Downtown Tampa. The current merge point for Selmon Expressway Exit Ramp 6A is located between Channelside Drive and Brorein Street. On-street parking accommodations are provided along the west side of Florida Avenue, north of the Brorein Street intersection. The existing typical section along Florida Avenue includes three 11-foot travel lanes, an auxiliary left turn only lane that drops at Brorein Street, a 10-foot sidewalk adjacent to the back of curb on the west side of the road, and an eight-foot sidewalk on the east side of the road. The existing roadway consists of asphalt pavement. **Figure 2.3** provides a detailed graphic of the existing roadway typical section for Florida Avenue.

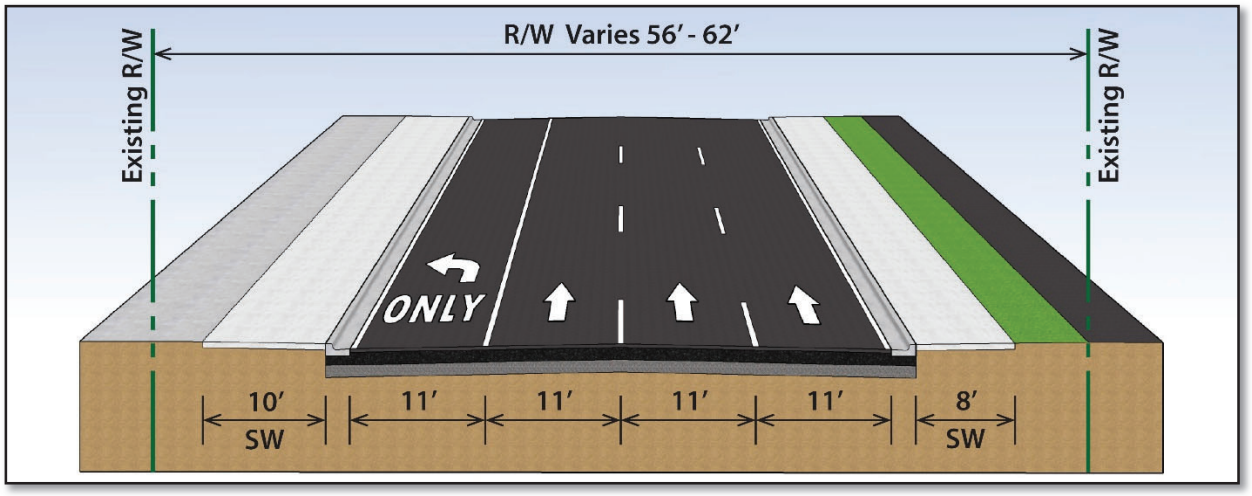


Figure 2.3: Existing Typical Section – Florida Avenue

2.1.4 Exit Ramp 6B to Channelside Drive

The Downtown East/West interchange of the Selmon Expressway currently provides access to Channelside Drive (Exit 6B), on the eastbound exit. The Selmon Expressway off-ramp to Channelside Drive is a 15 foot single-lane loop ramp. The existing roadway consists of asphalt pavement with outside paved shoulders are four-feet with two-foot curb and gutter. Guardrail is present as a bridge barrier trailing end transition to protect against steep slopes and drop-off hazards adjacent to Channelside Drive, but this is not typical. For a short distance, adjacent to the Selmon Expressway (SR 618), the ramp is elevated on a concrete bridge structure. It then transitions to asphalt pavement along the embankment portion. **Figure 2.4** provides a detailed graphic of the existing roadway typical section for exit Ramp 6B.

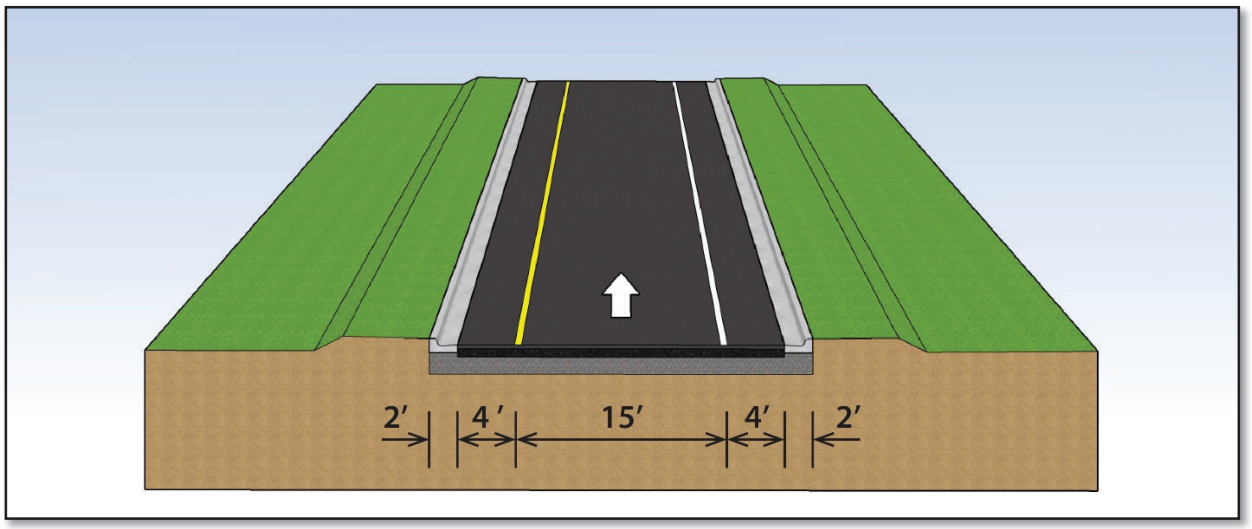


Figure 2.4: Existing Typical Section – Exit Ramp 6B

2.1.5 Whiting Street

Whiting Street is an east-west arterial that transitions from a four-lane, two-way undivided roadway to a two-lane undivided roadway with dedicated on-street parking at the intersection of Jefferson Street. Whiting Street widens at Nebraska Avenue to a two-lane divided (paved median) roadway with dedicated on-street parking and terminates at North Brush Street. Whiting Street commences again as a two-lane, undivided arterial east of North Meridian Avenue. Whiting Street provides access to various City of Tampa parking garages and parking lots for daily Downtown commuters to the west and access to the Channelside District to the east. The portion of Whiting Street with the potential to be affected by the proposed improvements is between Jefferson Street and North Brush Street and includes two travel lanes. Thus, Whiting Street will be discussed as a two-lane roadway. The existing roadway consists of asphalt pavement. Travel lane widths along Whiting Street vary from 12 feet to 16 feet. Sidewalks are buffered by granite curb, a six-foot sidewalk on the south side of the road, and a wide sidewalk with varying width on the north side of the road. East of the Selmon Expressway (SR 618), the 717 parking facility is located adjacent to the south side of Whiting Street. Between Jefferson Street and the Selmon Expressway (SR 618), the existing roadway consists of asphalt pavement. From the Selmon Expressway (SR 618) to North Brush Street, the existing roadway consists of brick pavers with an old rail line, embedded in asphalt pavement, running along the centerline. **Figures 2.5** and **2.6** provide detailed graphics of the existing roadway typical sections for Whiting Street.

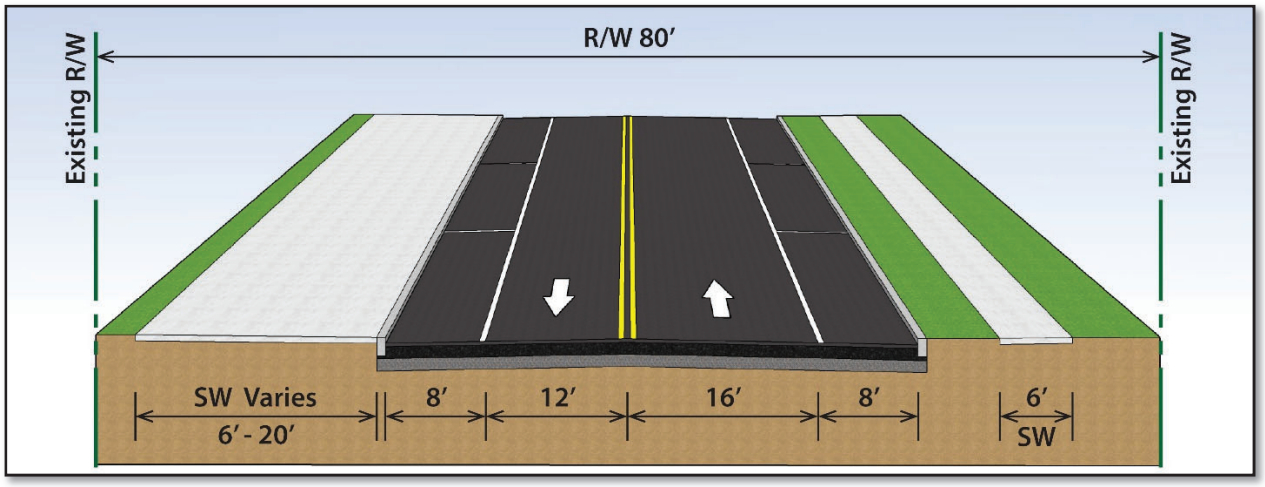


Figure 2.5: Existing Typical Section – Whiting Street – Jefferson Street to Selmon Expressway (SR 618)

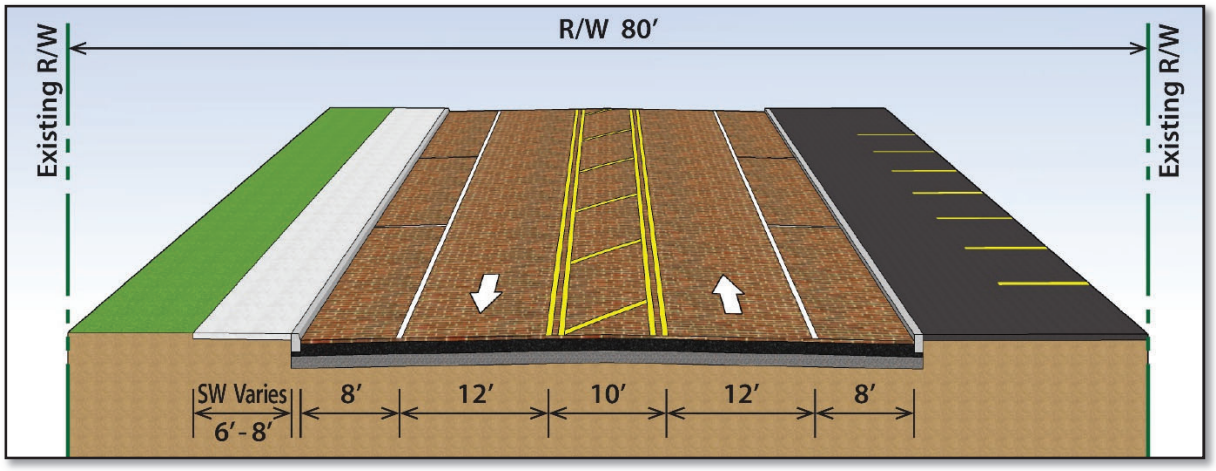


Figure 2.6: Existing Typical Section – Whiting Street – Selmon Expressway (SR 618) to North Brush Street

2.1.6 Nebraska Avenue

Within the study area, there are three distinct segments of Nebraska Avenue. The segments include Channelside Drive to Cumberland Avenue, Cumberland Avenue to Whiting Street, and Washington Street to Kennedy Boulevard. The segment with the potential to be impacted by the proposed improvements is between Cumberland Avenue and Whitng Street. Along this segmnet of Nebraska Avenue, the roadway typical section includes two 10-foot travel lanes, on street parking on the west side of the road, curb and gutter, and sidewalks adjacent to the back of curb on both sides of the road. The existing roadway consists of asphalt pavement. The primary land uses along Nebraska Avenue are industrial and commercial. **Figure 2.7** provides a detailed graphic of the existing roadway typical section for Nebraska Avenue.

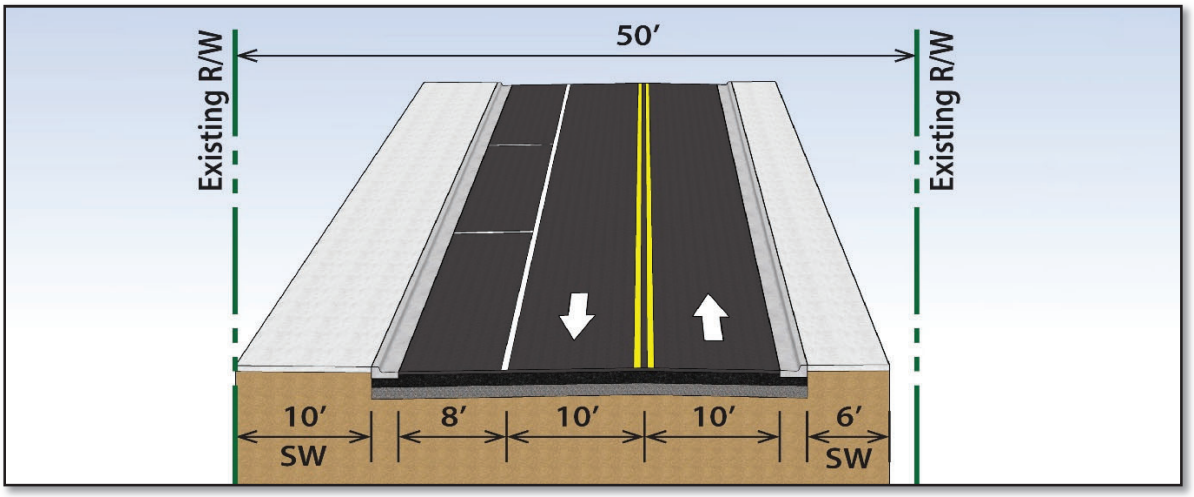


Figure 2.7: Existing Typical Section – Nebraska Avenue

2.1.7 Meridian Avenue

Within the study area, Meridian Avenue is a north-south Urban Major Collector/Urban Principal Arterial Other roadway that extends 0.5 miles from Channelside Drive to the project limit at Kennedy Boulevard. The existing typical section for Meridian Avenue includes a four-lane divided roadway, from Channelside Drive to Cumberland Street, and a six-lane divided roadway with a landscaped median, from Cumberland Street to Kennedy Boulevard. The portion of Meridian Avenue with the potential to be affected by the proposed improvements extends from E Whiting Street to Jackson Street. Thus, Meridian Avenue will be discussed as a six-lane divided roadway with a raised median, 12 foot travel lanes, two foot curb and gutter, the Meridian Avenue Greenway Trail on the west side of the roadway, and a sidewalk with variable width along the east side of the road. The sidewalk is wide enough to accommodate standard pedestrian walkways, decorative lighting, furniture, trash cans, pet friendly supplies and utilities. The existing roadway is asphalt pavement. Land uses along Meridian Avenue consist of commercial and multi-family residential including a Publix Supermarket and high-rise apartments. **Figures 2.8** provides a detailed graphic of the existing roadway typical section for Meridian Street.

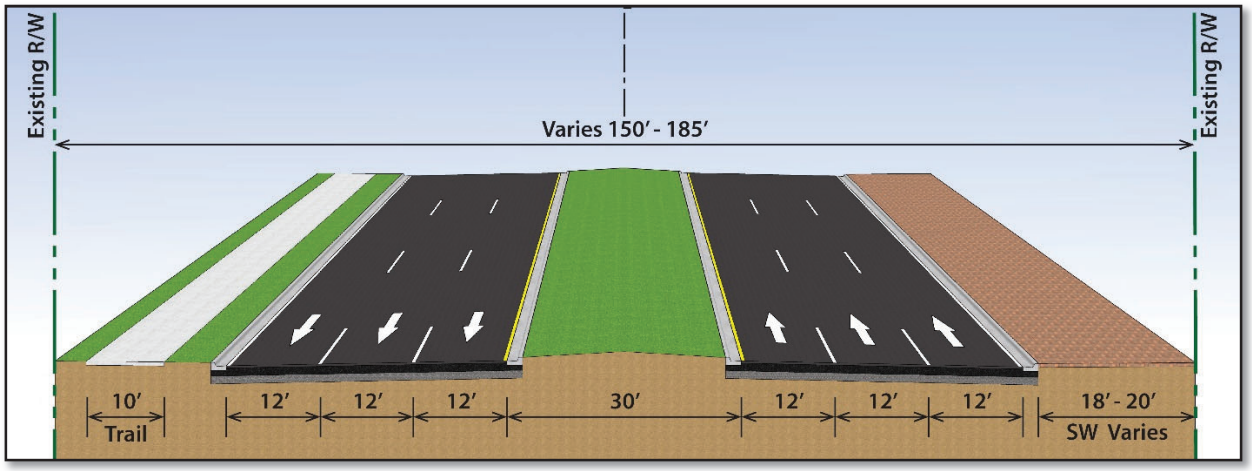


Figure 2.8: Existing Typical Section – Meridian Avenue – Cumberland Street to Kennedy Boulevard

2.2 Right-of-Way

The existing right-of-way width along the Selmon Expressway, as a limited access facility, is generally 150 feet. Within the project limits, the existing right-of-way width varies between a minimum of 150 feet and maximum of 200 feet. A breakdown of the various existing roadway right-of-way widths is provided in **Table 2.1.**

Table 2.1: Existing Right-of-Way

Roadway	Right-of-Way Width (feet)
Selmon Expressway (SR 618)	150 - 200
Exit Ramp 6A (Florida Avenue)	Within THEA owned parcel
Exit Ramp 6B (Channelside Drive)	Within THEA owned parcel
Florida Avenue	56 - 62
Whiting Street	80
Nebraska Avenue	50
Meridian Avenue	150-185

* Existing roadway right-of-way widths were estimated using available parcel and survey data.

2.3 Roadway Classification & Context Classification

The project study area is situated between Downtown Tampa, the Channelside District, and the Port Tampa Bay, in a densely populated area with a well-connected roadway network. Existing roadway and context classifications are detailed in the subsequent paragraphs.

2.3.1 Roadway Classification

The Selmon Expressway (SR 618) is a limited-access facility, within the Florida Department of Transportation's (FDOT) Strategic Intermodal System (SIS), making it one of Florida's high priority transportation facilities for Florida's economy, national defense, and mobility. The Selmon Expressway (SR 618) is a tolled highway and functionally classified as an Urban Principal Arterial Expressway facility.

2.3.2 Context Classification

Context Classifications are identified for all non-limited-access state roadways. The roadways with the potential to be impacted by the proposed improvements are either limited-access or non-state roads, with the exception of Nebraska Avenue. Therefore, none of these roadways maintain a context classification. **Table 2.2** lists the other individual functional roadway and context classifications for roadways within the study area.

Table 2.2: Existing Functional Roadway and Context Classifications

Roadway	Functional Classification	Context Classification
Selmon Expressway (SR 618)	Principal Arterial – Freeway and Expressway Urban	Limited Access – Other
Florida Avenue	Minor Arterial Urban	Non-State Road
Channelside Drive	Major Collector Urban	Non-State Road
Whiting Street	Local Road	Non-State Road
Nebraska Avenue	Minor Arterial Urban	C6-Urban Core
Meridian Avenue	Major Urban Collector/Principal Arterial – Other	Limited Access – Other

2.4 Adjacent Land Use

The existing land use (ELU) directly adjacent to the Selmon Expressway (SR 618) and Downtown East/West interchange study area were obtained from the Existing Land Use Map for Hillsborough County, found on the Hillsborough County Planning Department webpage (Planning Information Map App (PIMA) (tpcmaps.org)). The existing land use map is shown in **Figure 2.9**. The existing land uses include light commercial, light industrial, public/quasi-public/institutions, and educational. Other surrounding land uses include planned development and residential.

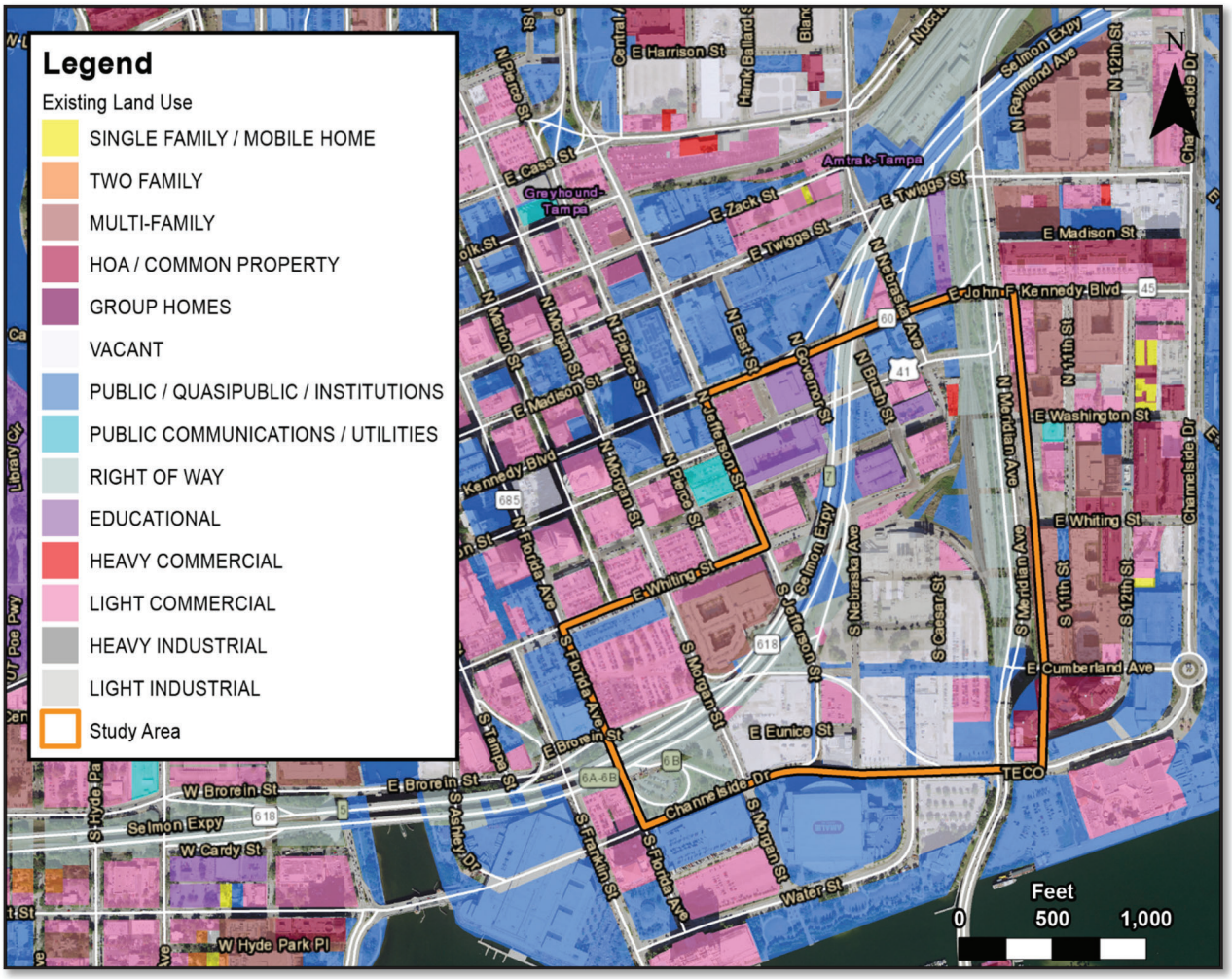


Figure 2.9: Existing Land Use Map

2.5 Access Management Classification

The access management classifications listed in **Table 2.3** adhere to the latest access management guidelines in the Florida Department of Transportation's (FDOT) Florida Design Manual (FDM), 2021. The Selmon Expressway (SR 618) maintains a Class 1 (limited-access) designation. The remaining roadways within the study area follow the access management guidelines/criteria outlined in the Florida Greenbook (2018).

Table 2.3: Access Management Classification

Roadway	Access Classification	Area/Median Type
Selmon Expressway (SR 618)	Class 1	Area Type 1
Florida Avenue	N/A	Non-Restrictive
Channelside Drive	N/A	Non-Restrictive
Whiting Street	N/A	Non-Restrictive
Nebraska Avenue	Class 7	Both Median Types
Meridian Avenue	N/A	Non-Restrictive

2.6 Design and Posted Speeds

The design speed and posted speed for each facility are shown in **Table 2.4**.

Table 2.4: Current Design and Posted Speeds

Roadway	Design Speed (mph)	Posted Speed (mph)
Selmon Expressway (SR 618)	55	55
Exit Ramp 6A (Florida Avenue)	20	20**
Exit Ramp 6B (Channelside Drive)	20	20**
Florida Avenue	35	30
Whiting Street	N/A	30*
Nebraska Avenue	N/A	35/30
Meridian Avenue	N/A	40

*Per FS 316.183, roadways with no posted speed maintain a default regulatory speed of 30 mph.
**No posted speed. Includes cautionary speed sign.

2.7 Vertical and Horizontal Alignment

The following sections describe the vertical and horizontal alignment of the Selmon Expressway (SR 618) within the project limits. Curve data was extracted from the original as-built plans (FPID: 416361-2-52-01) and from the FDOT Roadway Characteristics Inventory (RCI) database.

2.7.1 Vertical Alignment

There are four existing vertical curves along the eastbound Selmon Expressway (SR 618) within the project limits. There are also three existing interchange ramps with vertical curve data not presently available. The ramps are located at Florida Avenue (off-ramp), Morgan Street (off-ramp), and Jefferson Street (on-ramp). The surface streets, including Florida Avenue, Whiting Street, Channelside Drive, and North Meridian Avenue are mostly flat with little variation in elevation.

Table 2.5 summarizes the existing vertical alignment of the eastbound Selmon Expressway (SR 618).

Table 2.5: List of Vertical Curves

PVC (Mile Post and/or Station)	PVT (Mile Post and/or Station)	Design Speed (mph)	Algebraic Grade Difference (%)	Type	Curve Length (feet)	FDOT Min. Length (feet)	K Value	FDOT Min. K Value
567+74.60	568+94.60	55	2.825	Sag	120	800	42	115
568+94.60	571+74.60	55	4.786	Sag	280	800	242	115
572+00.00	576+00.00	55	3.4	Crest	400	1,800	154	114
581+50.00	586+50.00	55	1.520	Crest	500	1,800	329	114

2.7.2 Horizontal Alignment

There is one existing horizontal curve along the eastbound Selmon Expressway (SR 618) within the project limits. There are three existing interchange ramps located at Florida Avenue (off-ramp), Morgan Street (off-ramp), and Jefferson Street (on-ramp). Only Jefferson Street has available horizontal curve data. Where there is potential for the proposed improvements to impact the surface streets, Florida Avenue, Channelside Drive, Whiting Street, and North Meridian Avenue do not contain any horizontal curves. **Table 2.6** summarizes the existing horizontal alignment of the Selmon Expressway (SR 618) and the Jefferson Street on-ramp.

Table 2.6: List of Horizontal Curves

Point of Curve (Mile Post and/or Station)	Point of Tangent (Mile Post and/or Station)	Design Speed	Degree of Curvature	Radius (feet)	Min. Radius (10% super, feet)	Curve Length (feet)	FDOT Required Min. Curve Length (feet)
3568+92.20	3587+13.37	55	3°12'27"	1786.24	881	1821.17	825
Interchange Ramps							
3580+07.47	3583+60.75	40	4°00'00"	1432.40	432	353.28	600

2.8 Pedestrian Accommodations

Pedestrian accommodations are not provided along the Selmon Expressway (SR 618) because it is a limited-access facility. Trails within the study area consist of the Selmon Greenway and the existing Meridian Avenue Trail located on the west side of North Meridian Avenue. The Selmon Greenway is a variable width multi-use trail (8 feet to 12 feet) that extends 1.7 miles from its start at the Tampa Riverwalk to Adamo Drive and 15th Street, south side of Ybor City. Sections of the Selmon Greenway trail run under and parallel to the Selmon Expressway (SR 618). THEA is planning to advertise improvements to the facility in 2022.

There are 10-foot sidewalks along Florida Avenue and 15-foot sidewalks along Channelside Drive. Sidewalks along Whiting Street are buffered by granite curb, with a six-foot sidewalk on the south side of the road, and a wide sidewalk with varying width on the north side of the road. Additional pedestrian accommodations provided within the study area include the following:

- Pedestrian countdown heads, actuated push buttons, and accessible pedestrian signals
- Leading pedestrian phase/Leading pedestrian intervals (LPIs)
- Protected left-turn phase
- High-visibility crosswalks and two stage crossings
- Advance stop lines
- Pedestrian lighting
- ADA compliant curb ramps

2.9 Bicycle Facilities

Bicycle facilities are not provided along the Selmon Expressway (SR 618) because it is a limited-access facility. Dedicated colored and buffered five-foot lanes for bicyclists are provided on Jackson Street and Nebraska Avenue. Bicycle-friendly roads accommodate and promote safe, comfortable, and convenient bicycling with traffic on local roadways. The following roadways within the study area have characteristics that are consistent with the goals of bicycle-friendly roads:

- Morgan Street
- Jefferson Street
- E Street
- Nebraska Avenue
- Water Street
- Whiting Street
- North Brush Street
- Washington Street

2.10 Transit Facilities

The Hillsborough Area Regional Transit Authority (HART) and Pinellas Suncoast Transit Authority (PSTA) provide bus services throughout much of Downtown Tampa. See **Figure 2.11** for the existing HART routes within the study area. The following bus routes are provided within the study area:

Local Routes (HART)

- The TECO Line Streetcar System provides connection from Downtown Tampa to Ybor City via Old Water Street and Channelside Drive.

- Route 1 provides connection from Downtown Tampa to the University Area via Florida Avenue and Whiting Street.
- Route 8 provides connection from Downtown Tampa to Brandon Mall via Jackson Street, Kennedy Boulevard, Channelside Drive, and North Meridian Avenue.
- Route 9 provides connection from Downtown Tampa to the University Area via Channelside Drive, Kennedy Boulevard, North Meridian Avenue, Cumberland Avenue, Jefferson Street, and Whiting Street.
- Route 19 provides connection from Downtown Tampa/Tampa General Hospital to Britton Plaza via Channelside Drive and Florida Avenue.
- Route 30 provides connection from Downtown Tampa to Tampa International Airport via Florida Avenue and Whiting Street.
- Route 400 (MetroRapid) provides connection from Downtown Tampa to the University Area via Jackson Street, Kennedy Boulevard, and Nebraska Avenue.

Limited Express Routes (HART)

- Route 24LX provides connection from Downtown Tampa to Fish Hawk via the Selmon Expressway, Florida Avenue, Jackson Street, Nebraska Avenue, and Kennedy Boulevard.
- Route 25LX provides connection from Downtown Tampa to South Tampa and to Bloomingdale via the Selmon Expressway. Florida Avenue, Jackson Street, Nebraska Avenue, and Kennedy Boulevard.

Route 360LX provides connection from South Tampa to Downtown Tampa and to Brandon via the Selmon Expressway, Florida Avenue, Jackson Street, Nebraska Avenue, and Kennedy Boulevard.

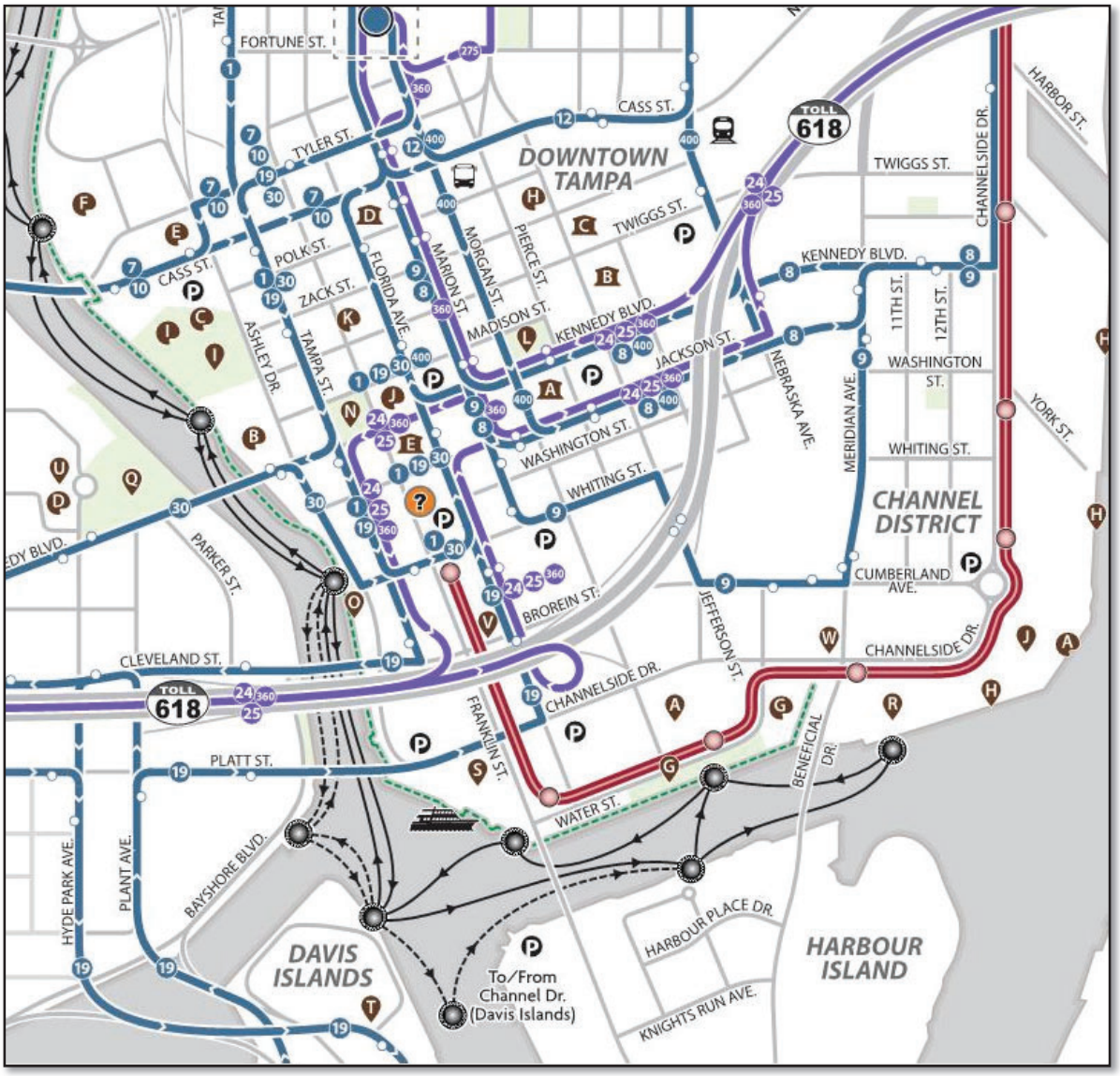


Figure 2.10: HART Downtown Tampa Route Map

Express Routes (PSTA)

- Route 100X provides connection from Downtown St. Petersburg to Downtown Tampa via the Selmon Expressway, Florida Avenue, Whiting Street, Morgan Street, and Brorein Street.
- Route 300x provides connection from Largo to Downtown Tampa via Pierce Street and Whiting Street.

The City of Tampa has recently completed a PD&E Study for the InVision: Tampa Streetcar (InVision: Tampa Streetcar | City of Tampa) in April 2020 and is currently seeking funding from the Federal Transit Administration (FTA), with a request submitted in August 2020. The project will

expand and modernize the Tampa Streetcar system with connections in Downtown Tampa, the Channelside District, and the Ybor City historic district. A portion of this project will travel along Florida Avenue from Brorein Street to north of Whiting Street, which lies within the study area for this PD&E Study.

2.11 Pavement Condition

The Florida Department of Transportation (FDOT) Pavement Condition Surveys, 2021, (PCS) for the Selmon Expressway (SR 618) were reviewed to assess the existing condition of the facility. However, under the roadway identification number of 10002000, the section from Mile Post (MP) 4.920 to MP 6.768 is unavailable. For reference, the project limit of Florida Avenue is located at milepost (MP) 5.218 and Whiting Street is located at MP 5.573. Additionally, Florida Avenue, Channelside Drive, and Whiting Street did not have crack and ride ratings listed on the FDOT PCS 2021. Whiting Street, east of the Selmon Expressway is a brick street with an old rail line, embedded in asphalt pavement, running along the centerline.

2.12 Traffic Volumes and Operational Conditions

The following sections provide a brief summary of the exisiting year (2019) design factors, annual average daily traffic (AADT), and turning movements performed withing the study area. A full, detailed analysis can be found in the *Project Traffic Analysis Report* (PTAR). The summarized values only show the existing intersections that are considered to be impacted by the proposed alternatives of this PD&E study. Only 10 of the 39 intersections are shown in this section.

2.12.1 Existing Traffic Volumes

Design traffic factors were determined based on the collected traffic data, historically observed factors, and forecasted factors from the Tampa Bay Regional Planning Model (TBRPM), Version 8.2 developed specifically for THEA, with base year 2015, interim year 2030, and forecast year 2040. The factors were developed based on the procedures outlined in the FDOT Project Traffic Forecasting Handbook, 2019. **Table 2.7** summarizes the recommended design traffic factors that were used in the development of the existing year (2019) design hour turning movement volumes.

Table 2.7: Recommended Design Traffic Factors

Factor	Value
Peal Hour Factor	AM: 0.47 to 0.99 (0.92 weighted average) PM: 0.78 to 0.96 (0.95 weighted average)
Peak-to-Daily Ratio (K Factor)	9.0%
Directional Factor	Selmon Expressway: 52.3% to 61.2% Surface Streets: 50.1% to 67.1%
Design Hour Truck Factor	Roadways: 2.0%

2.12.2 Annual Average Daily Traffic (AADT), Lane Geometry and Traffic Control

AADTs from FDOT Florida Traffic Online (2019) were directly used for the Selmon Expressway. **Figures 2.11** to **2.12** show the existing year (2019) AADTs, the existing lane geometry, and intersection control.

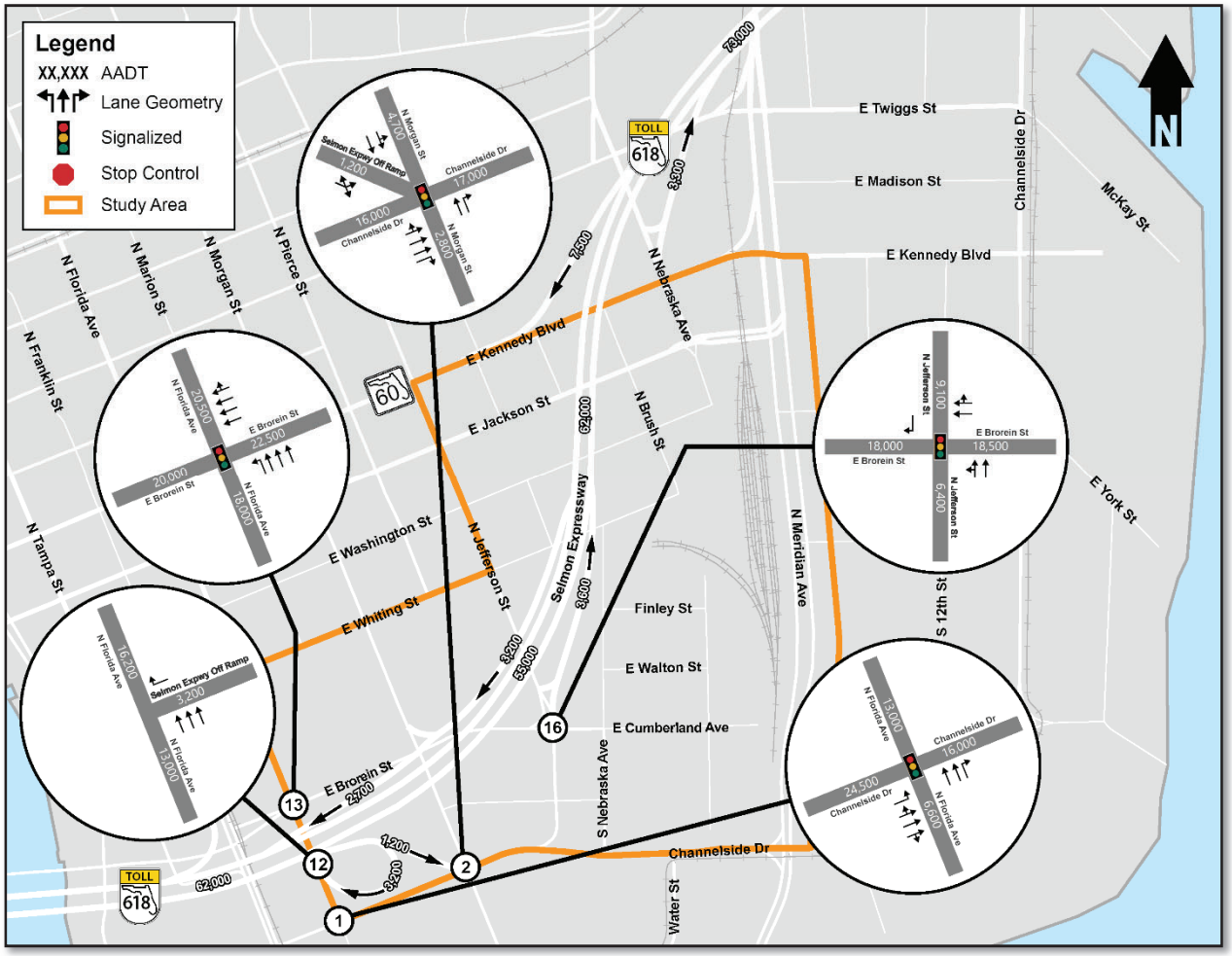


Figure 2.11: Existing 2019 AADT, Lane Geometry, and Intersection Control Type

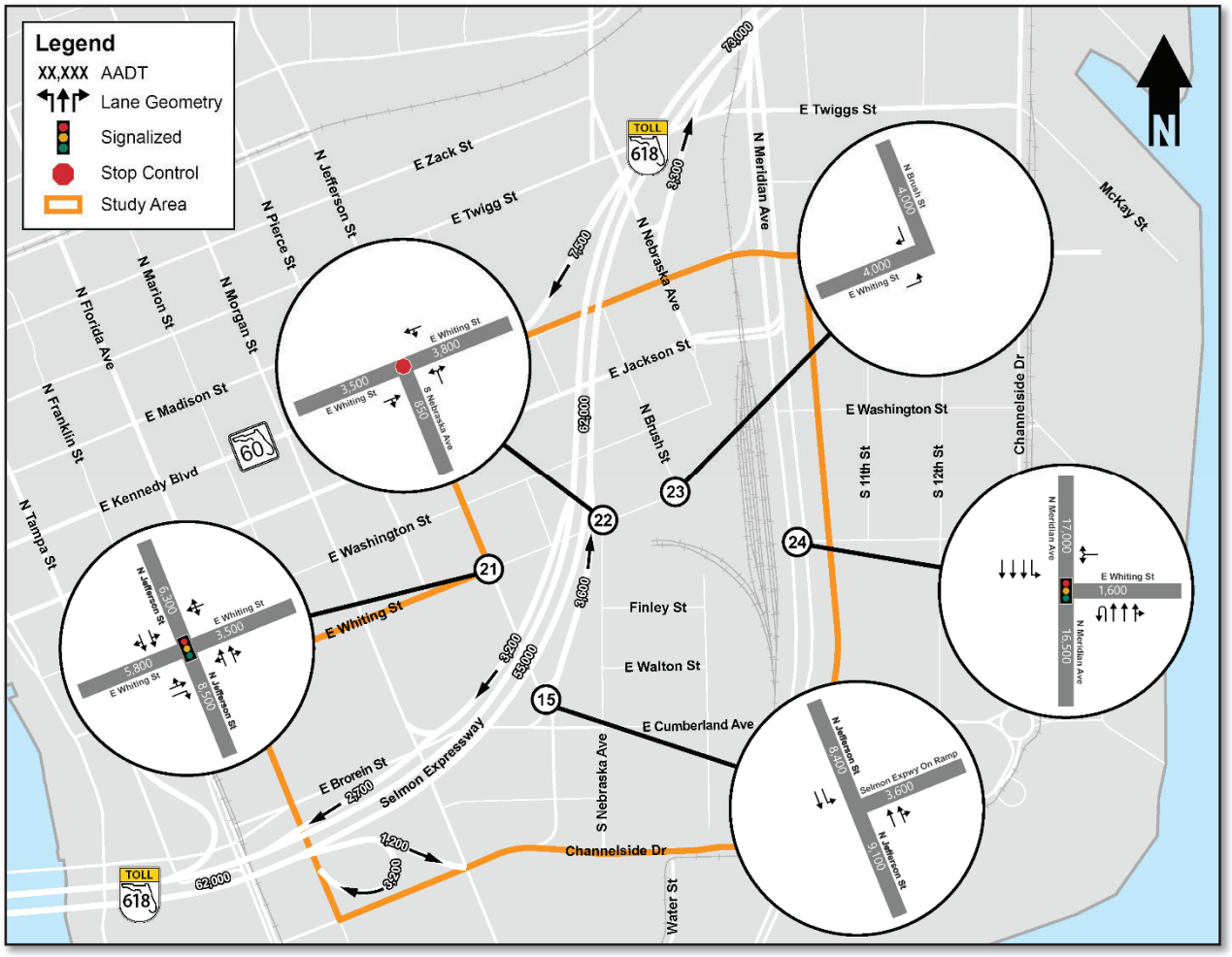


Figure 2.12: Existing 2019 AADT, Lane Geometry, and Intersection Control Type

2.12.3 Existing Year (2019) Turning Movements

Based on the above AADTs values, the AM and PM peak hours were determined to occur from 7:30 AM to 8:30 AM and from 4:30 PM to 5:30 PM, respectively. **Figure 2.13** and **Figure 2.14** show the existing year (2019) turning movement volumes determined in the Whiting Street PTAR.

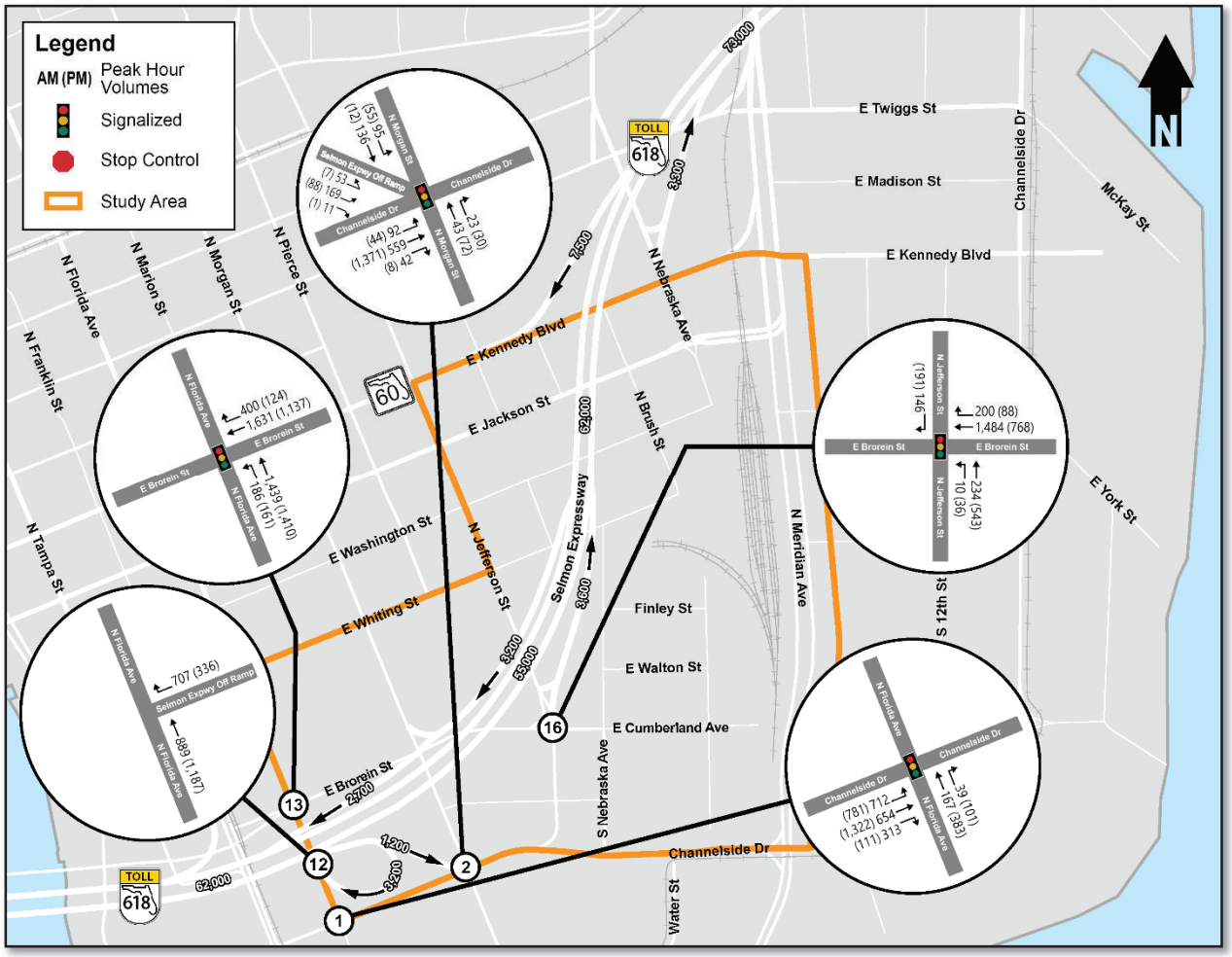


Figure 2.13: Existing 2019 Turning Movement Volumes

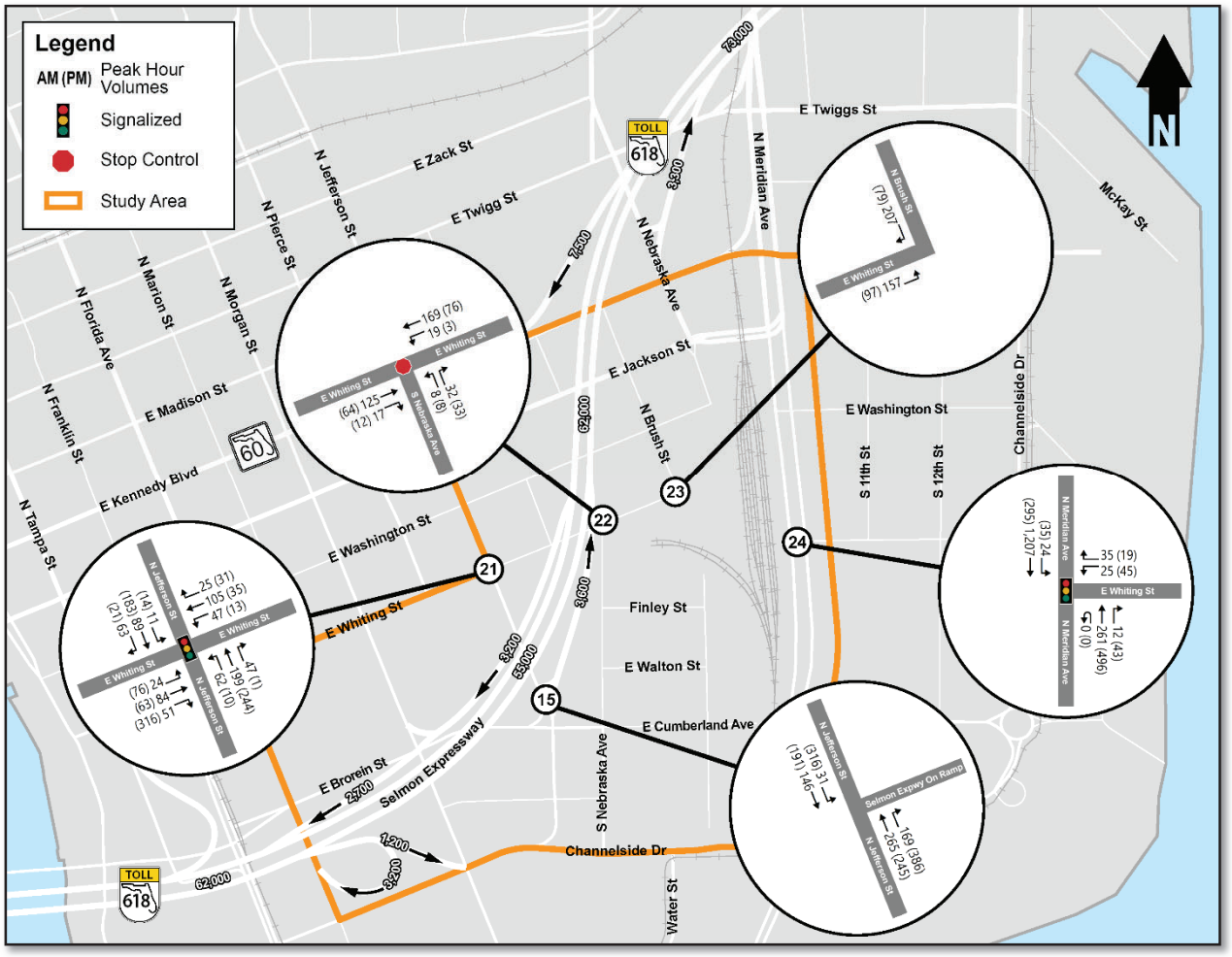


Figure 2.14: Existing 2019 Turning Movement Volumes

2.12.4 Existing Traffic Analysis

Intersection operational analysis was conducted at each of the signalized and stop-controlled intersections in the study area for the existing year (2019). The results of the existing year (2019) intersection analysis for the AM and PM peak hours are shown in **Table 2.8**. The results of the analysis indicate that each of the study intersections meet the LOS target D, except for the Whiting Street at Jefferson Street intersection, as defined for urban areas in the FDOT 2020 Quality/Level of Service Handbook, in the AM and PM peak hours. However, future operations of the Selmon Expressway off-ramps and within the Whiting Street study area may prove to be a concern as increased demand is expected within the study area by the design year (2046).

Table 2.8: Existing Year (2019) Intersection Analysis

Figure ID	Intersection	Overall			
		Delay	LOS	Delay	LOS
		AM Peak Hour		*PM Peak Hour*	
1	Channelside Dr and Florida Ave	14.5	B	19.3	B
2	Channelside Dr and Morgan St/ Selmon Expy off-ramp	39.9	D	25.5	C
13	Brorein St and Florida Ave	37.0	D	28.4	C
16	Brorein St and Jefferson St	15.9	B	20.3	C
21	Whiting St and Jefferson St	18.7	B	60.6	E
22	Whiting St and Nebraska Ave*	-	-	-	-
24	Whiting St and North Meridian Ave	36.6	D	14.0	B

Notes: Red text indicates locations where the operations do not meet the LOS target D, as defined for urban areas in the FDOT 2020 Quality/Level of Service Handbook. Operational analysis could not be conducted for the intersection of Brorein Street and Nebraska Avenue due to complex geometry. *Only stop-controlled approaches have been summarized.

2.13 Intersection Layout and Traffic Control

The existing intersection configuration and traffic control type for each intersection are shown in **Table 2.9**. Due to the nature of the Downtown area, the majority of intersections are signalized.

Table 2.9: Existing Intersection Characteristics

Figure ID	Intersection	Configuration	Traffic Control
1	Channelside Dr and Florida Ave	Four-Way Intersection	Signalized
2	Channelside Dr and Morgan St/ Selmon Expy Off-Ramp	Five-Way Intersection	Signalized
12	Florida Ave and Selmon Expwy Off-Ramp	T-Intersection	Yield
13	Brorein St and Florida Ave	Two-Way Intersection	Signalized
15	Jefferson Street and Selmon Expwy On-Ramp	T-Intersection	Yield
16	Brorein St and Jefferson St	Four-Way Intersection	Signalized
21	Whiting St and Jefferson St	Four-Way Intersection	Signalized
22	Whiting St and Nebraska Ave	T-Intersection	One-Way Stop
23	Whiting St and North Brush St	Two-Way Intersection	No Control
24	Whiting St and North Meridian Ave	T-Intersection	Signalized

2.14 Railroad Crossings

An approximately 1,400-foot north-south segment of the Florida Central & Peninsular Railroad runs parallel to the west side of North Meridian Avenue, between Cumberland Avenue and Jackson Street. The railroad is owned by THEA and operated by CSX Transportation. This segment of railroad expands into a multi-line (seven lines) switching yard east of Whiting Street and contains a two-line east-west spur that feeds the Ardent Mills facility located south of Whiting Street. The primary use of this rail segment is to provide materials for the Ardent Mills facility. This facility is scheduled to cease operations in 2022, resulting in the rail segment no longer being needed. THEA anticipates the removal of the existing railroad tracks in 2022.

2.15 Crash Data and Safety Analysis

The data presented in the section below was extracted from the *Interchange Modification Report* (IMR), January 2022. Five years of validated historical crash data (2014 to 2018) was obtained from the Area of Interest (AOI) from the FDOT Crash Analysis Reporting (CAR) Online Database and the Crash Data Management System (CDMS). The individual study locations are classified by intersections or segments. **Figure 2.15** provides a graphic depicting the specific intersections and segments which were analyzed. The intersections are identified with the letter "I" while the segments are identified with the letter "E." **Table 2.10** summarizes the number of crashes, vehicles, fatalities, and injuries that occurred during the five-year analysis period, separated between intersections and segments.

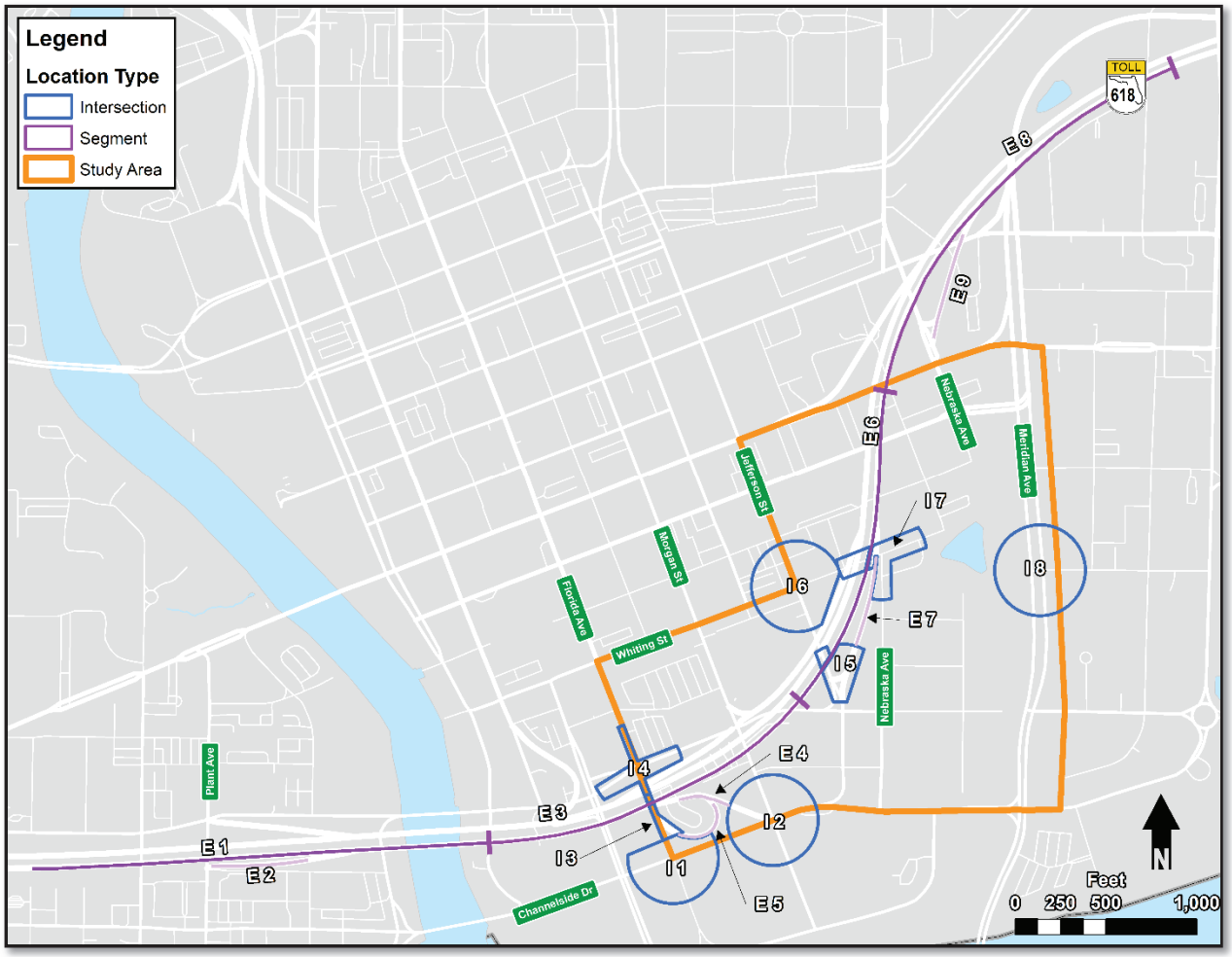


Figure 2.15: Crash Analysis Study Locations (2014-2018)

Table 2.10: Crash History Summary (2014-2018)

Year	Number of Crashes	Number of Vehicles	Number of Fatalities	Number of Injuries
Intersections				
2014	5	9	0	0
2015	21	45	1	17
2016	14	30	0	7
2017	18	37	0	9
2018	4	8	0	8
Intersection Total	62	129	1	41
Segments				
2014	3	6	0	0
2015	2	3	0	0
2016	6	9	0	1
2017	3	6	***0***	***2***
2018	6	8	0	6
Segment Total	20	32	0	9
Total	***82***	***161***	***1***	***50***

2.15.1 Crash Rates

Figure 2.16 uses a heat map to indicate the crash density within the study area. Crashes cluster primarily at the study intersections, especially along Florida Avenue.

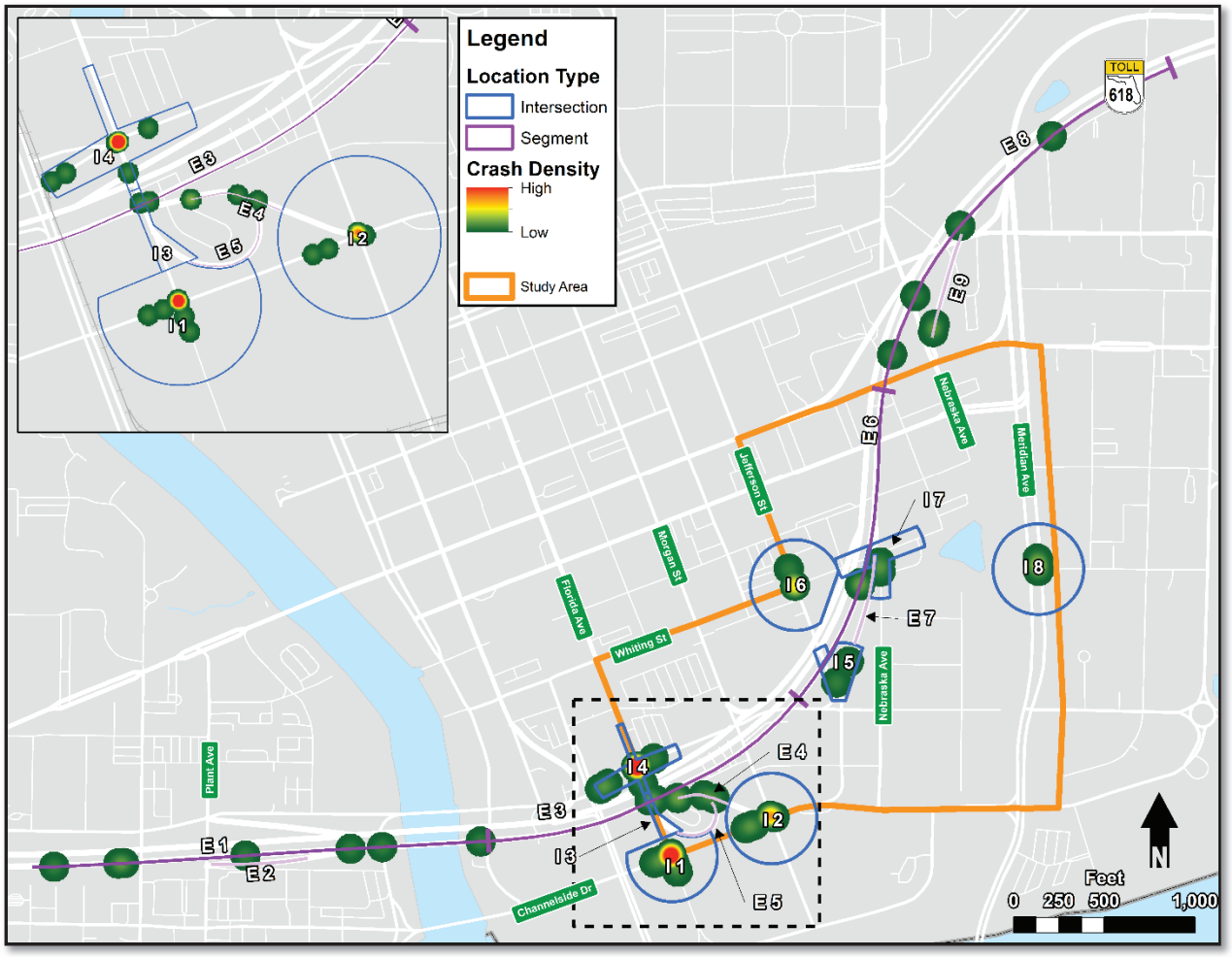


Figure 2.16: Crash Heat Map (2014-2018)

Tables 2.11 and **2.12** provide a summary of crash rates separated between intersections and segments.

Table 2.11: Intersection Crash Rates (2014-2018)

Map ID	Location	Total Crashes	5-Year Average AADT	Actual Crash Rate	Statewide Average Crash Rate	Crashes Per Year	High Crash Confidence
I1	Channelside Drive and Florida Avenue	17	26,500	0.352	1.129	3.4	15.59%
I2	Channelside Drive and Morgan Street	9	26,100	0.189	4.146	1.8	2.28%
I3	Selmon Off-Ramp to Florida Avenue	1	20,900	0.026	1.534	0.2	0.11%
I4	Florida Avenue and Brorein Street	21	28,300	0.407	1.129	4.2	18.02%
I5	Jefferson Street and Selmon On-Ramp	2	6,200	0.177	1.534	0.4	1.44%
I6	Whiting Street and Jefferson Street	6	9,900	0.332	0.835	1.2	14.91%
I7	Whiting Street and Nebraska Avenue	2	4,100	0.267	0.343	0.4	9.73%
I8	Whiting Street and North Meridian Avenue	4	20,900	0.105	0.510	0.8	5.15%

Table 2.12: Segment Crash Rates (2014-2018)

Map ID	Location	Total Crashes	5-Year Average AADT	Actual Crash Rate	Statewide Average Crash Rate	Crashes Per Year	High Crash Confidence
Eastbound Selmon Expressway (SR 618)							
E1	On-Ramp from Plant Avenue	7	11,900	0.672	0.775	1.4	37.94&
E3	Off-Ramp to Downtown East/West	2	28,200	0.108	0.775	0.4	1.74%
E6	On-Ramp from Jefferson Street	2	27,100	0.117	0.775	0.4	1.89%
E8	On-Ramp from Nebraska Avenue	4	27,100	0.174	0.775	0.8	5.61%
Off-Ramps							
E4	Off-Ramp to Morgan Street	2	2,200	9.507	N/A	0.4	N/A
E5	Off-Ramp to Florida Avenue	1	7,900	1.020	N/A	0.2	N/A
On-Ramps							
E2	On-Ramp from Plant Avenue	0	2,200	0	N/A	0	N/A
E7	On-Ramp from Jefferson Street	0	2,800	0	N/A	0	N/A
E9	On-Ramp from Nebraska Avenue	2	2,800	3.464	N/A	0.4	N/A

Locations with a 95 percent high crash confidence level or higher are considered to be significantly higher than the statewide averages. Within the study area, no locations have a high crash confidence level of 95 percent or higher.

2.15.2 Crash Types

A summary of crash types for the entire project study area is shown in **Table 2.13.** The crash types with the highest frequencies were angle (29 crashes, 35.4 percent), sideswipe (17 crashes, 20.7 percent), and rear end (14 crashes, 17.1 percent). See **Figure 2.17** for the crash locations by type.

Table 2.13: Crash Types (2014-2018)

Category	2014	2015	2016	2017	2018	Total	Mean	Percentage
Angle	2	11	5	8	3	29	5.8	35.4%
Bicycle	0	0	1	0	0	1	0.2	1.2%
Head On	0	0	0	0	0	0	0.0	0.0%
Hit Fixed Object	1	1	2	1	4	9	1.8	11.0%
Hit Non-Fixed Object	0	2	1	1	0	4	0.8	4.9%
Left Turn	0	3	0	2	1	6	1.2	7.3%
Other	0	0	0	0	0	0	0.0	0.0%
Overturn/Rollover	1	0	0	0	0	1	0.2	1.2%
Pedestrian	0	0	0	0	0	0	0.0	0.0%
Ran Off Road	0	0	0	0	0	0	0.0	0.0%
Rear End	0	1	7	6	0	14	2.8	17.1%
Right Turn	0	0	0	0	0	0	0.0	0.0%
Sideswipe	3	5	4	3	2	17	3.4	20.7%
Single Vehicle	1	0	0	0	0	1	0.2	1.2%
Unknown	0	0	0	0	0	0	0.0	0.0%
Total	***8***	***23***	***20***	***21***	***10***	***82***	***20.5***	***100.0%***

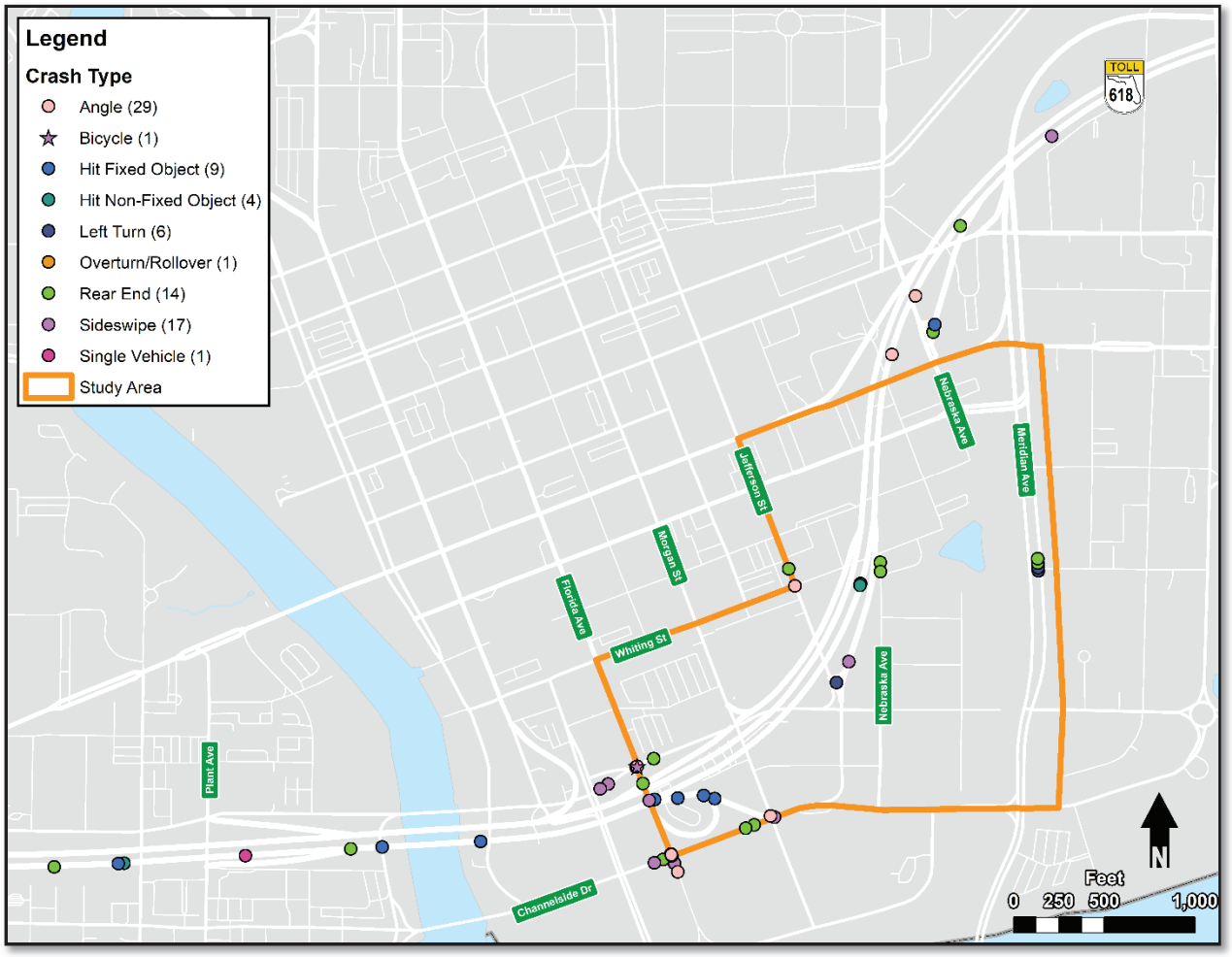


Figure 2.17: Crash Locations by Type (2014-2018)

2.15.3 Crash Severity

A summary of crashes by severity is shown in **Table 2.14**. Of the 82 reported crashes, 53 (64.6 percent) were property-damage-only crashes, 28 (34.2 percent) were injury-type crashes, and one (1.2 percent) was a fatal crash. The fatal crash occurred at the intersection of Channelside Drive and Morgan Street.

Table 2.14: Crash Severity Summary (2014-2018)

Category	2014	2015	2016	2017	2018	Total	Percentage
Fatal	0	1	0	0	0	1	1.2%
Severe Injury	0	0	0	0	1	1	1.2%
Moderate Injury	0	1	4	2	2	9	11.0%
Minor Injury	0	8	2	4	4	18	22.0%
Property Damage Only	8	13	14	15	3	53	64.6%
Total Crashes	8	23	20	21	10	82	100.0%
Total Cost ($1,000s)	***62***	***12,002***	***1,036***	***892***	***1,687***	***15,679***	

The FDOT KABCO crash costs, from the FDOT FDM, 2022, are summarized in **Table 2.15**. Using these crash costs the total comprehensive cost of all crashes in the study area was approximately $15,679,000.

Table 2.15: FDOT KABCO Crash Costs

Crash Severity	Comprehensive Crash Cost
Fatal (K)	$10,890,000
Severe Injury (A)	$888,030
Moderate Injury (B)	$180,180
Minor Injury (C)	$103,950
Property Damage Only (O)	$7,700

2.15.4 Contributing Causes

A summary of crashes by driver contributing cause for the study area is shown in **Table 2.16**. Among the contributing causes documented in the crash data, careless/negligent driving (22 crashes, 26.8 percent), running a red light (17 crashes, 20.7 percent), and failure to yield right-of-way (10 crashes, 12.2 percent) were among the highest.

Table 2.16: Driver Contributing Cause Summary (2014-2018)

Category	2014	2015	2016	2017	2018	Total	Mean	Percentage
Careless/ Negligent Driving	0	7	7	4	4	22	4.4	26.8%
Ran Red Light	0	7	3	5	2	17	3.4	20.7%
Failed to Yield Right-of-Way	1	4	1	2	2	10	2.0	12.2%
No Contributing Action	2	1	2	1	0	6	1.2	7.3%
Improper Turn	1	2	2	1	0	6	1.2	7.3%
Failed to Keep in Proper Lane	1	1	2	1	0	5	1.0	6.1%
Followed too Closely	0	0	1	3	0	4	0.8	4.9%
Improper Backing	0	0	0	3	0	3	0.6	3.7%
Other Contributing Action	1	1	0	0	0	2	0.4	2.4%
Drove too Fast for Conditions	0	0	1	0	1	2	0.4	2.4%
Hydroplaned	1	0	0	0	0	1	0.2	1.2%
Ran off Roadway	0	0	0	1	0	1	0.2	1.2%
Disregarded other Traffic Sign	0	0	0	0	0	0	0.0	0.0%
Unknown	0	0	0	0	0	0	0.0	0.0%
Improper Passing	0	0	0	0	0	0	0.0	0.0%
Wrong Side of Wrong Way	0	0	0	0	0	0	0.0	0.0%
Exceeded Posted Speed	0	0	0	0	0	0	0.0	0.0%
Ran Stop Sign	0	0	0	0	0	0	0.0	0.0%
Disregarded Other Road Markings	0	0	0	0	0	0	0.0	0.0%
Over-Correcting/ Oversteering	1	0	0	0	0	1	0.2	1.2%
Swerved Due To Weather/Hazard	0	0	0	0	0	0	0.0	0.0%
Erratic/Reckless Driving	0	0	0	0	0	0	0.0	0.0%
Total	***8***	***23***	***20***	***21***	***10***	***82***	***16.4***	***100.0%***

2.15.5 Bicycle and Pedestrian Crashes

According to the *2017 Florida Pedestrian and Bicycle Strategic Safety Plan,* 4.8 percent of crashes throughout the state were bicycle/pedestrian related. The only location with any bicycle/pedestrian crashes within the area of influence is the Florida Avenue at Brorein Street intersection. This location had one bicycle/pedestrian related crash out of 21 crashes, resulting in a bicycle/pedestrian related crash percentage of 4.76 percent. Therefore, no locations in the study area have a proportion of bicycle/pedestrian crashes in excess of the statewide average.

2.16 Drainage

The project area is located within the Ybor City Drain drainage basin in Downtown Tampa, which is rapidly developing and has limited open land. The entire project area is within the jurisdiction of the Southwest Florida Water Management District (SWFWMD). Ybor City Drain is defined as Water Body ID (WBID) 1584A1 by the Florida Department of Environmental Protection (FDEP) and is verified as impaired for fecal coliform and bacteria on the current FDEP 303(d) Impaired Waters List. There are no Outstanding Florida Waters (OFW) within the project limits.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Number 12057C0354H, the entire study area is located within Zone X, defined as areas determined to be outside the 0.2% annual chance (500-year) floodplain. There are no FEMA regulatory floodways located within the project limits.

North Meridian Avenue, within the study area, was permitted under SWFWMD Environmental Resource Permit (ERP) Number 441660.032, issued on June 14, 2005. The limits of this ERP begin at Cumberland Avenue and extend north approximately 0.4 miles to Kennedy Boulevard. This ERP was obtained as part of the Tampa-Hillsborough Expressway Authority Design Project No. 51-31-01, North Meridian Avenue Improvements. A stormwater management facility was constructed under this ERP and is located south of Whiting Street along the western side of the CSX railroad, within the limits of the project area. This stormwater management facility provides water quality treatment for North Meridian Avenue. Stormwater quantity attenuation was not required since the outfall is tidal. No permitted treatment is provided for the remainder of the study area. Drainage within the study area is accomplished through collection and conveyance by vertical pipes connected to the bridge piles, storm drains, concrete ditches, side drains, inlets, and cross drains.

The project limits cross two stormwater basins, Basin 100 and Basin 200 as described below.

- Basin 100 extends from the bridge over the Hillsborough River to east of Morgan Street in Downtown Tampa. Runoff from the expressway in this basin typically is conveyed from the overpass to a storm drain system on the ground level by vertical pipes connected to the bridge piles. Runoff from the storm drain system on the ground level travels westward

before discharging into the Hillsborough River via a 42" pipe. No existing stormwater management facilities exist within this basin.

- Basin 200 extends from east of Morgan Street to the end of the project limits and includes Whiting Street and North Meridian Avenue. Bridge deck runoff from the expressway in this basin is typically conveyed to a storm drain system on the ground level by vertical pipes connected to the expressway's structural piles. The storm drain system conveys runoff northeast, before turning south and discharging into the Garrison Channel via an 8' x 5' concrete box culvert. Runoff from North Meridian Avenue is collected by an existing storm drain system and conveyed to an existing stormwater management facility (Pond 2) constructed under SWFWMD ERP No. 441660.032 for the North Meridian Avenue improvements. Runoff from the west end of Whiting Street is collected by an existing storm drain system and conveyed west to the Whiting Street Basin outfall. A portion of the east end of Whiting Street is collected by an existing storm drain system and conveyed north along Jefferson Street. The remaining portion of Whiting Street flows to an existing concrete ditch on the north side of the existing pond. The ditch flows east and then south along the west side of the existing railroad to a ditch bottom inlet. The ultimate outfall for both the existing pond and concrete ditch is the Garrison Channel via a 60" pipe.

2.17 Soils and Geotechnical Data

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil survey, for the study area, indicates that the soils along the project alignment consist of Urban Land, 0 to 2 percent slopes (56). Urban Land is comprised of up to 85 percent impervious surfaces such as asphalt and concrete. Urban land surfaces are covered by streets, parking lots, buildings, and other structures.

Soil test borings were performed in the location of potential improvements in order to determine existing subsurface conditions. **Table 2.17** provides a summary of the subsurface conditions encountered during field tests.

Table 2.17: Existing Subsurface Conditions

Boring Location	Material Description
Sidewalks and Roadways	Fine SAND to Fine SAND (A-3) with Silt
Stormwater Ponds	Fine SAND to Fine SAND (A-3) with Silt
Florida Avenue Loop Ramp	Medium dense to dense SAND (SP), SAND with silt (SP-SM), Silty SAND (SM) and clayey SAND (SC). Very Stiff to Hard Highly weathered limestone, weathered limestone and Limestone. Zones of hard SILT (ML, MH).
Whiting Street Off-Ramp	Very loose to dense SAND (SP), SAND with silt (SP-SM), Silty SAND (SM) and clayey SAND (SC). Zones of firm to very stiff CLAY (CH). Hard Highly weathered limestone, weathered limestone and limestone with zones of very stiff to hard CLAY (CH), hard SILT (MH) and very dense Clayey SAND (SC).
Florida Avenue Loop Ramp MSE Walls	Very loose to medium dense SAND (SP), SAND with silt (SP-SM) and Clayey SAND (SC). Very soft CLAY (CH). Hard weathered Limestone.
Whiting Street Off-Ramp MSE Walls and Barrier Walls	Loose to medium dense SAND (SP), SAND with silt (SP-SM), silty SAND (SM) and clayey SAND (SC). Very soft to hard highly weathered limestone and limestone.

2.18 Utilities

The preliminary utility coordination and investigation effort was conducted through written and verbal communications with the existing utility owners. Initially, verbal communication was made to all utilities owners outlining the investigation effort along with the project limits. A Sunshine 811 design ticket, acquired on February 16, 2021, found 22 Utility Agency Owners (UAOs) within the study area. The contact information for each UAO known to operate utilities within the project corridor are shown **Table 2.18**.

Table 2.18: Utility Contacts

Utility Agency	Utility Contact Name	Utility Contact Phone	Utility Contact Email
AT&T Corp.	Steve Hamer	813-888-8300 ext. 201	shamer@sdt-1.com
City of Tampa Water	Benjamin Freamon Jr.	813-231-5291	Benjamin.freamon@tampagov.net
City of Tampa Wastewater	Richard Rivera	813-274-8957	Richard.rivera@tampagov.net
City of Tampa Traffic	Jose Castillo	813-777-8130	Jose.castillo@tampagov.net
Crown Castle	Jeremy Williams	470-235-6349	Jeremy.williams.contractor@crowncastle.com
Cumberland Jefferson Farms Properties	Mark Foster	813-927-1675	mark.foster@stantec.com
Extent Network Operations		866-892-5327	
Fiberlight	Tim Green	813-877-7183	timgreen@fiberlight.com
Frontier Communications	Kraivuth (Woody) Choeykajang	813-877-7480	Kraivuth.choeykajang@FTR.com
Hillsborough County	Bill Davies	813-612-7900 ext. 41364	daviesb@hillsboroughcounty.org
Hillsborough County Sheriff's Ofc.	Jeff Keith	813-290-2270	J.keith@hcso.tampa.fl.us
Lumen (fka CenturyLink)	Jessica Mitchell	931-266-8593	jessica.mitchell@lumen.com
Spectrum\Charter (fka Bright House Networks)	Chris Smith	813-478-0160	Christopher.smith8@charter.com
T-Mobile/Sprint	Jon Baker	321-280-9596	Jon.baker@sprint.com
Tampa Electric Company	Kim Bailey		csadmin@tecoenergy.com
Tampa Hillsborough Expressway Authority	Sally Fisher	813-272-6740 ext. 131	sally.fisher@tampa-xway.com
Tampa Port Authority	Ismael Arroyo		Iarroyo@tampaport.com
TECO Peoples Gas	Darlene Callendar	813-275-3735	dycallendar@tecoenergy.com
Uniti Fiber	John Halley	251-753-8695	John.halley@uniti.com
Verizon (fka MCI)	Andrew Cole	813-301-4047	Andrew.cole2@verizon.com
Windstream (fka Deltacom)	Lisa Zingula	800-289-1901	Lisa.zingula@windstream.com
Zayo	John Burlett	813-509-2405	John.burlett@zayo.com

Utility owners were provided aerial based preliminary plans depicting the proposed improvements of the PD&E study. Using these aerial plans as a base map, each utility owner was asked to indicate their existing and proposed utilities as well as any easements that may affect their reimbursement

rights for potential relocations of their facilities. In response, not all utility owners replied via written communications. The utility owners that did provide the requested information concerning their facilities used either the preliminary plans provided or reference documentation (i.e. "As-built plans" or GIS maps). The green line markups provided by the respective UAOs are in the *Utilities Assessment Package*. A description of each of the existing utilities within the study area is provided in **Table 2.19**.

Table 2.19: Existing Utility Descriptions

Utility Agency	Existing Facilities Description
City of Tampa Water	The City of Tampa (City) owns and maintains an 8" Cast Iron (Enamel) water main (WM) that runs north and south along Florida Avenue. This pipe contains joints installed before modern day rubber gaskets were used. Therefore, it does not bend well and care should be taken to not disturb or vibrate them during construction. There is an 8" Ductile Iron Pipe (DIP) that runs east and west along Channelside Drive that crosses the 8" cast iron pipe. The portion of the 8" pipe that extends along Channelside Drive serves a fire hydrant in front of the Pam Iorio Parking Garage and terminates just east of the hydrant where the city installed a reducer (plug). There is a 6" WM (service line) that crosses Channelside Drive located approximately 120 feet west of Florida Avenue. This 6" WM serves the irrigation system of the public Parkway Parking lot on the north side of Channelside Drive. The City has a 6" WM along Florida Avenue south of Channelside Drive that has been placed out of service. The City has a 12" WM with valves and manholes located down the center of Jefferson Street at Whiting Street. The City has an 8" DIP that runs east and west along Whiting Street and turns and continues along North Brush Street. The City also has a 12" DIP that runs north and south along Nebraska Avenue, turns east along Whiting Street, then turns north along the center of North Brush Street. They have a 6" WM that runs along Finley Street on the south side, and a 6" WM that runs along Walton Street on the north side. There are multiple valves and manholes (MH) throughout this area that will need to be adjusted to grade during construction.
City of Tampa Wastewater	City of Tampa Wastewater owns and maintains a 36-inch reinforced concrete pipe (RCP) along Florida Avenue, a 24" PolyVinyl Chloride (PC) along Channelside Drive, and a 10" Vitrified Clay Pipe (VCP) to the west of Florida Avenue. They have an 8" VCP along Kennedy Boulevard, Jackson Street, and Whiting Street. They also have a 24" VCP that runs along Morgan Street on the west side.
Cumberland Jefferson Farms Properties	No facilities

Lumen (fka CenturyLink)	Lumen (fka CenturyLink) has Fiber Optic Cable (FOC) within Tampa Electric Underground facilities along the south side of Channelside Drive.
T-Mobile/Sprint	T-Mobile (fka Sprint) has facilities along the railroad on the west side and turns to the west along the north side of Whiting Street where it turns and goes north on Tampa City Circle.
Tampa Hillsborough Expressway Authority	Tampa Hillsborough Expressway Authority has single mode fiber, some are 12 and 6 count, and the backbone is 96 count fiber. Communication cables are 24 gauge, and some are CAT (category) 5 cable. Power may be 6 or 8 KWG.
Tampa Port Authority	No facilities
TECO Peoples Gas	TECO Peoples Gas has a 2" polyethylene (PE) gas main along the north side of Channelside Drive, a 4" coated steel (CS) gas main (GM) along the west side of Morgan Street, and a 4" PE GM along the west side of Florida Avenue, south of Channelside Drive. TECO Peoples Gas has a 4" CS GM that runs north and south along Nebraska Avenue, crosses Whiting Street and continues north along the east right of way of the Selmon Expressway. There is also a 350 foot section of 4" PE GM along Nebraska Avenue, north and south of Walton Street that has been retired in place.
Uniti Fiber	Uniti Fiber has a 1 x 2.33" – 7 way future path with fiber optic cable (FOC) to remain in place along the west side of Florida Avenue that turns along the south side of Channelside Drive. Uniti Fiber has a 1 x 2.33" – 7 way future path with FOC along the west side of North Brush Street, crosses Whiting Street and turns west and terminates at a small cell node pole on the south side of Whiting Street.
Verizon (fka MCI)	Verizon has both aerial and underground facilities throughout the project limits. They are aerial on the existing Tampa Electric Company pole line along Washington Street. Along Nebraska Avenue just to the north of Whiting Street, on the eastside, they have 2-2" HDPE conduits with FOC. Along the eastside of Florida Avenue, they have 2-2" HDPE conduits with FOC, they then turn and go east on the north side of Channelside Drive.
Windstream (fka Deltacom)	No facilities
Zayo	No facilities

The following UAOs did not provide a response during the data collection period.

- AT&T Corp.
- City of Tampa Traffic
- Crown Castle
- Extent Network Operations
- Fiberlight
- Frontier

- Hillsborough County
- Hillsborough County Sheriff's Office
- Spectrum/Charter (fka Bright House Networks)
- Tampa Electric Company

2.19 Lighting

Lighting is present along the Selmon Expressway (SR 618) within the study area. Three types of lighting are utilized on the Selmon Expressway (SR 618): sign luminaries, standard luminaries (mounted on aluminum poles) and underdeck luminaries. Lighting along the expressway is maintained by THEA.

In addition, standard lighting is provided on both sides of Florida Avenue, Channelside Drive and Whiting Street. Pedestrian lighting fixtures and lighting on existing traffic signal supports are present along North Meridian Avenue. Lighting is maintained by Tampa Electric Company (TECO) on behalf of the City of Tampa.

2.20 Signs

The project segment of the existing eastbound Selmon Expressway (SR 618) consists of four overhead traffic signs mounted on a truss structure. The structure number for the truss is 10S217. The signs displayed on the truss include exit signs to Downtown East (6B) and Downtown West (6A) and a sign for "Thru Traffic". Signs provided on the Selmon Expressway (SR 618), ramps, and local roadways, within the project limits, include the following:

- Guide Signs
- Regulatory Signs
- Warning Signs and object markers
- Wayfinding Signs
- General Information Signs
- General Service Signs

2.21 Aesthetic Features

The Hillsborough River and the urbanized area of Downtown Tampa offers many scenic views and vistas within and near the project study limits. Aesthetic features found within or near the project study limits include landscaping, pavers, noise walls, commissioned artwork, and murals. One amenity located within the project study limits is the Selmon Greenway. The Selmon Greenway trail is open to the public to enjoy fresh air, healthy exercise and the amenities of Downtown Tampa and the Channel District. This extra wide trail connects to the City's Riverwalk and features a hollowed bronze sculpture of Lee Roy Selmon, located on the corner of Florida Avenue and

Brorein Street. There are a few other aesthetic features and amenities, developed and maintained by THEA, just outside of the project study limits. These include the following:

- The Deputy John Kotfila, Jr., Memorial Dog Park is the first "pocket park" along the Selmon Greenway. It is located underneath the Selmon Expressway at 705 Raymond Street, behind the Bell Channelside Apartments.
- The Swann Avenue overpass features a pedestrian friendly space with landscaping, irrigation, up-lighting, electrical, and enlarged sidewalk underneath the Selmon Expressway.
- Franklin Avenue features an outdoor art space for Tampa Bay area artists.
- Selmon Expressway Bridge in downtown features an illuminated display of vibrant colors highlighting the Hillsborough River.

2.22 Bridges and Structures

A conceptual structural analysis was performed with the purpose of evaluating the structural feasibility of the proposed improvements to the Selmon Expressway (SR 618), from east of Florida Avenue to east of Whiting Street**.** Below is a brief summary of the existing structural conditions.

The portions of the existing eastbound Selmon Expressway (SR 618) affected by the proposed improvements are part of Bridge Number 100333. Bridge Number 100333 crosses the following facilities: Florida Avenue, Morgan Street, Brorein Street, Jefferson Street and Whiting Street. The existing structural information for Bridge Number 100333, listed in **Table 2.20**, was extracted from the project plans**.** The area adjacent to the existing Florida Avenue exit Ramps 6A and 6B will be referred to as Segment 1, while the area adjacent to the proposed Whiting Street off-ramp will be referred to as Segment 2.

Table 2.20: Existing Structural Plans

Segment	Bridge Components	Project Name	Project Number	Year
Segment 1	Spans 23-26 Piers 22-26	Southern Crosstown Expressway	10002-3506-032	1973
Segment 1	Piers 28-32	Southern Crosstown Expressway Eastern Extension to I-75	10002-3506-035	1979
Segment 2	Piers 33-42			
Segment 1	Spans 27-32	Lee Roy Selmon Expressway Bridge Widening and Deck Replacement	416361-2-52-01	2012
Segment 2	Spans 33-42			

A portion of the Segment 1 site was included in the re-decking improvement under FPID No. 416361-2-52-01. However, the majority of the superstructure has not been modified since the initial construction. The latest load rating covering the unmodified portion of Segment 1 site was performed in April 1993 and was performed using BARS analysis. Although more recent load rating information is not available, the latest bridge inspection report lists a National Bridge

Inventory (NBI) condition rating of 7 for both the deck and superstructure. Given this rating, indicating minimal deterioration, it follows that the structure should provide an acceptable load rating. This structure was last inspected on August 5, 2021 and was determined to have a Sufficiency Rating of 89 and a Health Index of 97.95. The inspection report cites numerous minor repair actions for the structure. Quantification of these deficiencies is beyond the scope of this study. The inspection report does note that the majority of the poured expansion joints are either failing or in need of repair.

The superstructure at the Segment 2 site was re-decked and the resulting as-built superstructure was load rated in September 2013. This load rating produced an HS-20 Inventory Rating of 1.01 and a HS-20 Operating Rating in excess of 1.66. It should be noted that the load rating for the existing on-ramp from Jefferson Street to eastbound SR 618 (Ramp B) produced an insufficient load rating. FDOT granted a design variation for the controlling span. The improvements proposed at this location realign the embankment portion of this ramp, no modifications are proposed for the structural elements of the ramp.

Given the overall condition rating and load rating, the portions of the existing eastbound Selmon Expressway (SR 618) structure, within the limits of the proposed improvements, appear suitable for widening.

3.0 Project Design Controls & Criteria

3.1 Roadway Context Classification

The project study area is situated between Downtown Tampa, the Channelside District, and Port Tampa Bay, in a densely populated area with a well-connected roadway network. The majority of buildings in the project study area are mixed-use and built up to the roadway. Because of these characteristics, the roadways within the project study area maintain a context classification of C6 (Urban Core).

3.2 Design Control and Criteria

The Design Criteria for the proposed ramp and Whiting Street improvements adhere to the *FDOT Design Manual* (FDM) (January 2021), the Florida Greenbook (2018), and the AASHTO Roadside Design Guide (2011). The design year for the proposed improvements is 2046. The design criteria used for this PD&E study are listed in **Table 3.1**.

Table 3.1: Design Criteria

THEA WHITING ST. PD&E - DESIGN CRITERIA			
Design Element	**Facility**	**Design Criteria**	**Source**
General			
Design Year		2026	Project Scope of Services
Opening Year		2046	Project Scope of Services
Context Classification		C6	FDM Table 200.4.1
Access Classification			
	Selmon Expressway	Class 1	FDM Table 201.4.2
	North Meridian Avenue	Class 1	
Functional Classification			
	Selmon Expressway	Principal Arterial Freeway and Expressway Urban	
	Florida Avenue	Minor Arterial Urban	
	Channelside Drive	Major Collector Urban	
	Whiting Street	Local Road	
Design Vehicle		SU-40	FDM Section 201.6
Control Vehicle		WB-62FL on Ramps SU-40 On Local Roads	-
Posted Speed			
	Whiting Street	30 MPH (Not Posted)*	-
Typical Section			
Design Speed			
	Whiting Street	30 MPH	FL Greenbook Table 3-1
	Ramps	30 MPH Loop Ramp 50 MPH Direct Connect Ramps	FDM Table 201.5.2

Travel Lane Widths			
	Whiting Street	11 feet	FL Greenbook Table 3-20
	Turn Lanes	11 feet (10 feet in ROW Constrained sections)	FL Greenbook Table 3-20
	Ramps	15 feet (one lane), 24 feet (two lanes)	FDM Section 211.2.1
Bicycle Lane Widths			
	Whiting Street	4 feet minimum with 5 feet minimum to face of curb	FL Greenbook Figure 9-1
Sidewalk Widths			
	Whiting Street	5 feet with 2 foot offset from curb 6 feet when adjacent to curb	FL Greenbook Chapter 8, Section B.1
Cross Slope			
	Whiting Street	0.015 minimum 0.04 maximum	FL Greenbook Chapter 3, Section C.7.b.2
	Ramps	0.02 for One & Two Lanes	FDM Figure 211.2.1
Shoulders			
	Whiting Street	N/A, Curb & Gutter	
	One Lane Ramp - Outside	6 feet Full / 4 feet Paved	FDM Table 211.4.1
	Two Lane Ramp - Outside	12 feet Full / 10 feet Paved	FDM Table 211.4.1
	One Lane Ramp - Inside	6 feet Full / 2 feet Paved	FDM Table 211.4.1
	Two Lane Ramp - Inside	8 feet Full / 4 feet Paved	FDM Table 211.4.1
Ramp Shoulder Cross Slope		0.05 inside 0.06 outside	FDM Section 211.4.2
Maximum Change in Cross Slope between Adjacent Travel Lanes		0.04	FL Greenbook Section C.7.b.2
Maximum Change in Cross Slope between (Turning Roadways)			
	Ramps at 30 MPH	6%	FDM Table 210.2.2
	Ramps at 50 MPH	5%	FDM Table 210.2.2
Clear Zone			
	Whiting Street	4 feet desirable 1.5 feet absolute minimum	FL Greenbook Table 4-2
	Ramps at 30 MPH	10 feet One Lane 12 feet Two Lanes	FDM Table 215.2.1
	Ramps at 50 MPH	14 feet One Lane 24 feet Two Lanes	FDM Table 215.2.1
Minimum Lateral Offset Criteria			
	Whiting Street		
	Above ground objects	4 feet desirable 1.5 feet minimum	FL Greenbook Table 4-2
	Ramps (30 mph and 50 mph)	12 feet on curve 8 feet on tangent	Roadside Design Guide 2011 Edition Section 10.1.3.1
Horizontal			
Minimum Stopping Sight Distance			
	Whiting Street	200 feet	FL Greenbook Table 3-4
	Ramps at 30 MPH	200 feet	FDM Table 211.10.2

	Ramps at 50 MPH	425 feet	FDM Table 211.10.2
Maximum Deflection Without Curve			
	Whiting Street	2° 00' 00"	FL Greenbook Chapter 3, Section C.4.b
	Ramps at 30 MPH	2° 00' 00"	FDM Section 211.7.1
	Ramps at 50 MPH	0° 45' 00"	FDM Section 211.7.1
Maximum Deflection Through Intersection			
	Whiting Street	8° 00'	FL Greenbook Table 3-7
Length of Horizontal Curve			
	Whiting Street	450 feet desirable 400 feet minimum	FL Greenbook Table 3-8
	Ramps at 30 MPH	450 feet desirable 400 feet minimum	FDM Table 211.7.1
	Ramps at 50 MPH	1500 feet desirable 750 feet minimum	FDM Table 211.7.1
Maximum Degree of Curve			
	Whiting Street	20° 00'	FL Greenbook Table 3-11
	Ramps at 30 MPH	24° 45'	FDM Table 210.9.1
	Ramps at 50 MPH	8° 15'	FDM Table 210.9.1
Superelevation Transition		80% On Tangent (50% Min.) 20% On Curve (50% Max.) (Min. L=50' for 5% emax) (Min. L=100' for 10% emax)	FDM Section 210.9.1 & FDM Table 210.9.3
Superelevation Transition Rate			
	Whiting Street	1:100	FL Greenbook Table 3-13
	Ramps at 30 MPH	1:175	FDM Table 210.9.3
	Ramps at 50 MPH	1:200	FDM Table 210.9.3
Maximum Superelevation Rate			
	Whiting Street	5%	FL Greenbook Table 3-11
	Ramps at 30 MPH	10%	FDM Table 210.9.1
	Ramps at 50 MPH	10%	FDM Table 210.9.1
Maximum Curvature without Superelevation (Min. Radii)			
	Whiting Street	R=333 feet	FL Greenbook Table 3-12
	Ramps at 30 MPH	R=3,349 feet	FDM Table 210.9.1
	Ramps at 50 MPH	R=8,337 feet	FDM Table 210.9.1
Vertical			
Minimum K value, Crest Vertical Curves			
	Whiting Street	19	FL Greenbook Table 3-18
	Ramps at 30 MPH	31	FDM Table 211.9.2
	Ramps at 50 MPH	136	FDM Table 211.9.2
Minimum Lengths, Crest Vertical Curves			
	Whiting Street	90 feet	FL Greenbook Table 3-18
	Ramps at 30 MPH	90 feet	FDM Table 211.9.3
	Ramps at 50 MPH	300 feet	FDM Table 211.9.3
Minimum K value, Sag Vertical Curves			

	Whiting Street	37	FL Greenbook Table 3-9
	Ramps at 30 MPH	37	FDM Table 211.9.2
	Ramps at 50 MPH	96	FDM Table 211.9.2
Minimum Lengths of Sag Vertical Curves			
	Whiting Street	90 feet	FL Greenbook Table 3-18
	Ramps at 30 MPH	90 feet	FDM Table 211.9.3
	Ramps at 50 MPH	200 feet	FDM Table 211.9.3
Vertical Clearance		16.5 feet	FDM Table 260.6.1
Maximum Profile Grade			
	Whiting Street	9%	FL Greenbook Table 3-16
	Ramps at 30 MPH	7%	FDM Table 211.9.1
	Ramps at 50 MPH	5%	FDM Table 211.9.1
Maximum change w/o Vert. Curve			
	Whiting Street	1.0%	FL Greenbook Table 3-17
	Ramps at 30 MPH	1.0%	FDM Table 210.10.2
	Ramps at 50 MPH	0.6%	FDM Table 210.10.2
Minimum Base Clearance			
	Whiting Street	Adequate clearance	FL Greenbook Ch.5, B.2
	Ramps at 30 MPH	2 feet	FDM Section 210.10.3
	Ramps at 50 MPH	2 feet	FDM Section 210.10.3

*Per FS 316.183, roadways with no posted speed maintain a default regulatory speed of 30 mph.

4.0 Alternatives Analysis

4.1 Previous Planning Studies

Several planned and programmed projects are located within the influence area of the Selmon Expressway and Downtown East/West interchange. The following projects, identified within the THEA Work Program, are in varying stages and listed as follows:

- The ongoing Meridian Ultimate Phase 1 improvements at Twiggs Street Project (Project Number: HI-0110-P-08-IE) is constructing an additional right turn lane on westbound Twiggs Street to northbound Nebraska Avenue to improve safety and operations for traffic traveling from the Selmon Expressway Reversible Express Lanes (REL) into Downtown Tampa. The expected project completion is anticipated during fiscal year 2027.
- In 2017, Kisinger Campo & Associates (KCA) contracted with THEA to developed conceptual plans for the completed Downtown Tampa Ultimate Meridian Avenue Improvements (Project Number: HI-0110-P-07-IE). The concepts developed during this study included new alignments for Exit Ramps 6A and 6B, a minor shift of the entrance point of the Jefferson Street On-ramp, and the extension of Whiting Street from North Brush Street to North Meridian Avenue. These concepts serve as the base alternatives during alternatives development for the Whiting Street PD&E Study. The expected project completion is anticipated during fisical year 2027.
- Nebraska Avenue PD&E Study (Project Number: HI-0160) is analyzing the need for safety, capacity, and operational improvements along Nebraska Avenue from Twiggs Street to north of Cass Street. The proposed improvements would optimize traffic flow on the Selmon Expressway (SR 618) Reversible Elevated Lanes (REL) for westbound vehicles turning onto Twiggs Street and Kennedy Boulevard during the AM peak hour and improve safety and facilitate ingress/egress for traffic travelling from/to the REL. Additionally, the study is looking at the possibility of extending Nebraska Avenue south to Whiting Street. The PD&E study is expected to be completed early 2023.
- The ongoing Selmon Greenway Enhancements Project (Project Number: HI-0136) is improving the Selmon Greenway by providing connectivity and safe mobility for pedestrians and bicyclists within and adjacent to the Selmon Expressway (SR 618) right-of-way from Ashley Drive to 19th Street.
- The ongoing Selmon East PD&E Study is evaluating the need for capacity improvements along the Selmon Expressway (SR 618) from Brorein Street to I-75. The study is broken down into five sections (Project Numbers: HI-0167 [Eastern Design Build], HI-0168 [Western Design Build], HI-0169 [Downtown Design Build], HI-0170 [Phase 4 Design Build], and HI-0187 [Selmon slip ramps]). THEA has advanced the construction of the new Ramp 2 (I-4 connector) and Ramp 3 (I-75 NB/Selmon westbound local lanes to westbound REL) slip ramps. The final report is expected to be completed March 2023.

- The completed South Selmon PD&E Study (Project Number: HI-0112) evaluated the need for capacity improvements along the Selmon Expressway (SR 618) from the new Selmon West Extension to Downtown Tampa. The study area is from Himes Avenue to the overpass at Whiting Street, approximately 4.5 miles. The Preferred Alternative will add a third lane in each direction (total six lanes) in the interim configuration, with an ultimate build out to four lanes in each direction. THEA has advanced the construction for the South Selmon widening. The Design-Build advertisement is scheduled for Spring 2022.

The City of Tampa has recently completed a PD&E Study for the InVision: Tampa Streetcar (InVision: Tampa Streetcar | City of Tampa) in April 2020 and is currently seeking funding from the Federal Transit Administration (FTA), with a request submitted in August 2020. The project will expand and modernize the Tampa Streetcar system with connections in Downtown Tampa, the Channelside District, and the Ybor City historic district. A portion of this project will pass through the Florida Avenue at Brorein Street intersection.

In addition, Strategic Property Partners (SPP) is currently working on redevelopment of the Downtown/Channelside area, between Water Street at the south end and Whiting Street at the north end. The redevelopment activities align with the Channelside District Community Redevelopment Plan (2021/2022) (Channel District Community Redevelopment Plan 2021/2022 | City of Tampa) and include sustainable infrastructure-based community improvements. Phase 1 of the redevelopment plan is currently under construction. The redevelopment includes new high-rise residential, commercial, and business spaces along with enhancements to the roadway grid network. The roadway improvements will alter the access to and from the Selmon Expressway ramps.

4.2 No-Build (No-Action) Alternative

The No-build Alternative would maintain the existing roadway configurations, existing lane geometry, and traffic control operations of the Downtown Tampa study area, with the exception of the new street connections from the Water Street Tampa development. Within the study area, Selmon Expressway ramp modifications would not occur, and Whiting Street would not be extended from North Brush Street to North Meridian Avenue. In addition, proposed improvements to Whiting Street, Florida Avenue and Channelside Drive would not be undertaken.

The No-build Alternative considers what would happen in the future if the proposed project improvements were not constructed. It includes the routine maintenance improvements of the existing roadways and assumes no roadway improvements beyond those currently programmed, committed, and funded. While the No-build Alternative does not meet the project needs, it provides a baseline condition against which the effects of the Build Alternative improvements can be compared and measured. Under the No-build Alternative, the following conditions would remain:

- Exit Ramp 6A free-flow merge onto Florida Avenue.
- Exit Ramp 6B intersecting Morgan Street at a five-legged intersection.
- Whiting Street, west of the Selmon Expressway, would remain a two-lane road with on-street parking on both sides of the road.
- Whiting Street, east of the Selmon Expressway, would remain a two-lane brick road that ends at North Brush Street, west of the railroad tracks.

The intersection operational analyses for the AM and PM peak hours were conducted at each of the study intersections within the Whiting Street *Project Traffic Analysis Report* (PTAR). The overall results, as defined for urban areas in the *FDOT 2020 Quality/Level of Service Handbook*, indicate the following for the opening year (2026), interim year (2036), and design year (2046). By the opening year (2026), four of the seven signalized study intersections are anticipated to fail and not meet the LOS target D in the AM and PM peak hours. The operational deficiencies observed within the opening year (2026) condition are expected to worsen by the interim year (2036) and only further worsen by the design year (2046), under No-build conditions. The continuation of growth within Downtown Tampa and expected increase in traffic volumes by the design year (2046) will likely cause significant delay and congestion throughout the network.

4.3 Transportation Systems Management and Operations Alternative (TSM&O)

Transportation Systems Management and Operations (TSM&O) strategies identify low capital cost transportation improvements designed to maximize the utilization, modify travel behavior, and increase system efficiency without infrastructure improvements. TSM&O improvements can include, but not limited to, acceleration lane extensions, access management, queue warning, automatic vehicle location (AVL), and vehicle to infrastructure (V2I) communications. Strategies utilized to maximize capacity with existing geometry are categorized into one of the following focus areas:

- Active Demand Management
- Active Traffic Management (ATM)
- Congestion and Safety
- Freight management
- Incident Management
- Infrastructure Management and Operations
- Policy Consideration

TSM&O improvements alone would not be anticipated to address regional mobility needs and future population growth. TSM&O strategies can meet some of the focus areas such as Congestion and Safety and Infrastructure Management and Operations.

4.4 Future Conditions

Future conditions for the design year (2046) were developed in the *Project Traffic Analysis Report* (PTAR). A total of 39 intersections were studied to determine the overall performance and operations of the study area. Only ten existing intersections have the potential to be affected by the proposed ramp reconfiguration and roadway improvements. These ten intersections as well as the proposed intersection of Whiting Street and North Meridian Avenue will be discussed in this section. Further detail can be found in the Development of Future Traffic section of the PTAR. Design year (2046) AADT volumes and peak hour turning movement volumes for the No-build and Build Alternatives are shown in **Figures 4.1** through **4.4.**

To evaluate the operational characteristics of the No-build and Build Alternatives, a detailed analysis using Synchro 11 was conducted. A brief summary of the analysis is provided below.

4.4.1 No-Build Alternative

Design year (2046) AADT volumes and peak hour turning movement volumes for the No-build Alternative are shown in **Figures 4.1** and **4.2.**

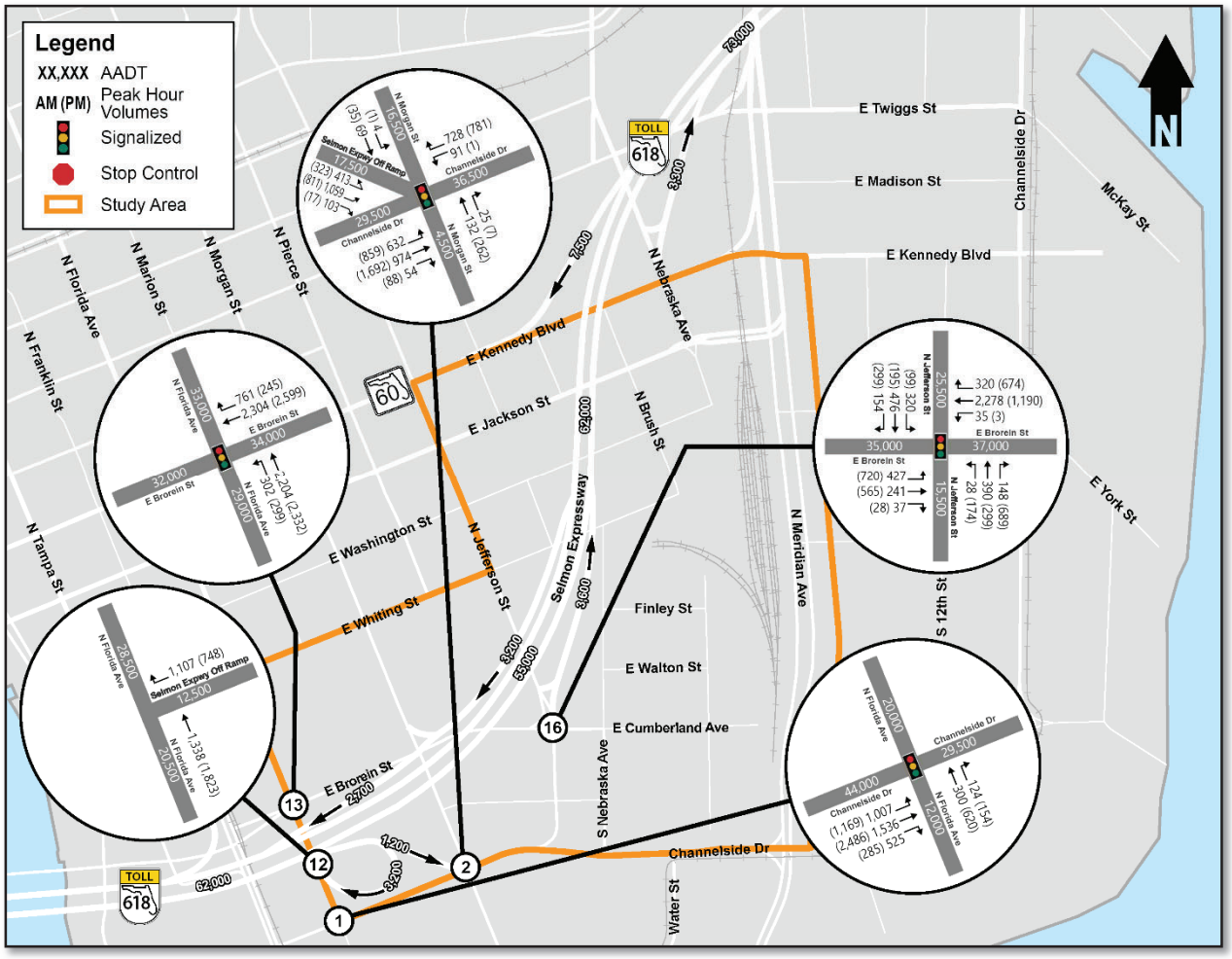


Figure 4.1: Design Year (2046) No-Build Alternative AADTs and Turning Movements Volumes

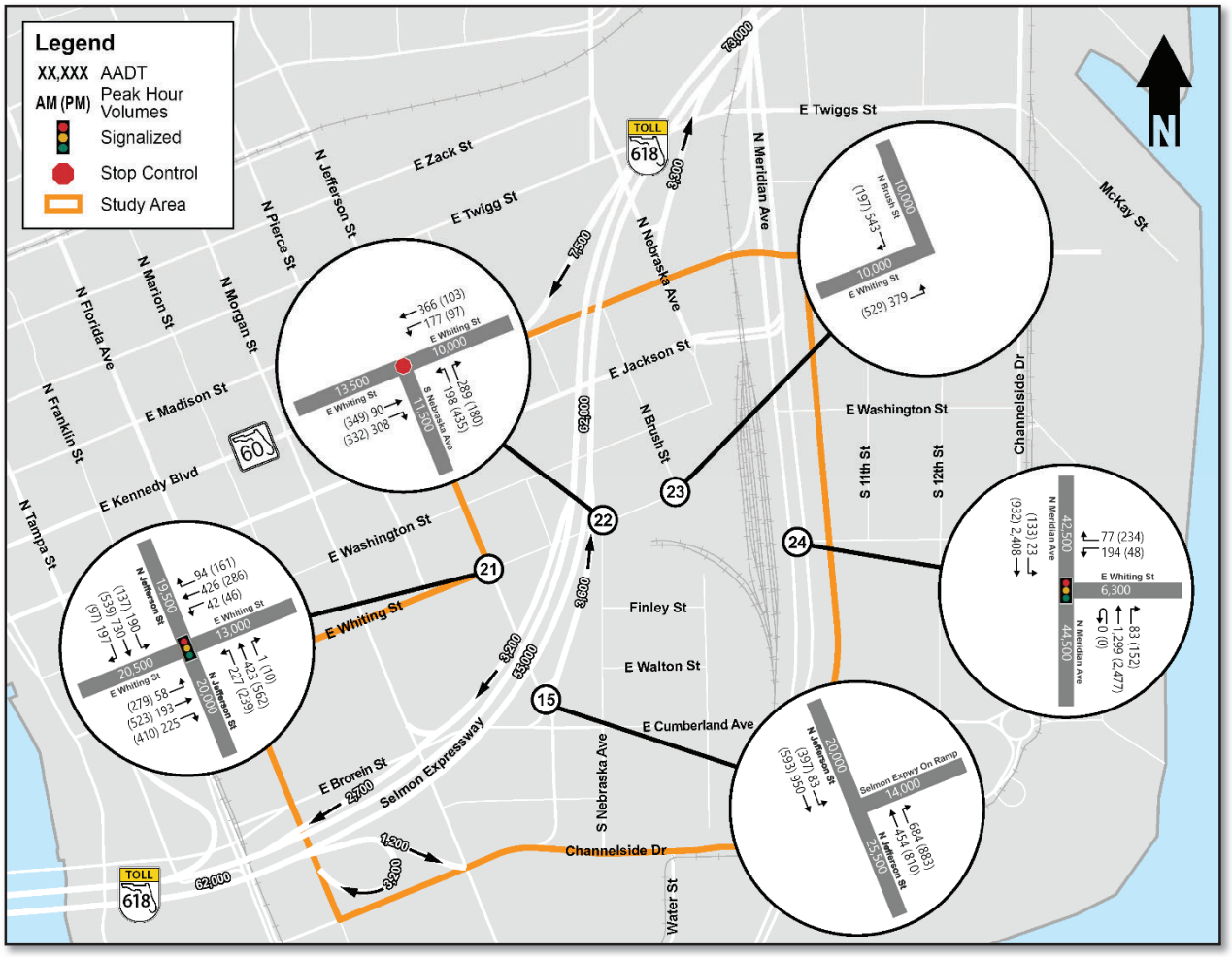


Figure 4.2: Design Year (2046) No-Build Alternative AADTs and Turning Movements Volumes

The results of the design year (2046) intersection analysis for the AM and PM peak hours are shown in **Table 4.1**. Under the No-build condition the intersections at the Selmon Off-Ramp to Florida Avenue (12), Jefferson Street On-Ramp (15), Whiting Street and Nebraska Avenue (22), and Whiting Street and North Brush Street (23) will remain unsignalized and will not be included in the operational and queueing analysis. The new intersection of Whiting Street and North Meridian Avenue will not be constructed under the No-build Alternative. The results indicate that three intersections are expected to fail and not meet the LOS target D in both the AM and PM peak hour and one intersection in just the PM peak hour.

Table 4.1: Design Year (2046) No-Build Alternative Intersection Analysis

Figure ID	Intersection	No-Build Alternative			
		Delay	LOS	Delay	LOS
		AM Peak Hour		*PM Peak Hour*	
1	Channelside Dr and Florida Ave	22.6	C	50.4	D
2	Channelside Dr and Morgan St/ Selmon Expy off-ramp	550.2	F	370.1	F
13	Brorein St and Florida Ave	138.9	F	106.7	F
16	Brorein St and Jefferson St	477.6	F	305.6	F
21	Whiting St and Jefferson St	44.9	D	417.8	F
24	Whiting St and North Meridian Ave	17.7	B	35.8	D

The results of the design year (2046) queue analysis for the AM and PM peak hours are shown in **Table 4.2.** The intersections at the Jefferson Street On-Ramp (15) and Whiting Street and North Brush Street (23) will remain unsignalized and will not be included in the operational and queueing analysis. The new intersection of Whiting Street and North Meridian Avenue will not be constructed under the No-build Alternative. The overall results indicate queue lengths throughout the network are expected to increase, resulting in congested peak hour conditions. Queue spillbacks are expected to occur at the following locations for the opening year (2026), interim year (2036), and design year (2046):

- Opening year (2026), the Selmon Expressway off-ramp to Channelside Drive at the intersection of Channelside Drive at Morgan Street is expected to extend onto the Selmon Expressway during both the AM and PM peak hours.
- Interim year (2036), the Selmon Expressway off-ramp to Channelside Drive at the intersection of Channelside Drive at Morgan Street is expected to continue to increase, further extending onto the Selmon Expressway and worsening congestion. Additionally, the off-ramp at the intersection of Brorein Street and Morgan Street is expected to extend onto the Selmon Expressway.
- Design year (2046), the Selmon Expressway off-ramp to Channelside Drive at the intersection of Channelside Drive at Morgan Street is expected to continue to significantly increase, even further extending onto the Selmon Expressway and resulting in severe congestion.

Table 4.2: Design Year (2046) No-Build Alternative Queue Analysis

ID	Intersection	Eastbound			Westbound			Northbound			Southbound			Off-Ramp		
		L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
AM Peak Hour Maximum Queue Length (ft)																
1	Channelside Dr and Florida Ave	**667**	**634**	+	-	-	-	-	176	134	-	-	-	-	-	-
2	Channelside Dr and Morgan St/ Selmon Off-Ramp	**504**	408	+	**985**	-	+	-	201	0	3	79	-	+	**3076**	+
12	Selmon Off-Ramp to Florida Ave	-	-	-	-	-	-	-	-	-	-	-	-	-	**576*** **	-
13	Brorein St and Florida Ave	-	-	-	-	**1225**	+	221	**876**	-	-	-	-	-	-	-
16	Brorein St and Jefferson St	**584**	57	+	11	**1431**	+	18	205	+	**445**	**627**	75	-	-	-
21	Whiting St and Jefferson St	+	98	23	+	**466**	+	+	113	+	+	426	+	-	-	-
22	Whiting St and Nebraska Ave*	-	-	-	-	-	-	**2025**	-	+	-	-	-	-	-	-
24	Whiting St and N Meridian Ave	-	-	-	**342**	-	+	-	235	+	19	**675**	-	-	-	-
PM Peak Hour Maximum Queue Length (ft)																
1	Channelside Dr and Florida Ave	**1465**	**1292**	+	-	-	-	-	374	182	-	-	-	-	-	-
2	Channelside Dr and Morgan St/ Selmon Off-Ramp	**455**	**576**	+	**1196**	-	+	-	509	0	1	29	-	+	**2325**	+
12	Selmon Off-Ramp to Florida Ave	-	-	-	-	-	-	-	-	-	-	-	-	-	**612*** **	-
13	Brorein St and Florida Ave	-	-	-	-	**1084**	+	183	**912**	-	-	-	-	-	-	-
16	Brorein St and Jefferson St	**746**	67	+	2	**1309**	+	**218**	**680**	+	**115**	256	82	-	-	-
21	Whiting St and Jefferson St	+	**1508**	91	+	**559**	+	+	131	+	+	237	+	-	-	-
22	Whiting St and Nebraska Ave*	-	-	-	-	-	-	**4050**	-	+	-	-	-	-	-	-
24	Whiting St and Meridian Ave	-	-	-	**229**	-	+	-	293	+	154	139	-	-	-	-

Note: Red highlight indicates locations where the queue length exceeds the available storage length.
+Shared Lanes
*Only stop-controlled approaches have been summarized.
**Queue length calculated as 25 feet per vehicle.
***The queue length for the Selmon Expressway off-ramp to Florida Avenue was determined as the queue length of the northbound through movement at the Brorein Street and Florida Avenue intersection minus the distance from the stop bar of the northbound through movement to the off-ramp gore point on Florida Avenue, 300 feet.
****Synchro queue not able to be reported due to excessive queue.

4.4.2 Build Alternative

Design year (2046) AADT volumes and peak hour turning movement volumes for the Build Alternative are shown in **Figures 4.3** and **4.4.**

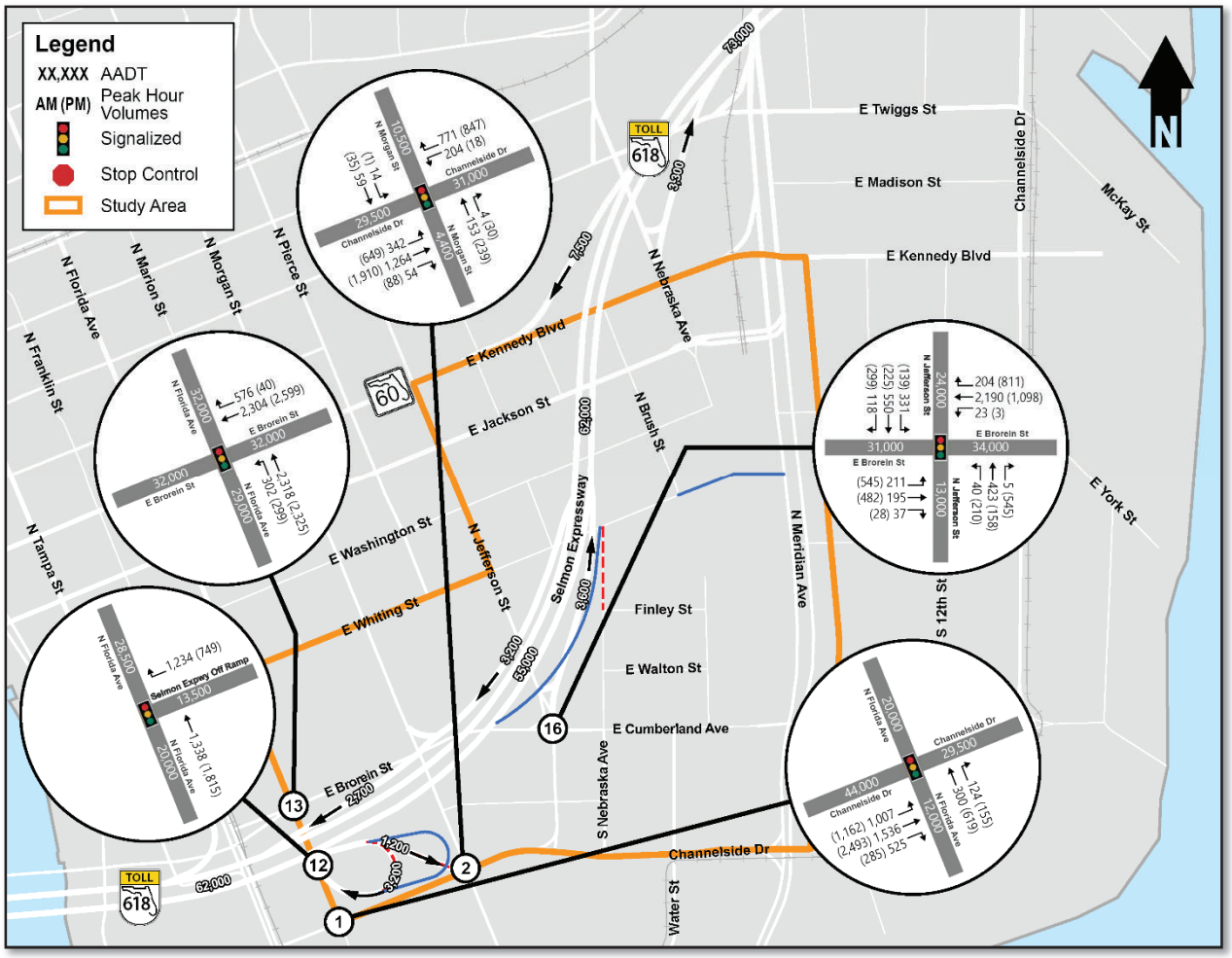


Figure 4.3: Design Year (2046) Build Alternative AADTs and Turning Movements Volumes

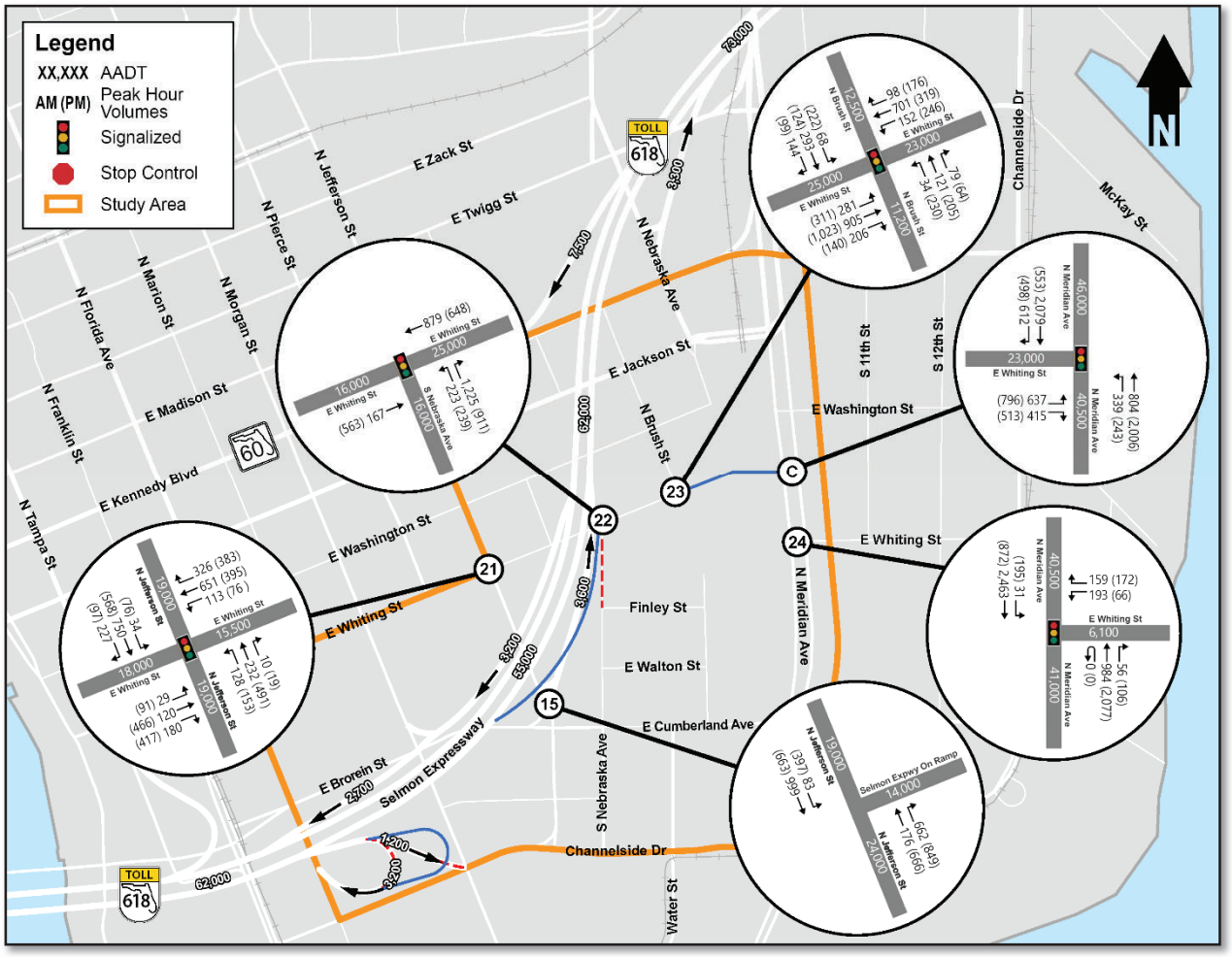


Figure 4.4: Design Year (2046) Build Alternative AADTs and Turning Movements Volumes

The results of the design year (2046) intersection analysis for the AM and PM peak hours are shown in **Table 4.3**. Under the Build condition the intersection at the Jefferson Street On-Ramp (15) will remain unsignalized and will not be included in the operational and queueing analysis. The new intersection of Whiting Street and North Meridian Avenue (C) will be constructed under the Build Alternative. The results indicate that four intersections are expected to fail and not meet the LOS target D in both the AM and PM peak hour, three in the AM peak hour, and one intersection in the PM peak hour.

Table 4.3: Design Year (2046) Build Alternative Intersection Analysis

Figure ID	Intersection	Build Alternative			
		Delay	LOS	Delay	LOS
		AM Peak Hour		*PM Peak Hour*	
1	Channelside Dr and Florida Ave	73.3	E	210.6	F
2	Channelside Dr and Morgan St/ Selmon Expy off-ramp	17.5	B	21.9	C
12	Selmon Expressway Off-Ramp and Florida Ave	49.0	D	27.5	C
13	Brorein St and Florida Ave	126.3	F	92.3	F
16	Brorein St and Jefferson St	194.2	F	259.3	F
21	Whiting St and Jefferson St	37.3	D	57.6	E
22	Whiting St and Nebraska Ave*	14.2	B	23.7	C
23	Whiting St and North Brush St	72.6	E	138.2	F
C	Whiting St and North Meridian Ave (North)	100.9	F	16.8	B
24	Whiting St and North Meridian Ave (South)	33.3	C	24.4	C

The results indicate the relocation of the existing Channelside Drive off-ramp to the new Whiting Street connection is expected to significantly reduce the delay at the intersection of Channelside Drive at Morgan Street, which would aid in the reduction of the queue length at the Selmon Expressway off-ramp to Florida Avenue. However, the results indicate that the delay at the intersection of Channelside Drive at Florida Avenue is expected to increase slightly compared to the No-build Alternative. This is likely due to the signalization of the Selmon Expressway off-ramp to Florida Avenue and the clustering of the newly signalized intersection with the intersection of Channelside Drive at Florida Avenue. These improvements are expected to improve safety for all users and allow pedestrians to safely cross Florida Avenue and the off-ramp, thereby outweighing the operational impacts to the Channelside Drive at Florida Avenue intersection.

The results of the design year (2046) queue analysis for the AM and PM peak hours are shown in **Table 4.4.** The intersection at the Jefferson Street On-Ramp (15). The new intersection of Whiting Street and the Selmon Off-Ramp (B) and Whiting Street and North Meridian Avenue (C) will be constructed under the Build Alternative. The overall results indicate queue lengths throughout the network are expected to increase, resulting in congested peak hour conditions. Queue spillbacks

are expected to occur at the following locations for the opening year (2026), interim year (2036), and design year (2046):

- Opening year (2026), the relocation of the Selmon Expressway off-ramp to Channelside Drive to the new Whiting Street connection is expected to reduce the likelihood of the queue spillback from extending onto the Selmon Expressway. The results also indicate that the queue lengths on the westbound approaches at the intersection of Whiting Street at Jefferson Street and the intersection of Whiting Street at Morgan Street are expected to increase compared to the No-build condition. However, this is expected due to the shifting traffic demand from the new Whiting Street ramp connection and the resulting increased utilization of Whiting Street.
-
- Interim year (2036), the relocation of the Selmon Expressway off-ramp to Channelside Drive to the new Whiting Street connection is expected to continue to prevent the queue spillback from extending onto the Selmon Expressway.
-
- Design year (2046), the relocation of the Selmon Expressway off-ramp to Channelside Drive to the new Whiting Street connection is expected to continue to prevent the queue spillback from extending onto the eastbound Selmon Expressway. Like the results for the opening year (2026) and interim year (2036) queue analyses, the results indicate that the queue lengths on some of the approaches on Whiting Street are expected to increase compared to the No-build condition including the off-ramp from the Westbound Selmon Expressway to Brorein Street which is expected to be on the edge of exceeding storage capacity in the No-Build Scenario as well. This is expected due to the shifting traffic demand from the new Whiting Street ramp connection and the resulting increased utilization of Whiting Street, in addition to the expected continued growth of the Downtown Tampa study area. Overall, the queue analysis results indicate that queue spillback onto the eastbound Selmon Expressway will be prevented in the Build condition through the design year (2046).

Table 4.4: Design Year (2046) Build Alternative Queue Analysis

ID	Intersection	Eastbound			Westbound			Northbound			Southbound			Off-Ramp		
		L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
AM Peak Hour Maximum Queue Length (ft)																
1	Channelside Dr and Florida Ave	**1205**	**1565**	+	-	-	-	-	318	124	-	-	-	-	-	-
2	Channelside Dr and Morgan St/ Selmon Off-Ramp	64	132	+	234	-	+	-	216	0	10	51	-	-	-	-
12	Selmon Off-Ramp to Florida Ave	-	-	-	-	-	-	-	-	-	-	-	-	-	710	-
13	Brorein St and Florida Ave	-	-	-	-	**1174**	+	227	**963**	-	-	-	-	-	-	-
16	Brorein St and Jefferson St	**64**	10	+	10	**1251**	+	17	170	+	**547**	**916**	29	-	-	-
21	Whiting St and Jefferson St	+	85	+	+	**677**	+	+	137	+	+	**515**	+	-	-	-
B	Whiting St and Selmon Off-ramp	-	106	-	-	88	-	-	-	-	-	-	-	269	-	+
23	Whiting St and North Brush St	**253**	**386**	40	90	**405**	+	**51**	**209**	+	+	**937**	+	-	-	-
24	Whiting St and Meridian Ave (South)	-	-	-	**423**	-	+	-	384	+	3	**656**	-	-	-	-
C	Whiting St and Meridian Ave (North)	296	-	**298**	-	-	-	**657**	50	-	-	**830**	0	-	-	-
PM Peak Hour Maximum Queue Length (ft)																
1	Channelside Dr and Florida Ave	**1507**	**2630**	+	-	-	-	-	**630**	152	-	-	-	-	-	-
2	Channelside Dr and Morgan St/ Selmon Off-Ramp	58	98	+	**1030**	-	+	-	370	4	1	25	-	-	-	-
12	Selmon Off-Ramp to Florida Ave	-	-	-	-	-	-	-	-	-	-	-	-	-	438	-
13	Brorein St and Florida Ave	-	-	-	-	**1018**	+	225	**968**	-	-	-	-	-	-	-
16	Brorein St and Jefferson St	**809**	122	+	2	**1260**	+	**213**	280	+	**102**	222	45	-	-	-
21	Whiting St and Jefferson St	+	**644**	+	+	324	+	+	117	+	+	415	+	-	-	-
B	Whiting St and Selmon Off-ramp	-	193	-	-	213	-	-	-	-	-	-	-	339	-	+
23	Whiting St and North Brush St	83	**401**	40	214	227	+	**382**	**334**	+	+	**957**	+	-	-	-
24	Whiting St and N Meridian Ave (South)	-	-	-	**227**	-	+	-	306	+	**245**	**123**	-	-	-	-
C	Whiting St and Meridian Ave (North)	104	-	20	-	-	-	226	119	-	-	174	0	-	-	-

Note: Red highlight indicates locations where the queue length exceeds the available storage length.
+Shared Lanes
*Only stop-controlled approaches have been summarized.
**Queue length calculated as 25 feet per vehicle.
***The queue length for the Selmon Expressway off-ramp to Florida Avenue was determined as the queue length of the northbound through movement at the Brorein Street and Florida Avenue intersection minus the distance from the stop bar of the northbound through movement to the off-ramp gore point on Florida Avenue, 300 feet.
****Synchro queue not able to be reported due to excessive queue.

4.5 Build Alternative(s)

The various Build Alternatives propose improvements to existing ramp configurations and the existing street network at multiple locations in the Downtown/Channelside area. The improvements can be broken up into four distinct locations. See **Figure 4.5** for each location of proposed improvements. Locations A and B have two Build Alternatives while Locations C and D only have one Build Alternative. The various build alternatives are discussed in further detail below. The No-build Alternative is considered as a viable alternative for all locations and will be compared against the Build Alternatives in order to determine a preferred Build Alternative.

Figure 4.5: Location of Proposed Improvements

4.5.1 Location A – North Brush Street to North Meridian Avenue

Whiting Street currently ends at North Brush Street, west of the railroad tracks. The Build Alternatives propose to extend Whiting Street, from North Brush Street to North Meridian Avenue, at a signalized intersection. The extension would provide two 11-foot travel lanes in both directions separated by a concrete traffic separator, which varies in width up to 15 feet, curb and

gutter, and sidewalks on both the north and south sides of the road. Build Alternative 1 proposes to include four-foot on street bicycle lanes with six-foot sidewalks, while Build Alternative 2 proposes to provide 10-foot sidewalks in place of on street facilities. The major difference between the two proposed Build Alternatives is the location where the extension of Whiting Street will intersect North Meridian Avenue. The two proposed Build Alternatives are described in further detail below.

- Build Alternative 1 proposes to extend Whiting Street, from North Brush Street to North Meridian Avenue, and intersect North Meridian Avenue at the existing Whiting Street intersection. Whiting Street would be realigned starting on the east side of the Selmon Expressway (SR 618) using a reverse curve that first curves to the south and then to the north to form the fourth leg of the North Meridian Avenue and Whiting Street intersection. The re-alignment of Whiting Street would require extending a portion of North Brush Street to the south to intersect Whiting Street at a signalized intersection. See **Figure 4.6** for a graphic depicting the proposed build alternative.
-
- Build Alternative 2 proposes to extend Whiting Street from North Brush Street to North Meridian Avenue and create a new signalized intersection approximately 325 feet north of the existing Whiting Street and North Meridian Avenue intersection. This would allow Whiting Street to follow more closely to its existing southwest to northeast orientation. There would be no modification required to the location of the North Brush Street intersection. The intersection would be converted to a signal. See **Figure 4.7** for a graphic depicting the proposed Build Alternative.

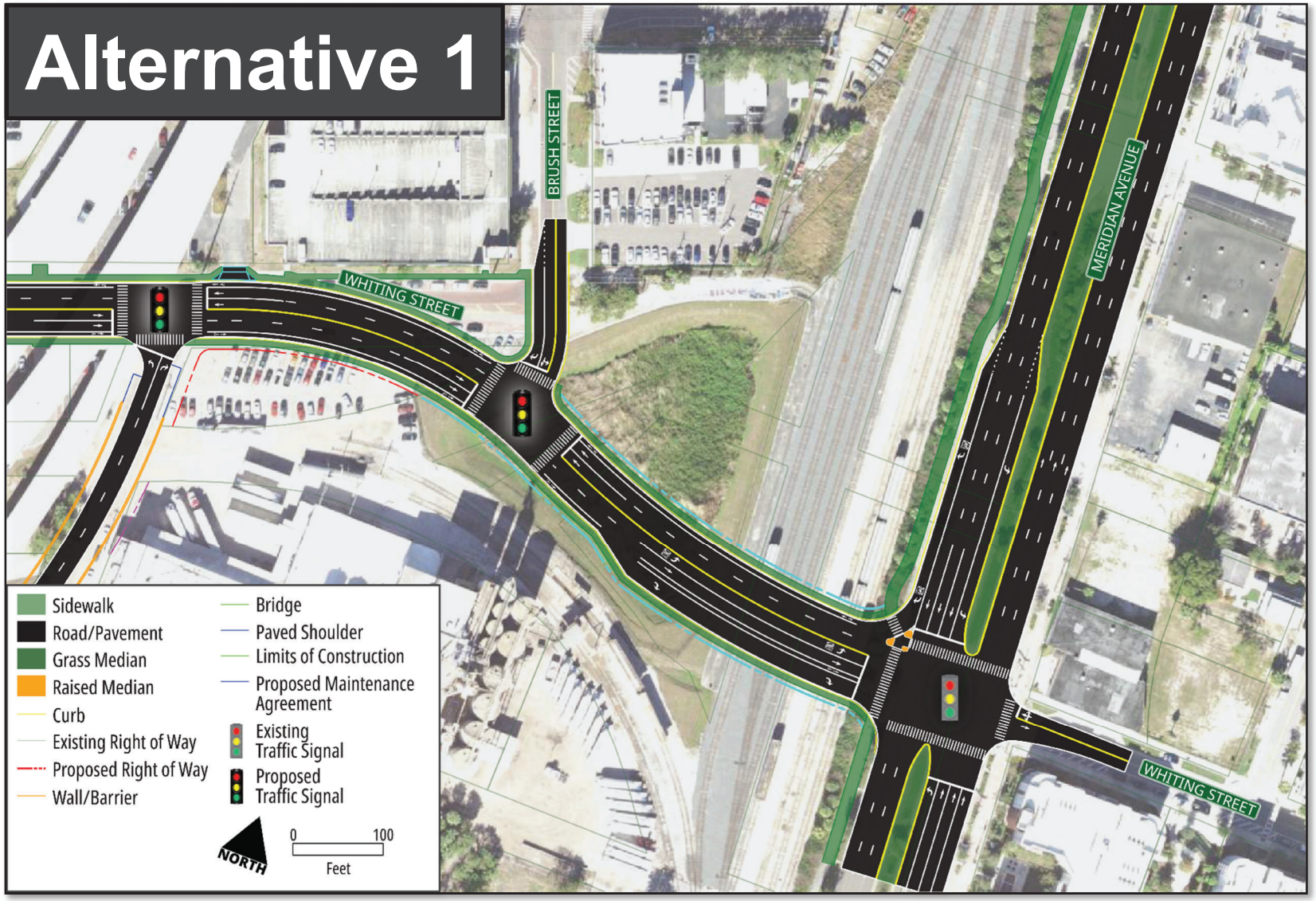


Figure 4.6: Alternative 1 – Whiting Street from North Brush Street to North Meridian Avenue

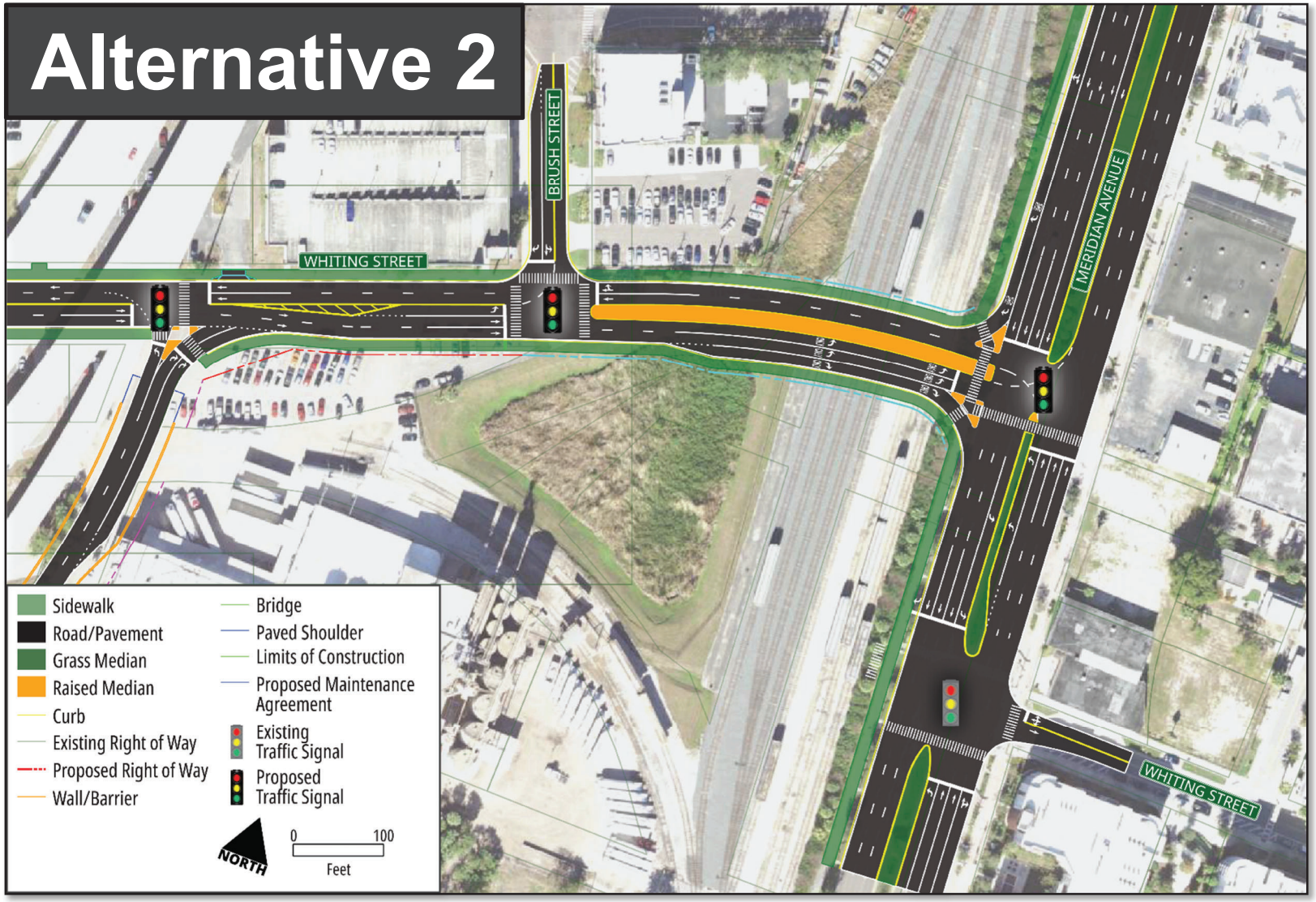


Figure 4.7: Alternative 2 – Whiting Street from North Brush Street to North Meridian Avenue

4.5.2 Location B – Jefferson Street to North Brush Street

Whiting Street, between Jefferson Street and North Brush Street, is currently a two-lane roadway with on-street parking on both the north and south sides of the road. East of the Selmon Expressway, Whiting Street is a brick road. The Build Alternatives propose to widen/reconstruct Whiting Street from two to four lanes. Both Build Alternatives also include installing two new traffic signals; one at the intersection of Whiting Street and the terminus of the proposed Whiting Street off-ramp, just east of the Selmon Expressway, and the other at the intersection of Whiting Street and North Brush Street. The two proposed Build Alternatives are described in further detail below.

- Build Alternative 1 proposes to widen Whiting Street from two to four lanes with two 11-foot travel lanes in each direction, four-foot on-street bicycle lanes, curb and gutter, and six-foot sidewalks on both sides of the road. The new Whiting Street off-ramp would approach Whiting Street with two lanes; one left turn lane and one right turn lane. As mentioned previously, the re-alignment of Whiting Street, on the east side of the Selmon Expressway (SR 618), would require extending North Brush Street to the south to intersect the re-aligned Whiting Street at a signalized intersection. Right-of-way is required to construct Build Alternative 1. See **Figure 4.8** for a graphic depicting the proposed Build Alternative.
-
- Build Alternative 2 proposes to widen Whiting Street from two to four lanes with two 11-foot travel lanes in each direction, curb and gutter, and 10-foot sidewalks on both sides of the road. The new Whiting Street off-ramp would approach Whiting Street with three lanes; one left turn lane and two right turn lanes. For this Build Alternative, Whiting Street will follow its current alignment and therefore not require any modification to the location of the Whiting Street and North Brush Street intersection. Right-of-way is required to construct Build Alternative 2. See **Figure 4.9** for a graphic depicting the proposed Build Alternative.

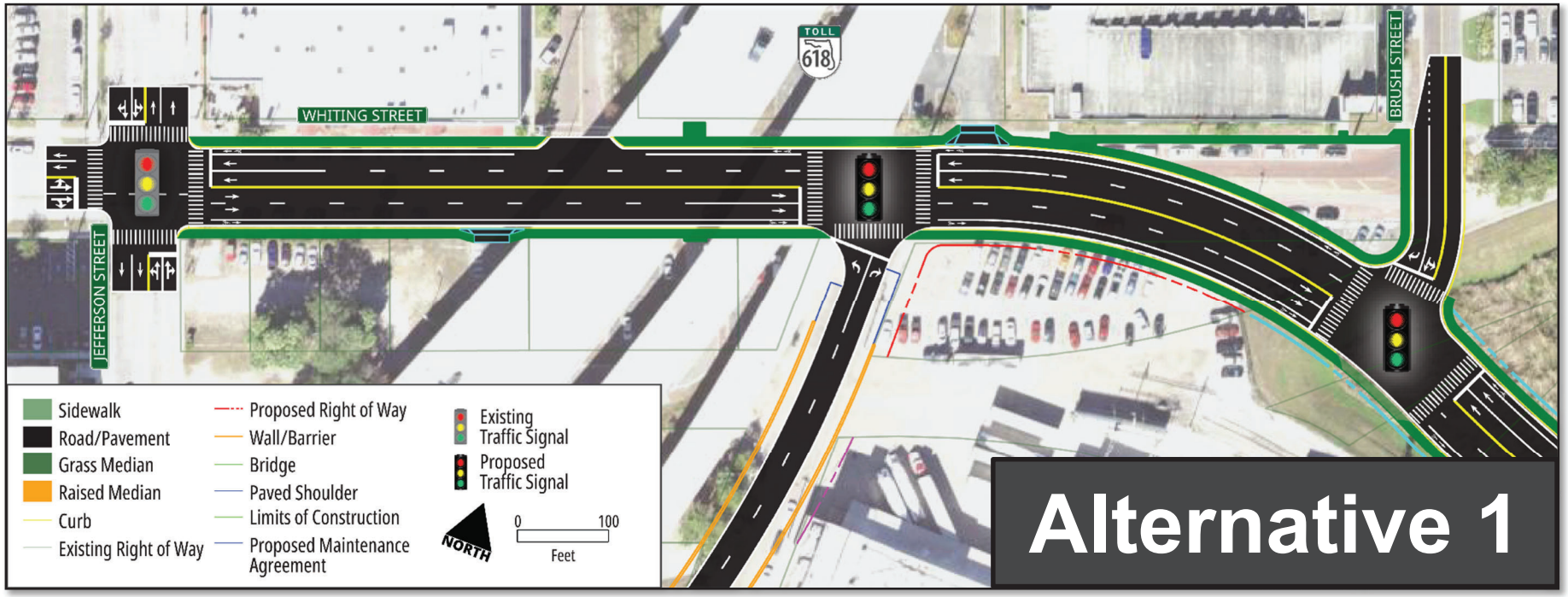


Figure 4.8: Alternative 1 – Whiting Street from Jefferson Street to North Brush Street

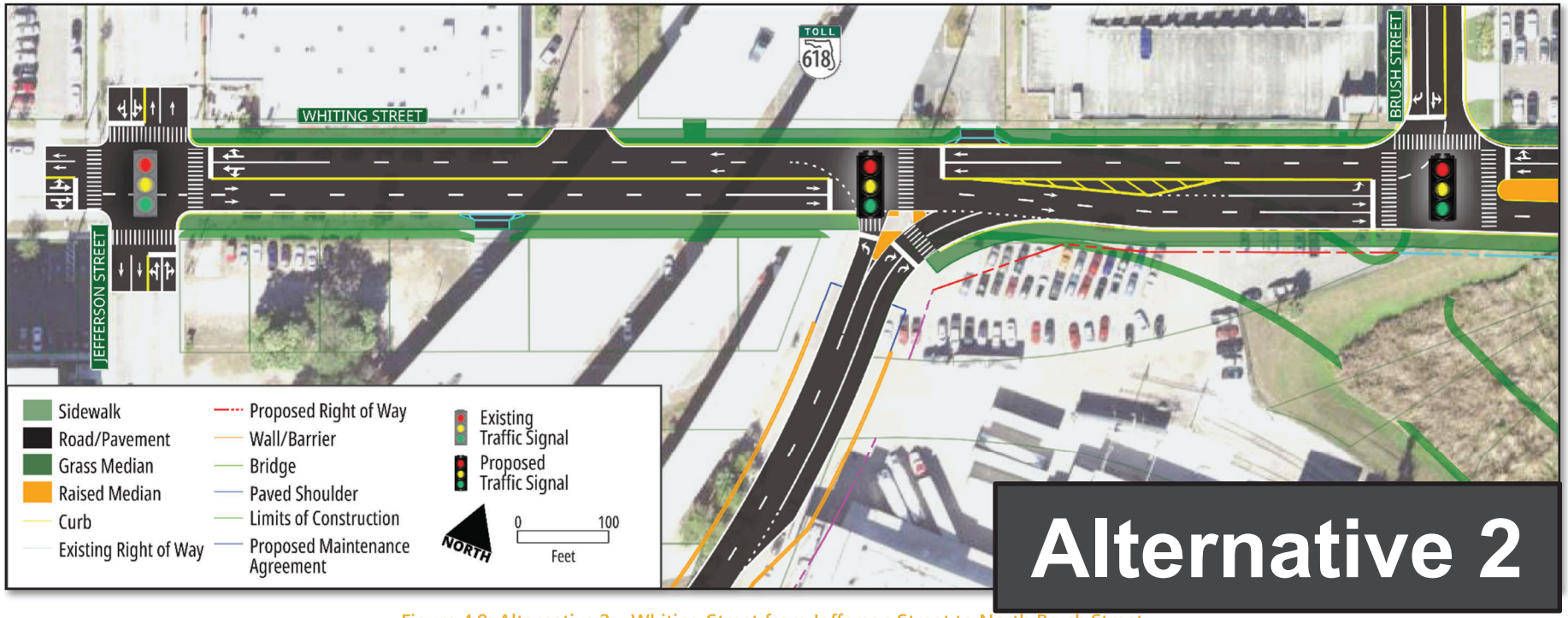


Figure 4.9: Alternative 2 – Whiting Street from Jefferson Street to North Brush Street

4.5.3 Location C – Eastbound Selmon Expressway (SR 618) at Morgan Street to Whiting Street

The existing exit Ramp 6B provides users the ability to travel east along Channelside Drive, towards Amalie Arena and the Florida Aquarium. The Build Alternative proposes relocating exit Ramp 6B approximately 700 feet north and providing a direct connection to Whiting Street. From this point, users will be able to travel east/west along Whiting Street. The relocation of exit Ramp 6B will allow for the extension and widening of exit Ramp 6A and separate the users wanting to make east/west movements from the users wanting to make north/south movements, creating a more efficient flow of traffic. The alignment of the proposed ramp will run along existing Nebraska Avenue for a short segment before intersecting Whiting Street. This will eliminate the Nebraska Avenue and Whiting Street connection and require realigning Nebraska Avenue to connect to Finley Street via a horizontal curve. The existing Jefferson Street on ramp entrance will be shifted to the north to accommodate the new Whiting Street off-ramp. Right-of-way is required to construct the connection between Nebraska Avenue and Finley Street. There is only one Build Alternative for Location C. See **Figure 4.10** for a graphic depicting the proposed Build Alternative.

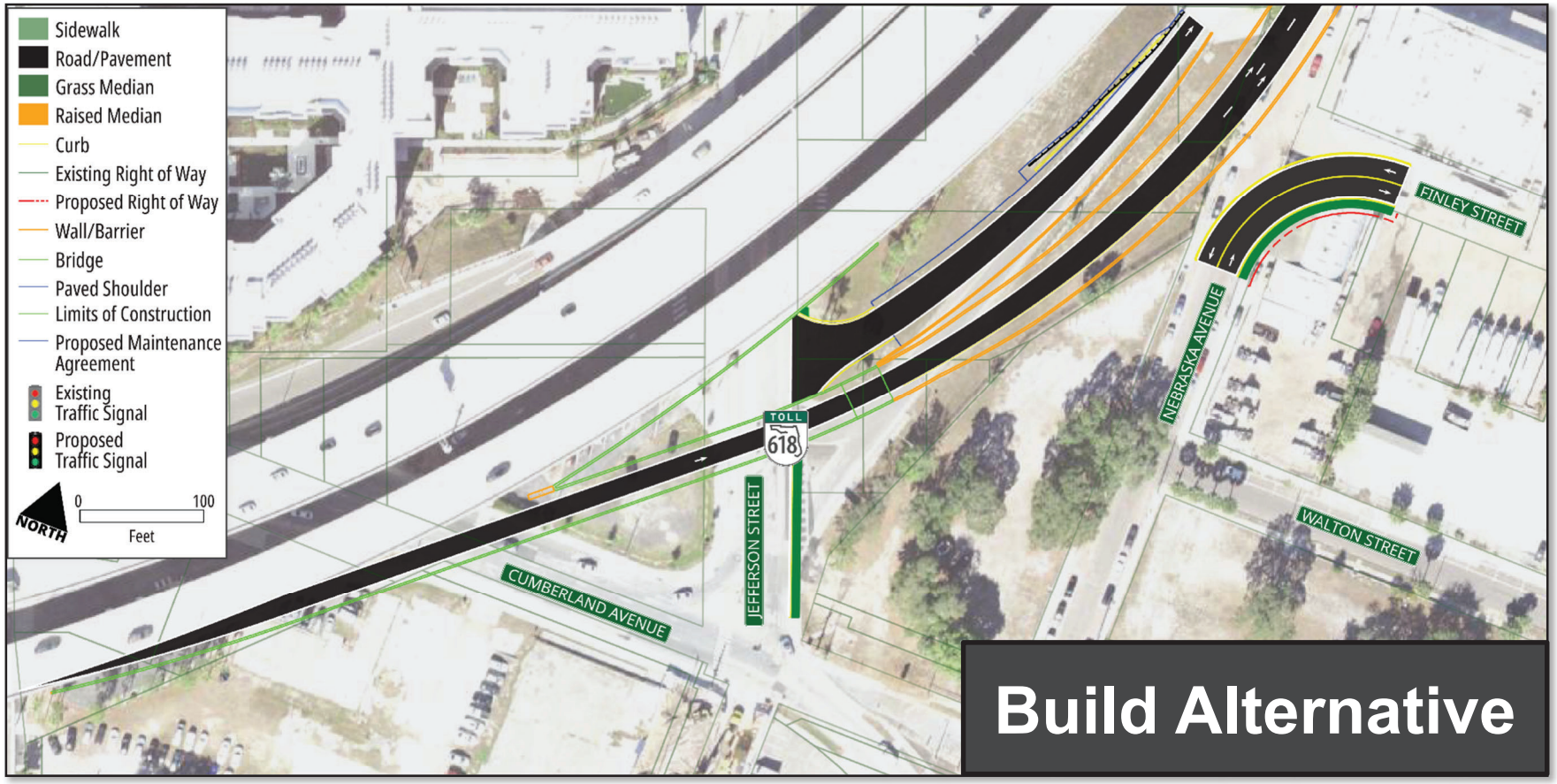


Figure 4.10: Alternative 1 – Whiting Street Off-ramp (Exit Ramp 6B)

4.5.4 Location D – Eastbound Selmon Expressway (SR 618) at Florida Avenue to Florida Avenue

The current configuration of exit Ramp 6A includes a single-lane loop ramp that merges onto Florida Avenue under a free-flow condition. The curve provides little room for vehicles to slow down and queue if there is any backup when trying to merge onto Florida Avenue. The Build Alternative proposes widening the ramp from one to two lanes as well as lengthening the ramp to provide a wider curve. The proposed typical section includes two 12-foot travel lanes, a 10-foot paved inside shoulder, and an eight-foot paved outside shoulder. The ramp will remain on structure until crossing over the existing exit Ramp 6B to Channelside Drive, where it will be supported by MSE wall until it touches down at Florida Avenue. The loop ramp terminates at Florida Avenue at a proposed signalized intersection. The increased ramp length as well as the additional lanes will minimize backup and potential vehicle queueing onto the Selmon Expressway. The Build Alternative includes a 10-foot sidewalk on the inside edge of the proposed loop ramp, which will cross underneath existing Ramp 6B. Pedestrians will also have the ability to cross the loop ramp at Florida Avenue, to access Channelside Drive, at a proposed crosswalk. No right-of-way is required to construct the proposed loop ramp. There is only one Build Alternative for Location C. See **Figure 4.11** for a graphic depicting the proposed Build Alternative.

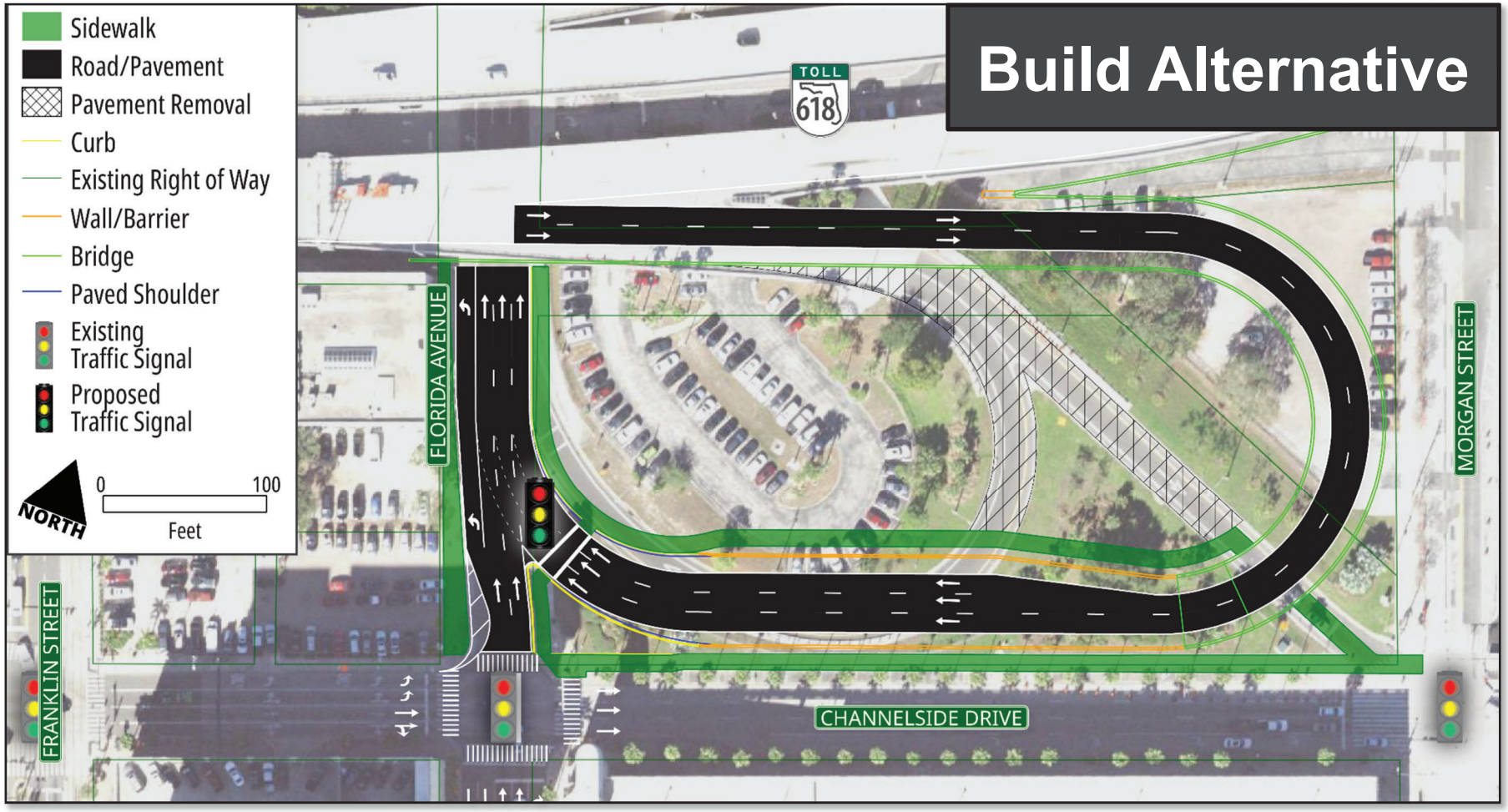


Figure 4.11: Alternative 1 – Florida Avenue Off-ramp (Exit Ramp 6A)

4.6 Comparative Alternatives Evaluation

A comparative evaluation was presented during the Public Information Meeting, held on Thursday, May 20, 2021, to compare the two Build Alternatives against the No-build Alternative. See **Table 4.5** for the evaluation presented during the Public Information meeting.

Table 4.5: Comparative Evaluation

Criteria	No-build Alternative	Build Alternative 1	Build Alternative 2
How much does the alternative enhance operations?	Because traffic is expected to increase, this alternative would have no benefit to the roadway Level of Service	This alternative would operate at **Level of Service E** (Florida Avenue loop ramp Exit 6A, Exit 6B to Whiting Street, widening Whiting Street, improving grid network)	This alternative would operate at **Level of Service D** (Florida Avenue loop ramp Exit 6A, Exit 6B to Whiting Street, widening Whiting Street, improving grid network)
How much does the alternative enhance pedestrian safety?	Because there would be no improvements made for pedestrians, this alternative would have no benefit to pedestrian safety	This alternative includes **several** pedestrian enhancements (pedestrian underpass, sidewalks, high-visibility crosswalks, traffic signals with pedestrian phases)	This alternative includes **several** pedestrian enhancements (pedestrian underpass, sidewalks, high-visibility crosswalks, traffic signals with pedestrian phases)
How much does the alternative reduce traffic delay?	Because traffic is expected to increase, this alternative would have no benefit to traffic delay	This alternative improves network connectivity and spreads delay through the network	This alternative improves operations by **25%** over Alternative 1
How much right-of-way would be acquired? What is impacted?	0 acres 0 parcels 0 business 0 residential	0.24 acres 4 parcels 2 businesses 0 residential	0.24 acres 4 parcels 2 businesses 0 residential
Project Design Cost	$0	$1.7 million	$2.7 million
Right-of-Way and Construction Cost	$0	$35.9 million	$40.6 million
Construction Engineering & Inspection (CEI) Cost	$0	$3.5 million	$5.4 million
Total Cost	$0	$41.1 million	$48.7 million

4.7 Selection of the Preferred Alternative

4.7.1 Locations A and B

Alternative 1 proposes to re-align Whiting Street to the south to connect to the existing intersection of Whiting Street and North Meridian Avenue. The orientation of this alignment cuts through the existing Ardent Mills property and limits the potential for the development of the roadway grid network in the future. Conversely, Alternative 2, which follows the existing alignment of Whiting Street, creates an additional signalized intersection along North Meridian Avenue and leaves additional space for the roadway grid development to the south. This alignment is most in line with the goals of the City of Tampa and local developers who are currently constructing a mixed use urban development between Channelside Drive and Cumberland Avenue. Following the first phase of construction, the development is going to continue to the north, into the existing Ardent Mills property. Alternative 2, minimizes impacts to this developable area and provides an additional roadway with multiple potential connection points. For these reasons, Alternative 2 was selected as the Preferred Alternative.

4.7.2 Locations C and D

Only one Build Alternative was considered for Locations C and D. Therefore, it was evaluated against the advantages/disadvantages of the No-build Alternative. A major purpose of the study is to improve the safety of users along the Selmon Expressway (SR 618). The existing exit Ramps 6A and 6B are very short and lead to queueing that can extend on the expressway, creating a major safety issue. Splitting the two ramps allows for both ramps to be extended significantly to aid in combating the queue issue. Both ramps will also be widened to two lanes, with additional lanes at the approach to signalized intersections. The additional storage on both ramps decreases the potential for queue backup onto the mainline significantly. Other design measures including Intelligent Transportation System (ITS) will also be used to improve safety. Because the Build Alternative satisfies a major purpose of the project, it was selected as the Preferred Alternative.

5.0 Project Coordination & Public Involvement

Several meetings were held over the course of the PD&E study to meet with public officials, agencies, residences, and interested stakeholders. The PD&E Study was introduced to the public on Thursday March 5, 2020, during a Virtual Town Hall conducted by THEA to provide status updates on various other ongoing THEA projects. This Virtual Town Hall can be found at https://www.tampa-xway.com/initiatives/vhtm/.

Additional meetings included a Virtual Public Information Meeting (see section 5.2 below) and a Public Hearing (*to be conducted February 22, 2022*). In addition to these two scheduled public meetings, additional meetings were held with stakeholders, including elected and appointed officials, agency representatives, special interest groups, and individuals, as needed. Please refer to the Comments and Coordination Report (CCR) for additional details regarding public outreach.

5.1 Public Involvement Program

A comprehensive Public Involvement Program (PIP) that focused on soliciting community participation was developed and implemented as part of the PD&E Study. The program was prepared in compliance with the FDOT PD&E Manual Part 1, Chapter 11 and approved by THEA in January 2020. The purpose of the PIP was to provide a guide for implementing stakeholder involvement for the study with an emphasis on the communities adjacent to the study area. The PIP was used as a blueprint for defining methods and tools to reach, educate, and engage all stakeholders in the decision-making process. The strategies outlined in the PIP were designed to be comprehensive, and to ensure stakeholders are provided multiple opportunities to be informed and engaged as the study progresses.

The primary goal of the PIP was to actively seek the participation of communities, agencies, individual interest groups, and the public throughout the PD&E process. The following information was included as part of the PIP:

- Identify stakeholders and target audiences;
- Anticipate issues and key messaging;
- Outline outreach methods;
- Detail public involvement activities;
- Establish comment management protocols; and
- Provide a structure for documenting the PIP and closing out the study.

5.2 Public Information Meeting

THEA held a Public Information Meeting on Thursday, May 20, 2021, at 6:30 p.m. for the PD&E Study. Due to the COVID-19 pandemic, this meeting was held virtually. Registration for the meeting and the meeting itself was held online.

The virtual meeting format consisted of an online presentation by THEA to present the alternatives identified to improve travel times, reduce congestion, improve safety, and enhance regional mobility. The virtual meeting participants were introduced to the interactive website that included all meeting materials (www.whitingstreetpde.com). Seventy-nine citizens registered for the workshop. The virtual workshop was attended by 25 citizens as well as THEA and consultant staff (total 6). Attendees were presented a slideshow consisting of:

- An overview of the PD&E Study.
- The need to improve the Selmon Expressway Ramps and local streets.
- The PD&E Study process to develop, screen and refine alternatives for additional evaluation.
- The two build alternatives under consideration (developed based on the project purpose and need).
- The evaluation criteria for the two alternatives under consideration, as compared to the No-build Alternative.
- The methods for the public to provide feedback on the alternatives under consideration, including a comment form, email address, and mail-in option.

After the presentation, the questions and answer portion of the workshop began. Citizens were able to submit questions real-time virtually in a chat on the online meeting platform and received responses during the workshop. Four citizens submitted six questions during the virtual workshop.

A recording of the virtual meeting was posted in its entirety the next day, May 21, 2021, on the THEA website www.whitingstreetpde.com. The interactive website (www.whitingstreetpde.com) was available starting on May 20, 2021, and was accessible anywhere, anytime. This website contained the same information that was presented at the virtual meeting, including methods for the public to provide feedback on the alternatives under consideration.

Comments were accepted by THEA on the alternatives up to 5 pm on June 10, 2021. All comments received during this period were responded to and taken into consideration by THEA during the selection of the Preferred Alternative. During the 21-day comment period, 272 unique visitors viewed the online meeting.

Five written comments from three citizens were received online or via email during the 21-day review period following the virtual meeting. Most comments received at the meeting and online addressed trails and bicycle lanes, or requested information on property takes and their locations.

Information regarding the Public Information Meeting, including meeting materials, advertisements, notices, and public comments, can be found in the CCR.

5.3 Public Hearing

A Public Hearing was held on February 22, 2022, starting at 5:00 pm, at the THEA offices. The purpose of the hearing was to provide interested persons with information on the Preferred Alternative and to allow the public the opportunity to comment. To accommodate those who were not able to attend in person, all meeting materials were also posted on the project website at www.whitingstreetpde.com prior to the in-person hearing.

Prior to the Public Hearing, THEA distributed a public notice postcard, letters to elected and appointed officials and agencies, newspaper ads, FAR ads, press releases, social media posts, project website. The first newspaper ad was published on February 2, 2022, and the second newspaper ad was published on February 13, 2022. The newspaper ad also listed locations where the project documents would be displayed for review at least 21 days prior to the hearing, which included the project website. The full mailing list for this newsletter was updated on January 20, 2022. The public hearing notifications, including newspaper ads, postcard, press release, screenshots of the website public hearing announcements, project documents, mailing list, social media posts, and the FAR ad can be found in the Comments and Coordination Report (CCR).

A total of 21 citizens signed in at the Public Hearing. Attendees were provided with a sign-in card and hearing handout/comment form. The meeting began with an open house from 5:00 p.m. to 6:00 p.m., followed by opening remarks and an audiovisual presentation at 6:00 p.m. The audiovisual presentation discussed an overview of the project. These details included the PD&E Study process, a description of the Preferred Alternative, a discussion of anticipated environmental impacts, and the estimated project costs.

During the comment period, which lasted from February 1 to March 8, 2021, THEA received five comments from the public. Four of the comments were received via email, while one comment was received via the website form. No comments were received in person or through the court reporter during the Public Hearing.

The majority of the comments received dealt with prioritization of pedestrian and bicycle access and safety along the project corridors. Additional comments dealt with traffic flow and use of proposed green space by pedestrians and bicyclists.

5.4 Stakeholder Coordination Meetings

In addition to the Public Information Virtual Meeting and Public Hearing, THEA held and/or participated in additional stakeholder coordination meetings throughout the project. These meetings included those with local leaders, elected officials, agency staff, and other stakeholders.

Table 5.1 provides a list of meetings held during the study. Additional information regarding the stakeholder coordination meetings can be found in the Comments and Coordination Report.

Table 5.1: Stakeholder Coordination Meetings

Date	Participants	Topic/Purpose
12/12/2019	Representatives from Strategic Property Partners (SPP) and Stantec Professional Services (Stantec)	Future development plans north of Cumberland Avenue
1/10/2020	Representatives from HDR, Inc.	Coordination on graphics and document consistency with South Selmon Expressway project
2/18/2020	Representatives from SPP and Stantec	Coordination with ongoing planning efforts
3/5/2020	Public and project stakeholders	Virtual Town Hall Meeting regarding all of THEA's ongoing projects
4/16/2020	City of Tampa	Review of traffic analysis of study area
8/24/2020	City of Tampa	Review comments from City of Tampa on traffic analysis
9/10/2020	Port Tampa Bay	Project background, schedule, and progress
10/5/2020	WSP Global	Coordination with Mobility Hub and Vision Zero efforts
10/5/2020	Mayor Jane Castor	Project background, schedule, and process
10/27/2020	City of Tampa	Proposed improvement alternatives
11/13/2020	SPP	Proposed improvement alternatives
12/2/2020	SPP	Proposed improvement alternatives, preliminary design concepts
2/17/2021	SPP	Proposed improvement alternatives, preliminary design concepts
3/2/2021	FDOT District 7	Presentation to the District Interchange Review Coordinator
3/8/2021	SPP	Proposed improvement alternatives, preliminary design concepts
4/19/2022	SPP and Stantec	Proposed improvement alternatives, preliminary design concepts

6.0 Design Features of the Preferred Alternative

6.1 Engineering Details of the Preferred Alternative

The Preferred Build Alternative proposes improvements to existing ramp configurations and the existing street network at multiple locations in the Downtown/Channelside area. See **Figure 6.1** for each location of proposed improvements. THEA has committed to provide a new connection to North Meridian Avenue, by extending Whiting Street between North Meridian Avenue and North Brush Street (Location A). To construct the extension of Whiting Street, the existing railroad tracks will need to be removed. Removing the railroad tracks and completing the extension to North Meridian Avenue will offer an additional connection within the street network, providing additional route choice and alleviating congestion. In conjunction with the extension of Whiting Street, the existing two-lane roadway will be widened to a four-lane roadway with curb and gutter and 10-foot sidewalks on both the north and south sides of the road (Location B). Following the construction of the Whiting Street extension, existing exit Ramp 6B will be relocated approximately 700 feet north (Location C). The proposed exit ramp will pass over Jefferson Street and touch down along Nebraska Avenue, intersecting Whiting Street at a signalized intersection. Removing the existing Ramp 6B will allow for the widening and extension of exit Ramp 6A (Location D). The proposed ramp will terminate at Florida Avenue at a signalized intersection. Detailed concept plans for the Preferred Alternative are provided in **Appendix A.**

Figure 6.1: Location of Proposed Improvements

6.1.1 Typical Sections

The various proposed typical section improvements are discussed in detail below. For detailed engineering typical sections, refer to the Typical Section Package in **Appendix D.**

6.1.1.1 Location A – North Brush Street to North Meridian Avenue

The proposed typical section for the Whiting Street extension, between North Brush Street and North Meridian Avenue, is a divided urban typical section with two 11-foot travel lanes in each direction, a 15-foot raised median, curb and gutter, and 10-foot sidewalks on both the north and south sides of the road. Along this stretch of Whiting Street, eastbound right turn auxiliary lanes are typically present. **Figure 6.2** provides a detailed graphic of the proposed roadway typical section for the extension of Whiting Street, between North Brush Street and North Meridian Avenue.

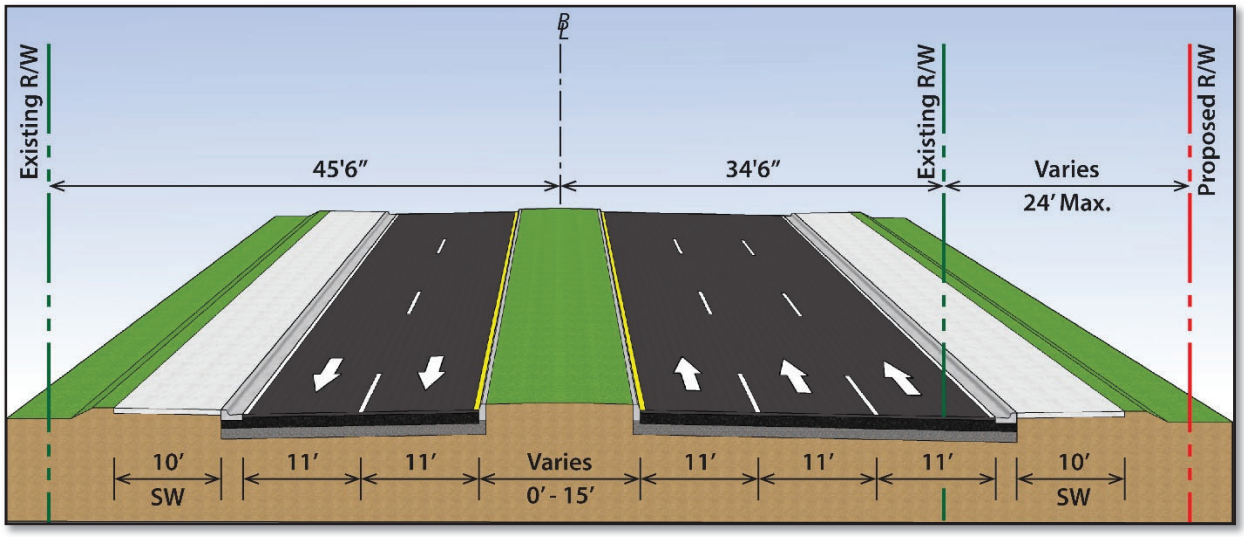


Figure 6.2: Proposed Typical Section – Whiting Street (North Brush Street to North Meridian Avenue)

6.1.1.2 Location B – Jefferson Street to North Brush Street

The proposed typical section for the widening/reconstruction of Whiting Street, between Jefferson Street and North Meridian Avenue is an undivided urban typical section with two 11-foot travel lanes in each direction, curb and gutter, and 10-foot sidewalks on both the north and south sides of the road. **Figure 6.3** provides a detailed graphic of the proposed roadway typical section for the widening/reconstruction of Whiting Street, between Jefferson Street and North Meridian Avenue.

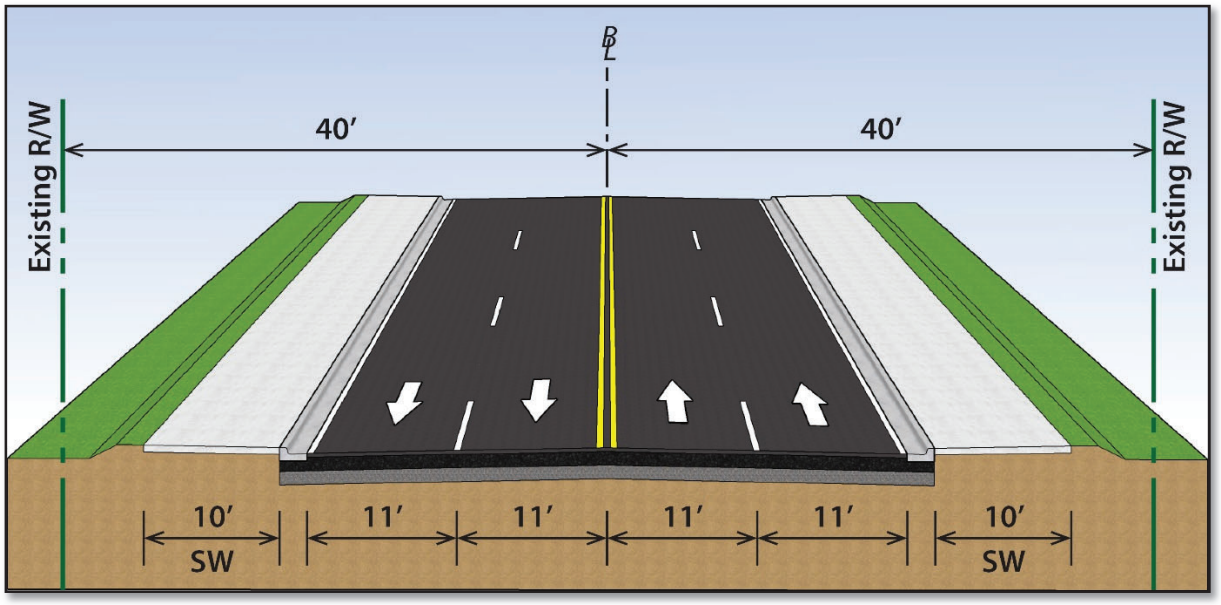


Figure 6.3: Proposed Typical Section – Whiting Street (Jefferson Street to North Brush Street)

6.1.1.3 Location C – Eastbound Selmon Expressway (SR 618) at Morgan Street to Whiting Street

There are two typical sections for the proposed Whiting Street Off-ramp, relocated exit Ramp 6B. The first typical section is a single 15-foot ramp lane with six-foot paved inside and outside shoulders and concrete traffic railing on both sides of the ramp. The ramp will remain on-structure beyond the existing Jefferson Street On-ramp. **Figure 6.4** provides a detailed graphic of the proposed roadway typical section for the single lane, on-structure portion of the Whiting Street off-ramp.

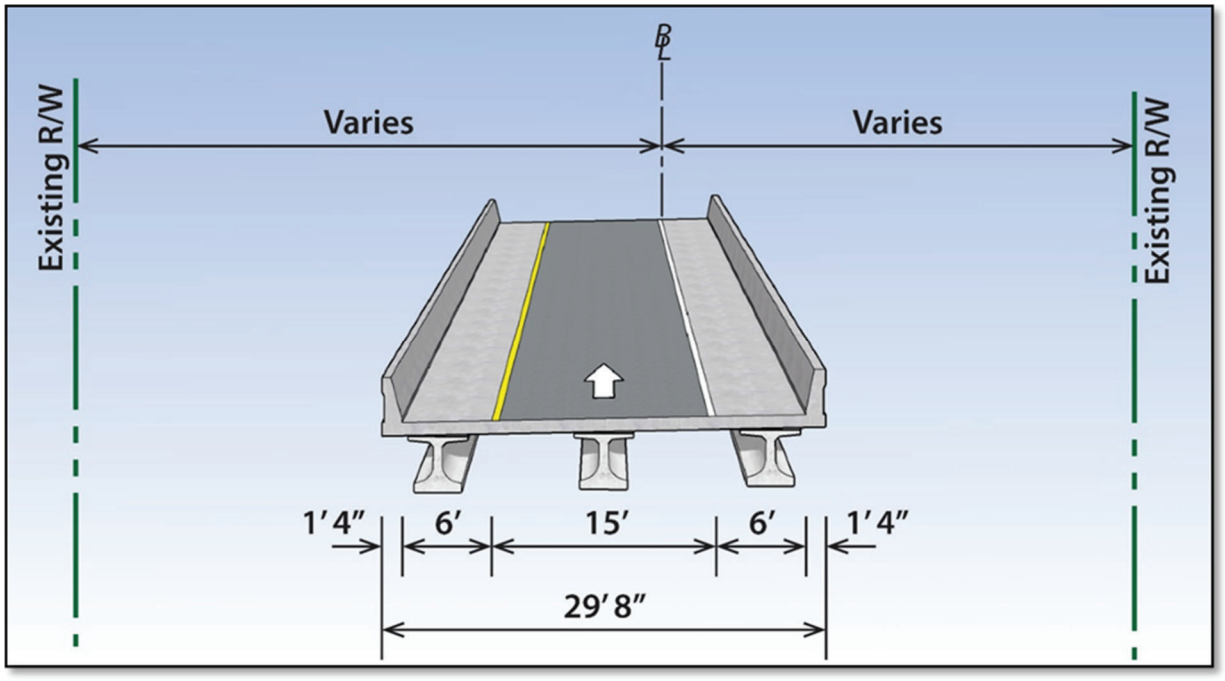


Figure 6.4: Proposed Typical Section – Whiting Street Off-Ramp (On-structure)

From this point, the ramp will transition to a two-lane ramp, varying in width between 15 feet and 24 feet, with a paved inside shoulder varying in width between six and eight feet, and a paved outside shoulder varying in width between six and ten feet. This portion of the Whiting Street Off-ramp will be supported by MSE wall. After crossing over the Jefferson Street On-ramp, the ramp profile will begin to decrease until it touches existing ground level approximately 100 feet south of Whiting Street. A portion of the Jefferson Street On-ramp will need to be reconstructed to allow for the flyover of the Whiting Street Off-ramp. A four-inch concrete cap will be constructed between the two ramps. **Figure 6.5** provides a detailed graphic of the proposed roadway typical section for the two-lane, on-MSE wall portion of the Whiting Street Off-ramp (exit Ramp 6B) and the modified Jefferson Street On-ramp.

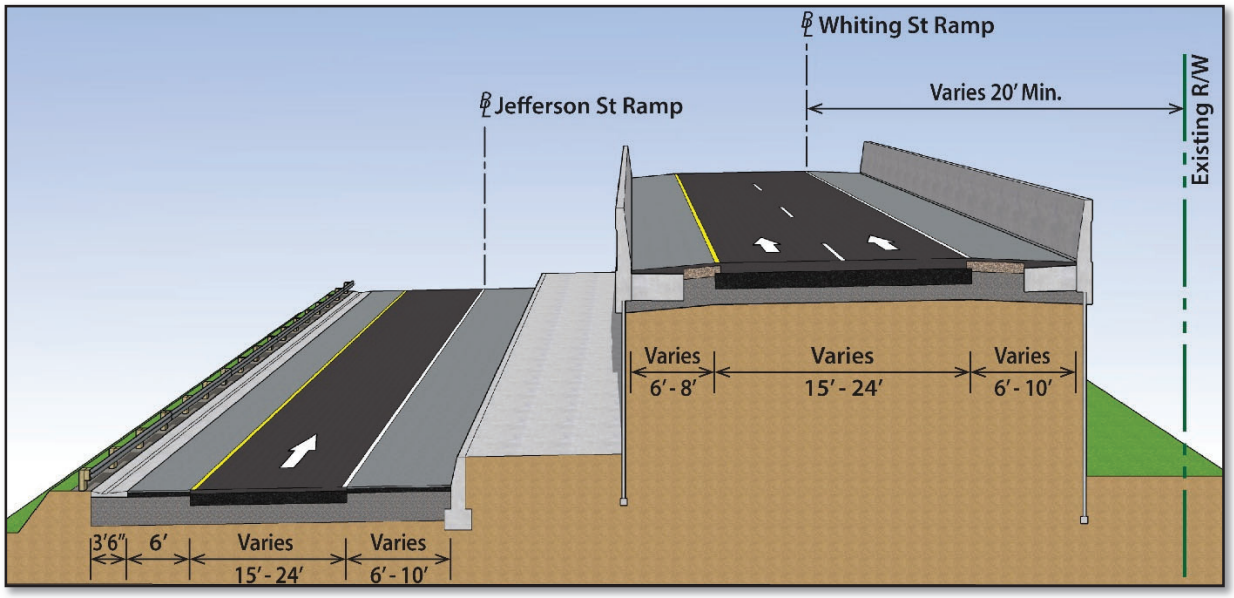


Figure 6.5: Proposed Typical Section – Whiting Street Off-Ramp (On MSE wall) and Jefferson Street On-Ramp

6.1.1.4 Location D – Eastbound Selmon Expressway (SR 618) at Florida Avenue to Florida Avenue

There are two typical sections for the proposed widening and extension of the Florida Avenue loop ramp, exit Ramp 6A. The first typical section includes two 12-foot ramp lanes with a 10-foot paved inside, eight-foot paved outside shoulder, and concrete traffic railing on both sides of the ramp. The ramp will remain on-structure along the horizontal curve, ending just beyond the existing exit Ramp 6B, to provide an open area underneath for mixed use and to promote pedestrian travel. **Figure 6.6** provides a detailed graphic of the proposed roadway typical section for the two-lane, on-structure portion of the Florida Avenue loop ramp.

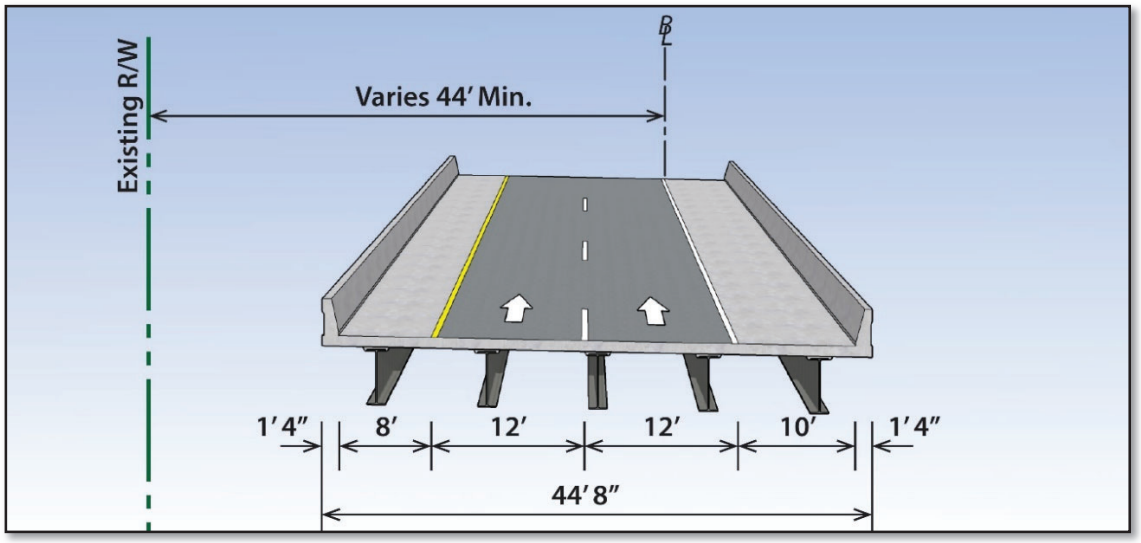


Figure 6.6: Proposed Typical Section – Florida Avenue Loop Ramp (On-structure)

From this point, the ramp widens to accommodate an auxiliary third lane. The additional lane increases the available ramp storage as well as the volume of vehicles that can clear the ramp during the green signal phase. The typical section includes two 12-foot ramp lanes, a 12-foot auxiliary lane, a 10-foot paved inside shoulder, an eight-foot paved outside shoulder, concrete traffic railing on both sides of the ramp, and a 10-foot sidewalk along the inside edge of the ramp, at ground level. This portion of the Florida Avenue loop ramp will be supported by MSE wall, gradually declining in profile until it touches existing ground just east of Florida Avenue. **Figure 6.7** provides a detailed graphic of the proposed roadway typical section for the three-lane, on-MSE wall portion of the Florida Avenue loop ramp.

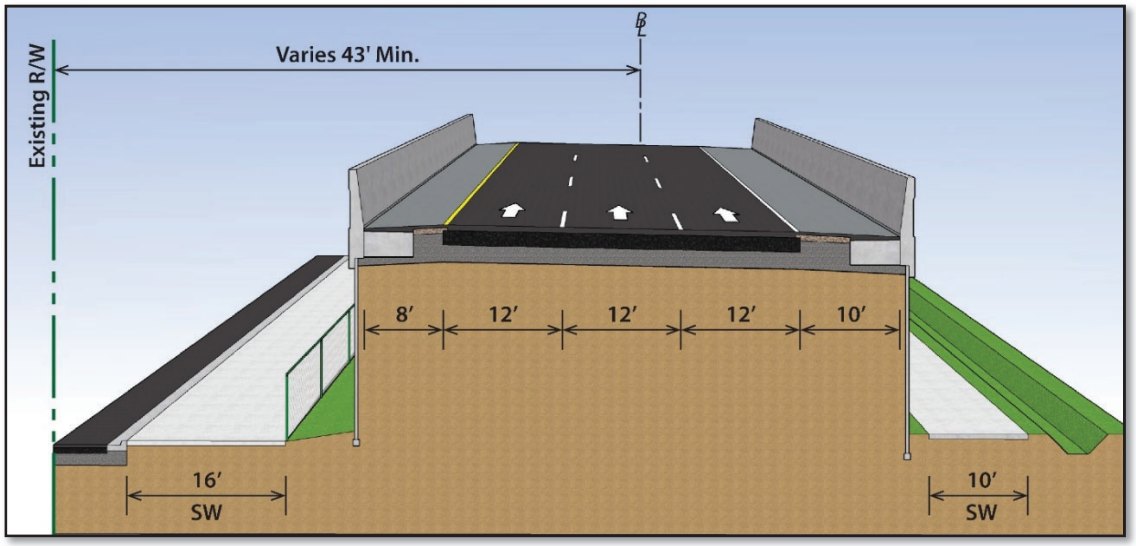


Figure 6.7: Proposed Typical Section – Florida Avenue Loop Ramp (On MSE wall)

6.1.2 Intersection and Interchange Concepts

The Preferred Build Alternative proposes to modify multiple intersections within the project study area. Three existing intersections will be converted from unsignalized to signalized, including Selmon Off-ramp and Florida Avenue, Selmon Off-ramp and Whiting Street, and Whiting Street and North Brush Street. The Preferred Alternative also proposes to signalize the new intersection of Whiting Street and North Meridian Avenue. The various intersection and interchange concepts are discussed in detail below.

6.1.2.1 Location A – North Brush Street to North Meridian Avenue

The Preferred Alternative proposes to extend Whiting Street from North Brush Street to intersect North Meridian Avenue at a signalized T-intersection. The eastbound approach to North Meridian Avenue includes two 11-foot dedicated left turn lanes and one 11-foot dedicated right turn lane. If necessary, the proposed 15-foot raised median can be converted to an additional dedicated left turn lane in the future. The existing raised curb median on North Meridian Avenue will be opened to accommodate the proposed signalized intersection. The Preferred Alternative includes the addition of a southbound dedicated right turn lane and a northbound dedicated left turn lane. The Preferred Alternative does not propose any other improvements to North Meridian Avenue. **Figure 6.8** provides a detailed graphic of the proposed intersection improvements for Location A.

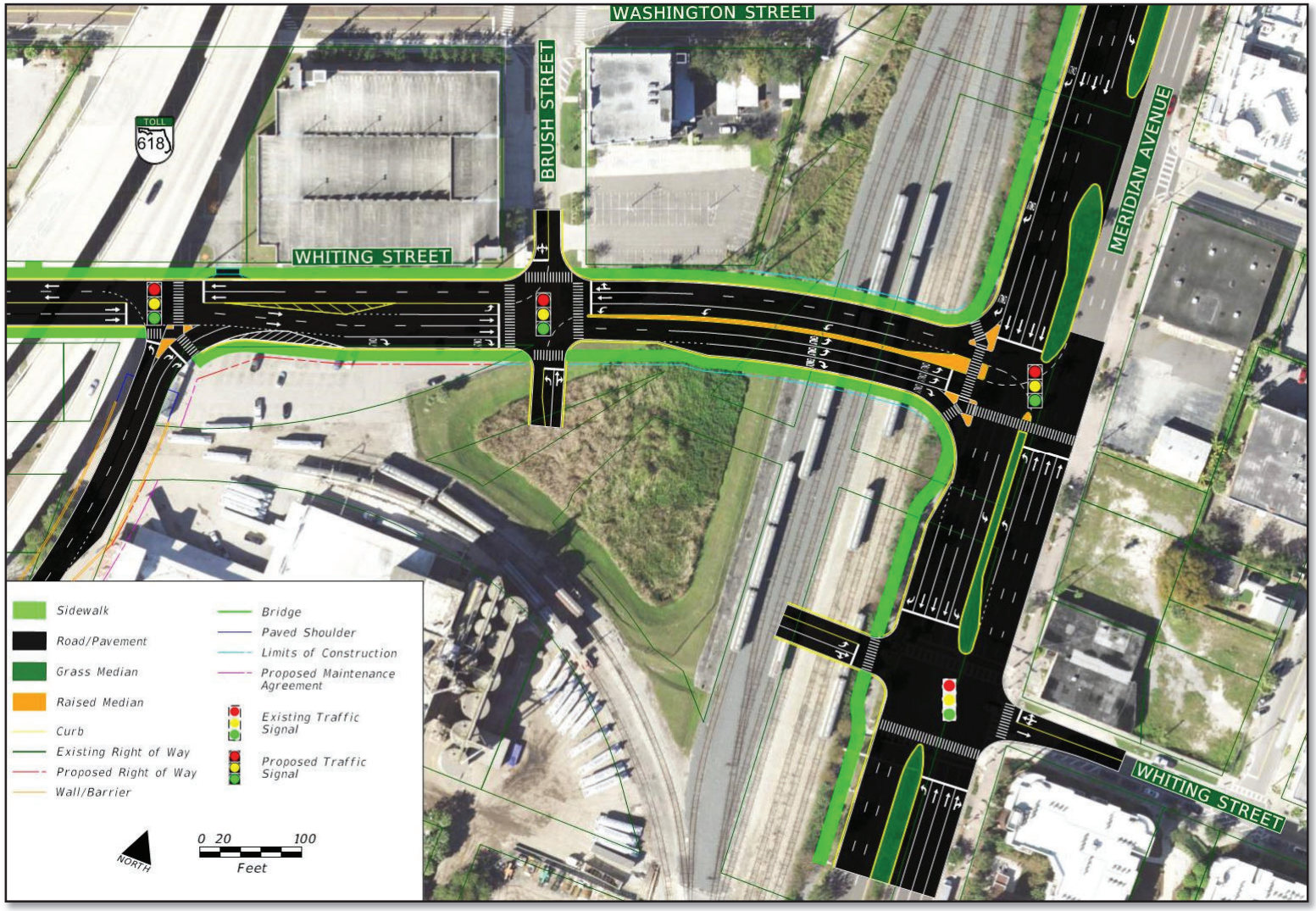


Figure 6.8: Proposed Intersection Improvements – Location A

6.1.2.2 Location B – Jefferson Street to North Brush Street

The Preferred Alternative proposes to widen Whiting Street from two to four lanes with two 11-foot travel lanes in each direction, four-foot on-street bicycle lanes, curb and gutter, and six-foot sidewalks on both sides of the road. The terminus of the Whiting Off-ramp will be converted to a signalized intersection. The ramp approach will include a single dedicated left turn lane and two dedicated right turn lanes. The Whiting Street and North Brush Street intersection will be converted to a signalized intersection with dedicated eastbound left and right turn lanes, a dedicated westbound left turn lane, and a potential connection to a southern leg, which is anticipated to be developed and constructed in the future by others. The dedicated eastbound right turn lane requires widening into the existing 717 Parking Lot parcel, along the south side of Whiting Street, requiring additional right-of-way. The existing on-street parking, along the north and south sides of the road, will also be impacted by the widening/reconstruction of Whiting Street. See **Figure 6.9** for a graphic depicting the proposed Preferred Alternative.

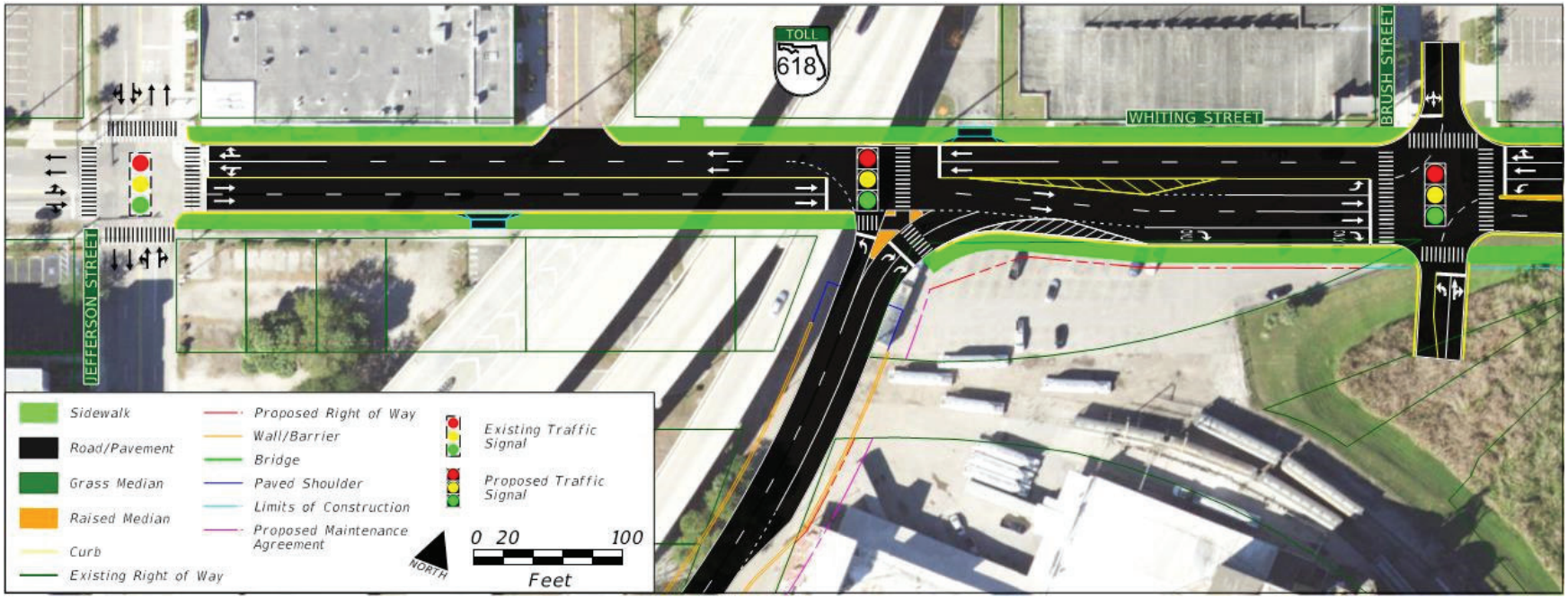


Figure 6.9: Proposed Intersection/Interchange Improvements – Location B

6.1.2.3 Location C – Eastbound Selmon Expressway (SR 618) at Morgan Street to Whiting Street

The existing eastbound exit Ramp 6B provides users the ability to travel east along Channelside Drive, towards Amalie Arena and the Florida Aquarium. The Preferred Alternative proposes relocating exit Ramp 6B approximately 700 feet north and providing a direct connection to Whiting Street. The ramp will begin on the east side of Morgan Street and remain on an elevated bridge structure beyond the existing Jefferson Street On-ramp, where it will be supported by MSE wall until it touches down just south of Whiting Street. From this point, users will be able to travel east/west along Whiting Street. The relocation of exit Ramp 6B will allow for the extension and widening of exit Ramp 6A and separate the users in Downtown Tampa wanting to make east/west movements from the users wanting to make north/south movements, creating a more efficient flow of traffic. The alignment of the proposed ramp will run along existing Nebraska Avenue for a short segment before intersecting Whiting Street. This will eliminate the Nebraska Avenue and Whiting Street connection and require realigning Nebraska Avenue to connect to Finley Street via a horizontal curve. The existing Jefferson Street On-ramp entrance will be shifted to the north to accommodate the new Whiting Street Off-ramp. Right-of-way is required to construct the connection between Nebraska Avenue and Finley Street. See **Figure 6.10** for a graphic depicting the proposed Preferred Alternative.

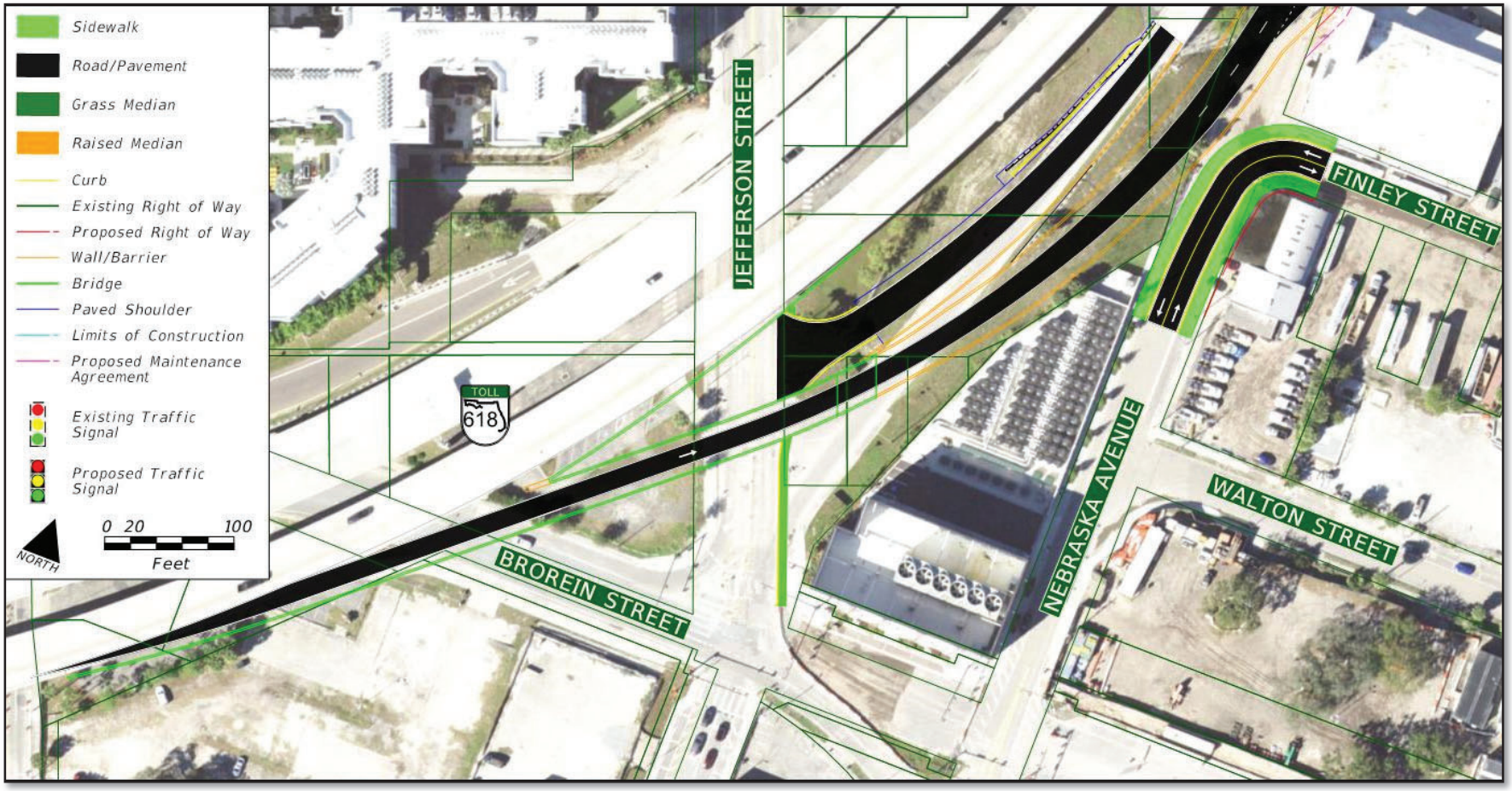


Figure 6.10: Proposed Interchange Improvements – Location C

6.1.2.4 Location D – Eastbound Selmon Expressway (SR 618) at Florida Avenue to Florida Avenue

The current configuration of exit Ramp 6A includes a single lane loop ramp that merges onto Florida Avenue under a free-flow condition. The curve provides little room for vehicles to slow down and queue if there is any backup when trying to merge onto Florida Avenue. The Preferred Alternative proposes widening the ramp from one to two lanes as well as lengthening the ramp to provide a wider curve. The proposed typical section includes two 12-foot travel lanes, a 10-foot paved inside shoulder, and an eight-foot paved outside shoulder. The ramp will remain on-structure until crossing over the existing exit Ramp 6B to Channelside drive, where it will be supported by MSE wall until it touches down at Florida Avenue. As the ramp approaches Florida Avenue, it widens to provide three lanes, adding an auxiliary right turn lane. The loop ramp terminates at Florida Avenue at a proposed signalized intersection. The increased ramp length as well as the additional lanes will minimize backup and potential vehicle queueing onto the Selmon Expressway. The Preferred Alternative includes a 10-foot sidewalk on the inside edge of the proposed loop ramp, which will cross underneath the ramp at the location of the existing exit Ramp 6B. Pedestrians will also have the ability to cross the loop ramp at Florida Avenue, to access Channelside Drive, at a proposed crosswalk. No right-of-way is required to construct the proposed loop ramp. See **Figure 6.11** for a graphic depicting the proposed Preferred Alternative.

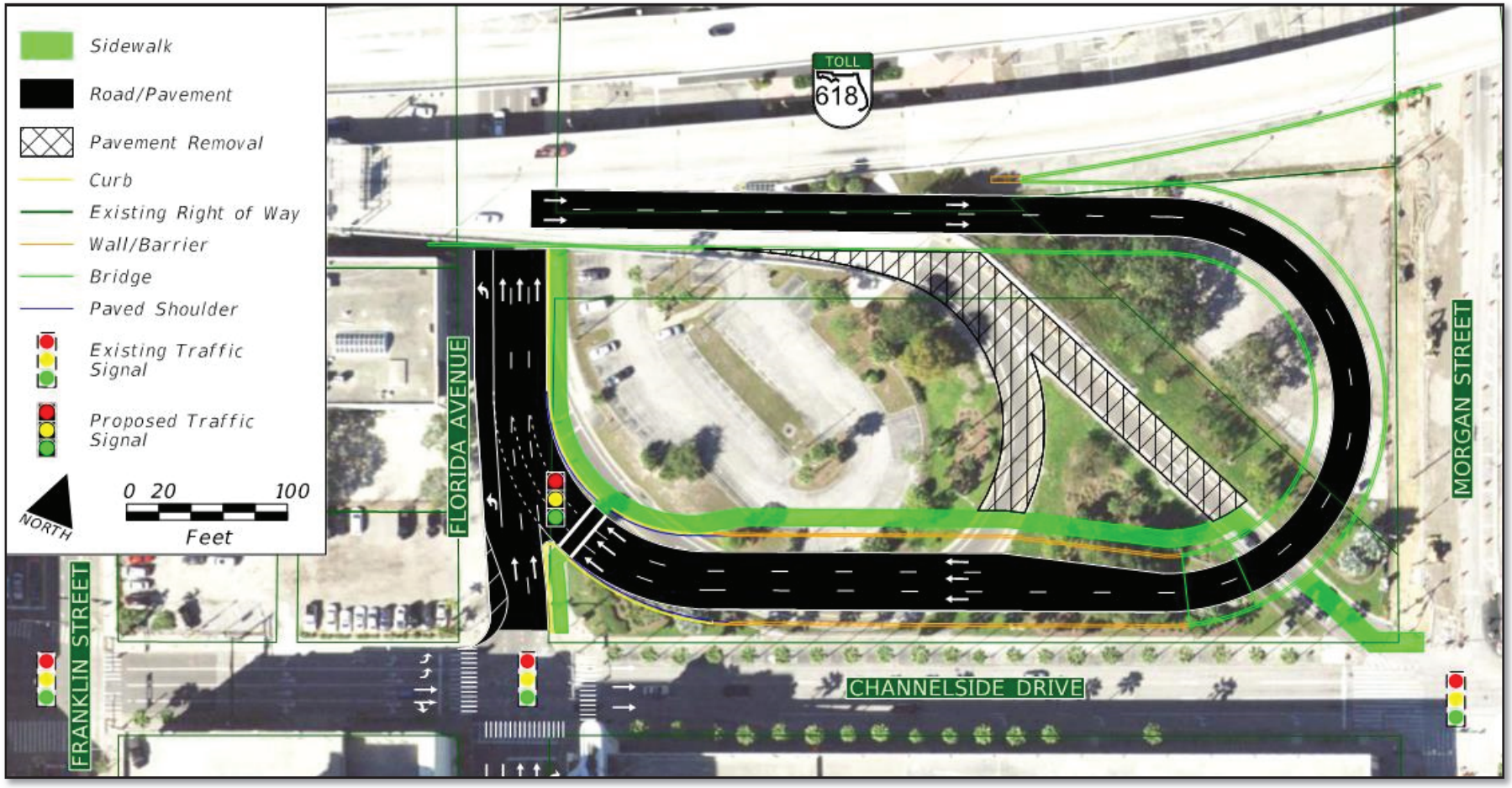


Figure 6.11: Proposed Intersection/Interchange Improvements – Location D

6.1.3 Bridges and Structures

A conceptual structural analysis was performed with the purpose of evaluating the structural feasibility of the proposed improvements to the Selmon Expressway (SR 618), from east of Florida Avenue to east of Whiting Street**.** The area adjacent to the existing Florida Avenue exit Ramps 6A and 6B will be referred to as Segment 1, while the area adjacent to the proposed Whiting Street off-ramp will be referred to as Segment 2. Below is a brief summary of the proposed structural improvements required for the Preferred Alternative.

6.1.3.1 Segment 1

The existing off-ramp 6A, from the eastbound Selmon Expressway (SR 618) mainline to northbound Florida Avenue, is proposed to be realigned to improve the existing divergence angle and provide for 360 feet of lane recovery. The gore will be shifted approximately 150 feet to the east of the current location and the roadway geometry will be improved. Because of the ramp realignment, excess mainline deck width remains in the region to the west of the existing gore and a minor widening of the mainline is required immediately east of the proposed gore. In addition, the spans between the existing and proposed gores require widening to accommodate the realigned ramp.

The proposed widening of the Selmon Expressway (SR 618) mainline will occur along the outside, southern edge, over a distance of approximately 250 feet. A total of seven mainline spans will be widened. The superstructure for the widening portion is proposed to be framed with Florida I-Beams (FIB) 36. The existing deck will require removal to the existing exterior beam and a new 8-1/2-inch cast- in-place deck will be spliced to the existing slab to accomplish the widening. The substructure for the widened deck will be configured to match the substructure elements constructed to support the westbound Selmon Expressway (SR 618) widening during the 2012 re-decking.

The proposed Florida Avenue Loop Ramp is configured with two 12-foot lanes, an eight-foot paved inside shoulder, and a 10-foot paved outside shoulder. The proposed ramp includes four spans with spans ranging from 35 to 180 feet. The span arrangements are largely dictated by a three-span continuous steel structure, intended to provide an open and accessible pedestrian friendly area along the west side of Morgan Street. The three-span steel unit will consist of five 44" deep plate girders. An 8-1/2-inch cast-in-place deck is provided throughout.

The Selmon Expressway (SR 618) mainline widening, to accommodate the reconfigured ramp, requires the removal of an existing single span unit, which spans between existing Pier No. 25 and the ramp abutment. Three new mainline spans will be modified to enable the connection to the existing structure. The construction of six new piers and a new end bent are proposed to support these modifications, in addition to the reuse of existing Pier No. 25.

6.1.3.2 Segment 2

A new off-ramp is proposed from eastbound Selmon Expressway (SR 618) to Whiting Street. The proposed off-ramp begins on the East side of Morgan Street, crossing over Brorein Street and the Jefferson Street entrance ramp, before tying into Nebraska Avenue, south of Whiting Street. The addition of the off-ramp requires the widening of the existing Selmon Expressway (SR 618) viaduct to provide a de-acceleration lane and gore area. Beyond the proposed gore, the ramp continues on structure, crossing over Jefferson Street and terminating in an embankment section immediately to the east. The ramp continues on embankment to an at-grade intersection with Whiting Street.

The proposed widening of the Selmon Expressway (SR 618) occurs along the outside, southern edge, over a distance of approximately 680 feet. A total of nine spans will be widened. The superstructure for the proposed widening portion of the Selmon Expressway (SR 618) mainline will be framed with a combination of FIB 36 and FIB 45 beams. The southern parapet will be removed and the existing deck will be cut back to the existing exterior beam. A new 8-1/2-inch cast-in-place deck will be spliced to the existing slab to accomplish the widening. The substructure elements for the widened deck are configured to match the substructure elements constructed to support the westbound SR 618 widening during the 2012 re-decking.

The proposed Whiting Street off-ramp is configured with a single 15-foot lane and six-foot paved inside and outside shoulders. The proposed ramp includes four spans with spans ranging from 70 to 113 feet. The span arrangements are largely dictated by the need to match the existing mainline pier locations and skew angles as well to clear local streets. Spans 1 and 2 are configured with three FIB 45 beams, Span 3 requires four FIB 45 beams to cross Jefferson Street. An 8-1/2-inch cast-in-place deck is provided throughout.

6.1.4 Right-of-Way and Relocations

The preliminary right-of-way cost, for the Preferred Alternative, was developed to estimate the market value of the real estate interests to be acquired. The right-of-way cost estimate includes research of recent comparable sales, current listings and/or valuation data necessary to support an estimate of right-of-way land, severance damages and/or cost to cure.

Right-of-way is required from three parcels, for a total of 0.52 acres, to construct the Preferred Alternative. Refer to the Preferred Alternative concept plans in **Appendix A,** for locations of proposed right-of-way. The estimated total cost for the required right-of-way acquisition and impacts is $5,395,500. **Table 6.1** provides information relative to the three impacted parcels. Two assumptions were made during the development of the preliminary right-of-way cost estimate. The two assumptions are listed below:

- No relocations were proposed for the impacts to the buildings located on Parcel ID 1988750000 or Parcel ID 1903280000. It is assumed that the buildings will be vacated and removed prior to construction of the Preferred Alternative.
-
- Parcel ID 1903210000 will be a full right-of-way acquisition. Although the construction limits of the Preferred Alternative seem to impact only the northwest corner of the parcel, it is assumed that the remainder of the parcel will be used to construct a stormwater pond.

Table 6.1: Right-of-Way Impacts

Parcel ID	Owner	Impact Type	Impact Area (Acre)	Relocation (Yes/No)
1988750000	WST Mill LLC	Roadway	0.015	No
1903280000	WST Mill LLC	Roadway	0.022	No
		Maintenance Easement	0.025	
1903210000	Accardi and Daughters LLC	Roadway	0.460	Yes

6.1.5 Horizontal and Vertical Geometry

6.1.5.1 Horizontal Geometry

The Preferred Alternative proposes modifications to the existing horizontal geometry of the following ramp and roadway segments. No alignment modifications are proposed along North Meridian Avenue.

- Florida Avenue loop ramp (Exit Ramp 6A)
- Whiting Street Off-ramp (Exit Ramp 6B)
- Jefferson Street On-ramp
- Whiting Street

Table 6.2 provides a summary of the horizontal curve data for the Preferred Alternative improvements.

Table 6.2: Proposed Horizontal Curve Data

Curve Number	Begin Curve (Station)	End Curve (Station)	Radius (ft.)	Curve Length (ft.)	Tangent Length (ft.)	Superelevation (SE)	Design Speed (mph)
Florida Avenue loop ramp (Exit Ramp 6A)							
1	105+82.76	109+11.91	105	329.16	284.22	0.100	20
2	111+96.14	113+71.00	112	174.86	-	0.047	20
Whiting Street Off-ramp (Exit Ramp 6B)							
1	200+00.00	202+15.01	1725	215.01	365.33	0.066	35
2	205+80.34	212+75.74	799	695.41	106.65	0.066	30
Jefferson Street On-ramp							
1	300+99.59	304+30.35	910	330.76	0	0.051	30
2	304+30.35	307+35.56	1432.40	305.20	-	NC	30
Whiting Street							
1	410+33.15	413+80.77	1005	347.62	-	NC	30

Note: Horizontal Curve data is not included for Nebraska Avenue, because the ultimate configuration of this connection is dependent on the timing of the construction of the roadway grid network and the Whiting Street PD&E Study improvements and is subject to change.

6.1.5.2 Vertical Geometry

The Preferred Alternative proposes profile changes to the existing Selmon Expressway (SR 618) Exit 6A onto Florida Avenue and the on-ramp from Jefferson Street. The proposed Whiting Street Off-ramp (relocated Exit Ramp 6B) will be new construction. No profile modifications will be made to the existing portions of Whiting Street and North Meridian Avenue. The Whiting Street extension should follow the profile of existing Whiting Street and will not require any vertical curves.

In 2017, Kisinger Campo & Associates (KCA) contracted with THEA to developed conceptual plans for the Downtown Tampa Ultimate Meridian Avenue Improvements. The concepts developed during this study included proposed profiles for the Florida Avenue loop ramp (Exit Ramp 6A), the Jefferson Street On-ramp, and the proposed Whiting Street Off-ramp (relocated Exit Ramp 6B). During the Whiting Street PD&E Study, the profiles were evaluated to ensure the concepts were still feasible as previously designed. Review found that the previously developed profiles were still appropriate for the Preferred Alternative.

Table 6.3 provides a summary of this vertical curve data for the Preferred Alternative improvements. The proposed profile sheets can be found in **Appendix B.**

Table 6.3: Proposed Vertical Curve Data

Curve Number	Begin Curve (Station)	End Curve (Station)	Curve Length (ft.)	Tangent Length (ft.)	K Value	Design Speed (mph)
Florida Avenue loop ramp (Exit ramp 6A)						
1	106+60.00	109+20.00	260	215	49	20
2	111+35.00	113+05.00	170	-	32	20
Whiting Street Off-ramp (Exit ramp 6B)						
1	204+35.00	207+85.00	250	517.5	48	35
2	212+67.50	213+52.50	85	-	13	30
Jefferson Street On-ramp						
1	300+00.00	301+07.00	84	-	10	30

6.1.6 Bicycle and Pedestrian Accommodations

THEA plans to incorporate Vision Zero countermeasures as part of the proposed improvements of the Whiting Street PD&E Study. The proposed improvements for bicyclists and pedestrians include the following:

- New signalized intersections (Selmon Expressway ramp termini with both Florida Avenue and Whiting Street and Whiting Street intersections with both North Brush Street and North Meridian Avenue) will include the following:
    - Pedestrian countdown heads and push buttons
    - Leading pedestrian phase/Leading pedestrian intervals (LPIs)
    - Protected left-turn phase
    - Enhanced ITS Technology with pedestrian detection
    - High-visibility crosswalks
    - Advance stop lines
    - Intersection lighting / crosswalk lighting
    - Optimal signal timing for all modes of transportation
    - Refuge islands within crosswalks
    - ADA curb ramps
- Existing signalized intersections (Florida Avenue with both Brorein Street and Channelside Drive, Morgan Street and Channelside Drive, Whiting Street with both Jefferson Street and North Meridian Avenue) will include the following:
    - High-visibility crosswalks
    - Advance stop lines
    - Optimal signal timing for all modes
- No turn on red restrictions (Selmon Expressway ramp terminus with both Florida Avenue and Whiting Street).

- Advanced yield lines will be incorporated at the free-flow right turn lanes at the intersection of Whiting Street and North Meridian Avenue.
- Ten-foot sidewalks will be incorporated to complete all sidewalk gaps within the project area.
- The proposed sidewalks and crosswalks will connect to the existing shared-use path along North Meridian Avenue which is part of downtown's trail system connecting the Riverwalk to the Selmon Greenway.
- An open area will be provided for pedestrians wishing to cross underneath the Florida Avenue ramp, in order to access Morgan Street to the east and Florida Avenue to the west. The open area will incorporate under-deck decorative lighting.
- The use of raised crosswalks will be considered wherever applicable and safe.

6.1.7 Multi-Modal Accommodations

Existing multi-modal accommodations including transit routes, railroads, and truck routes are not anticipated to suffer any negative impacts within the project study area. THEA anticipates removal of the existing railroad tracks along the west side of North Meridian Avenue once the Ardent Mills property is vacated. Safety improvements being proposed to assist motorists are as follows:

- The geometry of the Florida Avenue loop ramp will be reconfigured to maximize safe vehicular navigation, as well as reduce queuing and weaving. The proposed improvements will also reduce delay for the local and limited-express HART routes that run along Florida Avenue.
- Whiting Street will be extended from Jefferson Street to North Meridian Avenue to improve mobility and circulation.
- A new off-ramp will be constructed from the Selmon Expressway to Whiting Street to prevent vehicular queuing onto the Selmon Expressway.
- Signal timing improvements will be incorporated at the following existing intersections:
    - Florida Avenue and Brorein Street
    - Florida Avenue and Channelside Drive
    - Morgan Street and Channelside Drive
    - Whiting Street and Jefferson Street
    - Whiting Street and North Meridian Avenue
- New traffic signals will be incorporated at the proposed intersections of:
    - Selmon Expressway ramp terminus at Florida Avenue
    - Selmon Expressway ramp terminus at Whiting Street
    - Whiting Street and North Brush Street
    - Whiting Street and North Meridian Avenue

6.1.8 Access Management

The access classification within the study area will remain Access Class 1 (Area Type 1) for the Selmon Expressway (SR 618). The Preferred Alternative proposes modifications that will improve the grid system and improve the driving experience for all roadway users within the study area. Existing conditions were considered at Locations A, B, C and D to identify constraints and potential areas to enhance the network connectivity between Downtown Tampa and Channelside. The current conditions at Location A include railroad tracks that create a barrier for roadway users traveling between the central and eastern portions of downtown. Location B consists of Whiting Street east of the Selmon Expressway that is a two-lane brick road. At Location C, the location of the entrance ramp makes it challenging to access the eastbound lanes of the Selmon Expressway. Heavy traffic due to events held at the Amalie Arena generates additional difficulty to access the Selmon Expressway in this area. Location D consists of exit Ramp 6A and 6B. Exit Ramp 6A is a single lane loop ramp that terminates at Florida Avenue and operates under free-flow conditions that can be challenging for pedestrians crossing the ramp. Exit Ramp 6B is a diagonal ramp that ends at a five-legged intersection. Due to operational and safety concerns, this ramp is closed during all events held at Amalie Arena.

Extending Whiting Street, from North Brush Street to North Meridian Avenue, will create another piece in the overall grid network of the Channelside/Downtown area. Between Cumberland Avenue and Jackson Street, Whiting Street will be the only other east/west road that runs from Jefferson Street to North Meridian Avenue. The Preferred Alternative includes a stub-out connection point on the south side Whiting Street, across from North Brush Street, to show the potential for north/south connections and enhancements to the grid network. A similar condition exists along North Meridian Avenue, at the existing Whiting Street and North Meridian Avenue intersection. A stub out is shown for potential east/west connections and enhancements to the grid network.

Separating the two exit Ramps, 6A and 6B, separates the north/south movements into Downtown from the east/west movements into the Channelside and Port Tampa Bay area. Construction of a mixed-use urban development is ongoing in the area between Channelside Drive and Cumberland Avenue. Most of the new buildings are residential, business, and commercial in nature and are designed to promote heavy pedestrian features. The new exit Ramp 6B will connect to Whiting Street, on the north side of the ongoing developments and construction; in effect, relocating trips out of the area, further enforcing the pedestrian-focused nature of the Channelside Drive corridor. By removing this connection to Channelside Drive, the intersection of Morgan Street and Channelside Drive will act as a standard four-legged intersection as part of the larger grid network.

6.1.9 Intelligent Transportation System and TSMO Strategies

TSM&O strategies integrated within the Preferred Alternative would optimize the roadway performance of existing infrastructure. Proposed improvements would enable freeway and arterial traffic to efficiently operate together to recover capacity lost due to congestion and/or

disruptions. The various forms of TSM&O strategies included in the Preferred Alternative include upgrades or additions to the existing facility, consistent with the City of Tampa ATMS and FDOT I-275 Integrated Corridor Management (ICM) such as:

- Ramp signals
    - Ensure all new signals contain new signal Advanced Traffic Controller (ATC) capable of Automated Traffic Signal Performance Measures (ATSPM) and Transit Signal Priority.
- Arterial Management Systems
    - Ensure fiber optic connections to City of Tampa Fiber Network
    - CCTV at new signalized intersections to monitor traffic during special events
    - Ensure lane by lane advanced detection and stop bar detection at all intersections to ensure full ATSPM functionality.
    - Add Roadside Units (RSU) at major intersections to communicate traffic and special event information via connected vehicle technology to all users.
- Traveler Information Services
    - DMS on Selmon Expressway before off-ramp to alert motorists of any congestion or special event information.
- Transit Priority Signal Systems
    - Ensure all signals controllers are compatible with City of Tampa central signal system to use centralized transit signal priority (TSP).

These TSM&O strategies, where appropriate, will be used to address the needs of the project, such as safety, network connectivity, modal relationships, and economic development.

6.1.10 Utilities

Various utilities are anticipated to be impacted to construct the Preferred Alternative. According to the initial review and coordination with the utility agency owners (UAOs) in the study area, the utilities anticipated to require modification/relocation include the following:

- Lumen (fka CenturyLink)
- T-Mobile / Sprint
- Tampa Hillsborough Expressway Authority
- TECO People's Gas
- Uniti Fiber
- Verizon (fka MCI)

Other utilities that will need special attention include the water mains along Whiting Street and North Brush Street, the overhead electric poles along the north side of Whiting Street, and the overhead electric poles along the east side of Nebraska Avenue.

- Verification of the utility locations should be confirmed during the design phase to minimize impacts and modifications to existing facilities.

6.1.11 Drainage and Stormwater Management Facilities

Existing flow patterns will be maintained, and stormwater management facilities will be utilized to provide necessary stormwater management. It is assumed that any existing offsite stormwater runoff will be "bypassed around or passed through" the proposed ponds, where necessary, with no additional treatment required. Weir structures and pipes must be sized to accommodate the additional offsite flows passing through the proposed ponds.

The improvements within the study will require stormwater management facilities (ponds) to meet SWFWMD permitting requirements as follows:

- Basin 100: For the improvements proposed at the Florida Avenue loop ramp, it is anticipated that a stormwater pond will be located within the existing right-of-way to provide water quality (treatment) and water quantity (attenuation).
- Basin 200: For the improvements along the Selmon Expressway off-ramp to Whiting Street, along Whiting Street, and along North Meridian Avenue, it is anticipated that the existing stormwater pond constructed under SWFWMD ERP No. 441660.032 will be relocated and enlarged to accommodate the improvements. The new pond will provide the current permitted treatment volume and the additional treatment volume required by the proposed improvements to the Selmon Expressway, Whiting Street, and North Meridian Avenue. The existing outfall to Garrison Channel will be utilized; therefore, water quantity attenuation is not required since the discharge is to a tidally influenced waterbody without restrictions, resulting in no adverse impacts.

Please refer to the *Pond Siting Report* (PSR) and the *Location Hydraulic Report Technical Memorandum* (LHR), prepared under separate cover, for additional information.

6.1.12 Floodplain Analysis

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Number 12057C0354H, the project area is located within Zone X, defined as areas determined to be outside the 0.2% annual chance (500-year) floodplain. There are no FEMA regulatory floodways located within the project limits.

The proposed project will have no effect on this resource.

6.1.13 Transportation Management Plan

The Preferred Alternative will be constructed in the appropriate manner and sequence to minimize impacts to existing traffic patterns, limit road closures, and maintain accommodations for pedestrians. Below is a brief description of the anticipated order of construction sequences.

- First, Whiting Street will be extended from its current end point at North Brush Street to North Meridian Avenue. The proposed roadway typical section will include the four-lane urban divided typical section with 11-foot travel lanes, curb and gutter, and 10-foot sidewalks on both the north and south sides of the road. The divided nature of the typical section is due to the presence of dedicated left turn lanes. A new signal will be constructed at Whiting Street and North Meridian Avenue.
- Second, Whiting Street, between Jefferson Street and North Brush Street, will be widened/reconstructed to match the four-lane typical section for the proposed extension. This sequence could begin before the improvements at Location A are complete. Two new signalized intersections will be installed at Whiting Street and Nebraska Avenue and Whiting Street and North Brush Street. Once the widening is complete, the signal at Whiting Street and North Meridian Avenue can begin operation.
- Third, the new Whiting Street Off-ramp from eastbound Selmon Expressway (SR 618), just north of Morgan Street, to Whiting Street will be constructed to replace the existing exit Ramp 6B. This improvement must be completed after the improvements have been made to Whiting Street, to ensure that drivers can access the eastern part of Channelside/Downtown. Once the new exit Ramp 6B is constructed and operating, the existing ramp to Channelside Drive will be removed.
- Fourth, the existing Florida Avenue loop ramp will be widened to two lanes and lengthened to provide a longer ramp with increased deceleration length and queue storage capacity. A new signal will be constructed at the intersection of the Florida Avenue loop ramp (exit Ramp 6B) and Florida Avenue.

Completion of a detailed Traffic Control Plan (TCP) is recommended during the design phase.

6.1.14 Special Features

Special features proposed as part of the Preferred Alternative include a pedestrian underpass at the location of the existing Channelside Drive off-ramp access. This pedestrian accommodation will offer improved network connectivity to access the new Water Street Tampa development, as well as existing attractions such as Amalie Arena. Potential aesthetic improvements include a pedestrian-friendly space with landscaping, irrigation, under-bridge lighting, commissioned artwork and an enlarged sidewalk underneath the Selmon Expressway.

6.1.15 Design Variations and Design Exceptions

Table 6.4 summarizes the design standards outlined in the FDM, January 2022 and anticipated exceptions and variations for the Florida Avenue and Whiting Street off-ramps and the Jefferson Street On-ramp. An exception for design speed is anticipated for both the Florida Avenue Off-ramp and the Whiting Street Off-Ramp. Design variations are needed for border width, horizontal curve length, ramp spacing, and sag vertical curve length. These exceptions and variations will be processed by THEA.

Table 6.4: Design Exceptions and Variations

Criteria	Exception or Variation	Standard and Reference	Meets (Yes/No)
Florida Avenue Off-Ramp			
Loop Ramp Design Speed	Exception	25 mph, AASHTO Page 10-89	No (20 mph)
Border Width	Variation	10 ft, FDM Section 211.6.1	No (6.23 ft)
Curve Length	Variation	400 ft, FDM Table 211.7.1	No (329 ft)
Ramp Spacing	Variation	1,000 ft, FDM Figure 211.12.1	No (825 ft)
Whiting Street Off-Ramp			
Direct Connect Ramp Design Speed	Exception	40 mph, AASHTO Page 10-90	No (35 mph)
Sag Curve Minimum Length	Variation	90 ft, FDM Table 211.9.3	No (85)
Jefferson Street On-Ramp			
Sag Curve Minimum Length	Variation	90 ft, FDM Table 211.9.3	No (84)

Note: Design Exceptions and Variations are not included for Nebraska Avenue, because the ultimate configuration of this connection is dependent on the timing of the construction of the roadway grid network and the Whiting Street PD&E Study improvements and is subject to change.

6.1.16 Cost Estimates

An Engineer's Cost Estimate was prepared to determine the construction cost for the Preferred Alternative. See **Appendix C** for the full Engineer's Cost Estimate. The construction cost estimate was divided between the improvements specific to the Florida Avenue loop ramp and the improvements specific to the Whiting Street Off-Ramp and Whiting Street. **Table 6.5** provides a breakdown of the proposed construction costs, which include structures, roadway, signing & pavement markings, lighting, signalization, ITS, and landscape/peripherals. Additional percent factors for Engineering Design, Maintenance of Traffic (MOT), Mobilization (MOB), Market Conditions, and Project Unknowns (PU) were included in the total construction cost for the Preferred Alternative.

Table 6.5: Estimated Total Project Costs

Category	Florida Avenue Loop Ramp	Whiting Street Off-Ramp and Whiting Street	Total
Engineering Design (10% of Construction)	$ 1,763,902	$ 2,222,620	$3,986,522
Right-of-Way	$ 0	$5,395,500	$5,395,500
Construction	$ 17,639,022	$ 22,226,203	$ 39,865,225
Construction Engineering & Inspection (15% of Construction)	$ 2,645,853	$ 3,333,931	$ 5,979,784
Total	**$ 22,048,777**	**$ 33,178,254**	**$ 55,227,031**

See **Table 6.6** for the evaluation matrix comparing the Preferred Alternative against the No-Build Alternative.

Table 6.6: Evaluation Matrix – Preferred Alternative vs. No-Build Alternative

Evaluation Criteria	No-Build Alternative	Preferred Alternative
Traffic Demand		
Maintains Level of Service	No	Yes
Accommodates Future Travel Demand	No	Yes
Improves System Linkage	No	Yes
Improves User Safety	No	Yes
Environmental Effects		
Sociocultural Effects		
Right-of-Way Impacts (acres)	0.00	0.52
Impacted Parcels	0	3
Business Relocations	0	1
Residential Relocations	0	0
Community Facilities Impacts	0	0
Cultural Resources		
Park and Recreational Facilities Impacts	0	0
Native American Lands Impacted	0	0
NRHP* Eligible Historic & Archaeological Sites Impacted	0	2
Natural Resources		
Wetland Impacts (acres)	0	0
Other Surface Waters Impacts (acres)	0	0
Essential Fish Habitat Impacts (acres)	0	0

Floodplain Impacts (acres)	0	0
Protected Species (potential for occurrence)	Low	Low
Critical Habitat Impacts (acres)	0	0
Physical Resources		
Contamination/Hazardous Waste Sites	0	35 High 26 Medium
Noise Receptor Sites	0	42
Utilities Potentially Relocated	0	6
Estimated Total Project Costs		
Right-of-Way	$ 0.00	$ 5,395,500
Project Design	$ 0.00	$ 3,986,522
Construction Engineering & Inspection (CEI)	$ 0.00	$ 5,979,784
Construction	$ 0.00	$ 39,865,225
Total Cost	$ 0.00	$ 55,227,031

6.2 Summary of Environmental Impacts of the Preferred Alternative

6.2.1 Future Land Use

The future land uses directly adjacent to the Selmon Expressway (SR 618) and Downtown East/West interchange study area were obtained from the Hillsborough County Planning Commission webpage and identified within the *Imagine 2040: Tampa Comprehensive Plan*. The Preferred Alternatives prioritizes 2045 Citywide Vision transportation plans in providing a sustainable and equitable infrastructure. The future land use consists of the Central Business District (CBD) of Hillsborough County. The CBD is a high density high-rise residential neighborhood, major office, commercial development, judicial and principal governmental, financial, cultural and transportation center region. Other surrounding land uses include regional mixed use, public/quasi-public/institutions, recreational or open space, light industrial and heavy industrial. The future land use map is shown in **Figure 6.12**.

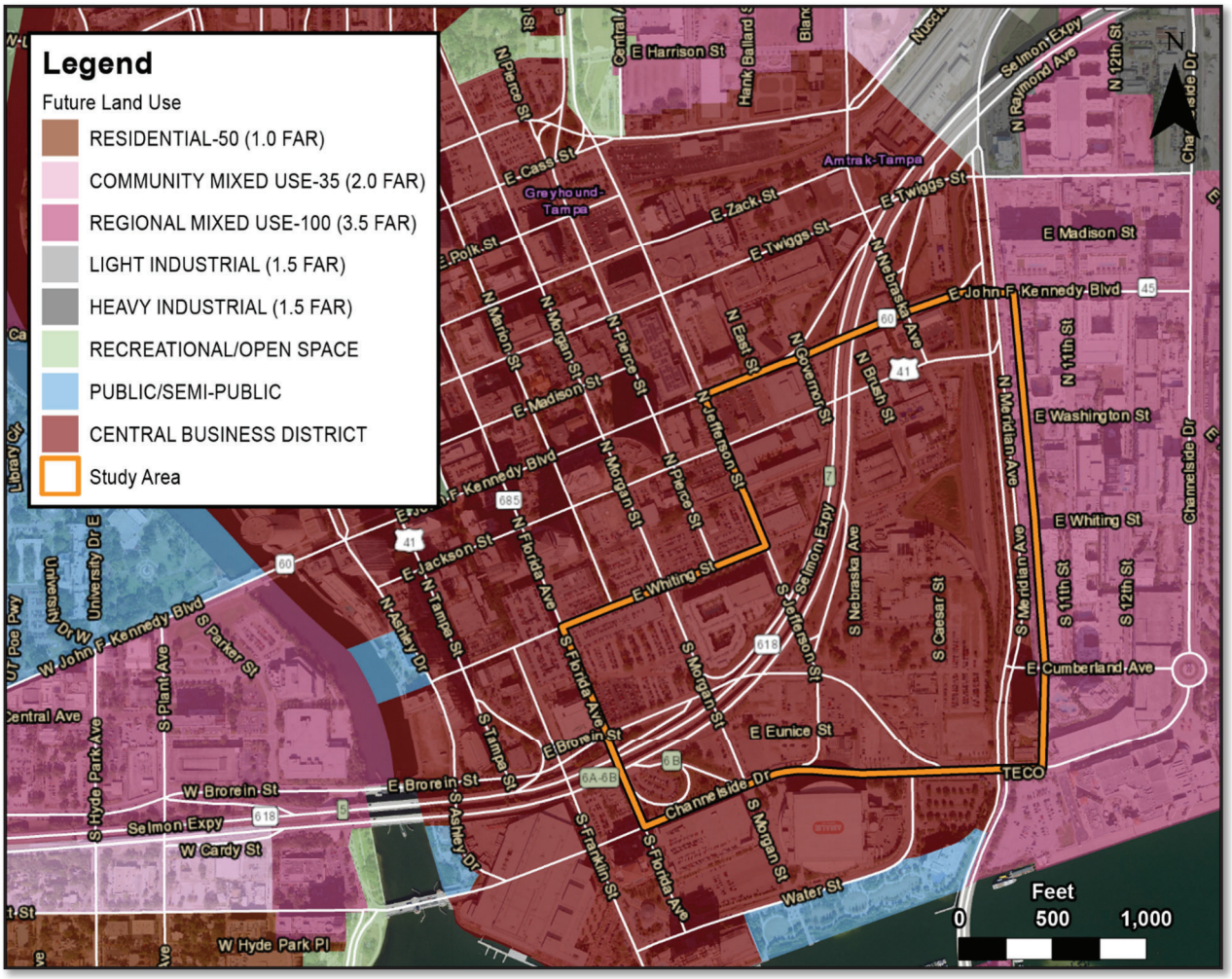


Figure 6.12: Future Land Use Map

6.2.2 Recreational Facilities

Two existing recreational trails (Meridian Avenue Trail and the Selmon Greenway Trail) were identified within 500 feet of the project area. Additional trails identified include one Shared-Use Non-motorized (SUN) Trail Network, one Office of Greenways and Trails (OGT) Hiking Trail Priority (2018-2022), and one OGT Multi-Use Trail Opportunity which is the Selmon Greenway segment of the Urban Tampa Loop Corridor. Portions of the study area are identified as a Land Trail Priority on the 2018 Florida Greenways and Trails Opportunity and Priority Land Trails Map. **Table 6.7** identifies the recreational facilities and trails within the project area.

Table 6.7: Recreational Facilities

Technical Document	Dated
Parks	
Joe Chillura Courthouse Square	*641 E Kennedy Boulevard*
AIDS Memorial Park	*102 W Hyde Park Place*
Lykes Gaslight Square Park	*410 N Franklin Street*
Columbus Statue Park	*300 Bayshore Boulevard & Platt Street*
Contanchobee Fort Brooke Park	*601 Ice Palace Drive*
Downtown Ribbon of Green	*233 S Ashley Drive*
MacDill Park	*100 N Ashley Drive*
Tony Jannus Park	*240 Bayshore Boulevard*
Tampa General Hospital Park	*35 Columbia Drive*
City of Tampa Park	*1226 E Cumberland Avenue*
Trails	
Hillsborough River Greenway Trail	*3402 W. Columbus Drive*
Hillsborough Bay Trail	*Atlantic Coastal Plain*
The Tampa Riverwalk	*Tampa Heights District and Downtown Tampa*
Bayshore Boulevard Greenway	*312 Bayshore Blvd*
Meridian Avenue Trail	*229 North Meridian Avenue*
Selmon Greenway	*Downtown Tampa (Under the Selmon Expressway)*

Pedestrian accommodations are provided throughout the project study area including sidewalks, crosswalk striping and crossing beacons. No bicycle lanes are provided on the streets within the project study area; however, bicycle accommodations are provided with the Meridian Avenue Trail and the Selmon Greenway (a segment of the Urban Tampa Loop Corridor), and a future bi-directional cycle track is planned for Cumberland Avenue, south of Whiting Street.

6.2.3 Cultural Resources

A Cultural Resource Assessment Survey (CRAS), a Pond Site Addendum to the survey, and a Documentation and Determination of Effects Report of the Whiting Street project area were conducted to identify cultural resources within the project area of potential effect (APE), to assess their significance in terms of their eligibility for listing in the National Register of Historic Places (National Register), and to determine project related effects on eligible resources in accordance with the criteria set forth in 36 CFR Section 60.4. The archaeological APE for this project is defined as the geographic limits of the proposed project improvements, while the historic APE is defined as up to 200 feet outward from the proposed improvements. Due to the density of development and underground utilities, archaeological subsurface testing was feasible only within portions of the archaeological APE within the area of the Florida Avenue loop ramp.

The CRAS, Pond Site Addendum, and Determination of Effects Report were forwarded to the Florida Division of Historic Resources (FDHR) for consultation and review. As a results of the CRAS, one pre-contact period archaeological site and four historic resources were identified, summarized findings are as follows:

- No human remains or Fort Brooke period artifacts were identified during the limited testing.
- Subsurface testing yielded both pre-contact period lithic artifacts and historic 20th Century material.
- The two diagnostic artifacts, a solarized glass fragment and a green bottle base fragment suggest a 20th Century component.
- There is insufficient information to evaluate the National Register eligibility of 8HI537 within the archaeological APE.
- Three historic resources are considered National Register–eligible: an unrecorded segment of the Florida Central & Peninsular Railroad (8HI11987), the previously recorded Perry Paint and Glass Company Building (8HI685), and Ardent Mills (8HI15084).

Although no human remains were identified during the CRAS, unmarked graves have been previously found near the project area and there remains a potential for unmarked graves throughout the project area.

The CRAS was forwarded to the Florida Division of Historic Resources (FDHR) for consultation and review. The FDHR concurrence with the findings and recommendations of the CRAS (letter dated August 24, 2021, concurrence dated October 22, 2021), the CRAS Pond Addendum (letter dated February 8, 2022, concurrence dated March 9, 2022), and the Documentation and Determination of Effects Report (letter dated February 9, 2022, concurrence dated March 10, 2022).

6.2.4 Wetlands

In accordance with Executive Order 11990, Protection of Wetlands, the project area was evaluated to determine potential impacts on wetlands. Wetlands and surface waters found within the project area consisted of one man-made pond (Reservoirs less than 10 acres – FLUCFCS 534) approximately 1.90 acres in size. This manmade pond was constructed for the treatment and attenuation of stormwater under Southwest Florida Water Management District, Environmental Resource Permit No.: 4001660.032. This pond is covered with a dense stand of cattail with Carolina willow along the edges. As such, this pond is not considered a jurisdictional wetland and is not subject to wetland mitigation requirements. Proposed project improvements will not result in any impacts to jurisdictional wetlands. **Figure 6.13** provides an aerial map depicting the location and approximate boundary of the existing stormwater pond.

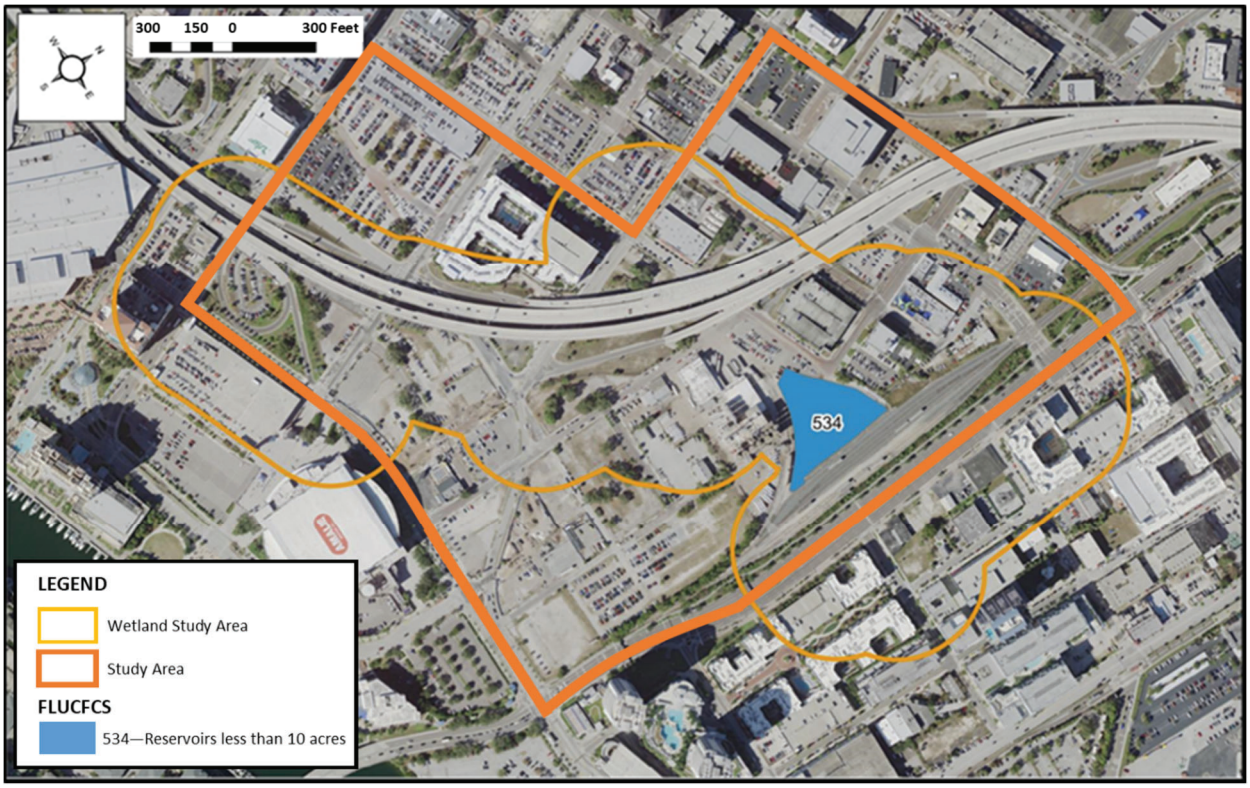


Figure 6.13: Existing Wetland Map

6.2.5 Protected Species and Habitat

The project was evaluated for impacts to wildlife and habitat resources, including protected species, in accordance with the Endangered Species Act (ESA) of 1973, as amended, the Florida Endangered and Threatened Species Act, and the FDOT PD&E Manual Part 2, Chapter 16 - *Protected Species and Habitat* (July 2020).

The United States Fish and Wildlife Service (USFWS) classifies protected wildlife as endangered (E), threatened (T), and proposed for listing (P) or candidate for listing (C). The Florida Fish and Wildlife Conservation Commission (FWC) applies the same federal classification to those species found in Florida and classifies additional wildlife species found in Florida as threatened (T) or species of special concern (SSC). Those federal and state listed species found within Hillsborough County and having the potential to be found within the project area are discussed below. For a species to be considered to have a potential to occur, the project area must be within the species' distribution range and potentially suitable habitat must occur. An effect determination was made for each federal and state protected species based on an analysis of the potential impacts of the Preferred Alternative.

6.2.5.1 Federal Protected Animal Species

Thirteen federally listed species were assessed to determine the potential for their presence within the project area and potential project impacts. In-house research and field reviews were conducted to determine the habitat requirements of each species and the types of habitats present within the project area. Based on these assessments, 11 of the 13 species were determined to have no probability of occurrence within the project area due to a lack of preferred habitat.

Two federally listed wildlife species were identified as potentially occurring within the project area. These species include the wood stork and Eastern black rail. No federally listed plant species were determined to have the potential to occur within the project study area. Direct, indirect, and cumulative effects are not expected for these species as documented in the Natural Resource Evaluation (NRE) Report.

The project falls within the USFWS consultation areas (CAs) of the Florida scrub-jay, piping plover, and Florida manatee; however, their preferred habitat does not exist within the project study area. The project also falls within the core foraging areas (CFAs) of seven wood stork colonies.

Table 6.8 provides a list of the federally listed wildlife and plant species that were assessed as part of this study and their effects determination**.**

Table 6.8: Effects Determinations for Federally Listed Species

Scientific Name	Common Name	USFWS Designation	Effect Determination
Plants			
Bonamia grandiflora	Florida bonamia	T	No Effect
Campanula robinsiae	Brooksville bellflower	E	No Effect
Chionanthus pygmaeus	Pygmy fringe tree	E	No Effect
Chrysopsis floridana	Florida golden aster	E	No Effect
Reptiles			
Caretta caretta	Loggerhead sea turtle	T	No Effect
Dermochelys coriacea	Leatherback sea turtle	E	No Effect
Eretmochelys imbricate	Hawksbill sea turtle	E	No Effect
Birds			
Aphelocoma coerulscens	Florida scrub-jay	T	No Effect
Calidris canutus rufa	Rufa red knot	T	No Effect
Charadrius melodus	Piping plover	T	No Effect
Laterallus jamaicensis ssp. jamaicensis	Eastern black rail	T	No Effect
Mycteria americana	Wood stork	T	No Effect
Mammals			
Trichechus manatus	West Indian manatee	T	No Effect

USFWS = U.S. Fish and Wildlife Service
T = Threatened
E = Endangered
C = Candidate species

6.2.5.2 State-Only Protected Animal Species

Thirty-two additional species are listed by the FWC and the Florida Department of Agriculture and Consumer Services (FDACS) as endangered or threatened. In-house research and field reviews were conducted evaluating the habitat requirements for each species and the types of habitats present within the project study area. Based on these assessments, 27 of the species were determined to have no probability of occurrence within the project area due to a lack of preferred habitat.

Five state-only listed wildlife species were identified as potentially occurring within the project area. These species include one plant, the incised groove-bur, and four animals, the roseate spoonbill, tricolored heron, little blue heron, and Florida sandhill crane. Direct, indirect, and cumulative effects are not expected for these species as documented in the NRE Report.

Table 6.9 provides list of the state-only listed wildlife and plant species that were assessed as part of this study and their effects determination.

Table 6.9: Effects Determination for State Listed Species

Scientific Name	Common Name	State Designation	Effect Determination
Plants			
Adiantum tenerum	Brittle maidenhair fern	E	No Effect Anticipated
Agrimonia incisa	Incised groove-bur	T	No Effect Anticipated
Andropogon arctatus	Pinewoods bluestem	T	No Effect Anticipated
Asplenium erosum	Auricled spleenwort	E	No Effect Anticipated
Carex chapmannii	Chapman's sedge	T	No Effect Anticipated
Centrosema arenicola	Sand butterfly pea	E	No Effect Anticipated
Glandularia tampensis	Tampa vervain	E	No Effect Anticipated
Lechea cernua	Nodding pinweed	T	No Effect Anticipated
Lechea divaricate	Pine pinweed	E	No Effect Anticipated
Nemastylis floridana	Celestial lily	E	No Effect anticipated
Ophioglossum palmatum	Hand fern	T	No Effect Anticipated
Pecluma plumula	Plume polypody	E	No Effect Anticipated
Pteroglossaspis ecristata	Giant orchid	T	No Effect Anticipated
Rhynchospora megaplumosa	Large-plumed beaksedge	E	No Effect Anticipated
Schizachyrium niveum	Scrub bluestem	E	No Effect Anticipated
Tephrosia angustissima var. curtissii	Coastal hoary-pea	E	No Effect Anticipated
Thelypteris serrata	Toothed maiden fern	E	No Effect Anticipated
Triphora amazonica	Broad-leaved nodding-caps	E	No Effect Anticipated
Zephyranthes simpsonii	Red margin zephyr lily	T	No Effect Anticipated
Reptiles			
Gopherus polyphemus	Gopher tortoise	T	No Effect Anticipated
Lampropeltis extenuata	Short-tailed snake	T	No Effect Anticipated
Pituophis melanoleucus mugitus	Florida pine snake	T	No Effect Anticipated
Birds			
Athene cunicularia floridana	Florida burrowing owl	T	No Effect Anticipated
Antigone candensis pratensis	Florida sandhill crane	T	No Effect Anticipated
Charadrius nivosus	Snowy plover	T	No Effect Anticipated
Egretta caerulea	Little blue heron	T	No Effect Anticipated
Egretta tricolor	Tricolored heron	T	No Effect Anticipated
Haematopus palliates	American oystercatcher	T	No Effect Anticipated
Platalea ajaja	Roseate spoonbill	T	No Effect Anticipated
Rynchops niger	Black skimmer	T	No Effect Anticipated
Sternula antillarum	Least tern	T	No Effect Anticipated

Egretta rufescens	Reddish egret	T	No Effect Anticipated

FWC = Florida Fish and Wildlife Conservation Commission
FDACS = Florida Department of Agriculture and Consumer Services
T = Threatened
E = Endangered

6.2.6 Essential Fish Habitat

No essential fish habitat (EFH) pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 1976, as amended, is present within the project area.

The proposed project will have no effect on essential fish habitat.

6.2.7 Highway Traffic Noise

A Noise Study Report (NSR) was prepared for this project where a total of forty-seven (47) noise receptor points located within two Common Noise Environments (CNE) were evaluated. A CNE is comprised of a group of receptors within the same activity category that are exposed to similar noise sources and levels, traffic volumes, traffic mix, speed, and topographic features. Forty six of the 47 receptors were residences in The Slade at Channelside apartment complex (activity category B2 - residential, an eight-story building) and one at the Carlton Academy Day School (activity category C2 – school).

The results of the analysis indicate that exterior traffic noise levels for the future year (2046) build alternative are not predicted to approach, meet, or exceed Noise Abatement Criteria (NAC) levels at the Carlton Academy Day School, but levels are predicted to approach, meet, or exceed the NAC at forty two (42) of the Slade at Channelside residences, with the maximum increase in traffic noise with the build alternative when compared to existing levels among all receptors being 5.9 decibels on the "A" – weighted scale (dB(A))—an increase that is not considered to be substantial. Predicted levels with the Build Alternative are essentially the same as the levels predicted for the No-build Alternative. Differences are a result of a forecast change in the directional distribution of motor vehicles on North Meridian Avenue during the peak hour with the proposed improvements.

The Federal Highway Administration's (FHWA) Traffic Noise Model (TNM) was used to evaluate the ability of a noise barrier to reduce traffic noise levels for the 42 impacted receptors within the Slade at Channelside Apartments. The residences are located on the east side of North Meridian Avenue between Washington Street and Kennedy Boulevard. The results of the evaluation indicate that, although acoustically feasible, a shoulder barrier would not reduce predicted traffic noise such that the noise reduction design goal (NRDG) would be achieved at any of the benefited residences. As such, a noise barrier is not considered a reasonable noise abatement measure for the impacted residences at The Slade at Channelside Apartments.

Highway noise will be reassessed during the project's design phase to confirm if any new noise sensitive receptors received construction permits prior to the Date of Public Knowledge, which is the date the SEIR was approved.

6.2.8 Contamination

A contamination screening evaluation was conducted and documented in accordance with FDOT's PD&E Manual, Part 2, Chapter 20 – *Contamination* (July 2020). The purpose of this survey was to identify, review, and provide risk ratings for properties or facilities that have potential contamination sites that may be impacted by the proposed project. The evaluation included an identification of potential contamination sites within the study area, as documented in the *Level 1 Contamination Screening Evaluation Report*, prepared for this study. In accordance with FDOT guidance, the "search distances" (i.e., contamination screening buffers) vary depending on the type of contamination source.

Based on a preliminary assessment of contamination risk, the potential sites were assigned a contamination risk potential rating of low risk, medium risk and high risk. A total of 98 locations within 500 feet of the project area were investigated for sites that may present the potential for petroleum contamination or hazardous materials, and therefore may impact the proposed project improvements. The investigation of the 98 sites resulted in the following risk ratings for potential contamination: 35 "High" rated sites, 26 "Medium" rated sites, and 37 "Low" rated sites.

Table 6.10 presents a summary of the risk ratings assigned for potential contamination sites.

Table 6.10: Summary of Risk Ratings

Number of Sites per Risk Rating		
High	***Medium***	***Low***
35	26	37

There were no sites identified in the project area that are listed on the U.S. EPA "Superfund" program, involved mining, waste treatment or constitute other large-scale sources of environmental contamination.

During the final design phase, Level II field screening should be conducted for locations with risk ratings of "Medium" or "High," if the identified contamination concerns have impacted the existing and/or proposed right-of-way. A soil and groundwater sampling plan should be developed for all sites for which a Level II field screening is proposed. The sampling plan should provide sufficient detail as to the number of soil and groundwater samples to be obtained and the specific analytical test to be performed. A site location sketch showing all proposed boring locations and groundwater monitoring wells should be prepared.

No additional assessment is recommended for sites ranked "Low."

Appendices

Appendix A

Preferred Alternative Concept Plans

LEGEND

- Sidewalk
- Travel Lanes
- Grass
- Traffic Separator/ Raised Median
- Proposed Maintenance Agreement
- Proposed Roadway Limits of Construction
- Existing ROW
- Proposed ROW
- Existing LA ROW
- Wall Barrier
- Bridge
- Curb
- Ramp Shoulder
- Pavement Removal
- High Level Contamination
- Medium Level Contamination

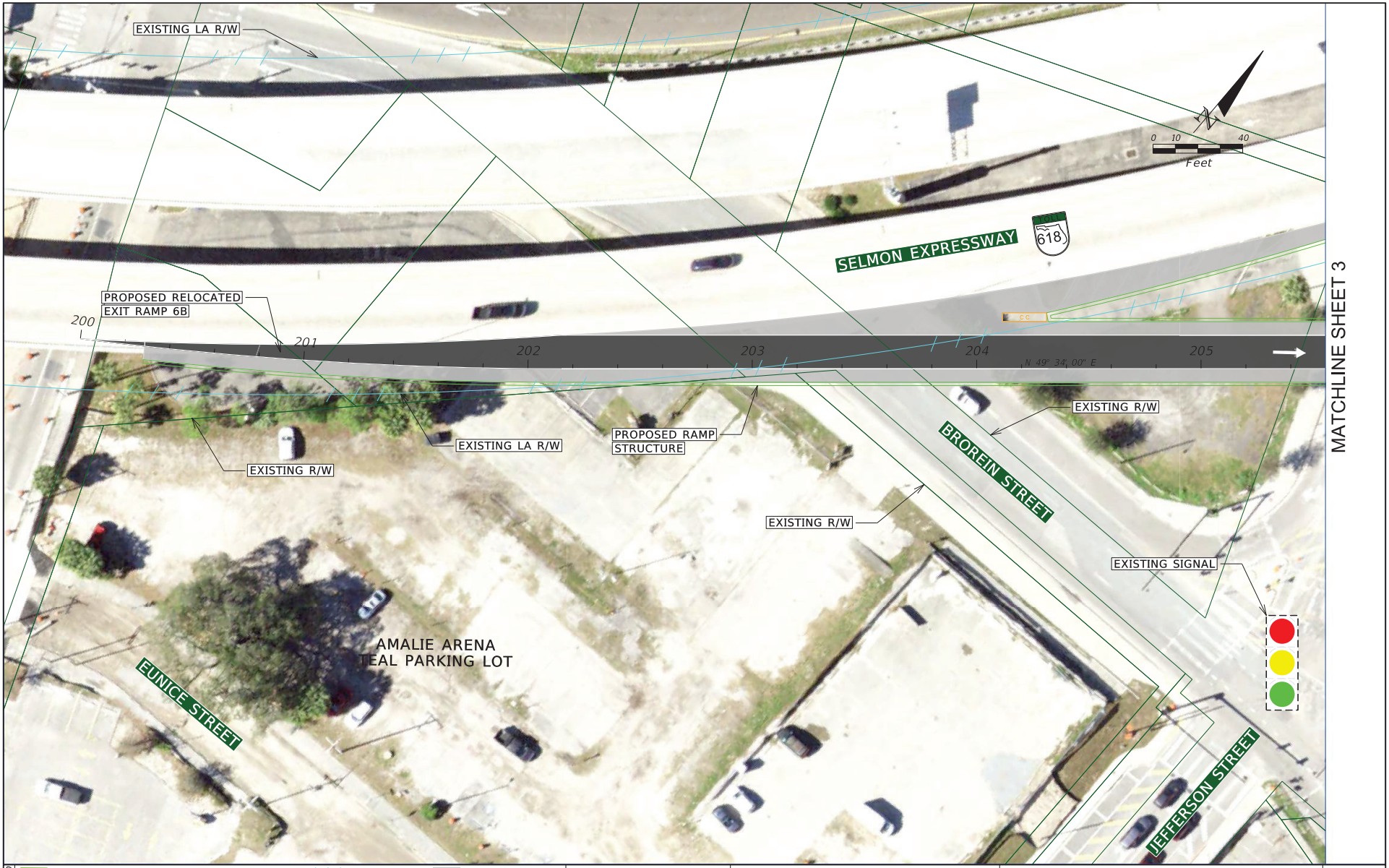
H.W. LOCHNER, INC.
4350 W. CYPRESS STREET - SUITE 800
TAMPA, FL 33607
CERTIFICATE OF AUTHORIZATION #894

TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJET ID
SR 618	HILLSBOROUGH	HI-0141

PREFERRED ALTERNATIVE CONCEPT PLAN SHEET

SHEET NO. 1



LEGEND

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- Proposed Roadway Limits of Construction
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- Proposed ROW
- Existing LA ROW
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TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJET ID
SR 618	HILLSBOROUGH	HI-0141

PREFERRED ALTERNATIVE CONCEPT PLAN SHEET

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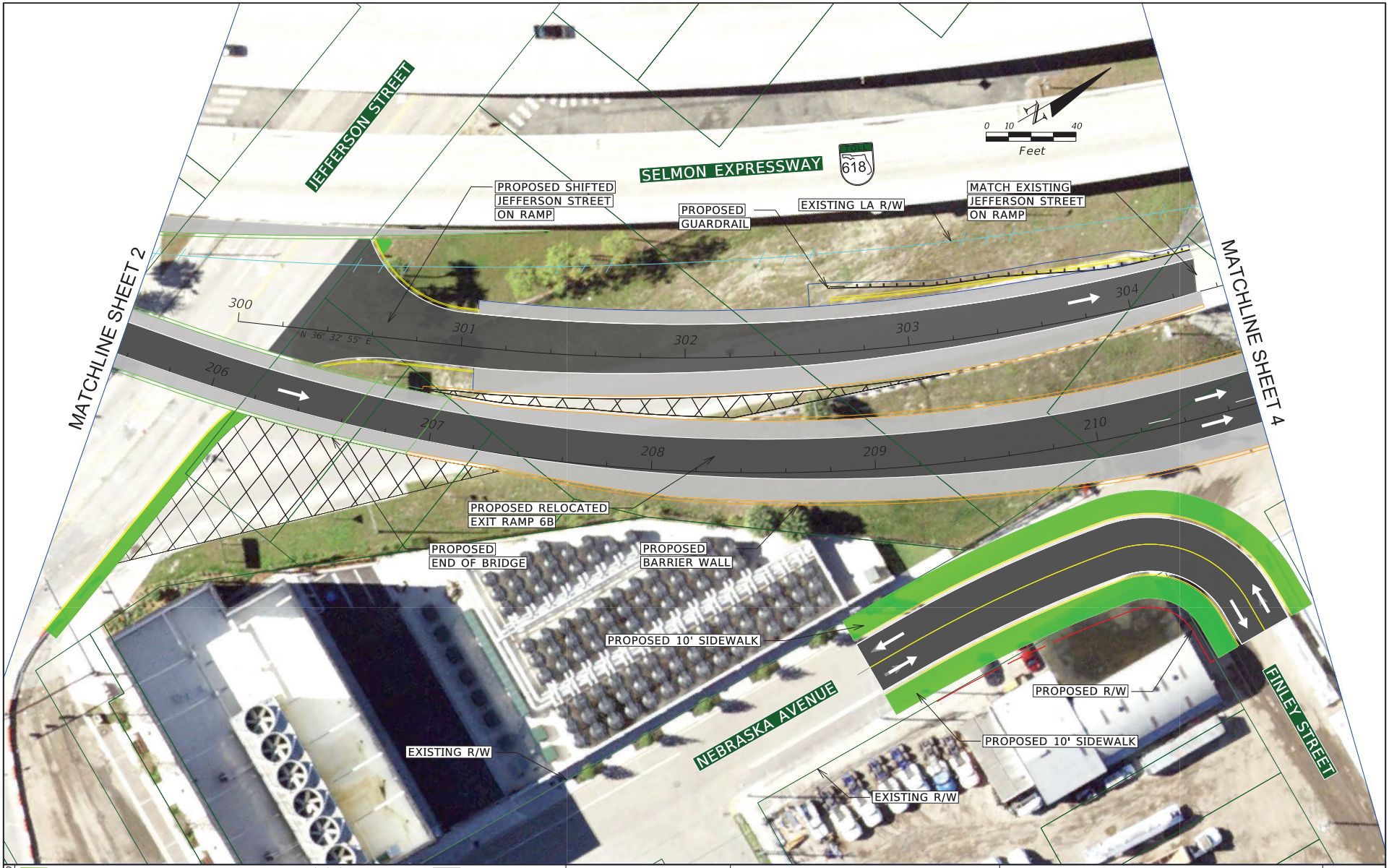

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ROAD NO.	COUNTY	FINANCIAL PROJET ID
SR 618	HILLSBOROUGH	HI-0141

PREFERRED ALTERNATIVE CONCEPT PLAN SHEET

SHEET NO. 3

LEGEND

- Sidewalk
- Travel Lanes
- Grass
- Traffic Separator/ Raised Median
- Proposed Maintenance Agreement
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- Existing ROW
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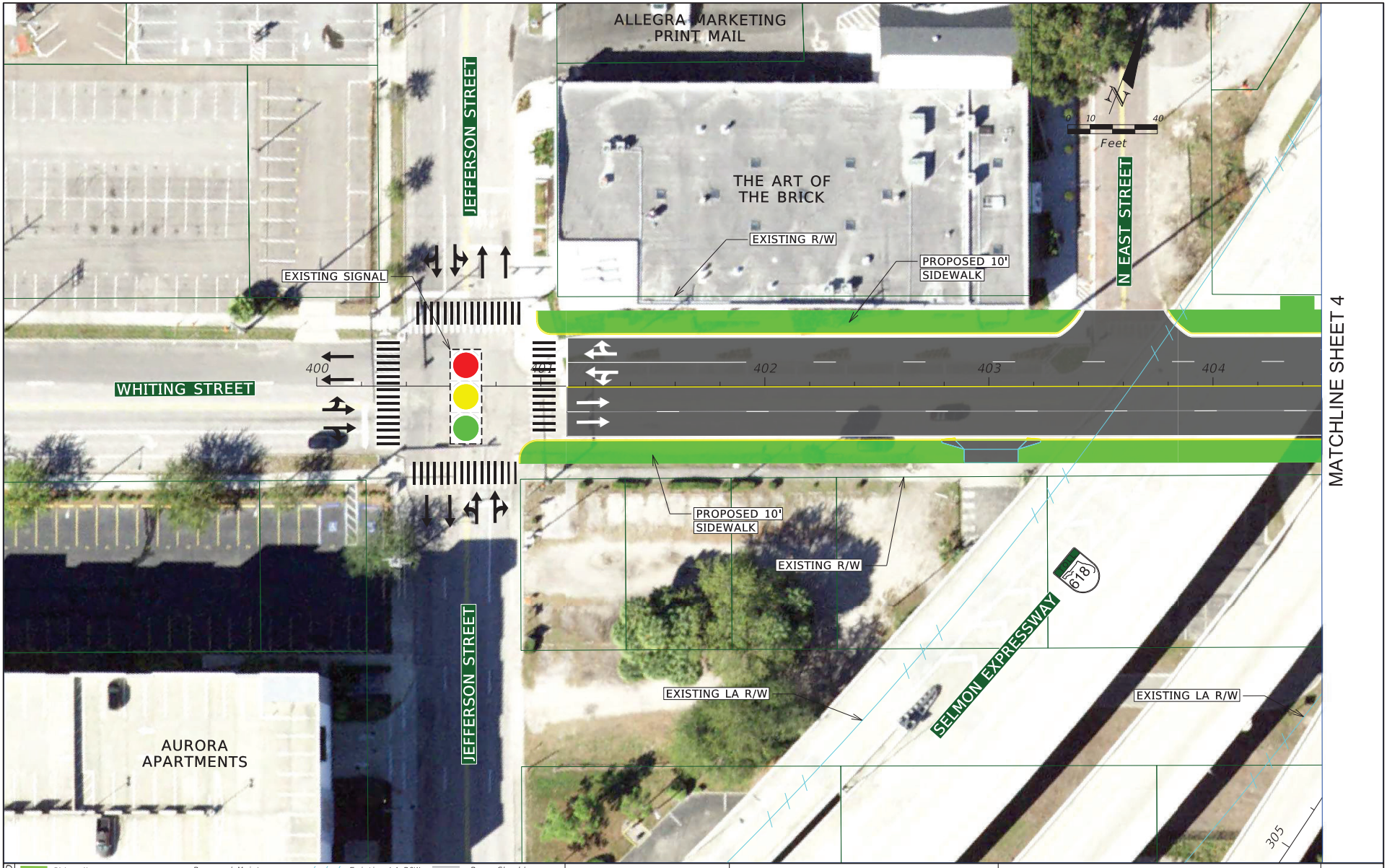
H.W. LOCHNER, INC.
4350 W. CYPRESS STREET - SUITE 800
TAMPA, FL 33607
CERTIFICATE OF AUTHORIZATION #894

TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJET ID
SR 618	HILLSBOROUGH	HI-0141

PREFERRED ALTERNATIVE CONCEPT PLAN SHEET

SHEET NO. 4



LEGEND

- Sidewalk
- Travel Lanes
- Grass
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- Proposed Maintenance Agreement
- Proposed Roadway Limits of Construction
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H.W. LOCHNER, INC.
4350 W. CYPRESS STREET - SUITE 800
TAMPA, FL 33607
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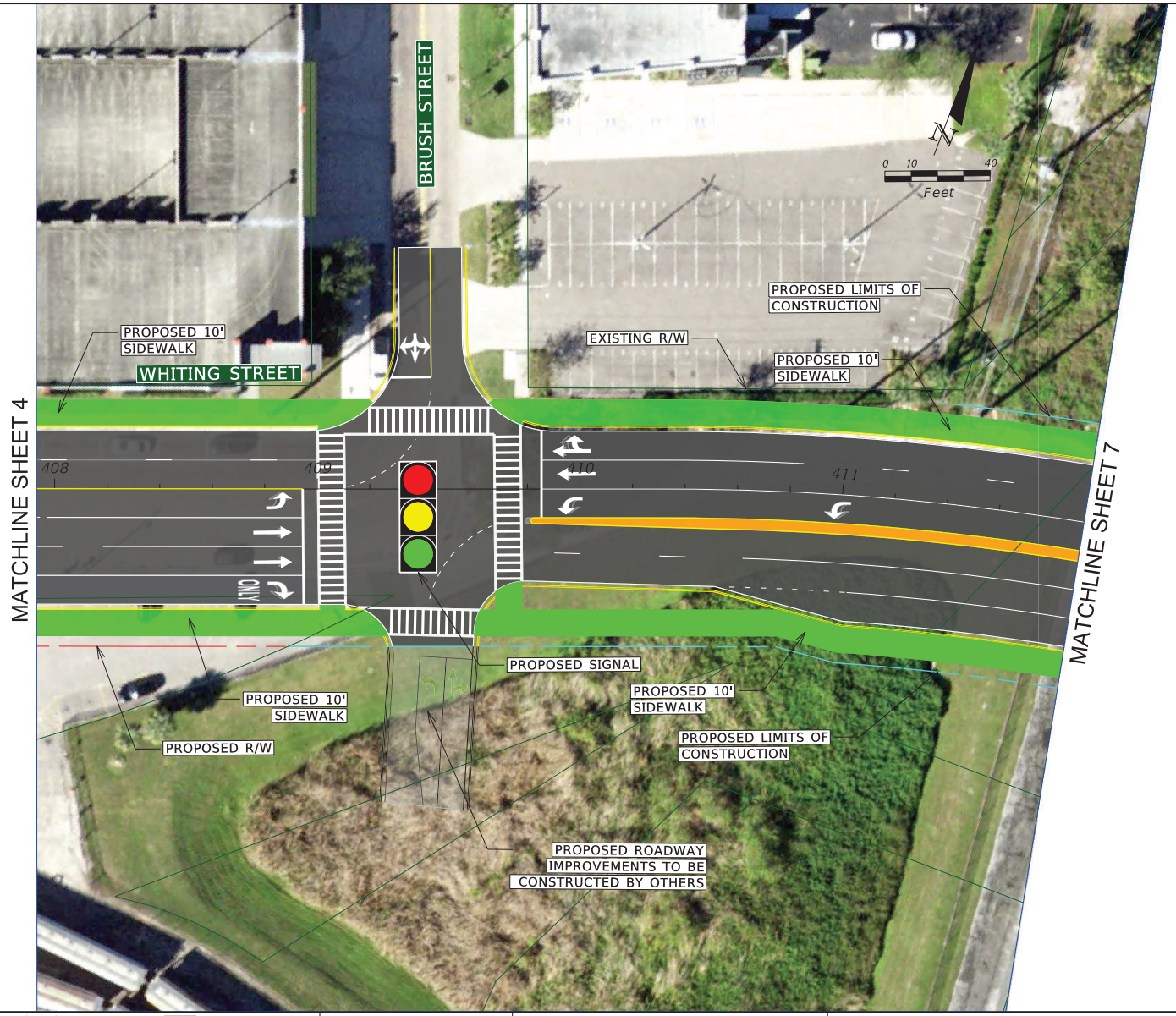
TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJET ID
SR 618	HILLSBOROUGH	HI-0141

PREFERRED ALTERNATIVE CONCEPT PLAN SHEET

SHEET NO. 5



LEGEND

- Sidewalk
- Travel Lanes
- Grass
- Traffic Separator/ Raised Median
- Proposed Maintenance Agreement
- Proposed Roadway Limits of Construction
- Existing ROW
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H.W. LOCHNER, INC.
4350 W. CYPRESS STREET - SUITE 800
TAMPA, FL 33607
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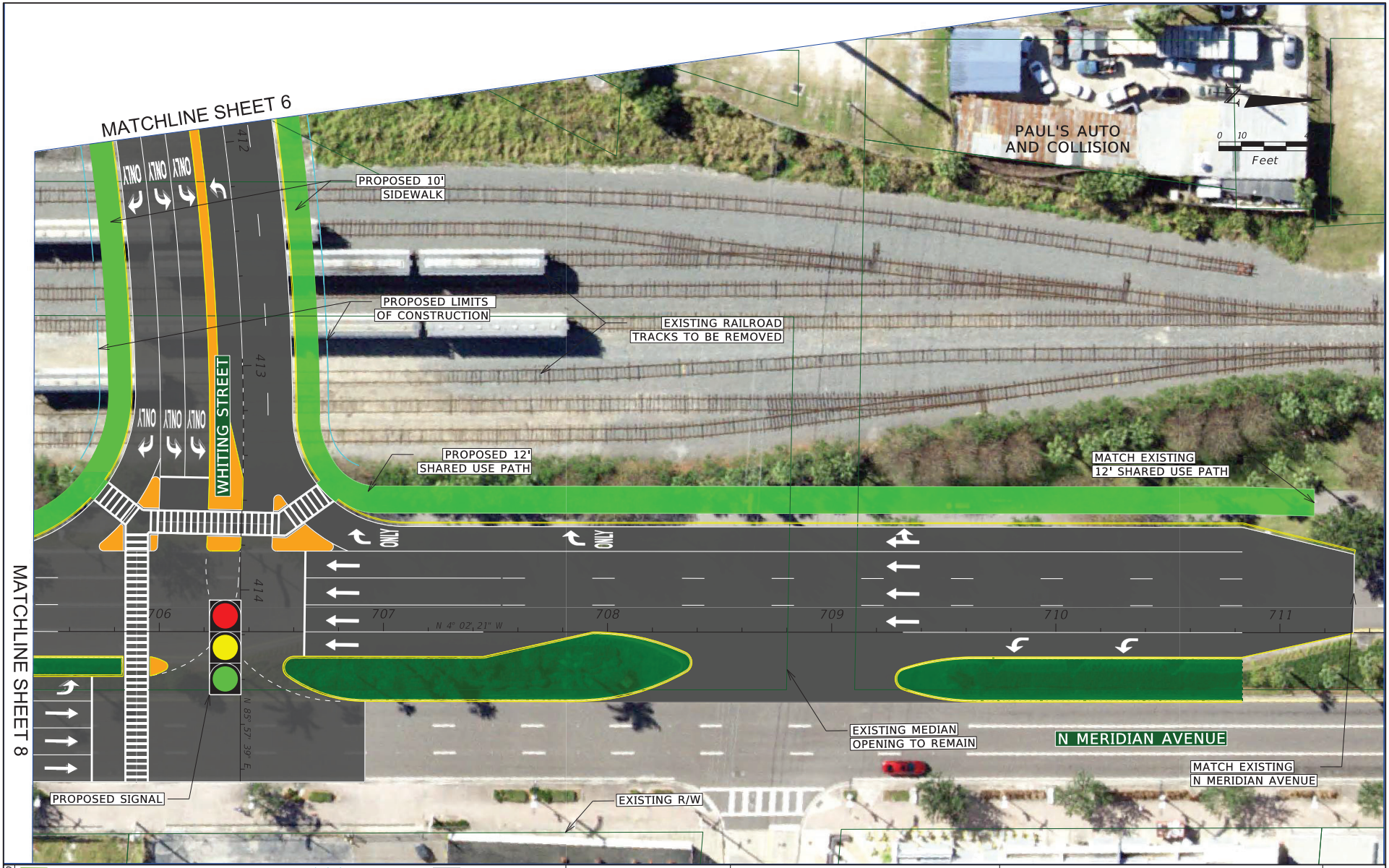
TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJET ID
SR 618	HILLSBOROUGH	HI-0141

PREFERRED ALTERNATIVE CONCEPT PLAN SHEET

SHEET NO. 6



LEGEND

- Sidewalk
- Travel Lanes
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H.W. LOCHNER, INC.
4350 W. CYPRESS STREET - SUITE 800
TAMPA, FL 33607
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TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJET ID
SR 618	HILLSBOROUGH	HI-0141

PREFERRED ALTERNATIVE CONCEPT PLAN SHEET

SHEET NO. 7

LEGEND

- Sidewalk
- Travel Lanes
- Grass
- Traffic Separator/ Raised Median
- Proposed Maintenance Agreement
- Proposed Roadway Limits of Construction
- Existing ROW
- Proposed ROW
- Existing LA ROW
- Wall Barrier
- Bridge
- Curb
- Ramp Shoulder
- Pavement Removal
- High Level Contamination
- Medium Level Contamination

H.W. LOCHNER, INC.
4350 W. CYPRESS STREET - SUITE 800
TAMPA, FL 33607
CERTIFICATE OF AUTHORIZATION #894

TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY

ROAD NO.	COUNTY	FINANCIAL PROJET ID
SR 618	HILLSBOROUGH	HI-0141

PREFERRED ALTERNATIVE CONCEPT PLAN SHEET

SHEET NO. 8

Appendix B

Proposed Profile Sheets (KCA conceptual plans: Downtown Tampa Ultimate Meridian Avenue Improvements)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	

FLORIDA AVENUE LOOP RAMP
EXIT RAMP 6A (1)

SHEET NO.

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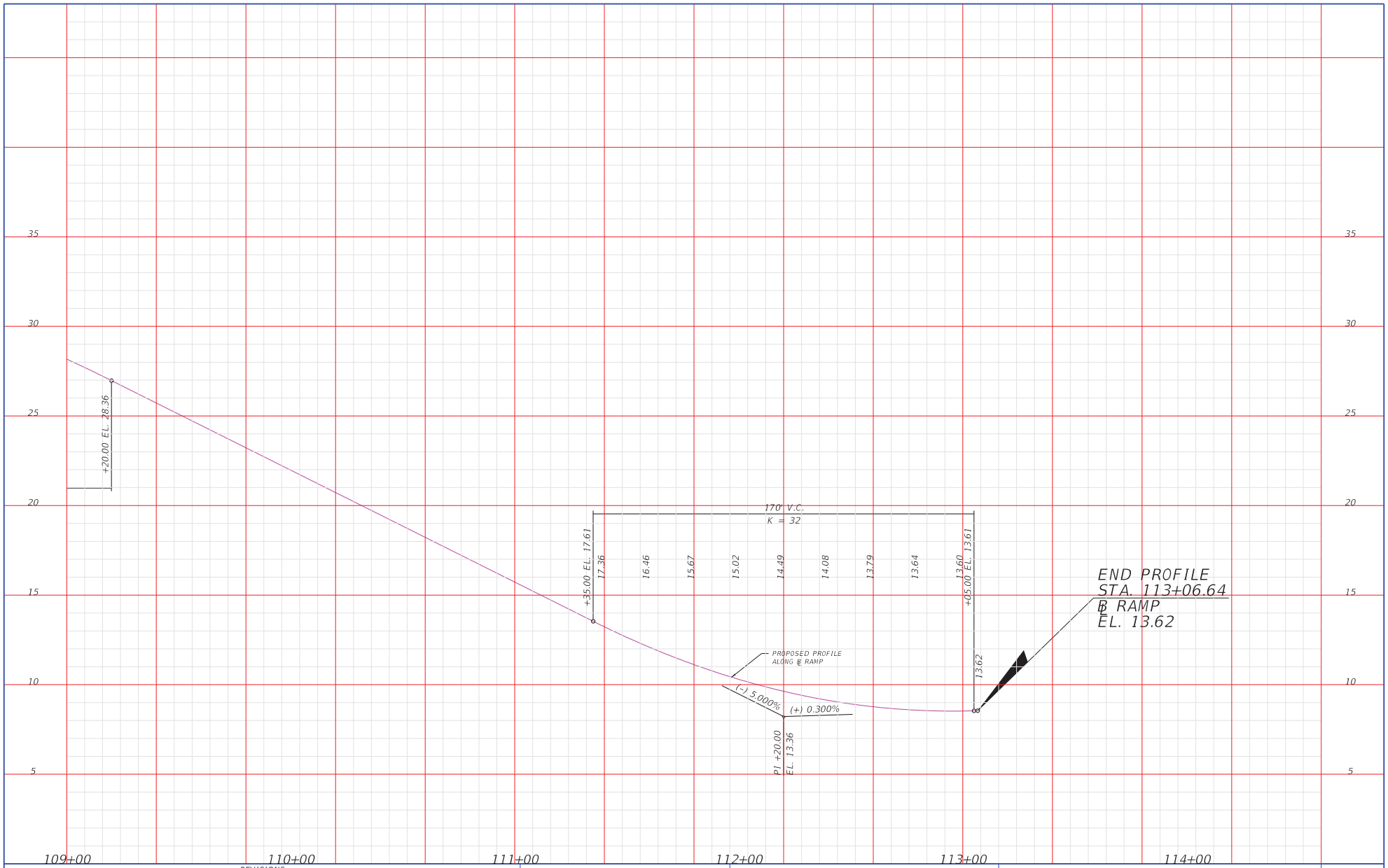

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	HILLSBOROUGH	

FLORIDA AVENUE LOOP RAMP
EXIT RAMP 6A (2)

SHEET NO.

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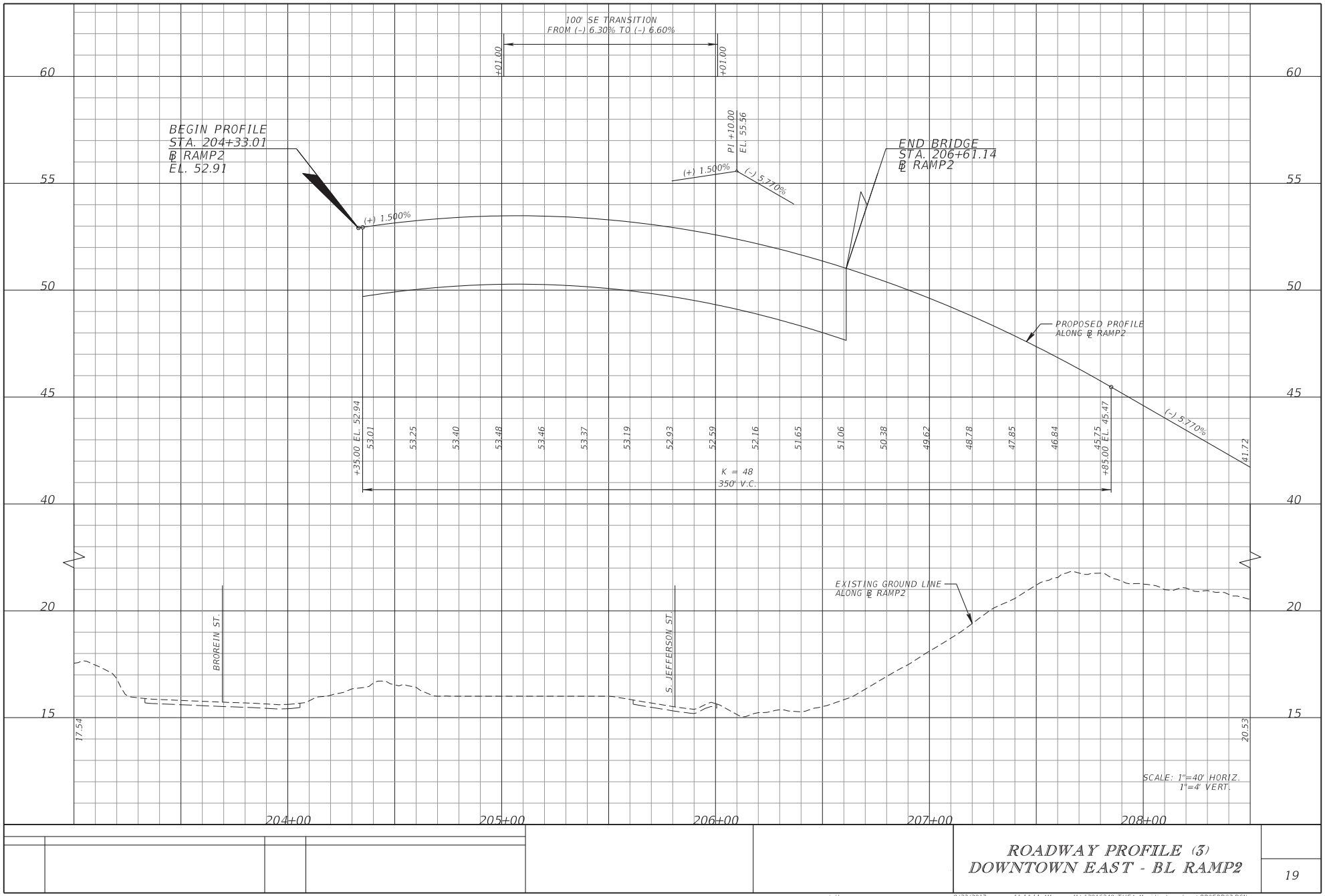

ROADWAY PROFILE (3)
DOWNTOWN EAST - BL RAMP2

19

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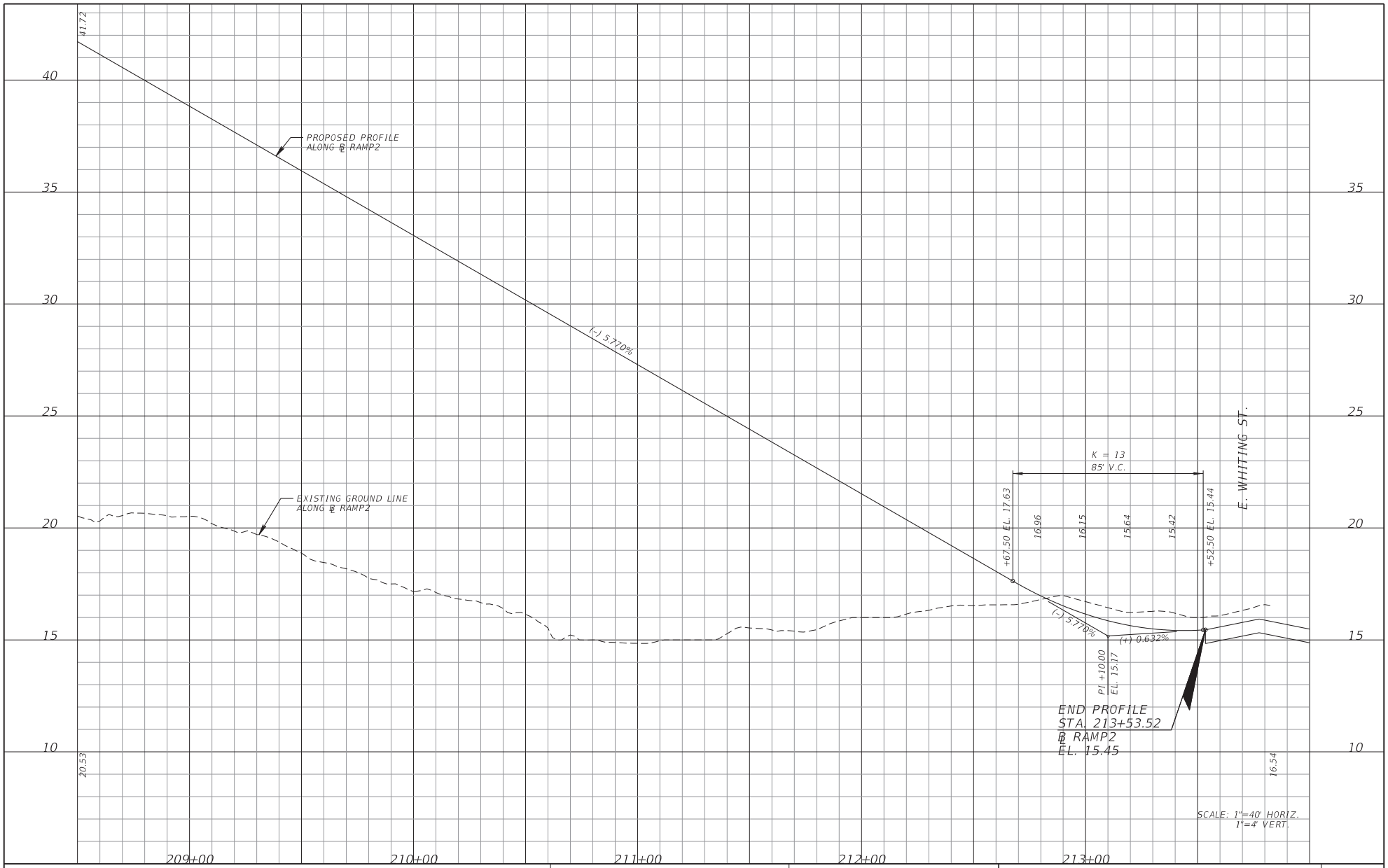

ROADWAY PROFILE (4)
DOWNTOWN EAST - BL RAMP2

20

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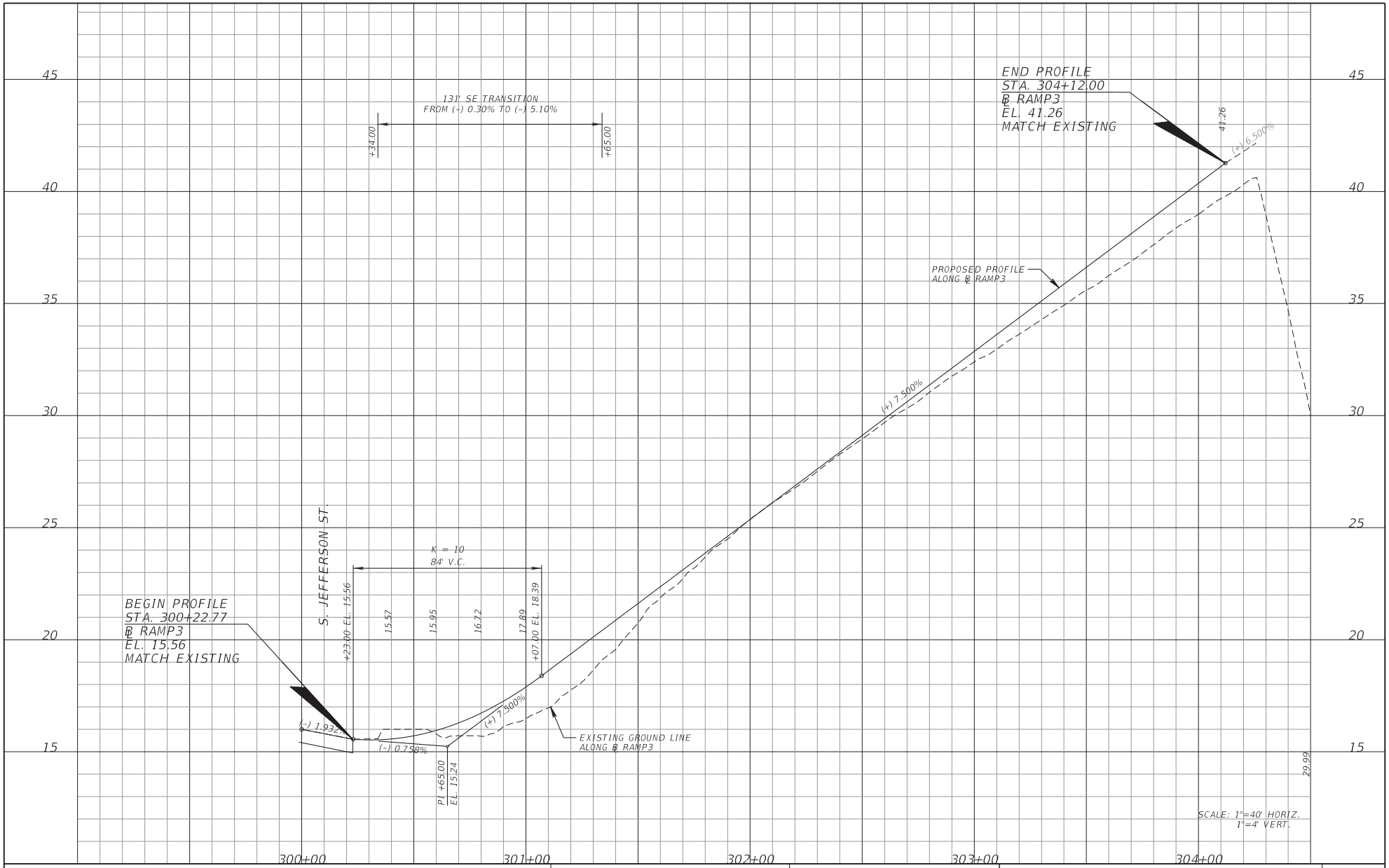

ROADWAY PROFILE (5)
EB SR 618 - BL RAMP3

21

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Appendix C

Engineer's Cost Estimate

ESTIMATED COST TO CONSTRUCT
Whiting Street Improvements

ENGINEER'S ESTIMATE SUMMARY
TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY
WHITING STREET PD&E STUDY PREFERRED ALTERNATIVE

PROJECT NUMBER:	HI-0141
SUBMITTAL TYPE:	PD&E Estimate
COUNTY:	Hillsborough
DATE:	17-Jan-22
ENGINEERING CONSULTANT FIRM:	H. W. LOCHNER, INC.
CONTACT NAME:	William Howell, P.E.
PHONE NUMBER:	(813) 357-3750

Project Phase	Cost
Design (10% of construction)	$3,986,522.46
Right-of-Way	$5,395,500.00
Construction	$39,865,224.60
CEI (15% of construction)	$5,979,783.69
Total	**$55,227,030.75**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE

PROJECT NUMBER:	HI-0141
SUBMITTAL TYPE:	PD&E Estimate
COUNTY:	Hillsborough
DATE:	January 17, 2022
ENGINEERING CONSULTANT FIRM:	H.W. Lochner, Inc.
CONTACT NAME:	William Howell, P.E.
PHONE NUMBER:	(813) 357 - 3750

COMPONENT GROUP TOTALS		**Florida Ave. Ramp**	**Whiting Street**	**Totals**
100 - STRUCTURES		$6,817,810.26	$3,169,904.96	**$9,987,715.23**
200 - ROADWAY		$1,075,044.62	$5,829,307.68	**$6,904,352.30**
300 - SIGNING & PAVEMENT MARKINGS		$79,316.61	$456,990.16	**$536,306.77**
400 - LIGHTING		$202,609.75	$200,702.00	**$403,311.75**
500 - SIGNALIZATION		$215,995.85	$928,870.24	**$1,144,866.09**
550 - ITS		$50,000.00	$50,000.00	**$100,000.00**
600 - LANDSCAPE / PERIPHERALS (4% OF COMPONENTS 100 - 550)		$338,000.00	$426,000.00	**$764,000.00**
COMPONENT SUB-TOTAL		$8,778,777.09	$11,061,775.04	**$19,840,552.14**
(102-1) MOT (Maintenance of Traffic)	15%	$1,316,816.56	$1,659,266.26	**$2,976,082.82**
SUB-TOTAL		$10,095,593.66	$12,721,041.30	**$22,816,634.96**
(101-1) MOB (Mobilization)	12%	$1,211,471.24	$1,526,524.96	**$2,737,996.19**
SUB-TOTAL		$11,307,064.90	$14,247,566.25	**$25,554,631.15**
Market Conditions Factor	20%	$2,261,412.98	$2,849,513.25	**$5,110,926.23**
SUB-TOTAL		$13,568,477.88	$17,097,079.51	**$30,665,557.38**
PU (Project Unknowns)	30%	$4,070,543.36	$5,129,123.85	**$9,199,667.21**
SUB-TOTAL		$17,639,021.24	$22,226,203.36	**$39,865,224.60**
			ALTERNATIVE TWO GRAND TOTAL	**$39,865,224.60**

NOTES:

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - FLORIDA AVENUE RAMP IMPROVEMENTS

PROJECT NUMBER:	HI-0141
DESCRIPTION:	Florida Avenue Ramp Improvements.
PAGE NUMBER:	1 of 7

COMPONENT GROUPS

100 - STRUCTURES		$6,817,810.26
200 - ROADWAY		$1,075,044.62
300 - SIGNING & PAVEMENT MARKINGS		$79,316.61
400 - LIGHTING		$202,609.75
500 - SIGNALIZATION		$215,995.85
550 - ITS		$50,000.00
600 - LANDSCAPE / PERIPHERALS (4% OF COMPONENTS 100 - 550)		$338,000.00
COMPONENT SUB-TOTAL		$8,778,777.09
(102-1) MOT (Maintenance of Traffic)	15%	$1,316,816.56
SUB-TOTAL		$10,095,593.66
(101-1) MOB (Mobilization)	12%	$1,211,471.24
SUB-TOTAL		$11,307,064.90
Market Conditions Factor	20%	$2,261,412.98
SUB-TOTAL		$13,568,477.88
PU (Project Unknowns)	30%	$4,070,543.36
SUB-TOTAL		$17,639,021.24

NOTES:

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - FLORIDA AVENUE RAMP IMPROVEMENTS

PROJECT NUMBER:	HI-0141
PAGE NUMBER:	2 of 7

100-Structures

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110- 3-	REMOVAL OF EXISTING STRUCTURES/BRIDGES	SF	4117	$40.00	$164,680.00
0400- 2- 4	CONC CLASS II, BRIDGE SUPERSTRUCTURE	CY	357.7	$831.52	$297,434.70
0400- 2- 5	CONCRETE CLASS II, BRIDGE SUBSTRUCTURE	CY	290.5	$1,643.00	$477,291.50
0400- 2- 10	CONCRETE CLASS II, APPROACH SLABS	CY	57.4	$501.55	$28,788.97
0400- 7- 1	BRIDGE DECK GROOVING	SY	1290	$21.24	$27,399.60
0400- 9- 1	BRIDGE DECK PLANING	SY	1290	$14.47	$18,666.30
0400-147-	COMPOSITE NEOPRENE PADS	CF	12.1	$1,172.49	$14,187.13
0415- 1- 4	REINFORCING STEEL - BRIDGE SUPERSTRUCTURE	LB	84060	$1.16	$97,509.60
0415- 1- 5	REINFORCING STEEL- BRIDGE SUBSTRUCTURE	LB	63644	$1.27	$80,827.88
0415- 1- 9	REINFORCING STEEL- APPROACH SLABS	LB	11489	$1.16	$13,327.24
0450- 1- 1	PRESTRESSED BEAMS, TYPE II	LF	355	$192.18	$68,223.90
0450- 2- 36	PREST BEAMS: FLORIDA-I BEAM 36"	LF	541	$345.61	$186,975.01
0450- 2- 45	PREST BEAMS: FLORIDA-I BEAM 45"	LF	455	$310.95	$141,482.25
0455- 34- 5	PRESTRESSED CONCRETE PILING, 24" SQ	LF	1489	$171.83	$255,854.87
0455- 88- 5	DRILLED SHAFT, 48" DIA	LF	169	$900.19	$152,132.11
0455-133- 2	SHEET PILING STEEL, TEMPORARY-CRITICAL	SF	6033	$37.37	$225,453.21
0455-143- 5	TEST PILES-PRESTRESSED CONCRETE,24" SQ	LF	174	$307.32	$53,473.68
0458- 1- 11	BRIDGE DECK EXPANSION JOINT, NEW CONSTRUCTION, F&I POURED JOINT WITH BACKER ROD	LF	297	$89.80	$26,670.60
0506- 2-	BRIDGE DRAINAGE PIPE	LF	30	$600.00	$18,000.00
0506- 3-	BRIDGE DRAINS	EA	1	$4,320.00	$4,320.00
0521- 5- 13	CONCRETE TRAFFIC RAILING- BRIDGE, 36" SINGLE-SLOPE	LF	837	$130.00	$108,810.00
	Bridge Extension - Curved Steel Plate Girders	SF	14000	$230.00	$3,220,000.00
				SUB-TOTAL	$5,681,508.55
	PHASE CONSTRUCTION CONTINGENCY			20%	$1,136,301.71
100-Structures				**COMPONENT TOTAL**	**$6,817,810.26**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - FLORIDA AVENUE RAMP IMPROVEMENTS

PROJECT NUMBER:	HI-0141
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200-Roadway

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0101 1	MOBILIZATION		12%	See Summary Sheet	
0102 1	MAINTENANCE OF TRAFFIC		15%	See Summary Sheet	
0999 25			1		
0110- 1- 1	CLEARING & GRUBBING	AC	3.02	$22,000.00	$66,440.00
0110- 4- 10	REMOVAL OF EXISTING CONCRETE	SY	273	$24.00	$6,546.67
0110- 86- 10	DELIVERY OF SALVAGEABLE MATERIAL- BRICK PAVERS, GRANITE CURBING, ETC.	LS	1	$8,000.00	$8,000.00
0120- 1-	REGULAR EXCAVATION	CY	4259.2	$18.00	$76,665.60
0120- 6-	EMBANKMENT	CY	6018.6	$16.00	$96,297.60
0160- 4-	TYPE B STABILIZATION	SY	2339.00	$7.90	$18,478.10
0285-706-	OPTIONAL BASE, BASE GROUP 06	SY	676	$26.00	$17,576.00
0285-709-	OPTIONAL BASE, BASE GROUP 09	SY	1663	$27.00	$44,901.00
0327- 70- 4	MILLING EXIST ASPH PAVT, 3" AVG DEPTH	SY	1007	$2.90	$2,920.30
0334- 1- 13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	TN	523.30	$97.00	$50,760.10
0337- 7- 25	ASPHALT CONCRETE FRICTION COURSE, INC BIT, FC-5, PG 76-22	TN	94	$154.00	$14,454.44
0337- 7- 83	ASPHALT CONCRETE FRICTION COURSE,TRAFFIC C, FC-12.5, PG 76-22	TN	83	$120.00	$9,969.60
0425- 1-541	INLETS, DT BOT, TYPE D, <10'	EA	1	$4,800.00	$4,800.00
0425- 1-549	INLETS, DT BOT, TYPE D, MODIFY	EA	1	$5,500.00	$5,500.00
0425- 1-559	INLETS, DT BOT, TYPE E, MODIFY	EA	1	$12,000.00	$12,000.00
0425- 1-921	INLETS, ADJACENT BARRIER, <=10'	EA	2	$6,400.00	$12,800.00
0425- 2- 71	MANHOLES, J-7, <10'	EA	1	$8,600.00	$8,600.00
0430-175-124	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 24"S/CD	LF	870	$115.00	$100,050.00
0520- 1- 10	CONCRETE CURB & GUTTER, TYPE F	LF	414	$32.00	$13,248.00
0521- 1- 13	MEDIAN CONCRETE BARRIER, TALL GRADE-SEPARATED	LF	206	$415.00	$85,490.00
0521- 8- 7	CONCRETE BARRIER, WITH JUNCTION SLAB, 36" SINGLE SLOPE	LF	459	$275.00	$126,225.00
0522- 2-	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	870	$68.00	$59,175.11
0548- 12-	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER	SF	5321.53	$44.00	$234,147.10
200-Roadway			**COMPONENT TOTAL**		**$1,075,044.62**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - FLORIDA AVENUE RAMP IMPROVEMENTS

PROJECT NUMBER:	HI-0141
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300-Signing & Pavement Markings

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0700- 1- 11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	8	$500.00	$4,000.00
0700- 1- 60	SINGLE POST SIGN, REMOVE	AS	8	$65.00	$520.00
0700- 2- 12	MULTI- POST SIGN, F&I GROUND MOUNT, 12-20 SF	AS	2	$4,852.00	$9,704.00
0700- 2- 60	MULTI- POST SIGN, REMOVE	AS	2	$1,017.00	$2,034.00
0700- 3-206	SIGN PANEL, FURNISH & INSTALL OVERHEAD MOUNT, 101-200 SF	EA	2	$6,455.00	$12,910.00
0700- 3-605	SIGN PANEL, REMOVE, 51-100 SF	EA	4	$536.00	$2,144.00
0706- 1- 1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS	EA	100	$4.82	$482.00
0710- 90-	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS	1	$6,305.56	$6,305.56
0711- 11-124	THERMOPLASTIC, STANDARD, WHITE, SOLID, 18" FOR DIAGONALS AND CHEVRONS	LF	31	$5.00	$155.00
0711- 11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	648	$4.00	$2,592.00
0711- 11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 GAP EXTENSION, 6"	GM	0.045	$3,599.00	$161.96
0711- 11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	7	$58.38	$408.66
0711- 14-560	THERMOPLASTIC, PREFORMED, WHITE WITH BLACK CONTRAST ON CONCRETE PAVEMENT, MESSAGE OR SYMBOL	EA	6	$578.00	$3,468.00
0711- 14-570	THERMOPLASTIC, PREFORMED, WHITE WITH BLACK CONTRAST, ARROW ON CONCRETE SURFACE	EA	6	$590.00	$3,540.00
0711- 14-660	THERMOPLASTIC, PREFORMED, MULTI COLOR ROUTE SHIELD	EA	3	$2,322.00	$6,966.00
0711- 15-101	THERMOPLASTIC, STANDARD-OPEN GRADED ASPHALT SURFACES WHITE, SOLID, 6"	GM	0.31	$5,783.00	$1,792.73
0711- 15-201	THERMOPLASTIC, STANDARD-OPEN GRADED ASPHALT SURFACES, YELLOW, SOLID, 6"	GM	0.077	$5,808.00	$447.22
0711- 16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	0.137	$4,400.00	$602.80
0711- 16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM	0.033	$4,400.00	$145.20
0711- 17- 1	THERMOPLASTIC, REMOVE EXISTING THERMOPLASTIC PAVEMENT MARKINGS- SURFACE TO REMAIN	SF	400	$1.00	$400.00
0713- 103-101	PERMANENT TAPE, WHITE, SOLID, 6" FOR CONCRETE BRIDGES	GM	0.624	$26,530.00	$16,554.72
0713- 103-201	PERMANENT TAPE, YELLOW, SOLID, 6" FOR CONCRETE BRIDGES	GM	0.149	$26,730.00	$3,982.77
300-Signing & Pavement Markings		**COMPONENT TOTAL**			**$79,316.61**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - FLORIDA AVENUE RAMP IMPROVEMENTS

PROJECT NUMBER:	HI-0141
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400-Lighting

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0630- 2- 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	100	$9.50	$950.00
0630- 2- 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	140	$30.00	$4,200.00
0630- 2- 16	CONDUIT, FURNISH & INSTALL, EMBEDDED CONCRETE BARRIERS AND TRAFFIC RAILINGS	LF	4881	$14.00	$68,334.00
0635- 2- 11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	2	$810.00	$1,620.00
0635- 3- 13	JUNCTION BOX, FURNISH & INSTALL, EMBEDDED	EA	12	$470.00	$5,640.00
0639- 1-111	ELECTRICAL POWER SERVICE, F&I, OVERHEAD, METER FURNISHED BY POWER COMPANY	AS	1	$5,027.00	$5,027.00
0639- 2- 1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	200	$9.00	$1,800.00
0639- 3- 11	ELECTRICAL SERVICE DISCONNECT, F&I, POLE MOUNT	EA	1	$1,688.00	$1,688.00
0715- 1- 11	LIGHTING CONDUCTORS, F&I, INSULATED, NO. 10 OR <	LF	300	$1.50	$450.00
0715- 1- 12	LIGHTING CONDUCTORS, F&I, INSULATED, NO.8 - 6	LF	5301	$1.75	$9,276.75
0715- 4- 13	LIGHT POLE COMPLETE, FURNISH & INSTALL STANDARD POLE STANDARD FOUNDATION, 40' MOUNTING HEIGHT	EA	12	$5,750.00	$69,000.00
0715- 4- 70	LIGHT POLE COMPLETE, REMOVE POLE AND FOUNDATION	EA	10	$700.00	$7,000.00
0715- 7- 11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA	1	$18,884.00	$18,884.00
0715- 11-125	LUMINAIRE, F&I, UNDER DECK, WALL MOUNT	EA	4	$980.00	$3,920.00
0715-500- 1	POLE CABLE DISTRIBUTION SYSTEM, FURNISH AND INSTALL, CONVENTIONAL	EA	2	$660.00	$1,320.00
0715-500- 3	POLE CABLE DISTRIBUTION SYSTEM, WALL MOUNT	EA	10	$350.00	$3,500.00
400-Lighting		**COMPONENT TOTAL**			**$202,609.75**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - FLORIDA AVENUE RAMP IMPROVEMENTS

PROJECT NUMBER:	HI-0141
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500-Signalization

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0630- 2- 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	100	$11.00	$1,100.00
0630- 2- 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	150	$33.00	$4,950.00
0632- 7- 1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	$6,308.81	$6,308.81
0635- 2- 11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	7	$1,100.00	$7,700.00
0639- 1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS	1	$4,500.00	$4,500.00
0639- 2- 1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	150	$9.00	$1,350.00
0641- 2- 12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA	1	$1,658.74	$1,658.74
0646- 1- 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	2	$3,000.00	$6,000.00
0649- 21- 10	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 60'	EA	2	$60,000.00	$120,000.00
0649- 26- 5	STEEL MAST ARM ASSEMBLY, REMOVE, DEEP FOUNDATION- BOLT ON ATTACHMENT	EA	1	$8,150.00	$8,150.00
0650- 1- 14	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	9	$1,250.00	$11,250.00
0653- 1- 11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	2	$1,200.00	$2,400.00
0660- 3- 11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	1	$4,500.00	$4,500.00
0660- 3- 12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	2	$8,500.00	$17,000.00
0665- 1- 11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	2	$314.15	$628.30
0670- 5-400	TRAFFIC CONTROLLER ASSEMBLY, MODIFY	AS	1	$3,000.00	$3,000.00
0685- 1- 11	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE	EA	1	$9,500.00	$9,500.00
0700- 5- 22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA	1	$5,000.00	$5,000.00
0700- 5- 50	INTERNALLY ILLUMINATED SIGN, RELOCATE	EA	1	$1,000.00	$1,000.00
500-Signalization			**COMPONENT TOTAL**		**$215,995.85**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - FLORIDA AVENUE RAMP IMPROVEMENTS

PROJECT NUMBER:	HI-0141
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550-ITS

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	Queue Flush Warning System	EA	1	$50,000.00	$50,000.00
550-ITS			**COMPONENT TOTAL**		**$50,000.00**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - WHITING STREET IMPROVEMENTS

PROJECT NUMBER:	HI-0141
DESCRIPTION:	Whiting Street Improvements. Includes Whiting Street Off-Ramp, Whiting Street realignment and Meridian Ave. improvements.
PAGE NUMBER:	1 of 9

COMPONENT GROUPS

100 - STRUCTURES		$3,169,904.96
200 - ROADWAY		$5,829,307.68
300 - SIGNING & PAVEMENT MARKINGS		$456,990.16
400 - LIGHTING		$200,702.00
500 - SIGNALIZATION		$928,870.24
550 - ITS		$50,000.00
600 - LANDSCAPE / PERIPHERALS (4% OF COMPONENTS 100 - 550)		$426,000.00
COMPONENT SUB-TOTAL		$11,061,775.04
(102-1) MOT (Maintenance of Traffic)	15%	$1,659,266.26
SUB-TOTAL		$12,721,041.30
(101-1) MOB (Mobilization)	12%	$1,526,524.96
SUB-TOTAL		$14,247,566.25
Market Conditions Factor	20%	$2,849,513.25
SUB-TOTAL		$17,097,079.51
PU (Project Unknowns)	30%	$5,129,123.85
SUB-TOTAL		$22,226,203.36

NOTES:

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - WHITING STREET IMPROVEMENTS

PROJECT NUMBER:	HI-0141
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100-Structures

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0110- 3-	REMOVAL OF EXISTING STRUCTURES/BRIDGES	SF	2317	$40.00	$92,680.00
0400- 2- 4	CONC CLASS II, BRIDGE SUPERSTRUCTURE	CY	554.8	$831.52	$461,327.30
0400- 2- 5	CONCRETE CLASS II, BRIDGE SUBSTRUCTURE	CY	404.5	$1,643.00	$664,593.50
0400- 2- 10	CONCRETE CLASS II, APPROACH SLABS	CY	36.7	$501.55	$18,406.89
0400- 7- 1	BRIDGE DECK GROOVING	SY	1953	$21.24	$41,481.72
0400- 9- 1	BRIDGE DECK PLANING	SY	1953	$14.47	$28,259.91
0400-147-	COMPOSITE NEOPRENE PADS	CF	20.8	$1,172.49	$24,387.79
0415- 1- 4	REINFORCING STEEL - BRIDGE SUPERSTRUCTURE	LB	130378	$1.16	$151,238.48
0415- 1- 5	REINFORCING STEEL- BRIDGE SUBSTRUCTURE	LB	89805	$1.27	$114,052.35
0415- 1- 9	REINFORCING STEEL- APPROACH SLABS	LB	7333	$1.16	$8,506.28
0450- 2- 36	PREST BEAMS: FLORIDA-I BEAM 36"	LF	924	$345.61	$319,343.64
0450- 2- 45	PREST BEAMS: FLORIDA-I BEAM 45"	LF	1541	$310.95	$479,173.95
0455- 34- 5	PRESTRESSED CONCRETE PILING, 24" SQ	LF	941	$171.83	$161,692.03
0455- 88- 5	DRILLED SHAFT, 48" DIA	LF	355	$900.19	$319,567.45
0455-143- 5	TEST PILES-PRESTRESSED CONCRETE,24" SQ	LF	229	$307.32	$70,376.28
0458- 1- 11	BRIDGE DECK EXPANSION JOINT, NEW CONSTRUCTION, F&I POURED JOINT WITH BACKER ROD	LF	363	$89.80	$32,597.40
0506- 2-	BRIDGE DRAINAGE PIPE	LF	30	$600.00	$18,000.00
0506- 3-	BRIDGE DRAINS	EA	1	$4,320.00	$4,320.00
0521- 5- 13	CONCRETE TRAFFIC RAILING- BRIDGE, 36" SINGLE-SLOPE	LF	1230	$130.00	$159,900.00
100-Structures		**COMPONENT TOTAL**			**$3,169,904.96**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - WHITING STREET IMPROVEMENTS

PROJECT NUMBER:	HI-0141
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200-Roadway

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0101 1	MOBILIZATION		12%	See Summary Sheet	
0102 1	MAINTENANCE OF TRAFFIC		15%	See Summary Sheet	
0999 25			1		
0110- 1- 1	CLEARING & GRUBBING	AC	8.06	$35,680.00	$287,580.80
0110- 4- 10	REMOVAL OF EXISTING CONCRETE	SY	2445	$24.00	$58,680.00
0110- 86- 10	DELIVERY OF SALVAGEABLE MATERIAL- BRICK PAVERS, GRANITE CURBING, ETC.	LS	1	$10,000.00	$10,000.00
0120- 1-	REGULAR EXCAVATION	CY	63288.4	$18.00	$1,139,191.38
0120- 6-	EMBANKMENT	CY	13118.7	$16.00	$209,899.20
0120- A	A-3 EMBANKMENT FOR POND LINER BACKFILL	CY	33106	$20.70	$685,285.92
0160- 4-	TYPE B STABILIZATION	SY	13594	$7.90	$107,392.60
0285-701-	OPTIONAL BASE, BASE GROUP 01	SY	638	$23.00	$14,674.00
0285-706-	OPTIONAL BASE, BASE GROUP 06	SY	1717	$26.00	$44,642.00
0285-709-	OPTIONAL BASE, BASE GROUP 09	SY	10414	$27.00	$281,178.00
0327- 70- 4	MILLING EXIST ASPH PAVT, 3" AVG DEPTH	SY	7156	$2.90	$20,752.40
0334- 1- 13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	TN	3122.96	$104.70	$326,973.91
0337- 7- 25	ASPHALT CONCRETE FRICTION COURSE, INC BIT, FC-5, PG 76-22	TN	182.17	$154.00	$28,054.18
0337- 7- 83	ASPHALT CONCRETE FRICTION COURSE,TRAFFIC C, FC-12.5, PG 76-22	TN	1216.64	$129.20	$157,189.89
0425- 1-351	INLETS, CURB, TYPE P-5, <10'	EA	10	$5,000.00	$50,000.00
0425- 1-361	INLETS, CURB, TYPE P-6, <10'	EA	3	$5,500.00	$16,500.00
0425- 1-541	INLETS, DT BOT, TYPE D, <10'	EA	2	$4,800.00	$9,600.00
0425- 1-549	INLETS, DT BOT, TYPE D, MODIFY	EA	2	$5,500.00	$11,000.00
0425- 1-921	INLETS, ADJACENT BARRIER, <=10'	EA	6	$6,400.00	$38,400.00
0425- 2- 71	MANHOLES, J-7, <10'	EA	2	$8,600.00	$17,200.00
0425- 1-619	INLETS, DITCH BOTTOM, TYPE K, J BOTTOM, MODIFY	EA	2	$12,000.00	$24,000.00
0430-175-124	PIPE CULVERT,OPTIONAL MATERIAL,ROUND, 24"S/CD	LF	4090	$115.00	$470,350.00
0430-175-148	PIPE CULVERT, OPT MATERIAL, ROUND, 48"S/CD	LF	810	$168.00	$136,080.00
0520- 1- 10	CONCRETE CURB & GUTTER, TYPE F	LF	4910	$32.00	$157,120.00
0520- 6-	SHOULDER GUTTER- CONCRETE	LF	144	$34.00	$4,896.00
0520- 70-	CONCRETE TRAFFIC SEPARATOR, SPECIAL- VARIABLE WIDTH	SY	825	$75.00	$61,875.00
0521- 1- 13	MEDIAN CONCRETE BARRIER, TALL GRADE-SEPARATED	LF	120	$415.00	$49,800.00
0521- 8- 7	CONCRETE BARRIER, WITH JUNCTION SLAB, 36" SINGLE SLOPE	LF	1100	$275.00	$302,500.00
0521- 72- 41	SHOULDER CONCRETE BARRIER, RETAINING SECTION	LF	360	$612.00	$220,320.00
0522- 2-	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	3195	$68.00	$217,260.00
0531- 1- A	IMPERMEABLE POND LINER	SY	11035	$12.00	$132,422.40
0536- 1- 1	GUARDRAIL -ROADWAY, GENERAL TL-3	LF	250	$17.50	$4,375.00
0536- 8-122	GUARDRAIL TRANSITION CONNECTION TO RIGID BARRIER, FURNISH AND INSTALL, EXISTING BRIDGE APPROACH TL-3	EA	1	$3,115.00	$3,115.00
0536- 85- 24	GUARDRAIL END TREATMENT- PARALLEL APPROACH TERMINAL	EA	1	$3,000.00	$3,000.00
0548- 12-	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER	SF	12000	$44.00	$528,000.00
200-Roadway			**COMPONENT TOTAL**		**$5,829,307.68**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - WHITING STREET IMPROVEMENTS

PROJECT NUMBER:	HI-0141
PAGE NUMBER:	4 of 9

300-Signing & Pavement Markings

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0700- 1- 11	SINGLE POST SIGN, F&I GROUND MOUNT, UP TO 12 SF	AS	22	$500.00	$11,000.00
0700- 1- 60	SINGLE POST SIGN, REMOVE	AS	22	$65.00	$1,430.00
0700- 2- 12	MULTI- POST SIGN, F&I GROUND MOUNT, 12-20 SF	AS	2	$4,852.00	$9,704.00
0700- 2- 50	MULTI- POST SIGN, GROUND MOUNT, RELOCATE	AS	1	$7,002.00	$7,002.00
0700- 3-103	SIGN PANEL, FURNISH & INSTALL GROUND MOUNT, 21-30 SF	EA	1	$796.00	$796.00
0700- 3-602	SIGN PANEL, REMOVE, 12-20 SF	EA	1	$212.44	$212.44
0700- 4-114	OVERHEAD STATIC SIGN STRUCTURE, FURNISH & INSTALL, CANTILEVER, 41-50 FT	EA	1	$128,000.00	$128,000.00
0700- 4-128	OVERHEAD STATIC SIGN STRUCTURE, FURNISH & INSTALL, SPAN, 201 FT AND GREATER	EA	1	$237,610.00	$237,610.00
0705- 11- 3	DELINEATOR, FLEXIBLE HIGH VISIBILITY MEDIAN	EA	4	$176.87	$707.48
0706- 1- 1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS	EA	295	$4.82	$1,421.90
0710- 90-	PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS	1	$11,740.32	$11,740.32
0711- 11-125	THERMOPLASTIC, STANDARD, WHITE, SOLID, 24" FOR STOP LINE AND CROSSWALK	LF	2140	$4.00	$8,560.00
0711- 11-141	THERMOPLASTIC, STANDARD, WHITE, 2-4 DOTTED GUIDELINE/ 6-10 GAP EXTENSION, 6"	GM	0.123	$2,087.48	$256.76
0711- 11-160	THERMOPLASTIC, STANDARD, WHITE, MESSAGE OR SYMBOL	EA	10	$104.40	$1,044.00
0711- 11-170	THERMOPLASTIC, STANDARD, WHITE, ARROW	EA	53	$58.38	$3,094.14
0711- 11-224	THERMOPLASTIC, STANDARD, YELLOW, SOLID, 18" FOR DIAGONAL OR CHEVRON	LF	92	$3.50	$322.00
0711- 14-170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	3	$128.64	$385.92
0711- 14-660	THERMOPLASTIC, PREFORMED, MULTI COLOR ROUTE SHIELD	EA	3	$2,100.00	$6,300.00
0711- 15-101	THERMOPLASTIC, STANDARD-OPEN GRADED ASPHALT SURFACES WHITE, SOLID, 6"	GM	0.856	$5,783.00	$4,950.25
0711- 15-201	THERMOPLASTIC, STANDARD-OPEN GRADED ASPHALT SURFACES, YELLOW, SOLID, 6"	GM	0.166	$5,808.00	$964.13
0711- 16-101	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SOLID, 6"	GM	1.379	$4,400.00	$6,067.60
0711- 16-131	THERMOPLASTIC, STANDARD-OTHER SURFACES, WHITE, SKIP, 6",10-30 SKIP OR 3-9 LANE DROP	GM	0.875	$1,631.90	$1,427.91
0711- 16-201	THERMOPLASTIC, STANDARD-OTHER SURFACES, YELLOW, SOLID, 6"	GM	0.476	$4,400.00	$2,094.40
0713- 103-101	PERMANENT TAPE, WHITE, SOLID, 6" FOR CONCRETE BRIDGES	GM	0.247	$26,530.00	$6,552.91
0713- 103-201	PERMANENT TAPE, YELLOW, SOLID, 6" FOR CONCRETE BRIDGES	GM	0.2	$26,730.00	$5,346.00
300-Signing & Pavement Markings		**COMPONENT TOTAL**			**$456,990.16**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - WHITING STREET IMPROVEMENTS

PROJECT NUMBER:	HI-0141
PAGE NUMBER:	5 of 9

400-Lighting

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0630- 2- 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	450	$9.50	$4,275.00
0630- 2- 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	100	$32.00	$3,200.00
0630- 2- 16	CONDUIT, FURNISH & INSTALL, EMBEDDED CONCRETE BARRIERS AND TRAFFIC RAILINGS	LF	4350	$14.00	$60,900.00
0635- 2- 11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	4	$810.00	$3,240.00
0635- 3- 13	JUNCTION BOX, FURNISH & INSTALL, EMBEDDED	EA	11	$470.00	$5,170.00
0639- 1-111	ELECTRICAL POWER SERVICE, F&I, OVERHEAD, METER FURNISHED BY POWER COMPANY	AS	1	$5,027.00	$5,027.00
0639- 2- 1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	120	$9.00	$1,080.00
0639- 3- 11	ELECTRICAL SERVICE DISCONNECT, F&I, POLE MOUNT	EA	1	$1,688.00	$1,688.00
0715- 1- 11	LIGHTING CONDUCTORS, F&I, INSULATED, NO. 10 OR <	LF	90	$1.50	$135.00
0715- 1- 12	LIGHTING CONDUCTORS, F&I, INSULATED, NO.8 - 6	LF	5700	$1.75	$9,975.00
0715- 4- 13	LIGHT POLE COMPLETE, FURNISH & INSTALL STANDARD POLE STANDARD FOUNDATION, 40' MOUNTING HEIGHT	EA	12	$5,750.00	$69,000.00
0715- 4- 70	LIGHT POLE COMPLETE, REMOVE POLE AND FOUNDATION	EA	6	$700.00	$4,200.00
0715- 5- 32	LUMINAIRE & BRACKET ARM- GALV STEEL, FURNISH & INSTALL NEW LUMINAIRE AND ARM ON NEW/EXISTING POLE	EA	2	$3,419.00	$6,838.00
0715- 7- 11	LOAD CENTER, F&I, SECONDARY VOLTAGE	EA	1	$18,884.00	$18,884.00
0715- 11-125	LUMINAIRE, F&I, UNDER DECK, WALL MOUNT	EA	2	$980.00	$1,960.00
0715-500- 1	POLE CABLE DISTRIBUTION SYSTEM, FURNISH AND INSTALL, CONVENTIONAL	EA	3	$660.00	$1,980.00
0715-500- 3	POLE CABLE DISTRIBUTION SYSTEM, WALL MOUNT	EA	9	$350.00	$3,150.00
400-Lighting		**COMPONENT TOTAL**			**$200,702.00**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - WHITING STREET IMPROVEMENTS

PROJECT NUMBER:	HI-0141
PAGE NUMBER:	6 of 9

500-Signalization

Whiting Street Off-Ramp

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0630- 2- 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	150	$11.00	$1,650.00
0630- 2- 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	200	$33.00	$6,600.00
0632- 7- 1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	$6,308.81	$6,308.81
0635- 2- 11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	11	$1,100.00	$12,100.00
0639- 1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS	1	$4,500.00	$4,500.00
0639- 2- 1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	180	$9.00	$1,620.00
0641- 2- 12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA	1	$1,658.74	$1,658.74
0646- 1- 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	6	$3,000.00	$18,000.00
0649- 21- 16	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, DOUBLE ARM 70'-30'	EA	1	$95,000.00	$95,000.00
0650- 1- 14	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	9	$1,200.00	$10,800.00
0653- 1- 11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	6	$1,100.00	$6,600.00
0660- 3- 11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	1	$4,500.00	$4,500.00
0660- 3- 12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	3	$8,500.00	$25,500.00
0665- 1- 11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	6	$314.15	$1,884.90
0670- 5-110	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA	AS	1	$30,000.00	$30,000.00
0685- 1- 11	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE	EA	1	$9,500.00	$9,500.00
0700- 5- 22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA	3	$5,000.00	$15,000.00
500-Signalization		**COMPONENT TOTAL**			**$251,222.45**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - WHITING STREET IMPROVEMENTS

PROJECT NUMBER:	HI-0141
PAGE NUMBER:	7 of 9

500-Signalization

Whiting Street at Brush Street

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0630- 2- 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	150	$11.00	$1,650.00
0630- 2- 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	200	$33.00	$6,600.00
0632- 7- 1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	$6,500.00	$6,500.00
0632- 7- 2	SIGNAL CABLE- REPAIR/REPLACE/OTHER, FURNISH & INSTALL	LF	200	$8.00	$1,600.00
0635- 2- 11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	11	$1,100.00	$12,100.00
0639- 1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS	1	$4,500.00	$4,500.00
0639- 2- 1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	240	$9.00	$2,160.00
0641- 2- 12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA	1	$1,658.74	$1,658.74
0646- 1- 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	6	$3,000.00	$18,000.00
0649- 21- 10	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 60'	EA	3	$60,000.00	$180,000.00
0650- 1- 14	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	7	$1,200.00	$8,400.00
0653- 1- 11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	6	$1,100.00	$6,600.00
0660- 3- 11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	1	$4,500.00	$4,500.00
0660- 3- 12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	3	$8,500.00	$25,500.00
0665- 1- 11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	6	$314.15	$1,884.90
0670- 5-110	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA	AS	1	$30,000.00	$30,000.00
0685- 1- 11	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE	EA	1	$9,500.00	$9,500.00
0700- 5- 22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA	3	$5,000.00	$15,000.00
500-Signalization		**COMPONENT TOTAL**			**$336,153.64**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - WHITING STREET IMPROVEMENTS

PROJECT NUMBER:	HI-0141
PAGE NUMBER:	8 of 9

500-Signalization

Whiting Street at Meridian Avenue

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
0630- 2- 11	CONDUIT, FURNISH & INSTALL, OPEN TRENCH	LF	50	$11.00	$550.00
0630- 2- 12	CONDUIT, FURNISH & INSTALL, DIRECTIONAL BORE	LF	100	$33.00	$3,300.00
0632- 7- 1	SIGNAL CABLE- NEW OR RECONSTRUCTED INTERSECTION, FURNISH & INSTALL	PI	1	$6,308.81	$6,308.81
0635- 2- 11	PULL & SPLICE BOX, F&I, 13" x 24" COVER SIZE	EA	12	$1,100.00	$13,200.00
0639- 1-122	ELECTRICAL POWER SERVICE, F&I, UNDERGROUND, METER PURCHASED BY CONTRACTOR	AS	1	$4,500.00	$4,500.00
0639- 2- 1	ELECTRICAL SERVICE WIRE, FURNISH & INSTALL	LF	180	$9.00	$1,620.00
0641- 2- 12	PRESTRESSED CONCRETE POLE, F&I, TYPE P-II SERVICE POLE	EA	1	$1,658.74	$1,658.74
0646- 1- 11	ALUMINUM SIGNALS POLE, PEDESTAL	EA	4	$3,000.00	$12,000.00
0649- 21- 15	STEEL MAST ARM ASSEMBLY, FURNISH AND INSTALL, SINGLE ARM 70'	EA	3	$65,000.00	$195,000.00
0650- 1- 14	VEHICULAR TRAFFIC SIGNAL, FURNISH & INSTALL ALUMINUM, 3 SECTION, 1 WAY	AS	11	$1,200.00	$13,200.00
0653- 1- 11	PEDESTRIAN SIGNAL, FURNISH & INSTALL LED COUNTDOWN, 1 WAY	AS	4	$1,100.00	$4,400.00
0660- 3- 11	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL CABINET EQUIPMENT	EA	1	$4,500.00	$4,500.00
0660- 3- 12	VEHICLE DETECTION SYSTEM- MICROWAVE, FURNISH & INSTALL, ABOVE GROUND EQUIPMENT	EA	3	$8,500.00	$25,500.00
0665- 1- 11	PEDESTRIAN DETECTOR, FURNISH & INSTALL, STANDARD	EA	4	$314.15	$1,256.60
0670- 5-110	TRAFFIC CONTROLLER ASSEMBLY, F&I, NEMA	AS	1	$30,000.00	$30,000.00
0685- 1- 11	UNINTERRUPTIBLE POWER SUPPLY, FURNISH AND INSTALL, LINE INTERACTIVE	EA	1	$9,500.00	$9,500.00
0700- 5- 22	INTERNALLY ILLUMINATED SIGN, FURNISH & INSTALL, OVERHEAD MOUNT, 12-18 SF	EA	3	$5,000.00	$15,000.00
500-Signalization		**COMPONENT TOTAL**			**$341,494.15**

ENGINEER'S ESTIMATE

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

PREFERRED ALTERNATIVE - WHITING STREET IMPROVEMENTS

PROJECT NUMBER:	HI-0141
PAGE NUMBER:	9 of 9

550-ITS

PAY ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
	Queue Flush Warning System	EA	1	$50,000.00	$50,000.00
550-ITS			**COMPONENT TOTAL**		**$50,000.00**

Appendix D

Typical Section Package

STATE OF FLORIDA

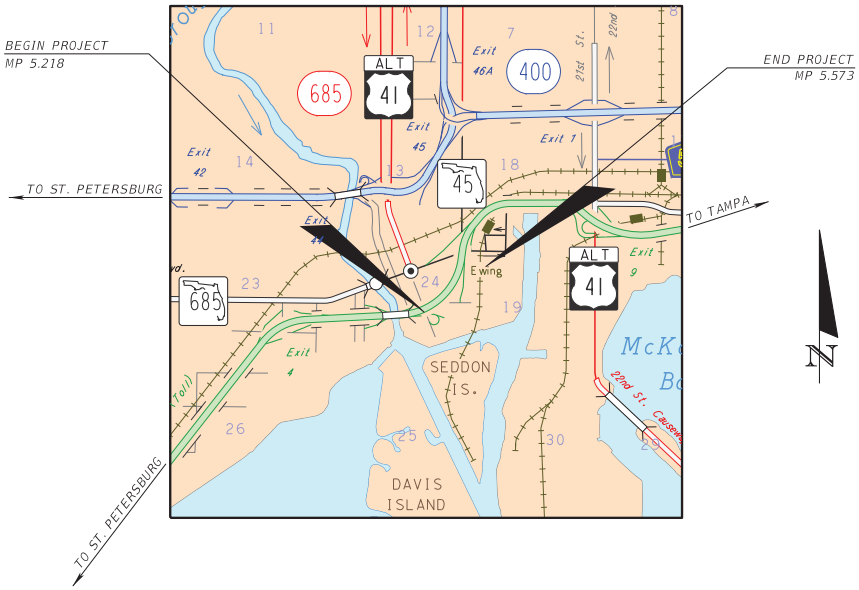
TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY

TYPICAL SECTION PACKAGE

THEA PROJECT ID HI-0141
WHITING STREET ULTIMATE - WHITING STREET EXTENSION AND RAMPS

HILLSBOROUGH COUNTY

STATE ROAD NO. 618



APPROVED BY:

MATTIAS D. CIABATTI LICENSE No 90880 STATE OF FLORIDA PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

H.W. LOCHNER
4350 W. CYPRESS STREET, SUITE 800
TAMPA, FL 33607
MATTIAS D. CIABATTI, P.E. NO. 90880

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

INDEX OF SHEETS

TYPICAL SECTION CONCURRENCE

Brian W. Pickard, P.E. Florida PE #58863

Digitally signed by Brian W. Pickard, P.E. Florida PE #58863
Date: 2022.05.27 08:53:05 -04'00'

THEA DIRECTOR OF OPERATIONS AND ENGINEERING

DocuSigned by:
James Drapp
9467AF77952844B...

James Drapp PE

THEA GENERAL ENGINEERING CONSULTANT

SHEET NO.
1

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C2 : RURAL
( ) C2T : RURAL TOWN
( ) C3R : SUBURBAN RES.
( ) C3C : SUBURBAN COMM.
( ) C4 : URBAN GENERAL
( ) C5 : URBAN CENTER
( ) C6 : URBAN CORE
(X) N/A : L.A. FACILITY

FUNCTIONAL CLASSIFICATION

( ) INTERSTATE
(X) FREEWAY/EXPWY.
( ) PRINCIPAL ARTERIAL
( ) MINOR ARTERIAL
( ) MAJOR COLLECTOR
( ) MINOR COLLECTOR
( ) LOCAL

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
(X) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

(X) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

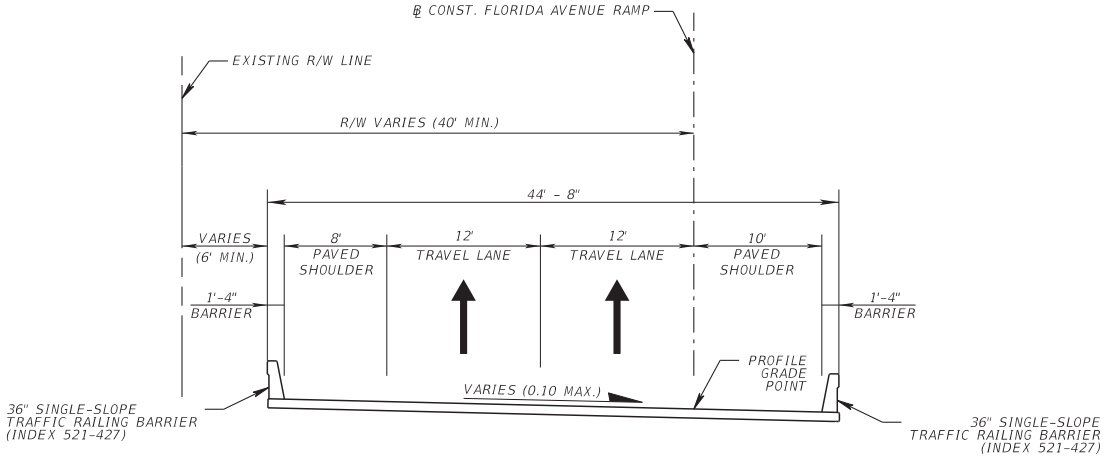
CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

DESIGN SPEED
BORDER WIDTH
CURVE LENGTH
RAMP SPACING

TYPICAL SECTION No. 1



TYPICAL SECTION

RAMP 6A (DOWNTOWN WEST)
EASTBOUND SR 618 TO NORTHBOUND FLORIDA AVENUE

NOT TO SCALE

TRAFFIC DATA

CURRENT YEAR = 2019 AADT = 3,200
ESTIMATED OPENING YEAR = 2026 AADT = 10,500
ESTIMATED DESIGN YEAR = 2046 AADT = 13,500
K = 9.0%, D = 100%, T = 2.2% (24HR)
DESIGN HOUR T = 2.0%
DESIGN SPEED = 20 MPH

FINANCIAL PROJECT ID	SHEET NO.
HI-0141	2

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PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C2 : RURAL
( ) C2T : RURAL TOWN
( ) C3R : SUBURBAN RES.
( ) C3C : SUBURBAN COMM.
( ) C4 : URBAN GENERAL
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( ) MINOR ARTERIAL
( ) MAJOR COLLECTOR
( ) MINOR COLLECTOR
( ) LOCAL

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
(X) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
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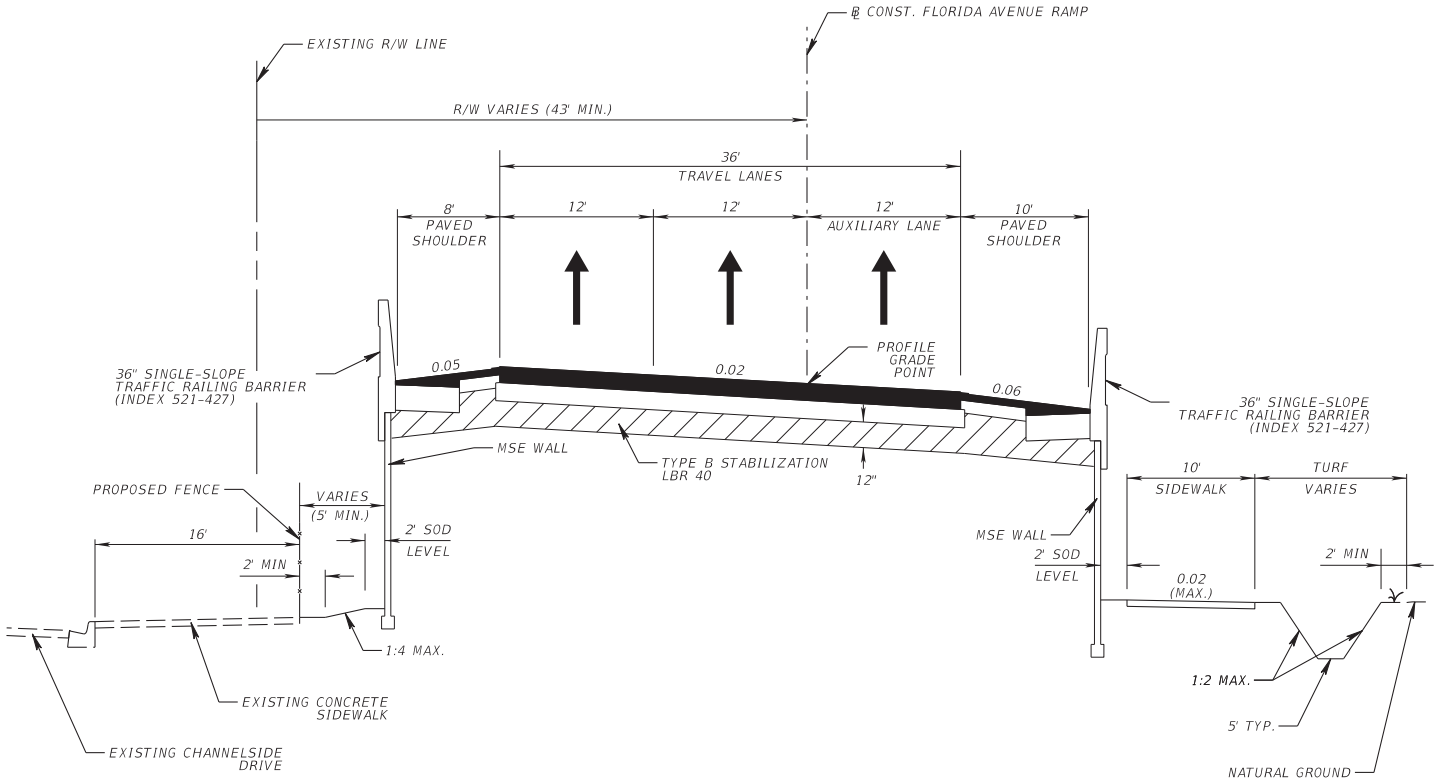
( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 2



TYPICAL SECTION

RAMP 6A (DOWNTOWN WEST)
EASTBOUND SR 618 TO NORTHBOUND FLORIDA AVENUE

NOT TO SCALE

TRAFFIC DATA

CURRENT YEAR = 2019 AADT = 3,200
ESTIMATED OPENING YEAR = 2026 AADT = 10,500
ESTIMATED DESIGN YEAR = 2046 AADT = 13,500
K = 9.0%, D = 100%, T = 2.2% (24HR)
DESIGN HOUR T = 2.0%
DESIGN SPEED = 20 MPH

FINANCIAL PROJECT ID	SHEET NO.
HI-0141	3

1/12/2022 12:18:49 PM

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C2 : RURAL
( ) C2T : RURAL TOWN
( ) C3R : SUBURBAN RES.
( ) C3C : SUBURBAN COMM.
( ) C4 : URBAN GENERAL
( ) C5 : URBAN CENTER
( ) C6 : URBAN CORE
(X) N/A : L.A. FACILITY

FUNCTIONAL CLASSIFICATION

( ) INTERSTATE
(X) FREEWAY/EXPWY.
( ) PRINCIPAL ARTERIAL
( ) MINOR ARTERIAL
( ) MAJOR COLLECTOR
( ) MINOR COLLECTOR
( ) LOCAL

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
(X) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

(X) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
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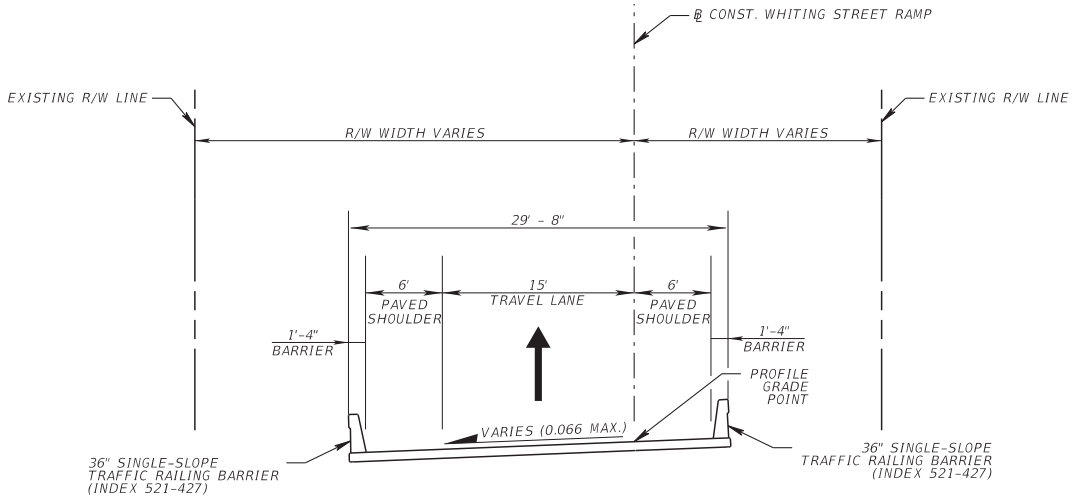
CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

DESIGN SPEED
SAG CURVE K VALUE
SAG CURVE MINIMUM LENGTH

TYPICAL SECTION No. 3



TYPICAL SECTION

RAMP 6B (DOWNTOWN EAST)
EASTBOUND SR 618 TO EAST WHITING STREET

NOT TO SCALE

TRAFFIC DATA

CURRENT YEAR = 2019 AADT = N/A
ESTIMATED OPENING YEAR = 2026 AADT = 6,700
ESTIMATED DESIGN YEAR = 2046 AADT = 16,000
K = 9.0%, D = 100%, T = 2.2% (24HR)
DESIGN HOUR T = 2.0%
DESIGN SPEED = 35 MPH

FINANCIAL PROJECT ID	SHEET NO.
HI-0141	4

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PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C2 : RURAL
( ) C2T : RURAL TOWN
( ) C3R : SUBURBAN RES.
( ) C3C : SUBURBAN COMM.
( ) C4 : URBAN GENERAL
( ) C5 : URBAN CENTER
( ) C6 : URBAN CORE
(X) N/A : L.A. FACILITY

FUNCTIONAL CLASSIFICATION

( ) INTERSTATE
(X) FREEWAY/EXPWY.
( ) PRINCIPAL ARTERIAL
( ) MINOR ARTERIAL
( ) MAJOR COLLECTOR
( ) MINOR COLLECTOR
( ) LOCAL

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
(X) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

(X) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( ) 7 - BOTH MEDIAN TYPES

CRITERIA

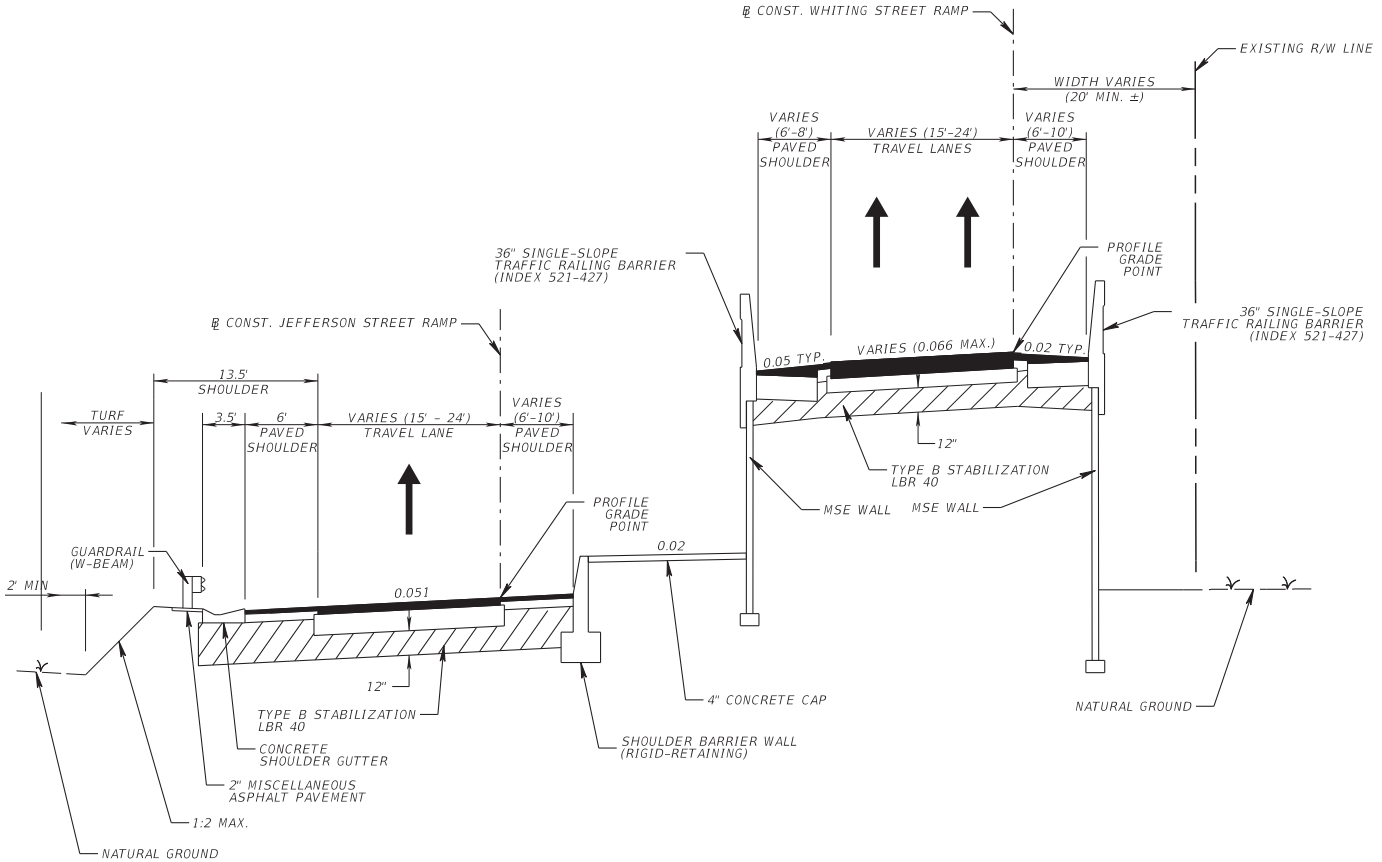
(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

RAMP 6B (DOWNTOWN EAST)
EASTBOUND SR 618 TO EAST WHITING STREET:

DESIGN SPEED
SAG CURVE K VALUE
SAG CURVE MINIMUM LENGTH

TYPICAL SECTION No. 4



TYPICAL SECTION

SOUTH JEFFERSON STREET TO EASTBOUND SR 618 ENTRANCE RAMP

AND

RAMP 6B (DOWNTOWN EAST)
EASTBOUND SR 618 TO EAST WHITING STREET

NOT TO SCALE

TRAFFIC DATA

CURRENT YEAR = 2019 AADT = N/A
ESTIMATED OPENING YEAR = 2026 AADT = 6,700
ESTIMATED DESIGN YEAR = 2046 AADT = 16,000
K = 9.0%, D = 100%, T = 2.2% (24HR)
DESIGN HOUR T = 2.0%
DESIGN SPEED = 30 MPH

FINANCIAL PROJECT ID	SHEET NO.
HI-0141	5

PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
( )	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
( )	C3R : SUBURBAN RES.	(X)	C6 : URBAN CORE
( )	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

( )	INTERSTATE	( )	MAJOR COLLECTOR
( )	FREEWAY/EXPWY.	(X)	MINOR COLLECTOR
( )	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
( ) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
(x) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

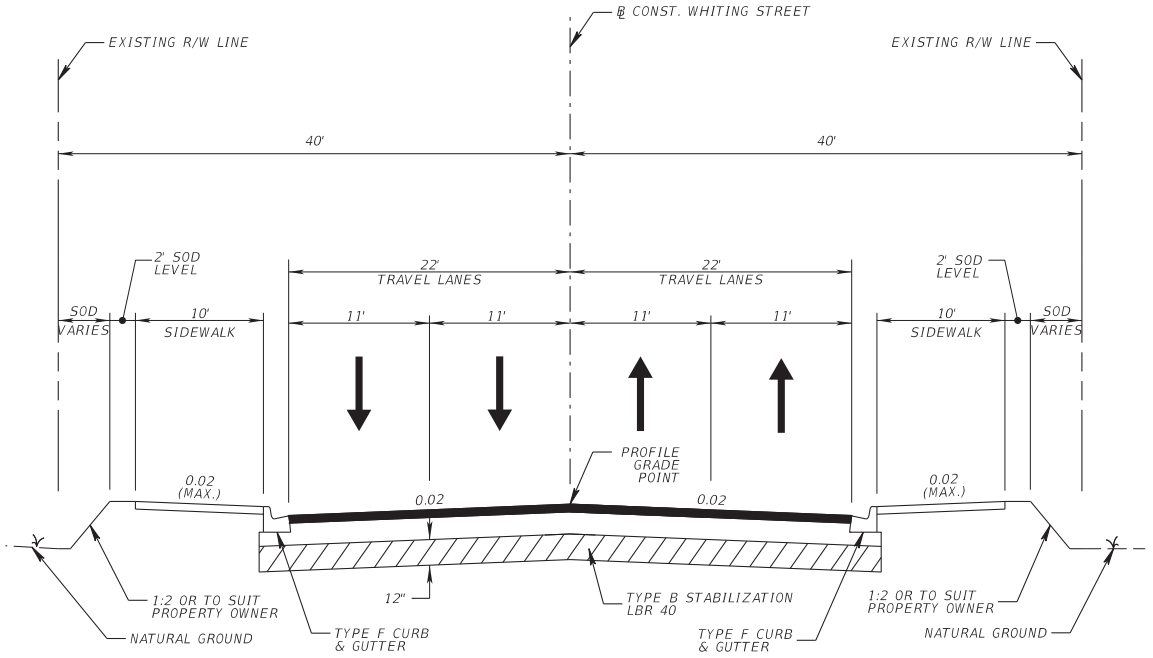
( ) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
(X) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 5



TYPICAL SECTION

EAST WHITING STREET
JEFFERSON STREET TO SELMON EXPRESSWAY

NOT TO SCALE

TRAFFIC DATA

CURRENT YEAR = 2019 AADT = 3,500
ESTIMATED OPENING YEAR = 2026 AADT = 11,000
ESTIMATED DESIGN YEAR = 2046 AADT = 15,500
K = 9.0%, D = 55.5%, T = 2.2% (24HR)
DESIGN HOUR T = 2.0%
DESIGN SPEED = 30 MPH
POSTED SPEED = 25 MPH

FINANCIAL PROJECT ID	SHEET NO.
HI-0141	6

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PROJECT CONTROLS

CONTEXT CLASSIFICATION

( ) C1 : NATURAL
( ) C2 : RURAL
( ) C2T : RURAL TOWN
( ) C3R : SUBURBAN RES.
( ) N/A : L.A. FACILITY
( ) C3C : SUBURBAN COMM.
( ) C4 : URBAN GENERAL
( ) C5 : URBAN CENTER
(X) C6 : URBAN CORE

FUNCTIONAL CLASSIFICATION

( ) INTERSTATE
( ) FREEWAY/EXPWY.
( ) PRINCIPAL ARTERIAL
( ) MINOR ARTERIAL
( ) MAJOR COLLECTOR
(X) MINOR COLLECTOR
( ) LOCAL

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM
( ) STRATEGIC INTERMODAL SYSTEM
( ) STATE HIGHWAY SYSTEM
(x) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

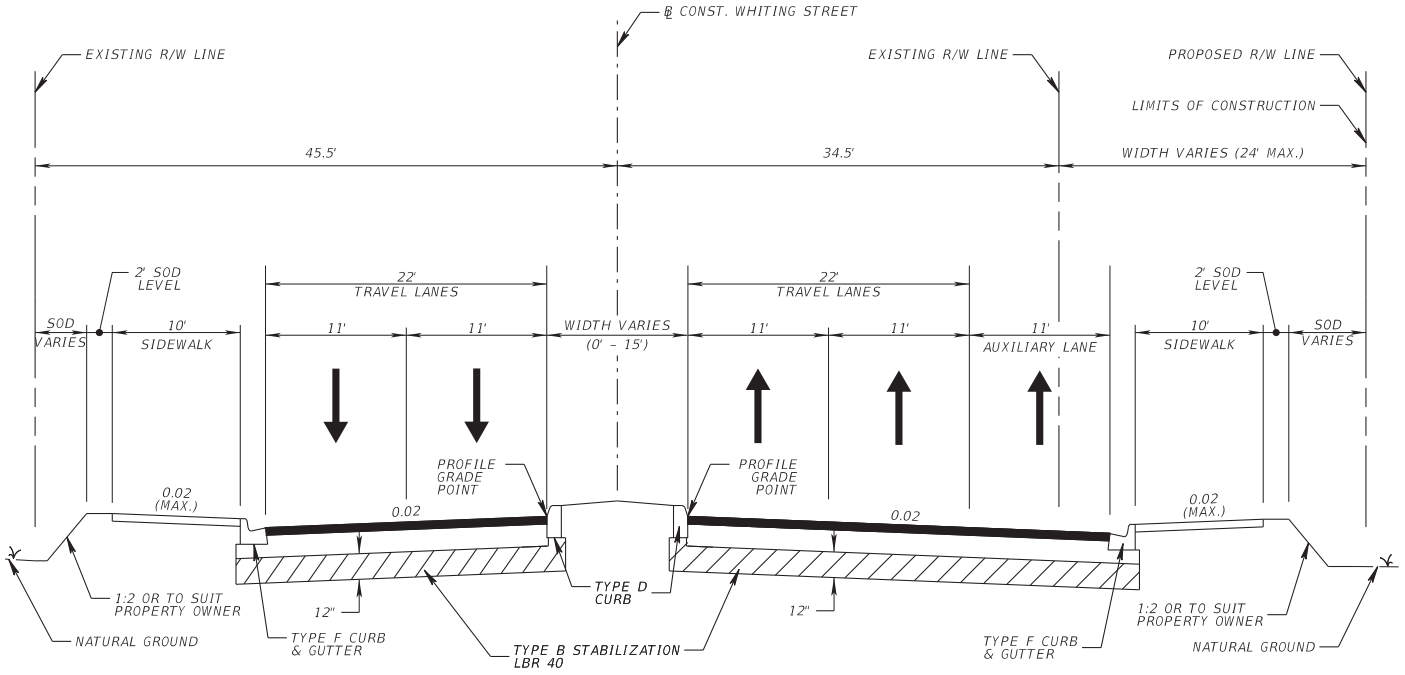
( ) 1 - FREEWAY
( ) 2 - RESTRICTIVE w/Service Roads
( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
(X) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION
( ) RESURFACING (LA FACILITIES)
( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

TYPICAL SECTION No. 6



TYPICAL SECTION

EAST WHITING STREET
SELMON EXPRESSWAY TO MERIDIAN AVENUE

NOT TO SCALE

TRAFFIC DATA

CURRENT YEAR = 2019 AADT = 3,800
ESTIMATED OPENING YEAR = 2026 AADT = 15,500
ESTIMATED DESIGN YEAR = 2046 AADT = 25,000
K = 9.0%, D = 55.5%, T = 2.2% (24HR)
DESIGN HOUR T = 2.0%
DESIGN SPEED = 30 MPH
POSTED SPEED = 25 MPH

FINANCIAL PROJECT ID	SHEET NO.
HI-0141	7