

*FINAL*  
*PRELIMINARY ENGINEERING REPORT*

# US 301 (SR 43)

from SR 60 (Adamo Drive) to I-4 (SR 400)

Project Development and Environment Study



WPI Segment No. 430050-1

*March 2018*

# **Final Preliminary Engineering Report**

## **US 301 (SR 43)**

### **Project Development and Environment Study from State Road 60 (Adamo Drive) to south of the I-4 (SR 400)**

#### **Hillsborough County, Florida**

WPI Segment No. 430050-1

ETDM No. 3097

This roadway capacity improvement project involves widening US 301 from the existing four-lane divided arterial roadway to a divided six-lane arterial roadway to accommodate future travel demand in the study area. The study limits extend from the intersection with State Road 60 to south of the I-4/US 301 ramps in Hillsborough County. The total project length is 3.3 miles.

#### **Florida Department of Transportation District Seven**



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March 2018

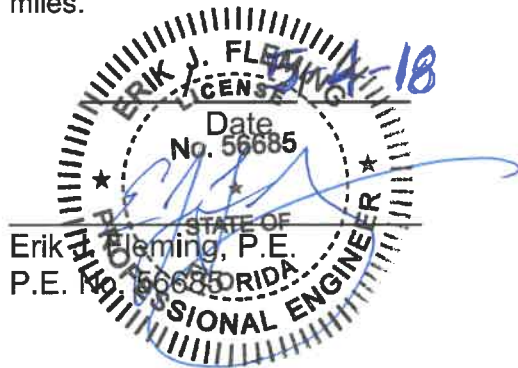
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- Appendix D – Signed Typical Section Package
- Appendix E – Long Range Estimate

# 1.0 SUMMARY OF PROJECT

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## 1.1 Summary

This preliminary engineering report contains detailed information that fulfills the purpose and need for project US 301 (SR 43) from SR 60 (Adamo Drive) to the southern end of the eastbound I-4 (SR 400) on- and off-ramps in Hillsborough County. The total project length is approximately 3.3 miles.

## 1.2 Commitments

1. The FDOT is committed to the following measures to address surface water impacts for this project:
  - Practicable measures to avoid or minimize surface water impacts will be addressed during final design for the project.
  - Best Management Practices will be incorporated during construction to minimize surface water impacts to any off-site wetlands and surface waters that are affected by the proposed project.
  - While not currently anticipated to be required, unavoidable surface water impacts will be mitigated pursuant to S. 373.4137 F.S. to satisfy all mitigation requirements of Part IV, Chapter 373 F.S. and 33 U.S.C.s 1344 which includes purchase of mitigation bank credits or use of the FDOT wetland mitigation inventory program.
2. Based upon findings of the preliminary data collection, general corridor surveys, and ongoing coordination with the USFWS and FWC, the FDOT has established the following additional project commitments:
  - Gopher tortoise: Surveys for potentially affected gopher tortoise burrows will be conducted prior to construction, and permits to relocate tortoises and commensals as appropriate will be obtained from the FWC.
  - Eastern indigo snake: The standard FDOT Construction Precautions for the Eastern Indigo Snake will be adhered to during construction of the project.
  - Osprey: Surveys to update locations of active osprey nest sites will be conducted prior to construction, and permits will be acquired if impacts during construction are unavoidable. Coordination with FWC will take place, and a replacement nesting structure will be located in the immediate vicinity as appropriate.
  - Wood stork: Impacts to potential wood stork suitable foraging habitat will be evaluated during the design phase, and mitigation for unavoidable impacts will be provided as appropriate.
  - Bald eagle: Should a bald eagle nest be built prior to or during construction within 660 feet of the construction limits, further coordination will occur with the FWC and/or USFWS as appropriate.

3. A land use review will be performed during the Design phase of the project to ensure that all noise-sensitive land uses that have received a building permit prior to the project's Date of Public Knowledge are evaluated.
4. The Department will coordinate with the Florida State Fairground the pedestrian crossing accommodation along US 301 within the design project limits.

**Recommendations**

It is recommended that the primary engineering elements associated with the Preferred Build Alternative as described under Proposed Improvements in **Section 2** (Alternatives) be approved for advancement to future phases of project development (i.e. design, right-of-way acquisition, and construction) as funding becomes available.

**1.3 Description of Proposed Action**

The proposed action involves widening US 301 from the existing four-lane divided arterial roadway to a six-lane divided arterial roadway to accommodate future travel demand in the study area. The study limits extend from SR 60 to I-4 in Hillsborough County. The total project length is approximately 3.3 miles. This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for the proposed action. The environmental document is a State Environmental Impact Report (SEIR).

**1.4 Proposed Typical Sections**

Alternative 2 consists of two typical sections for the widening of US 301. **Table 1-1** identifies the limits of the two typical sections. Typical section No. 1 is a 45 mph urban typical section that consists of six 11-foot travel lanes (three in each direction), 7-foot designated buffered bicycle lanes, a 22-foot raised median, and 5-foot sidewalks and curb and gutter on both sides. This urban typical section is illustrated in **Figure 1-1**.

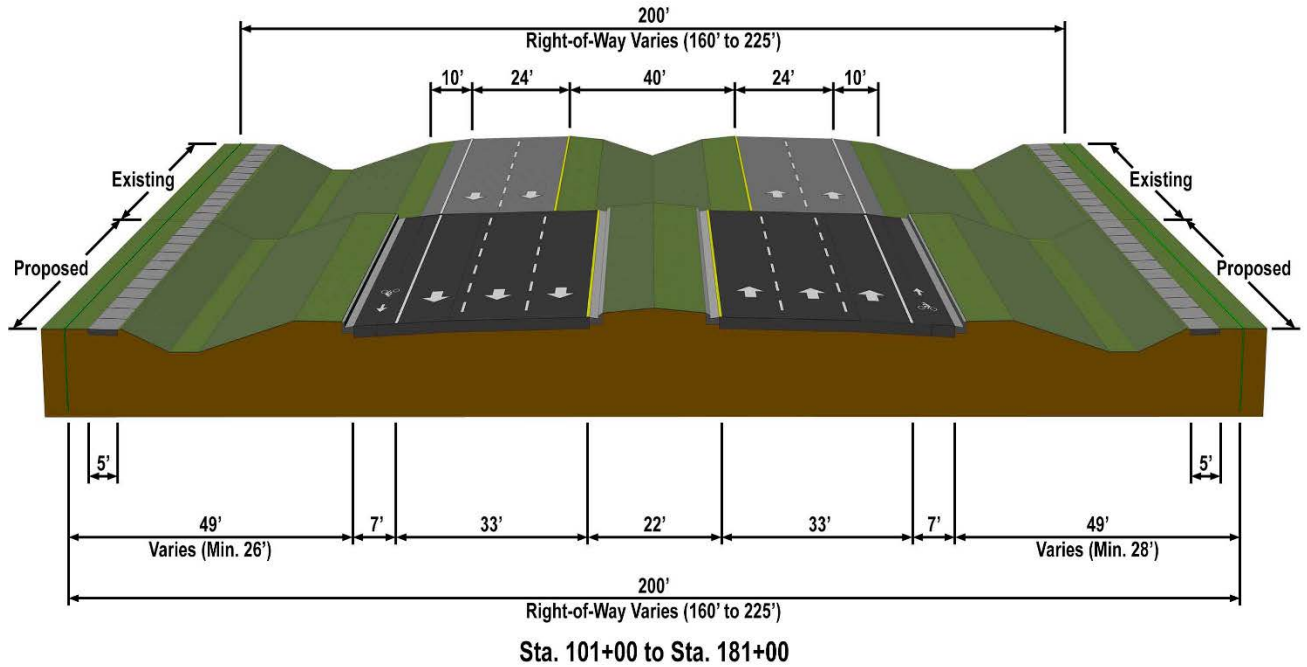
**Table 1-1 Typical Section Limits**

Segment	Limits	Typical Section	Design Speed (mph)
1	From SR 60 to just north of Overpass Road/21 <sup>st</sup> Avenue	Urban	45 <sup>1</sup>
2	From just north of Overpass Road/21 <sup>st</sup> Avenue to SR 574	Suburban	50
3	From SR 574 to just south of the eastbound I-4 on-/off-ramps	Suburban	50

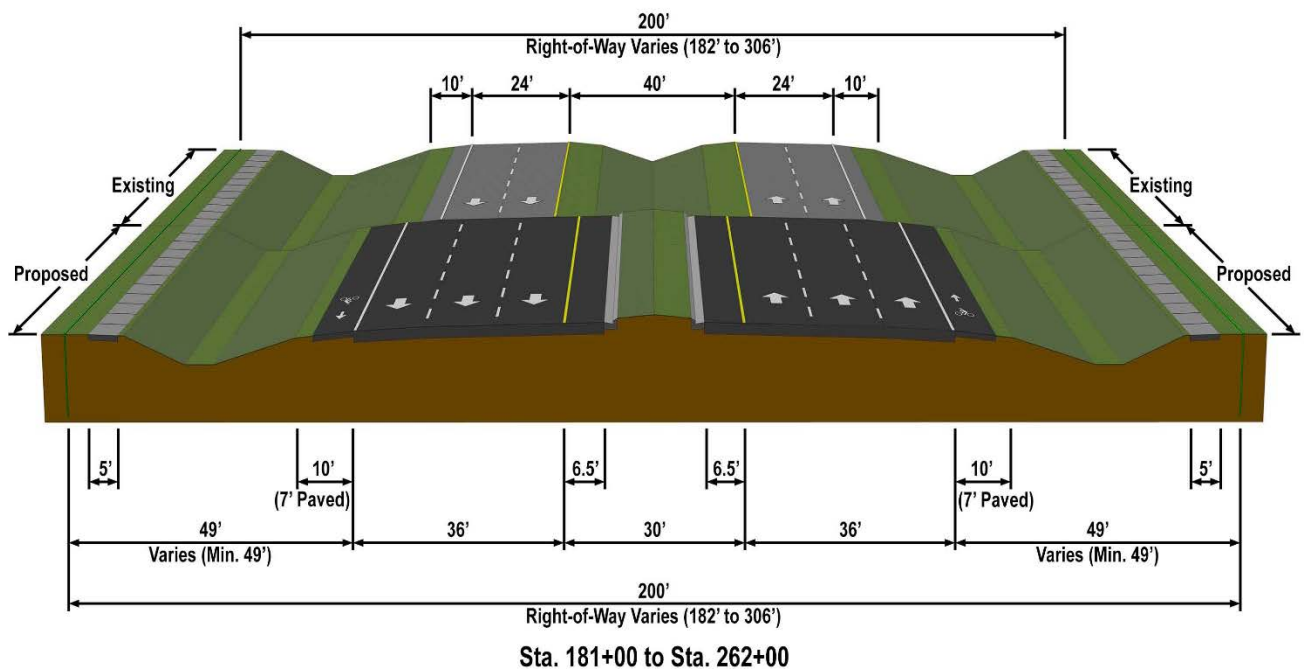
1. FDOT required the vertical alignment to be based on a design speed of 50 mph.

Typical section No. 2 is a 50 mph suburban typical section that consists of six 12-foot travel lanes (three in each direction), 6.5-foot paved inside shoulders, 10-foot outside shoulders (with 7 feet paved), a 30 foot raised median with curb and gutter in the median and 5-foot sidewalks on both sides. Typical section No. 2 is illustrated in **Figure 1-2**. The proposed typical sections for the bridges over the CSX S-Line and the CSX A-Line and CR 574 are shown in **Figure 1-3** and **Figure 1-4**, respectively.

The proposed typical section for the bridges over the Tampa Bypass Canal will be widened and the open median between the bridges will be closed as shown in **Figure 1-5**. The signed typical section package is provided in **Appendix D**.

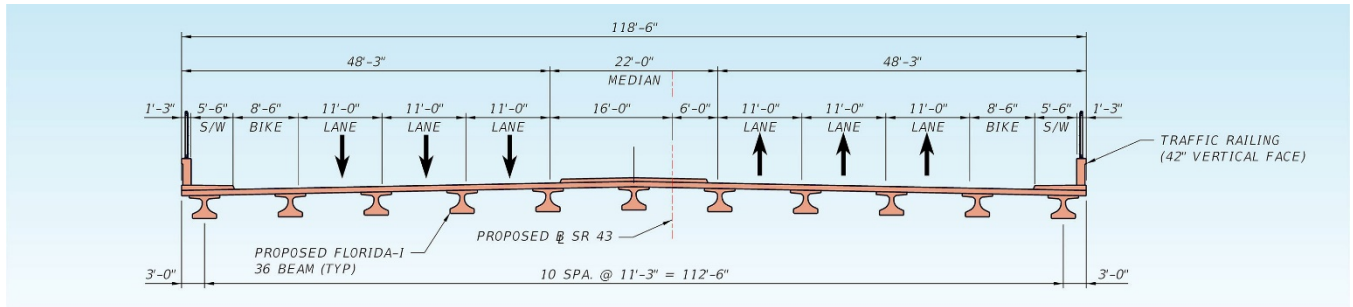


**Figure 1-1 Proposed Urban Typical Section – Segment 1**

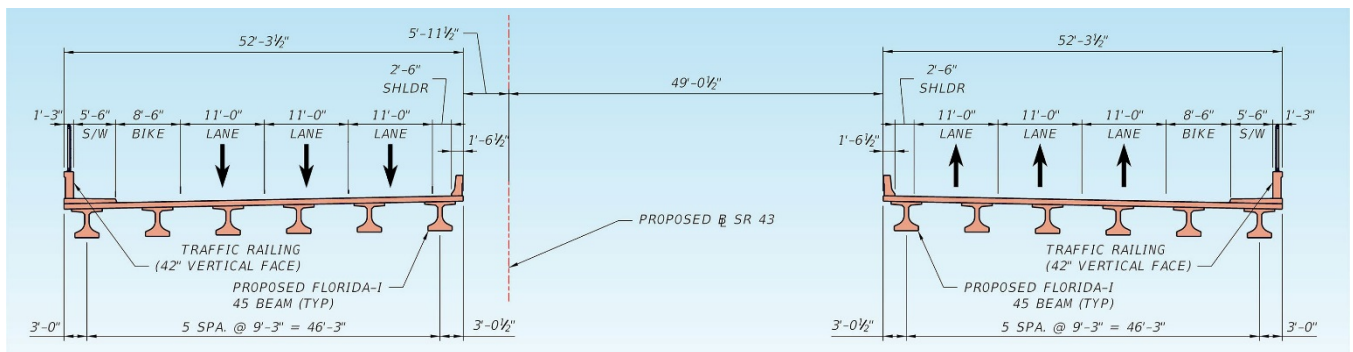


**Figure 1-2 Proposed Suburban Typical Section – Segments 2 & 3**

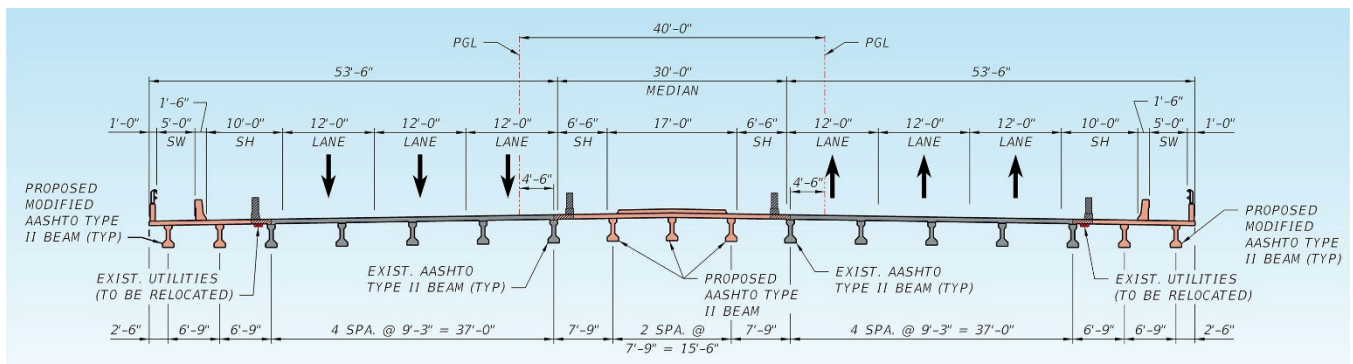
**SECTION 1.0**  
**SUMMARY OF PROJECT**



**Figure 1-3 Proposed Bridge Typical Section over CSX S-Line**



**Figure 1-4 Proposed Bridge Typical Section over CSX A-Line and CR 574**



**Figure 1-5 Proposed Bridge Typical Section over Tampa Bypass Canal**

### 2.1 Purpose

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) study to evaluate the proposed widening of US 301 (SR 43) to six lanes from SR 60 (Adamo Drive) to the southern end of the eastbound I-4 (SR 400) on- and off-ramps in Hillsborough County. The total project length is approximately 3.3 miles, and is illustrated in **Figure 2-1**. The purpose of this PD&E study is to document the need for additional capacity within the study corridor and to evaluate the costs and impacts associated with providing this additional capacity. Federal funds are not planned to be used for the project, so it has been conducted in accordance with the PD&E Manual, Part 1, Chapter 10, which addresses non-federal projects.

The proposed action involves widening US 301 from the existing four-lane divided roadway to a six-lane divided roadway. This improvement is necessary to provide additional capacity to accommodate the future travel demand that will be generated by the projected population and employment growth in eastern Hillsborough County. US 301 is a major north-south roadway that traverses all of Hillsborough County and provides connectivity to many of Florida's major roadways including SR 60, Lee Roy Selmon Expressway and I-4. This roadway is a vital link in the regional transportation network and also serves as an emergency evacuation route.

US 301 is functionally classified as an "Urban Other Principal Arterial" and has a posted speed limit of 50 miles per hour (mph) within the majority of the project limits. The posted speed limit is reduced to 45 mph approaching SR 60 and at the approaching on-ramp to eastbound I-4. Throughout most of the study corridor, US 301 exists as a four-lane divided roadway; however, three through lanes are provided in both the northbound and southbound directions in the vicinity of the intersection with SR 574 (Dr. Martin Luther King, Jr. Boulevard).

The existing right-of-way width ranges from 160 feet to 306 feet; however, a majority of the study corridor has a right-of-way width of 200 feet. Sidewalks as well as roadside ditches, where stormwater runoff is collected, were recently constructed along both the east and west sides of US 301 from SR 574 northward to I-4. Other sections of sidewalks exist intermittently from SR 60 to SR 574.

There are also seven bridges located within the project limits. Two bridges are located over the CSX Railroad's S-Line while two others are located over the CSX Railroad's A-Line and CR 574 (Broadway Avenue). There are also two bridges that cross over the Tampa Bypass Canal and one box culvert that crosses Bruce Creek.

The project was evaluated through the FDOT's Efficient Transportation Decision Making (ETDM) process. This project is designated as ETDM project #3097. An ETDM *Final Programming Screen Summary Report* was published on January 9, 2013 containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical and social resources.



Figure 2-1 Project Location Map

## **2.2 Purpose of Report**

The purpose of this *Final Preliminary Engineering Report (PER)* is to document the decision-making process that has been utilized to complete the project's PD&E study. This report includes summaries of the existing conditions, alternatives analysis, environmental impacts, permitting and mitigation issues, the public involvement program conducted for the project (and key stakeholder input), preliminary construction costs and the Preferred Build Alternative. The *PER* also documents that the agency comments compiled during the Efficient Transportation Decision Making (ETDM) Programming Phase have been considered.



### **3.0 PROJECT PURPOSE AND NEED**

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The purpose of this project is to relieve congestion on this portion of US 301 in unincorporated Hillsborough County. US 301 is a major north-south roadway facility in close proximity to the City of Tampa, which travels from the Sarasota-Bradenton-Venice Metropolitan Statistical Area across the state to the Jacksonville Metropolitan Statistical Area. US 301 serves regional travel and connects residential centers in the Brandon and South Shore area with employment centers along the I-75 Corridor. It provides regional connectivity with I-75, the Lee Roy Selmon Crosstown Expressway, and I-4. US 301 has been designated by Hillsborough County Emergency Management as an emergency evacuation route. In addition to increasing capacity, this project will add or enhance the multi-modal facilities in this corridor.

The need for this widening project is based on the congestion and the current failing level of service of this segment of US 301. Between SR 60 and I-4, I-75 and US 301 are parallel facilities. Like US 301, I-75 between SR 60 and I-4 is operating at a failing level of service according to the 2011 Hillsborough County Level of Service Report; this segment of I-75 ranges from 25-33% over capacity. Addition of capacity on US 301 will help ease congestion for this overburdened roadway.

According to the March 2011 Hillsborough County Automobile Level of Service Report, US 301 between State Road 60 and I-4 is currently operating at 102% of capacity. This yields a failing level of service grade of "F". The most recent version of the Tampa Bay Regional Planning Model (TBRPM) uses 2010 base year data, which shows a level of service of C for the SR 60 to I-4 segment of US 301. The TBRPM projects this segment to have a failing LOS by 2035. The 2035 traffic volumes projected by the model show deficiencies and a failing level of service for the US 301 Corridor.

The proposed widening of this US 301 segment will also have positive socio-economic impacts. The Hillsborough County City-County Planning Commission's 2040 Long Range Transportation Plan socioeconomic projections (July 2014) contains both population and employment projections. These projections show Hillsborough County's population growing from 1,229,226 to 1,815,964 (a 48% increase) between 2010 and 2040. Employment is projected to grow from 711,400 to 1,112,059 (a 56% increase) between 2010 and 2040, mostly within the urban service area. Based on projected population growth, the existing infrastructure would result in failing levels of service in the future.

Several Strategic Intermodal Systems (SIS) facilities are in close proximity to US 301, including: the Port of Tampa, the Tampa Intercity Greyhound Bus Terminal, and the Port of Manatee. Emerging SIS facilities in the area include: the Tampa Amtrak Station, and the Tampa CSX Intermodal Terminal. As this project is constructed and congestion is decreased, travel to intermodal facilities will become faster and easier. Additionally, this improvement is envisioned to include multi-modal improvements, including sidewalks, bicycle lanes, and transit accommodations. Currently, the Hillsborough Area Regional Transit (HART) system does not have buses running on this section of US 301.

Safety within the US 301 corridor is projected to improve with an increase in capacity and a reduction in congestion, thereby decreasing potential conflict with other vehicles. The US 301 corridor between SR 60 and I-4 had 535 crashes from 2008 through 2013. Most occurred at the intersections along the corridor and were the result of rear end collisions. The addition and enhancement of multi-modal facilities will increase pedestrian and bicyclist safety along the corridor

## 4.0 EXISTING CONDITIONS

### 4.1 Existing Characteristics

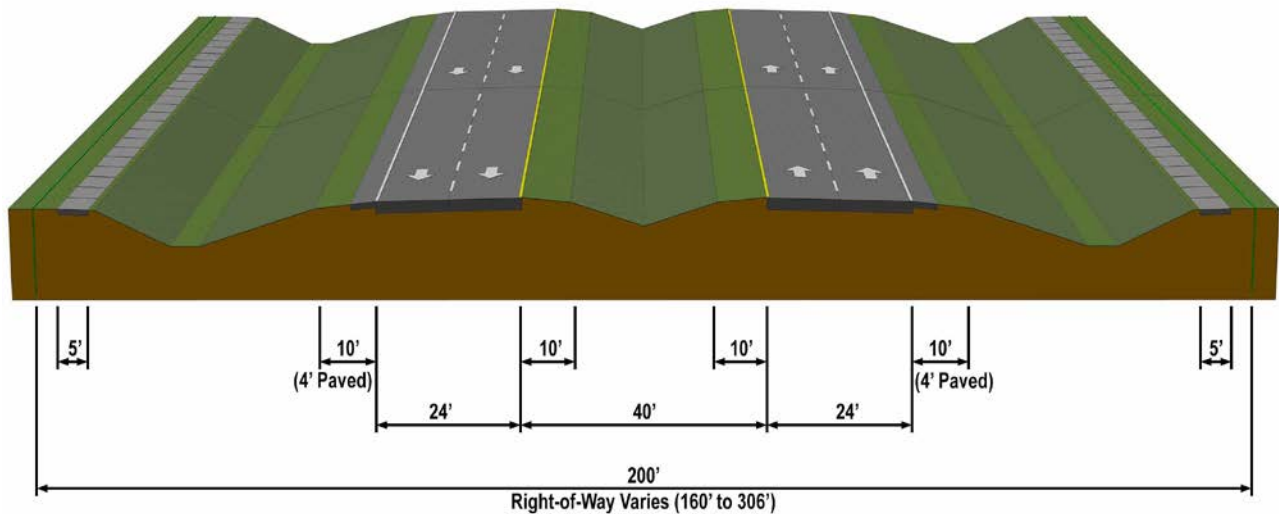
The existing conditions described in the following sections of this report were derived from a review of multiple data sources as well as additional data that was collected during several field reviews conducted in the early stages of this PD&E study. The existing data sources included the as-built plans, FDOT Straight Line Diagrams of Road Inventory (SLDs), FDOT Bridge Inspection Reports, and FDOT drainage maps.

#### 4.1.1 Roadway Classification

US 301 is functionally classified as an “Urban Other Principal Arterial”. US 301 is also designated as an emergency evacuation route by Hillsborough County Emergency Management, however, this roadway is not part of the Florida Strategic Intermodal System (SIS).

#### 4.1.2 Existing Typical Section

US 301 is a four-lane divided roadway throughout most of the study corridor with two 12-foot travel lanes in each direction as shown in **Figure 4-1**. A 40-foot grass median also exists throughout a majority of the study corridor. Stormwater runoff is collected in roadside ditches. US 301 transitions from a four-lane divided roadway to a six-lane divided roadway approximately 500 feet north of the SR 574 (Dr. Martin Luther King, Jr. Boulevard) intersection and then transitions back to a four-lane divided roadway approximately 500 feet south of this intersection.



**Figure 4-1 Existing Typical Section**

US 301 has a posted speed limit of 50 miles per hour (mph) within the majority of the project limits. The posted speed limit is reduced to 45 mph approaching SR 60 and approaching the on-ramp to eastbound I-4.

The existing right-of-way (ROW) information was obtained from FDOT ROW maps and Hillsborough County property appraiser maps. The existing ROW is illustrated on the concept plans in **Appendix A**.

The ROW varies from 160 feet to 306 feet, but the majority of the existing ROW is 200 feet wide. The narrowest section is located just north of SR 60 and is 160 feet wide. There are also two portions located between Old Hopewell Road and north of Columbus Drive/Tampa East Boulevard where the ROW width is 182 feet.

**4.1.3 Pedestrian and Bicycle Facilities**

The existing four-foot paved shoulders along US 301 serve as undesignated bicycle lanes. Continuous sidewalks currently exist on both sides of US 301 from just south of SR 574 to north of I-4. These sidewalks were constructed in 2013. Limited sidewalks exist on the portion of US 301 from SR 60 to SR 574.

**4.1.4 Access Management**

US 301 is currently designated as Access Class 5 from SR 60 to SR 574 and Access Class 3 from SR 574 to I-4. **Table 4-1** provides a listing of the minimum connection (i.e., driveway) spacings, median opening spacings and signal spacings for arterial roadways contained in Rule 14-97.

**Table 4-1 Access Management Classifications & Spacing Standards**

Access Class	Median Types	Connection Spacing (ft)	Median Opening Spacing (ft)		Signal Spacing (ft)
			Directional	Full	
2	Restrictive with Service Roads	1,320 <sup>(1)</sup>	1,320	2,640	2,640
3	Restrictive	660 <sup>(1)</sup>	1,320	2,640	2,640
4	Non-Restrictive	660 <sup>(1)</sup>			2,640
5	Restrictive	440 <sup>(1)</sup> /245 <sup>(2)</sup>	660	2,640 <sup>(1)</sup> /1,320 <sup>(2)</sup>	2,640 <sup>(1)</sup> /1,320 <sup>(2)</sup>
6	Non-Restrictive	440 <sup>(1)</sup>			1,320
7	Both Median Types	125	330	660	1,320

Notes:

1. For design speeds greater than 45 mph
2. For design speeds equal to and less than 45 mph

As indicated in **Table 4-1**, the minimum spacing between full median openings and signalized intersections for an Access Class 3 roadway is 2,640 feet. This same minimum spacing also applies for an Access Class 5 roadway with a design speed greater than 45 mph. The minimum spacing between directional median openings is 1,320 feet for an Access Class 3 roadway and 660 feet for an Access Class 5 roadway.

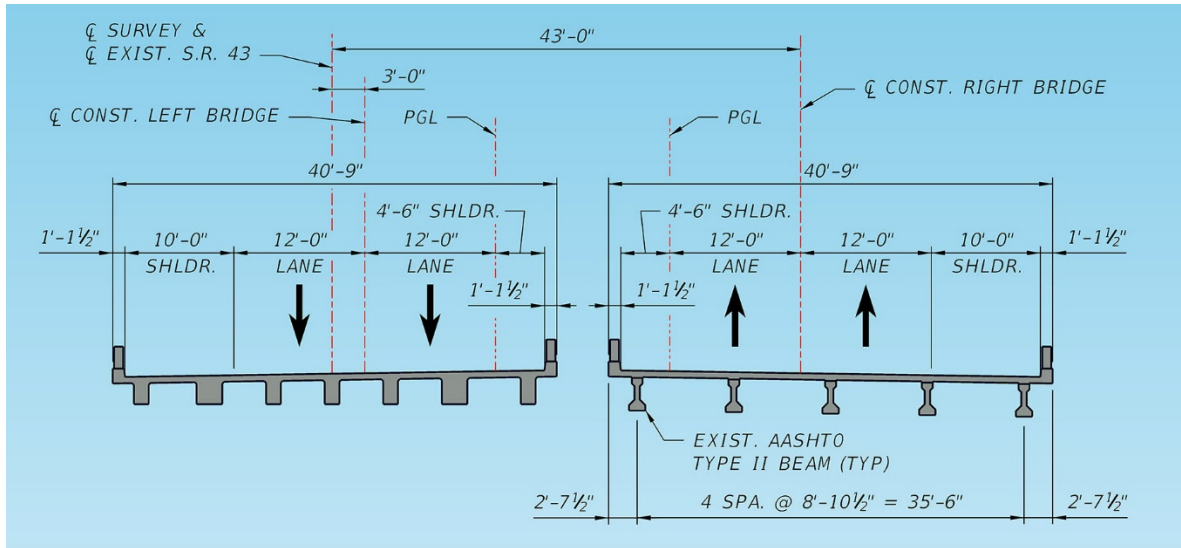
There are currently 16 full median openings and two directional median openings within the project limits. Three full median openings are signalized and these are located at SR 60, Sabal Industrial Boulevard and SR 574. Two directional median openings provide access for the Florida State Fairgrounds. The northern directional median opening accommodates the eastbound-to-northbound left-turn movement exiting the Fairgrounds, while the southern directional median opening accommodates the northbound-to-westbound left-turn movement entering the Fairgrounds. **Table 4-2** summarizes the existing median opening locations and spacings. As indicated in this table, only one full median opening and none of the directional median openings meet the current spacing standards.

**Table 4-2 Existing Access Management**

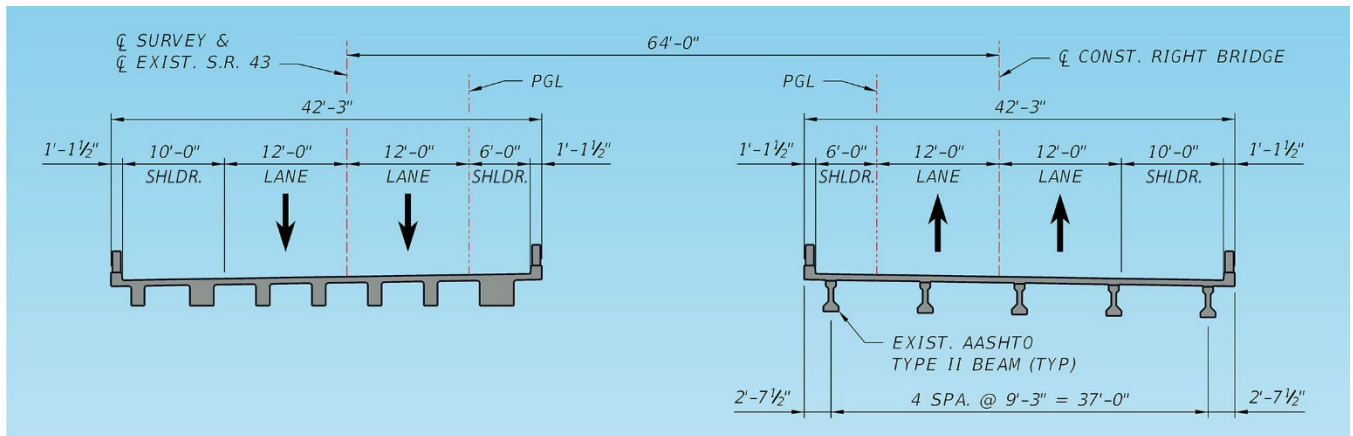
Connection	Station	Median Type	Directional Openings		Full Median Openings		Exist. Access Class	Posted Speed
			Distance Between Openings	Meets Std or % Deviation	Distance Between Openings	Meets Std or % Deviation		
SR 60	100+00	Full					5	45
					2,436	Meets		
Old Hopewell Rd	124+36	Full						
					821	31%		
Massaro Blvd/ Stannum St	132+57	Full						
					1,007	38%		
Columbus Dr/ Tampa East Blvd	142+64	Full						
					684	26%		
Business Entr	149+48	Full						
					654	25%		
Centerpoint Business Park	156+02	Full						
					2,516	95%		
21 <sup>st</sup> Ave/Overpass Rd	181+18	Full						
					1,012	38%		
Sabal Industrial Blvd	191+30	Full						50
					558	21%		
27 <sup>th</sup> Ave	196+88	Full						
					1,467	56%		
Veteran's Memorial Park	211+55	Full						
					262	10%		
Eastshore Business Center	214+17	Full						
					691	26%		
SR 574	221+08	Full					3	
					958	36%		
Fairgrounds	230+66	Full						
					1,154	44%		
Oak Fair Blvd	242+20	Full						
			500	38%	1,148	43%		
Fairgrounds	247+20	Dir NB to WB						
			342	26%				
Fairgrounds	250+62	Dir EB to NB						
			306	23%				45
Elm Fair Blvd	253+68	Full						
					718	27%		
Business Entr	260+86	Full						

**4.1.5 Existing Structures**

There are seven structures within the project limits. Four of these structures cross over active CSX Transportation rail lines (the S-Line and the A-Line). The S-Line is located between SR 60 and Old Hopewell Road, while the A-line is located just south of CR 574. The existing bridge typical sections over the CSX S-Line and A-Line are shown in **Figure 4-2** and **Figure 4-3**, respectively.

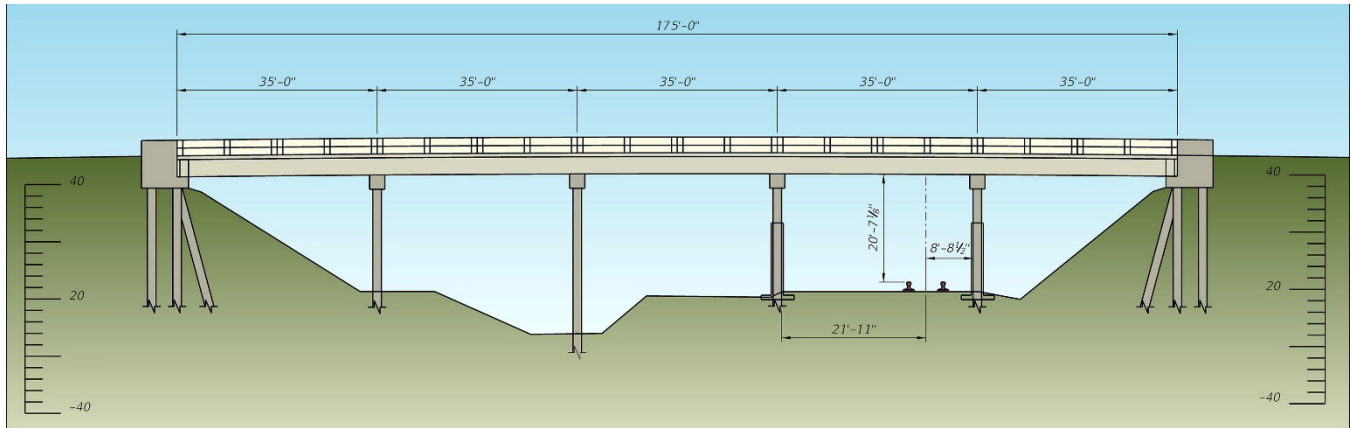


**Figure 4-2 Existing Bridge Typical Section over CSX S-Line**



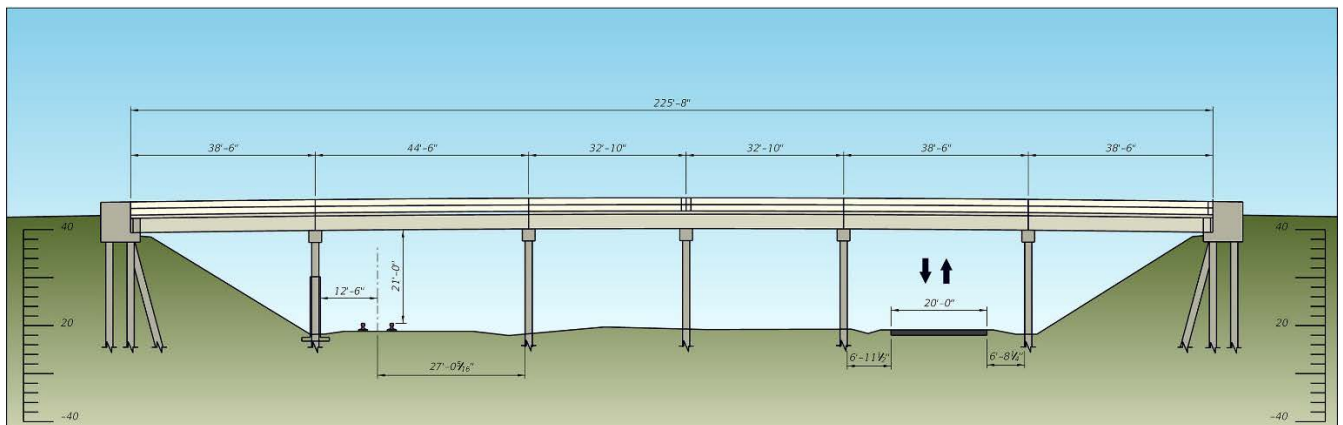
**Figure 4-3 Existing Bridge Typical Section over CSX A-Line and CR 574**

The northbound bridge over the CSX S-Line (Bridge No. 100101) is a prestressed concrete beam and was built in 1970. The southbound bridge over the CSX S-Line (Bridge No. 100910) is a reinforced concrete beam and was originally constructed in 1937. The southbound bridge was subsequently widened in 1971. Both bridges have sufficiency ratings of 95.2, while the health ratings for the northbound and southbound bridges are 99.03 and 99.54, respectively. The minimum vertical clearance over the S-Line is 20.9 feet and 20.6 feet for the northbound and southbound bridges, respectively. The existing bridge elevation for US 301 over the CSX S-Line is illustrated in **Figure 4-4**. Since neither of these bridges provides a minimum vertical clearance of 23.5 feet, they are both considered to be functionally obsolete.



**Figure 4-4 Existing Bridge Elevation over CSX S-Line**

The two structures that cross over the CSX A-Line also cross over CR 574. The northbound bridge (Bridge No. 100102) is a prestressed concrete beam and was built in 1970. The southbound bridge (Bridge No. 100011) is a reinforced concrete beam and was originally constructed in 1931. This southbound bridge was also widened in 1971. Both of these bridges have sufficiency ratings of 95.2, while the health ratings for the northbound and southbound bridges are 98.00 and 97.42, respectively. The minimum vertical clearance over the A-Line is 21.0 feet and 21.2 feet for the northbound and southbound bridges, respectively. The existing bridge elevation for US 301 over the CSX A-Line and CR 574 is illustrated in **Figure 4-5**. These two bridges are also considered to be functionally obsolete.



**Figure 4-5 Existing Bridge Elevation over CSX A-Line and CR 574**

A review of the bridge inspection reports indicated that trains and/or cargo were striking the bottom of both southbound bridges over the CSX lines. The southbound bridge over the CSX S-Line noted minor nicks and scrapes up to 1/2 inch deep in the bottom flanges. The southbound bridge over the CSX A-Line also noted minor impact spalls and scrapes. It was determined during coordination with the CSX railroad that no records are maintained for trains and/or cargo striking overhead structures.

There are also two structures that cross over the Tampa Bypass Canal. These are prestressed concrete beams and were built in 1972. The sufficiency ratings for the northbound and southbound bridges (Bridge Nos. 100103 and 100012) are 99.3 and 99.2, respectively. The health ratings for the northbound and

southbound bridges are 96.16 and 96.52, respectively. The minimum vertical clearance over the Tampa Bypass Canal is 6.2 feet and exceeds the 6.0 feet minimum required by the Southwest Florida Water Management District (SWFWMD).

The remaining structure is a reinforced concrete double barrel bridge culvert that crosses Bruce Creek. Bruce Creek is located immediately south of Old Hopewell Road. This structure (Bridge No. 100574) was built in 1973 and has a sufficiency rating of 78.7 and a health rating of 83.19.

#### **4.1.6 Horizontal and Vertical Alignment**

**Table 4-3** summarizes the horizontal alignment for this project. There are six horizontal curves within the project limits and the degree of horizontal curvature ranges from 0° 15' to 3° 00'. The majority of the study corridor has a straight alignment.

**Table 4-3 Existing Horizontal Alignment**

Baseline PI Station	Bearing		Degree of Curvature	Radius (ft)	Length (ft)
	Back	Ahead			
105+31.12	N 5° 17' W	N 10° 48' W	0° 50'	6,875.5	662.00
124+61.44	N 10° 48' W	N 40° 16' W	3° 00'	1,909.86	982.22
148+69.69	N 40° 16' W	N 0° 2' E	1° 22'	4,192.38	2,949.39
215+00.93	N 0° 2' E	N 9° 28' E	0° 38'	9,046.71	1,489.47
239+95.11	N 9° 28' E	N 12° 29' W	0° 15'	22,918.32	1,211.20
251+06.31	N 12° 29' W	N 9° 28' E	0° 15'	22,918.32	1,211.20

There are also 13 vertical curves within the project limits. The 700-foot crest vertical curve over the CSX S-Line has a K-value of 70 and a design speed of 40 mph. This design speed is less than the 45 mph posted speed limit in this area. The 600-foot sag vertical curve to the south of the CSX S-Line has a K-value of 122 and a design speed of 55 mph, while the 500-foot sag vertical curve to the north of the CSX S-Line has a K-value of 96 and a design speed of 45 mph. There is also a 700-foot crest vertical curve over the CSX A-Line and CR 574. This crest vertical curve has a K-value of 70 and a design speed of 40 mph. The 400-foot sag vertical curves to the south and north of the CSX A-Line have K-values of 81 and 82, respectively; and a design speed of 45 mph. The design speeds associated with these three vertical curves are all less than the existing posted speed limit of 50 mph. As stated earlier, US 301 also crosses over the Tampa Bypass Canal; however, the two bridges over this canal are flat.

#### **4.1.7 Pavement Conditions**

According to *FDOT Pavement Condition Report* (dated 5/1/2015), the US 301 pavement has cracking values ranging from 7.4 to 8.1 throughout the entire study corridor. In addition, the ride values for the US 301 pavement range from 7.4 to 8.3. Ride values less than or equal to 6.4 are considered to be deficient; therefore, there are no existing pavement deficiencies within the project limits.

#### **4.1.8 Drainage Conditions**

The study corridor is located within Sections 1, 12, 13 and 24: Township 29 South: Range 19 East of the Public Land Survey System. The vertical datum for the project is the 1929 NGVD based on the “as-built”

plans. The Federal Emergency Management Agency (FEMA) floodplain elevations and the Hillsborough County Watershed Models are based on 1988 NAVD. The difference between the two datum's is 0.866 feet (NAVD 88 = NGVD 29 – 0.866 feet).

The existing drainage patterns were determined based on reviews of the Hillsborough County Watershed Management Plans, FDOT drainage maps and the Florida Department of Environmental Protection (FDEP) Geographical Information System (GIS) information for impaired water bodies. The portion of US 301 from SR 60 to just south of the Tampa Bypass Canal is located within the Hillsborough River/Tampa Bypass Canal Watershed while the portion of US 301 from the north side of the Tampa Bypass Canal to I-4 is located within the East Lake Watershed.

The existing roadway has a rural typical section and a majority of the stormwater runoff from the travel lanes and outside shoulders sheet flows into roadside ditches. The only exception to this occurs on the bridges where the stormwater runoff discharges into the shoulder gutters; however, the bridge runoff ultimately discharges into the roadside ditches as well. Most of the grass medians collect runoff within the medians and discharge to the roadside ditches via median drains. There is also some existing curb and gutter located along the median on the north side of the bridge at Bruce Creek with a curb inlet that connects into the bridge culvert. The runoff is currently not treated in the ditches. There are nine existing roadway drainage basins within the project limits and the locations of these basins are listed in **Table 4-4**.

**Table 4-4 Roadway Drainage Basins**

Basin	From Station	To Station	Description
1	100+00	113+00	SR 60 to bridge high point above CSX crossing
2	113+00	122+00	CSX crossing to 2-10' x 8' CBC at Bruce Creek
3	122+00	132+00	CBC to Stannum St./Massaro Blvd. (no side drain)
4	132+00	170+00	Stannum St./Massaro Blvd. to CSX crossing
5	170+00	181+00	CSX crossing to Overpass Rd./21 <sup>st</sup> Ave. (no side drain)
6	181+00	203+00	Overpass Rd./21 <sup>st</sup> Ave. to Tampa Bypass Canal
7	203+00	237+00	Tampa Bypass Canal to historic roadside ditch high point
8	237+00	248+00	Historic ditch high point to 10' x 8' CD
9	248+00	262+00	CD to Historic ditch high point

The project runoff ultimately drains into the Tampa Bypass Canal and East Lake basins. Nether basin is classified as an Outstanding Florida Water (OFW) by the FDEP; however, these watersheds contain sub-basins that have Impaired Water Bodies. The study corridor traverses four Impaired Water Bodies and the Water Body IDs (WBIDs) along with the nature of the impairments are listed in **Table 4-5**.



**Table 4-5 Project Impaired Water Bodies**

WBID	Water Body Name	Basis of Impairment Listing
1536A	South Tampa Canal	<ul style="list-style-type: none"> <li>• Fecal Coliform</li> </ul>
1536B	Six Mile Creek/Tampa Bypass Canal	<ul style="list-style-type: none"> <li>• Dissolved Oxygen</li> <li>• Nutrients (Chlorophyll-a)</li> </ul>
1536F	Six Mile Creek/Tampa Bypass Canal	<ul style="list-style-type: none"> <li>• Dissolved Oxygen</li> <li>• Nutrients (Chlorophyll-a)</li> </ul>
1576	Mango Drain	<ul style="list-style-type: none"> <li>• Dissolved Oxygen</li> <li>• Fecal Coliform</li> <li>• Nutrients (Chlorophyll-a)</li> </ul>

The latest revision of the FEMA Flood Insurance Study for Hillsborough County was adopted in 2013. Portions of the study area are located within the floodplain limits depicted on Flood Insurance Rate Map Nos. 12057CO378J and 12057CO380J (as revised September 27, 2013).

Two locations along the study corridor are contiguous or within areas of Zone AE which has base flood elevations determined from floodplain analyses of the 100-year frequency storm event. The affected floodplains are associated with the Tampa Bypass Canal, a U.S. Army Corps of Engineers project that was constructed to alleviate major flooding along the Hillsborough River. The Tampa Bypass Canal is operated and maintained by the SWFWMD. The study corridor crosses the Tampa Bypass Canal Tributary 2 which is also known as Bruce Creek. Bruce Creek has a base flood elevation (BFE) of 17.0 (NAVD 1988) on the west side (the downstream side) of US 301 and a BFE of 18.0 (NAVD 1988) on the east side (the upstream side) of US 301. US 301 crosses the Tampa Bypass Canal with a BFE of 11.0 on both the upstream and downstream sides of the bridges.

The two floodplain crossings which occur along the project limits are short, transverse encroachments of freshwater or riverine floodplains. Floodplain compensation for any freshwater encroachments may be required by SWFWMD. Since Bruce Creek and the Tampa Bypass Canal are both regulatory floodways; FEMA “No-Rise” Certifications will be required during the design phase of this proposed project.

**Table 4-6** provides a listing of the six existing cross drains within the US 301 study corridor, including the double 10’ x 8” bridge culvert at Bruce Creek and the Tampa Bypass Canal bridges. A field review was conducted for all existing cross drains and the results of this field review are summarized in the US 301 Final Location Hydraulic Memorandum prepared for this PD&E study. In addition, FDOT District Seven Tampa Maintenance Office was contacted to determine whether there are any existing flooding problems within the study corridor. Although the District Seven Maintenance Office indicated that there were no flooding problems due to inadequately sized cross drains, maintenance staff noted several drainage issues that are not related to the cross drains and would typically be addressed by roadway and drainage during the design phase of the widening project.

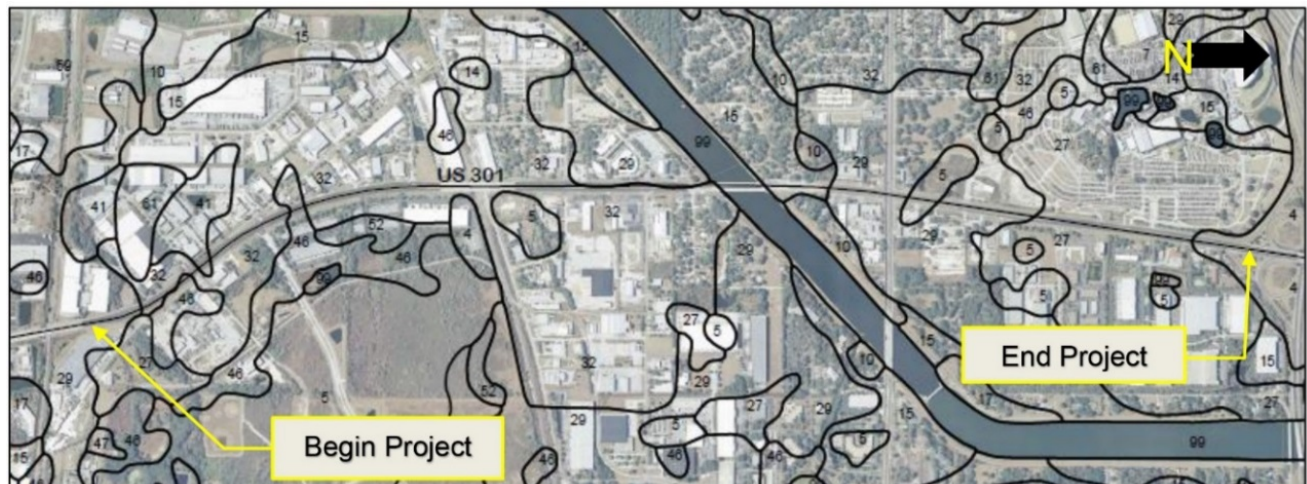
**Table 4-6 Existing Cross Drains**

Inventory Drain Number	Station	Cross Drain	Bridge Number
S-1A4	105+02.5	24" RCP	Not Applicable
CD-1	122+09	Bruce Creek Double 10' x 8' CBC Bridge Culvert	100574
CD-2	147+11	Double 36" RCP	Not Applicable
CD-3	175+48.85	2' x 2' Culvert extended with 30" RCP's, each side	Not Applicable
CD-4	202+05	Tampa Bypass Canal Two Bridges Northbound and Southbound	Northbound 100103 Southbound 100012
CD-5	248+41.5	10' x 8' CBC	Not Applicable

**4.1.9 Geotechnical Data**

The Soil Survey of Hillsborough County, Florida, published by the U.S. Department of Agriculture (USDA) and Natural Resources Conservation Services (NRCS) (dated 1989) was reviewed for the project corridor. Based on this review, pre-development seasonal high groundwater (SHGWT) levels along the project are anticipated to range from above the natural grade to depths up to 3.5 feet below the natural grade with predominate SHGWT levels on the order of about 0 to 1 foot below natural grades. According to the Soil Survey, the majority of the subsurface conditions along the corridor will consist of sandy soils (A-3/A-2-4) to clayey soils (A-2-6/A-2-7) to a depth of approximately 6 feet. The USDA information indicates that isolated depressional soils associated with wetlands are located within the project limits and that these soil types may contain organic soils/muck (A-8) to depths up to 3 feet below grade.

The soils encountered along the project corridor are predominately in Hydrological Soil Groups B/D, C and D. With the high water table, it can be expected that the soils will have low infiltration rates when thoroughly wetted, and have high runoff potential. The soil survey map for the project vicinity is shown in **Figure 4-6** and **Table 4-7** contains the USDA Soil Survey Data Summary.



**Figure 4-6 Soil Survey Map**

**Table 4-7 USDA Soil Survey Data Summary**

SUMMARY OF USDA SOIL SURVEY US 301 PD&E FROM SR 60 to I-4 HILLSBOROUGH COUNTY, FLORIDA FPID 430050-1-22-01								
USDA Map Symbol and Soil Name	Depth (in)	Soil Classification		Permeability (in/hr)	pH	Seasonal High Water Table		Hydrologic Soil Group
		USCS	AASHTO			Depth (feet)	Months	
(4) Arents, nearly level	*	*	*	*	*	*	*	*
(5) Basinger-Holopaw and Samsula soils, depressional	0-7	SP	A-3	6.0 - 20.0	3.6-7.3	+2-1.0	Jan-Dec	D
	7-28	SP, SP-SM	A-3, A-2-4	6.0 - 20.0	3.6-7.3			
	28-42	SP, SP-SM	A-3, A-2-4	6.0 - 20.0	3.6-7.3			
	42-80	SP, SP-SM	A-3, A-2-4	6.0 - 20.0	3.6-7.3			
	0-6	SP, SP-SM	A-3	6.0 - 20.0	5.1-7.3			
	6-52	SP, SP-SM	A-3	6.0 - 20.0	5.1-7.3			
	52-80	SM, SM-SC	A-2-4	0.2 - 2.0	5.1-8.4			
	0-34	PT	A-8	6.0 - 20.0	4.5-5.5			
34-80	SP, SP-SM, SM	A-3, A-2-4	6.0 - 20.0	3.6-5.5	D			
(10) Chobee loamy fine sand	0-16	SP-SM, SM	A-2-4	2.0 - 6.0	6.1-7.3	0-1.0	June-Feb	B/D
	16-49	SC	A-2-6, A-2-7, A-6, A-7	<0.2	7.4-8.4			
	49-80	SP-SM, SM, SC, SM-SC	A-2-4, A-2-6, A-6, A-7	0.2 - 6.0	7.4-8.4			
(15) Felda fine sand	0-22	SP, SP-SM	A-3	6.0 - 20.0	5.1-7.8	0-1.0	July-March	B/D
	22-45	SM, SM-SC, SC	A-2-4, A-2-6	0.6 - 6.0	6.1-7.8			
	45-80	SP, SP-SM	A-3, A-2-4	6.0 - 20.0	6.1-8.4			
(27) Malabar fine sand	0-12	SP, SP-SM	A-3	6.0 - 20.0	5.1-8.4	0-1.0	June-Nov	B/D
	12-30	SP, SP-SM	A-3, A-2-4	6.0 - 20.0	5.1-8.4			
	30-50	SP, SP-SM	A-3	6.0 - 20.0	5.1-8.4			
	50-66	SC, SM-SC, SM	A-2, A-4, A-6	<0.2	5.1-8.4			
	66-80	SP-SM, SM	A-3, A-2-4	6.0 - 20.0	5.1-8.4			
(29) Myakka fine sand	0-20	SP, SP-SM	A-3	6.0 - 20.0	3.6-6.5	0-1.0	June-Nov	B/D
	20-30	SM, SP-SM	A-3, A-2-4	0.6 - 6.0	3.6-6.5			
	30-80	SP, SP-SM	A-3	6.0 - 20.0	3.6-6.5			
(32) Myakka-Urban land complex	0-20	SP, SP-SM	A-3	6.0 - 20.0	3.6-6.5	0-1.0	June-Nov	B/D
	20-44	SM, SP-SM	A-3, A-2-4	0.6 - 6.0	3.6-6.5			
	44-80	SP, SP-SM	A-3	6.0 - 20.0	3.6-6.5			
(41) Pomello fine sand, 0 to 5 percent slopes	0-43	SP, SP-SM	A-3	>20.0	4.5-6.0	2.0-3.5	July-Nov	C
	43-55	SP-SM, SM	A-3, A-2-4	2.0 - 6.0	4.5-6.0			
	55-80	SP, SP-SM	A-3	6.0 - 20.0	4.5-6.0			
(46) St. Johns fine sand	0-12	SP, SP-SM	A-3	6.0 - 20.0	3.6-5.5	0-1.0	June-April	B/D
	12-29	SP, SP-SM	A-3	6.0 - 20.0	3.6-5.5			
	29-46	SP-SM, SM	A-3, A-2-4	0.2 - 2.0	3.6-5.5			
	46-80	SP, SP-SM	A-3	6.0 - 20.0	3.6-5.5			
(52) Symma fine sand	0-12	SP, SP-SM	A-3, A-2-4	6.0 - 20.0	3.6-7.3	0-1.0	July-Oct	B/D
	12-20	SM, SP-SM	A-3, A-2-4	0.6 - 6.0	3.6-7.3			
	20-80	SP, SP-SM	A-3	6.0 - 20.0	4.5-5.5			
(61) Zolfo fine sand	0-3	SP-SM	A-3, A-2-4	6.0 - 20.0	4.5-7.3	2.0-3.5	Jun-Nov	C
	3-60	SP-SM, SM	A-3, A-2-4	6.0 - 20.0	4.5-7.3			
	60-80	SP-SM, SM	A-3, A-2-4	0.6 - 2.0	3.6-6.5			

#### 4.1.10 Lighting

Lighting exists throughout the study corridor and is generally conventional type lighting.

#### 4.1.11 Crash Data and Safety Analysis

To evaluate traffic safety in the study corridor, crash data for the five-year period from January 1, 2007 through December 31, 2011, (the latest available data when this proposed project's PD&E study started) were obtained from FDOT Crash Analysis Reporting System. The data was analyzed to determine the characteristics of the crashes that occurred within the study corridor. Based on FDOT data, a total of 637 crashes occurred along the study corridor during this five-year period. These crashes resulted in 3 fatalities and 457 injuries.

**Table 4-8** shows the total number of crashes, fatalities and injuries that occurred during each of the five years. **Table 4-9** summarizes the types of crashes that occurred.

**Table 4-8 Total Number of Crashes from 2007 to 2011**

Year	Total No. of Crashes	No. of Fatality Crashes	No. of Injury Crashes	No. of Property Damage Crashes	Total No. of Fatalities	Total No. of Injuries
2007	135	1	48	86	1	74
2008	143	0	56	87	0	84
2009	131	0	58	73	0	99
2010	115	1	54	60	1	93
2011	113	1	51	61	1	107
<b>Total</b>	<b>637</b>	<b>3</b>	<b>267</b>	<b>367</b>	<b>3</b>	<b>457</b>

**Table 4-9 Crash Types from 2007 to 2011**

Crash Type	No. of Crashes	% of Total Crashes
Rear-end crash	335	52.59
Angle crash	138	21.66
Sideswipe crash	50	7.85
Left-turn crash	20	3.14
Collision with moving vehicle on roadway	10	1.57
Overtake vehicle	9	1.41
Head-on crash	7	1.10
Vehicle hit pedestrian	7	1.10
Vehicle hit guardrail	6	0.94
Vehicle backed into another vehicle	5	0.79
Vehicle hit sign/sign post	5	0.79
Vehicle hit utility pole/light pole	5	0.79
Right-turn crash	4	0.63
Vehicle hit fixed object	3	0.47
Median crossover crash	3	0.47
Collision with bicycle	2	0.31
Vehicle hit fence	2	0.31
Vehicle hit other fixed object	2	0.31
Vehicle ran into ditch/culvert	2	0.31
Occupant fell from vehicle	2	0.31
Vehicle on fire	2	0.31
Vehicle lost cargo or shifted	2	0.31
Vehicle hit parked car	1	0.16
Vehicle hit animal	1	0.16
Vehicle hit barrier wall	1	0.16
Vehicle hit bridge/pier/abutment/rail	1	0.16
Vehicle hit tree/shrubbery	1	0.16
Other	8	1.26
Unknown/not coded	3	0.47
<b>Total</b>	<b>637</b>	<b>100</b>

The three most prevalent types of crashes are rear end crashes (335), angle crashes (138) and sideswipe crashes (50). Combined, these three crash types comprise approximately 82% of the total crashes within the study corridor.

**Table 4-10** summarizes the geographical distribution of the crashes. Approximately 58.9% of the total crashes occurred at either the SR 574 intersection (200 crashes) or the SR 60 intersection (175 crashes). Approximately 58.0% of the total injuries and two of the three fatalities also occurred at these two signalized intersections. The next highest crash locations were in the vicinity of the eastbound I-4 ramps (50 crashes), Sabal Industrial Boulevard (31 crashes), Elm Fair Boulevard (29 crashes), and Columbus Drive/Tampa E. Boulevard (27 crashes).

**Table 4-10 Crash Distribution**

Intersection/Mainline	Milepost Limits		Total No. of Crashes	Total No. of Fatalities	Total No. of Injuries
	From	To			
SR 60	22.415	22.620	175	1	121
Mainline	22.680	22.848	13	0	8
Old Hopewell Rd.	22.889	23.010	10	0	1
Stannum St./Massaro Blvd.	23.081	23.194	16	0	6
Columbus Dr./Tampa East Blvd.	23.254	23.357	27	0	23
Mainline	23.454	23.454	1	0	2
Centerpoint Business Park	23.510	23.581	6	0	5
E Meadow Blvd.	23.648	23.770	4	0	3
Mainline	23.827	23.956	4	0	1
Overpass Rd./21 <sup>st</sup> Ave. East	23.995	24.131	14	0	7
Sabal Industrial Blvd.	24.153	24.287	31	0	31
27 <sup>th</sup> Ave.	24.316	24.437	17	0	10
Mainline	24.495	24.627	6	0	1
SR 574 (Dr. Martin Luther King, Jr. Blvd.)	24.716	24.911	200	1	144
Mainline	24.920	25.066	14	0	12
Oak Fair Blvd.	25.183	25.302	16	0	18
Mainline	25.316	25.316	4	0	2
Elm Fair Blvd.	25.326	25.526	29	1	21
I-4 Eastbound Ramps	25.548	25.726	50	0	41
<b>Total</b>			<b>637</b>	<b>3</b>	<b>457</b>

**Table 4-11** summarizes the actual crash rates (expressed in terms of crashes per million vehicle-miles of travel) for the period from 2007 through 2011 that were obtained from the State Safety Office. **Table 4-11** also provides the five-year average crash rates for four-lane and six-lane divided suburban arterials. A review of this table indicates that there are several segments of US 301 that have actual crash rates that are significantly higher than the statewide, FDOT District Seven district-wide, and Hillsborough County average crash rates. However, the six-lane divided segment is short in length (i.e., 0.14 miles) and includes a signalized intersection (i.e., SR 574) which skews the comparison. It should be noted that the total number of crashes included in **Table 4-11** is greater than the 637 crashes documented in **Table 4-8**, **Table 4-9** and **Table 4-10** because the data provided by the State Safety Office covered a slightly longer total corridor length.

**Table 4-11 Actual and Average Crash Rates**

Milepost		Length (in miles)	Classification	Total No. of Crashes	Crash Rate (crashes per million vehicle-miles)			
From	To				Actual	Statewide Average	District Average	County Average
22.410	23.695	1.285	23-Suburban 4-5 Lanes Two-way Divided Raised	251	2.873	1.324	1.837	1.952
23.695	24.245	0.550	24-Suburban 4-5 Lanes Two-way Divided Paved	42	1.149	1.886	1.533	1.803
24.245	24.676	0.431	23-Suburban 4-5 Lanes Two-way Divided Raised	42	1.499	1.324	1.837	1.952
24.676	24.816	0.140	33-Suburban 6+ Lanes Two-way Divided Raised	160	17.581	2.019	2.611	2.945
24.816	25.731	0.915	23-Suburban 4-5 Lanes Two-way Divided Raised	270	4.679	1.324	1.837	1.952

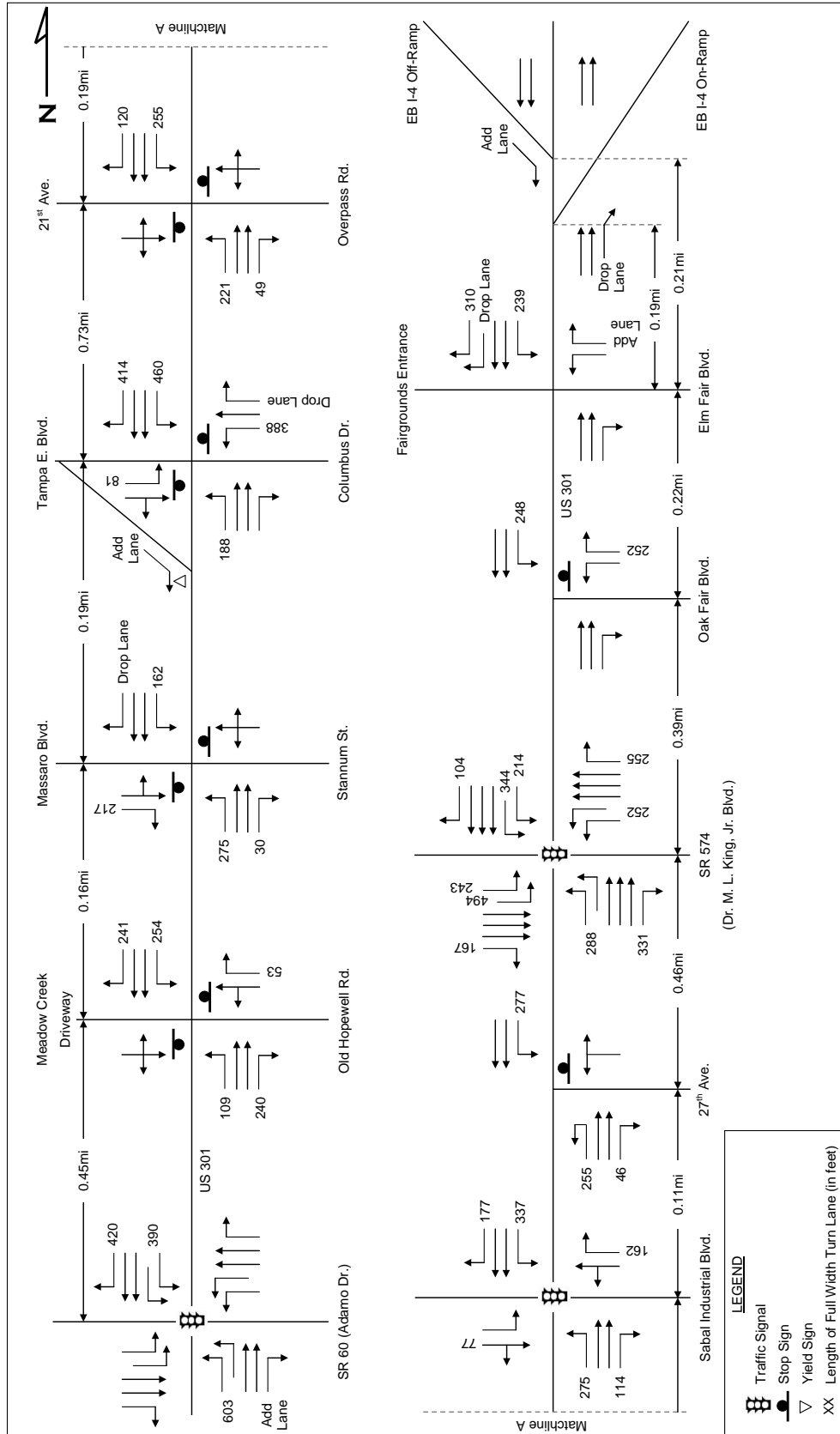
**4.1.12 Intersections and Signalization**

There are ten major east/west roadways that intersect within the project limits. The roadways and roadway locations are listed in **Table 4-12**.

**Table 4-12 Major Cross Streets**

Cross Street	Station	Milepost Number	Signalization
SR 60	100+00	22.510	Yes
Old Hopewell Road	124+36	22.981	No
Stannum Street/Massaró Boulevard	132+57	23.137	No
Columbus Drive/Tampa E. Boulevard	142+64	23.327	No
Overpass Road/21 <sup>st</sup> Avenue	181+18	23.137	No
Sabal Industrial Boulevard	191+30	24.245	Yes
27 <sup>th</sup> Avenue	196+88	24.354	No
SR 574	221+08	24.816	Yes
Oak Fair Boulevard	242+20	25.202	No
Elm Fair Boulevard	253+68	25.426	No

The 27th Avenue and Oak Fair Boulevard intersections are T-intersections, while the other eight locations are four-legged intersections. Although Elm Fair Boulevard is a four-legged intersection, the west leg serves as a gated entrance to the Florida State Fairgrounds and is used by vehicles during non-Florida State Fair events. There is another entrance located approximately 270 feet to the south of Elm Fair Boulevard and this entrance is used when the Florida State Fair is in operation. **Figure 4-7** depicts the existing intersection laneage within the US 301 study corridor, as well as the lengths of the full width turn lanes. Exclusive left-turn and right-turn lanes are provided on US 301 at all ten of the study intersections and dual left-turn lanes are provided on all four approaches to the SR 60 and SR 574 intersections.



**Figure 4-7 Existing Intersection Laneage**

**4.1.13 Utilities and Railroads**

Preliminary utility coordination was initiated with the utility agency owners (UAOs) via written communication. All of the UAOs listed in **Table 4-13** were sent letters on December 11, 2013, requesting that they identify the location and type of utilities within the project limits. Plan sheets were also mailed to the UAOs to facilitate the identification of the location(s), types and sizes of all existing and planned facilities. The existing utilities include overhead electric lines (distribution and transmission), overhead and buried television lines, buried communication lines (coaxial and fiber optic), gas pipelines, as well as water and wastewater mains. **Table 4-13** also provides a summary of the responses received from the utility providers.

**Table 4-13 Existing Utilities and Estimated Relocation Costs**

Utility Agency Owner	Description	Estimated Cost
AT&T Transmission	AT&T has 3-2" conduits with FOC on the west side of US 301 from south of SR 60 to Tampa East Blvd.; 3-1.25" conduits with FOC on the west side of US 301 from Tampa East Blvd. to E. Meadow Blvd. 1-2" conduit with FOC on the west side of US 301 from E. Meadow Blvd to E. Broadway Ave. where it enters into the CSX railroad A-Line R/W and heads east. AT&T also has 1-6" steel casing within the CSX railroad A-Line R/W as well as 1-4" conduit with FOC which goes west within the CSX railroad S-Line R/W and 2-2" conduits with FOC which go west on E. Meadow Blvd.	\$1,000,000
Bright House Networks	Bright House has OTV on the east side of US 301 from SR 60 to CSX railroad A-Line R/W; OTV and BTV on both sides of the roadway from Old Hopewell Rd. to CSX railroad S-Line R/W; OTV and BTV on the west side of the roadway from CSX railroad S-Line R/W to south of Tampa Bypass Canal and OTV and BTV on both sides of the roadway from north of Tampa Bypass Canal to Oak Fair Blvd and OTV and BTV on the east side of US 301 from north of Oak Fair Blvd. to I-4. They also cross US 301 on the north side of SR 60 (OTV), on the north side of Columbus Dr. (OTV), on the north side of E. Broadway Ave (OTV), on the south side of Sabal Industrial Blvd. (BTV), on the south side of 27 <sup>th</sup> Avenue (OTV) and north of Oak Fair Blvd (BTV).	No response to cost request
Central Florida Pipeline/Kinder Morgan	Central Florida Pipeline/Kinder Morgan has a 10" gas pipeline within the CSX railroad A-Line R/W.	\$300,000
CenturyLink/Qwest	CenturyLink has 2-2" HDPE conduits with FOC on the east side of US 301 from SR 60 to E. Broadway Ave where it turns east onto E. Broadway Ave and 2-2" HDPE conduits with FOC on the east side of US 301 from CSX railroad A-Line to I-4. They also have 2-2" conduits with FOC on the west side of US 301 from SR 60 to the CSX railroad S-Line where it turns west into the railroad corridor.	\$600,000
City of Tampa Wastewater Department	The City of Tampa Wastewater Dept. has a 4" FM on the east side of US 301 from SR 60 to north of Tampa East Blvd and a 4" FM on the west side of the roadway from Sabal Industrial Blvd to MLK Jr. Blvd. The FM is attached to the bridge over the Tampa Bypass Canal. The City also has an 8" FM on the west side of the roadway from MLK Jr. Blvd. to Oak Fair Blvd. They have 8 roadway crossings throughout the study area: a 16" FM, 12" FM (Out of Service (OOS)) and 16" FM in 30" casing (OOS) at SR 60, a 4" FM in 12" steel casing north of Tampa East Blvd., a 4" FM and 4" FM in 12" casing south of MLK Jr. Blvd., a 4" FM in 12" casing north of MLK Jr. Blvd., and an 8" FM in 21" casing at Oak Fair Blvd.	\$900,000
City of Tampa Water Department	The City of Tampa Water Department owns and operates a 36" WM which extends north on the west side of US 301 from south of SR 60 to south of Oak Fair Blvd. where it turns west; a 12" WM on the west side of US 301 from SR 60 to north of Massaro Blvd, a 12" WM on the east side of the roadway from Old Hopewell Rd. to E. Broadway Ave., a 12" WM on the east side of the roadway from south of Overpass Rd. to 27 <sup>th</sup> Ave. and a 12" WM on the east side of the roadway from MLK Jr. Blvd. to I-4. They also have 9 roadway crossings throughout the study area: a 12" WM at SR 60, a 12" WM in 20" casing north of Old Hopewell Rd., a 36" WM in 48" casing at Columbus Dr., an 8" WM in 14" steel casing south of CSX railroad A-Line corridor, a 12" WM at E. Broadway Ave., an 8" WM at Overpass Rd., an 8" WM at 27 <sup>th</sup> Ave., an 8" WM in 16" casing north of the Tampa Bypass Canal and a 12" WM at MLK Jr. Blvd.	No response to cost request



**Table 4-13 Existing Utilities and Estimated Relocation Costs (continued)**

Utility Agency Owner	Description	Estimated Cost
FiberLight, LLC	No Response to Request	No response to cost request
FPL Fibernet	FPL Fibernet has FOC crossing US 301 at Tampa East Blvd. and just south of E. Meadow Blvd. They also have a crossing on the south side of SR 60; however, it is outside the study corridor limits.	No response to cost request
Hillsborough County Public Utilities	No existing or planned facilities located within the study corridor.	N/A
Hillsborough County Sheriff's Office (HCSO)	HCSO has FOC for their message boards on the west side of US 301 starting south of SR 60 and ending approximately 700 feet north of SR 60. They also have FOC crossing US 301 on the south side of E. Broadway Ave.	\$200,000
Level 3 Communications, Inc.	Level 3 has 2-2" conduits with FOC and 9-1.25" conduits with FOC going north on the east side of US 301 from SR 60 to the CSX railroad A-Line corridor where the 9-1.25" conduits with FOC enter the railroad corridor; 2-2" conduits with FOC on the east side of US 301 from CSX A-Line to Sabal Industrial Blvd. and 3-1.25" conduits with FOC on the west side of the roadway from Massaro Blvd. to I-4. The conduits are attached to the bridge over the Tampa Bypass Canal. Level 3 also has 9-1.25" conduits with FOC on the east side of US 301 from MLK Jr. Blvd. to I-4 and 3-1.25" conduits with FOC crossing US 301 on the south side of MLK Jr. Blvd. Level 3 also has 3-1.25" HDPE conduits with FOC on the west side of US 301 going south from SR 60. However, these conduits are outside the study corridor limits.	\$515,000
MCI	MCI has 4-2" conduits with FOC on the west side of US 301 and aerial FOC on the east side from SR 60 to Tampa East Blvd.; FOC within the CSX railroad A-Line corridor and 4-2" conduits with FOC on the west side of US 301 from E. Broadway Ave. to 21 <sup>st</sup> Ave where it crosses to the east side of US 301 and continues to Sabal Industrial Blvd.	\$185,000
Pluris/Utility Partners, LLC	No existing or planned facilities located within the study corridor.	N/A
Sprint/Ericsson Services	Sprint has FOC crossing US 301 on the south side of SR 60. This FOC is outside the study corridor limits.	N/A
Tampa Bay Water	No existing or planned facilities located within the study corridor.	N/A
Tampa Electric Company	TECO has overhead distribution lines (13.2 kV) located on both sides of the roadway throughout the study area and overhead transmission lines (230 kV) crossing US 301 between Oak Fair Blvd. and Elm Fair Blvd. The 230 kV transmission line is in an easement. TECO also has overhead transmission lines (69 kV) crossing US 301 at MLK Jr. Blvd. as well as 69kV overhead transmission lines in an easement north of the CSX railroad A-Line corridor.	No response to cost request
TECO Peoples Gas	Peoples Gas owns a 6" GM that crosses US 301 on the north side of SR 60 and a 6" GM that crosses SR 60 on the west side of US 301. The 6" GM which crosses SR 60 on the west side of US 301 is outside the study corridor limits. They also have a 4" GM on the east side of US 301 from Old Hopewell Rd. to Stannum St. where it crosses to the west side of US 301 and continues north to E. Broadway Ave. A 2" GM crosses US 301 on the north side of E. Broadway Ave.	\$36,000
TW Telecom	TW Telecom has a 1.5" conduit with coaxial cable on the west side of US 301 from SR 60 to Tampa East Blvd. and 2-2" conduits with coaxial cable that cross US 301 at E. Meadow Blvd.	\$156,800
Verizon Florida, LLC	Verizon has a manhole system crossing US 301 on the south side of SR 60 as well as multi-duct systems and aerial facilities on both sides of US 301 from SR 60 to south of I-4. The manhole system is outside the study corridor limits.	\$15,000,000
XO Communications	XO Communications has 8-1.25" conduits with FOC on the east side of US 301 from SR 60 to E. Broadway Ave where they cross US 301 and head west. They also have 8-1.25" conduits with FOC which cross US 301 on the south side of MLK Jr. Blvd. and are located on the east side of US 301 from MLK Jr. Blvd. to north of I-4.	No response to cost request

The CSX Transportation railroad crosses under US 301 at two locations. The CSX S-Line is located between SR 60 and Old Hopewell and the CSX A-Line is south of CR 574. **Table 4-14** provides crossing information for both railroad locations.

**Table 4-14 Railroad Crossing Data**

Line Segment	DOT Crossing Inventory Number	Railroad Milepost	Maximum Timetable Speed	Total Number of Trains Crossing			Quiet Zone
				Day	Night	Switching	
S	624463X	838.92	50	3	2	12	No
A	624364A	876.21	79	3	4	2	No

## 4.2 Natural and Physical Environment

### 4.2.1 Air Quality

The project study area is located in Hillsborough County, an area currently designated by the US Environmental Protection Agency (EPA) as “attainment” for all of the criteria air pollutants. Because the project is in an attainment area and is intended to reduce congestion, it is not likely that the proposed improvements will have an impact on local or regional air pollutant/pollutant precursor emissions or concentrations. The project was subjected to a localized carbon monoxide (CO) screening analysis test which it passed.

### 4.2.2 Contamination and Hazardous Materials

In accordance with FDOT policy and the FHWA requirements, a contamination screening evaluation was performed to evaluate potential project impacts from contaminated sites. A *Final Contamination Screening Evaluation Report (CSER)* was prepared pursuant to the FHWA’s Technical Advisory T 6640.8A and FDOT *Project Development and Environment Manual*, Part 2, Chapter 22. Risk ratings were assigned after reviewing data obtained from on-site reviews of the parcels, a review of historical land use, hazardous/petroleum site lists, and other data.

All sites along or in close proximity to the US 301 study corridor were evaluated through review of historical resources such as aerial photography and city directories, regulatory sources at the county and state levels, site reconnaissance, literature review and when necessary, personal interviews of individuals and business owners within the limits of the project. Sixty-eight (68) mainline sites were investigated for facilities or operations that may present the potential for finding petroleum contamination or hazardous materials, and therefore may impact the proposed improvements for this project.

The specific project study area included the ROW limits of the mainline project and an approximate 300-foot area extending beyond the ROW boundary. Of the 68 mainline sites investigated, the following risk ratings have been applied: 5 “High” rated sites, 9 “Medium” rated sites, 33 “Low” rated sites, and 21 sites rated "No" for potential contamination concerns. Detailed information for the “High” and “Medium” rated sites is provided in **Table 4-15**.

**Table 4-15 Site Ratings**

Site No.	Facility Name	Address or Location	Concerns	Regulatory Facility ID:	EPA Waste Handler ID:	Risk Rating
3	Paramount Triangle Inc.	9017 Adamo Dr	Petroleum Products & Hazardous Waste	FDEP Facility ID: 8734873	FLD984222810 & FLD984168781	HIGH
5	Gibbs & Sirkin Property	109 US 301	Petroleum Products	FDEP Facility ID: 8942825	N/A	HIGH
10	Toyota of Brandon (#65980)	9204 Adamo Dr	Petroleum Products	FDEP Waste Cleanup Site ID: 65150	N/A	MEDIUM
14	CSXT Railroad S-Line Mainline	CSXT S-Line	Petroleum Products, Pesticides/Herbicides, & Arsenic	N/A	N/A	HIGH
16	WRB Enterprises-Old Hopewell Road BF Site (#65988)	1211 Old Hopewell Rd	Pesticides	FDEP Waste Cleanup Site ID: 65157 Brownfield Site ID: BF290002001	N/A	MEDIUM
19	Former Rozier Machinery Co.	1219 US 301	Petroleum Products	FDEP Facility ID: 8624762	N/A	MEDIUM
20	Sims Crane & Equipment Co.	1219 US 301	Petroleum Products & Hazardous Waste	FDEP Facility ID: 8943355	FLD981864481	MEDIUM
28	7-Eleven Food Store (#26339)	1902 US 301	Petroleum Products	FDEP Facility ID: 8626828	N/A	MEDIUM
33	PraxAir	1930 US 301	Petroleum Products & Hazardous Waste	FDEP Facility ID: 9101835	FLD982112252	MEDIUM
39	CSXT Railroad A-Line Mainline	CSXT A-Line	Petroleum Products, Pesticides/Herbicides, & Arsenic	N/A	N/A	HIGH
41	Bobcat Equipment	2910 Overpass Rd	Petroleum Products	FDEP Facility ID: 8625246	N/A	HIGH
43	Petrolider of America, Sunoco	3002 US 301	Petroleum Products	FDEP Facility ID: 8625024	N/A	MEDIUM
51	Ledbetter's Repair Shop	3805 US 301	Petroleum Products & Hazardous Waste	N/A	N/A	MEDIUM
59	US 301 & Buffalo Avenue Hydrocarbon Contamination	In the existing ROW at the intersection of US 301 and SR 574	Petroleum Products & Hazardous Waste	FDEP Special Investigations Section ID: 047	N/A	MEDIUM

For the sites rated “No” for potential contamination, no further action is planned. These sites have been evaluated and determined not to have any potential environmental risk to the proposed project’s future construction activities at this time.

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

For those locations with a risk rating of “Medium” or “High”, Level II field screening will be conducted during the final design phase of the proposed project. These sites have been determined to have potential

contaminants, which may impact the project's construction activities. Additional information may become available or site-specific conditions may change from the time the *Final CSER* was prepared and will be considered during the proposed project's design phase.

### **4.2.3 Water Quality**

The study corridor resides within four waterbodies as defined by the FDEP, and these include WBID 1536A (South Tampa Canal), 1536B (Six Mile Creek/Tampa Bypass Canal), 1536F (Six Mile Creek/Tampa Bypass Canal), and 1576 (Mango Drain). All four waterbodies are listed as impaired, however WBID 1536A is listed as impaired for Fecal Coliform which is not a pollutant of concern for FDOT. Pollutant loading removal calculations are to be included in the SWFWMD permitting for the project and were performed for all basins proposed in the Preliminary Stormwater Management Facility Report.

Water quality impacts will be addressed during the design and construction phases of the proposed project. The proposed stormwater facility design will include, at a minimum, the water quantity design requirements for water quality impacts as required by SWFWMD in Rule 62-330 FAC and *Applicants Handbook Volumes 1 and 2*. The project will be designed to treat all stormwater runoff generated from the additional impervious surface area and will be designed to meet the SWFWMD criteria.

### **4.2.4 Wetlands**

Pursuant to Presidential Executive Order 11990 entitled "Protection of Wetlands", (May 23, 1977) the United States Department of Transportation (USDOT) has developed a policy, (USDOT Order 5660.1A), Preservation of the Nation's Wetlands, dated August 24, 1978, which requires all federally funded highway projects to protect wetlands to the fullest extent possible. In accordance with this policy, as well as Part 2, Chapter 18 - Wetlands of FDOT *PD&E Manual, Final Wetland Evaluation and Biological Assessment Report (WEBAR)* was prepared as part of this PD&E study to document the findings of the evaluation.

On May 1 and 14, 2013, 6.54 acres of surface waters were identified and mapped along the project corridor. No wetlands were identified within the project ROW. Surface waters identified for impact consist primarily of ditches that are located within the existing ROW. They have been previously disturbed by roadway construction, maintenance activities, and the invasion of nuisance and exotic species. The Uniform Mitigation Assessment Methodology (UMAM) analysis was not necessary since there were no wetlands identified within the project's anticipated ROW area.

### **4.2.5 Wildlife and Habitat**

The project was evaluated for potential impacts to wildlife and habitat resources, including protected species in accordance with 50 CFR Part 402, the Endangered Species Act of 1973, as amended, Chapters 5B- 40: *Preservation of Native Flora of Florida* and 68A-27 Florida Administrative Code (FAC) *Rules Relating to Endangered or Threatened Species*, and Part 2, Chapter 27 - *Wildlife and Habitat Impacts* of FDOT *PD&E Manual*.

Field surveys and database searches for protected species were conducted in 2013. One federally protected species, the wood stork (*Mycteria americana*), was determined to be present or have a high likelihood for using project habitats. The bald eagle (*Haliaeetus leucocephalus*), which receives protection

under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA), and the osprey (*Pandion haliaetus*), which receives protection under the MBTA, also have the potential to occur within the project area. FDOT has detailed commitments to protect the federally-threatened eastern indigo snake (*Drymarchon corais couperi*), and state-threatened gopher tortoise (*Gopherus polyphemus*) which were both determined to have a low probability of occurrence within project habitats. One state-listed wildlife species (Florida sandhill crane), described below, was observed during field surveys.

The **wood stork** is designated as threatened by the U.S. Fish and Wildlife Service (USFWS). The project corridor is located within the Core Foraging Area (CFA) of six documented wood stork colonies. No wood storks were observed during field reviews; however, suitable foraging habitat exists within roadside ditches along the corridor. A foraging habitat assessment procedure may be required to quantify impacts to suitable foraging habitat. However, because loss of these areas will either be mitigated or replaced, the project “may affect but is not likely to adversely affect” this species.

The **eastern indigo snake** is designated as threatened by the USFWS. This species typically inhabits a variety of natural areas including forested uplands and wetlands as well as wet and dry prairies. There is limited suitable habitat for this species near the highly urbanized project corridor and FDOT will commit to the standard precaution measures detailed in the USFWS eastern indigo snake protection/education plan (August 12, 2013). Therefore, the project “may affect but is not likely to adversely affect” this species.

The **Florida sandhill crane** (*Grus canadensis pratensis*) is listed as threatened by the Florida Fish and Wildlife Conservation Commission (FWC). Adult sandhill cranes were observed in one area of the project corridor. Current FWC protection measures provide protection for nesting sandhill cranes, no construction activities may occur within 125 meters of nest sites during the breeding season (January through August).

The **gopher tortoise** is listed as threatened by the FWC and is a candidate species for listing by the USFWS. Gopher tortoises thrive in xeric areas with sandy soils and open canopy with low groundcover. This habitat is largely absent from the project area. The FDOT is committed to conducting comprehensive surveys for gopher tortoises and their burrows during the project’s final design phase. Until field surveys indicate otherwise, it has been determined that the project “may affect but is not likely to adversely affect” the gopher tortoise.

In addition to faunal surveys, appropriate habitats were surveyed for protected flora. No federal or state-listed plant species were observed within the project area. This project proposes minimal impacts to undisturbed natural habitat and FDOT is committed to coordination with the Florida Department of Agricultural and Consumer Services (FDACS) if protected plant species are observed within the proposed impact areas during the design phase. Based on the results of the floral surveys, the project is not anticipated to adversely affect protected plant species.

Commitments to protect these species and habitat are provided and detailed in the *Final Wetland Evaluation and Biological Assessment Report (WEBAR)* prepared as part of this PD&E study. These commitments include, but are not limited to, protection measures employed during design and construction phases. Standard operating measures such as providing compensatory mitigation measures for impacts to foraging habitat and resurveying of suitable habitat areas prior to construction will also provide protection for species and habitat. If protected species are identified, coordination with the

USFWS, FWC and/or the FDACS - Division of Plant Industry will be initiated to determine permit requirements or modifications to construction activities that may be required.

#### **4.2.6 Noise**

A traffic noise evaluation was conducted and documented in a *Final Noise Study Report (NSR)* as a part of the PD&E study. The evaluation included an analysis of predicted traffic noise for noise sensitive areas for the Recommended Alternative. The traffic noise analysis was performed following FDOT procedures that comply with Title 23 Code of Federal Regulations (CFR), Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (July 2010). In addition, Chapter 335.17, *Florida Statute*, requires the use of 23 CFR 772 in the noise impact assessment process, regardless of funding. The evaluation used methodologies established by FDOT and documented in the *PD&E Manual, Part 2, Chapter 17* (May 2011). The prediction of traffic noise levels with and without the roadway improvements was performed using Version 2.5 of the FHWA's Traffic Noise Model (TNM).

The purpose of the noise study is to identify noise sensitive sites that could be impacted with the proposed project, evaluate abatement measures at impacted noise sensitive sites, and determine where noise abatement (i.e., noise barriers) needs to be given further consideration during the design phase of the project.

Abatement is evaluated for all noise sensitive sites predicted to approach/exceed the noise abatement criteria (NAC) or experience a substantial increase in traffic noise caused by the proposed project. Abatement measures considered include traffic management, alignment modifications, buffer zones, and noise barriers. Traffic management and alignment modification were determined to not be reasonable abatement measures.

Of the 18 evaluated noise sensitive receptors, nine were located at residences, three were restaurants with outdoor dining areas (Five Guys, Joe's Sandwich Shop, and 301 Family Restaurant), and three were evaluated as exterior uses associated with the Comfort Inn, La Quinta, and Holiday Inn hotels. A trail within Veteran's Memorial Park and an office complex (Centerpoint Business Park) with two exterior uses were also evaluated.

Existing (2013) traffic noise levels are predicted to range from 51.2 to 70.6 decibels on the "A" weighted scale (dB(A)) at the 18 receptors evaluated. The future noise levels and noise abatement measures considered are located in **Section 8.7**.

The FDOT has committed to performing a land use review during the Design phase of the project to ensure that all noise-sensitive land uses that have received a building permit prior to the project's SEIR approval (date of public knowledge) are evaluated.

### **4.3 Cultural Environment**

#### **4.3.1 Historical/Archaeological**

The historical area of potential effect (APE) for mainline improvements utilized in the Cultural Resource Assessment Survey (CRAS) was defined as the existing ROW as well as all immediately adjacent properties within 250 feet. The preliminary background research revealed that four previously recorded

historic resources are located in the APE. These include two Frame Vernacular style buildings (8HI06547A and 8HI06547B) and two linear resource groups (8HI11335 and 8HI11481).

Neither linear resource was evaluated by the State Historic Preservation Officer (SHPO). Historical/architectural field surveys of the US 301 PD&E study project APE were conducted from March 21, 2013 to May 20, 2013 and resulted in the identification and evaluation of 15 historic resources; including one bridge (8HI12133), two building complex resource groups (8HI12134 and 8HI12136), four linear resource groups (8HI11335, 8HI11481, 8HI12135, and 8HI12137), and eight buildings (8HI06547A, 8HI06547B, and 8HI12138 through 8HI12143). Four of these 15 historic resources were previously recorded in the Florida Master Site File (FMSF) and 11 were newly identified as a result of this survey. None of the historic buildings are considered potentially eligible for listing in the National Register of Historic Places (NRHP) due to their commonality of style and lack of significant historical associations. Similarly, each building complex resource group is comprised of undistinguished examples of their respective types and styles and, therefore, does not meet the criteria of eligibility for listing in the NRHP. Further, there is no potential for historic districts within the APE. There is insufficient information to determine the NRHP eligibility of the Seaboard Railway (8HI11335), the Atlantic Coast Line Railroad (8HI11481), and the Tampa Bypass Canal (8HI12135), because only short segments of these linear resource groups are located within the US 301 project APE. The segment of US 301 (8HI12137) contained within the project APE is not considered potentially eligible for NRHP listing because of its lack of physical historic integrity.

In conclusion, given the results of background research and archaeological and historical/architectural field surveys, with the exception of the three unevaluated linear resources (8HI11335, 8HI11481, and 8HI12135), project development will have no effect on any archaeological sites or historic resources that are listed, determined eligible, or considered potentially eligible for listing in the NRHP, or otherwise of historical or archaeological value. The CRAS was submitted to the Florida Division of Historical Resources for coordination with the SHPO on April 14, 2015. The SHPO found the CRAS complete and sufficient and concurred with the recommendations and findings for SHPO/DHR Project file No. 2015-1775 on April 20, 2015. The concurrence letter signed by Robert Bendus is attached in **Appendix B**.

The archaeological APE for mainline improvements utilized in the CRAS was defined as within the existing ROW. A review of the FMSF and the NRHP indicated that 22 previously recorded archaeological sites are located within one mile of the study corridor. Site 8HI05048 (the US 301 Cloverleaf Site), a culturally indeterminate lithic scatter determined ineligible for listing in the NRHP by SHPO, is located within the project APE. The background research suggested a generally low potential for archaeological sites due to the poorly drained nature of the soils and lack of permanent water sources, as well as the extensively altered condition of the ROW. No new archaeological sites were discovered as the result of field survey and no evidence of 8HI05048 was found.

In conclusion, given the results of the background research and archaeological field surveys, project development will have no effect on any existing archaeological sites or other areas of archaeological value. The CRAS was submitted to the Florida Division of Historical Resources for coordination with the SHPO on April 14, 2015. The SHPO found the CRAS complete and sufficient and concurred with the recommendations and findings for SHPO/DHR Project file No. 2015-1775 on April 20, 2015. The concurrence letter signed by Robert Bendus is attached in **Appendix B**.

### **4.3.2 Recreational Areas**

A Recreational Property Inventory was conducted for this project. The inventory revealed there is one recreational property in the study corridor. Veteran's Memorial Park located on the west side of US 301 just north of the Tampa Bypass Canal, includes memorials, walking trails, exhibits and a picnic area. Additionally, the proposed Tampa Bypass Canal Trail is a future multi-use trail that would connect the Flatwoods Park in New Tampa through Wilderness and Trout Creek Parks and extend south to the McKay Bay Trail, the Selmon Greenway and the South County Trail.

## **4.4 Social Environment**

### **4.4.1 Mobility**

US 301 is a major north-south roadway that provides regional connectivity with I-75, I-4, and the Lee Roy Selmon Expressway. US 301 and I-75 run parallel between SR 60 and I-4 with US 301 providing relief when I-75 traffic experiences delays. There are a number of Strategic Intermodal Systems (SIS) facilities in close proximity to US 301, including the Port of Tampa, the Tampa Intercity Greyhound Bus Terminal, and the Port of Manatee. Additionally, the Tampa Amtrak Station and the Tampa CSX Intermodal Terminal, both Emerging SIS facilities are near the study area.



## 5.0 DESIGN CRITERIA

The design criteria for the proposed improvements to US 301 adhere to FDOT *Plans Preparation Manual* (PPM), 2015 and the *American Association of State Highway and Transportation Officials* (AASHTO's) *A Policy on Geometric Design of Highways and Streets*, 2004. **Table 5-1** lists the specific design criteria that were used to develop the typical sections, as well as the horizontal and vertical alignment for the proposed improvements. The design year for the proposed improvements is 2040.

**Table 5-1 Design Criteria**

Design Element			High Speed Suburban Arterial	High Speed Urban Arterial	Documentation / FDOT Plans Preparation Manual 2015	
Typical Section	Design Speed (mph)		50	45	Section 2.16.1/Table 1.9.1	
	Lane Widths (ft)		12	11	Table 2.1.1	
	Bicycle Lane Widths (ft)		0 <sup>(1)</sup>	7	Table 2.1.2	
	Minimum Median Width (ft)		30	22	Section 2.16.4/Table 2.2.1	
	Shoulder Width	Outside	Full (ft)	10	0	Table 2.3.2
			Paved (ft)	7	0	Table 2.3.2
		Inside	Full (ft)	6.5	0	Section 2.16.5
			Paved (ft)	6.5	0	Section 2.16.5
Border Width (ft)		29	12	Section 2.16.7/Table 2.5.2		
Recoverable Terrain (ft)		24	24	Table 2.11.11		
Horizontal	Min. Stopping Sight Distance (ft)		425	360	Table 2.7.1	
	Max. Deflection Without Curve		1° 00' 00"	1° 00' 00"	Table 2.8.1a	
	Length of Curve	Desirable (ft)	750	675	Table 2.8.2a	
		Minimum (ft)	400	400	Table 2.8.2a	
	Max. Superelevation (%)		5	5	Section 2.16.10/Table 2.9.2	
	Max. Curvature (e = NC) (ft)		8,337	2,083	Table 2.9.1/Table 2.9.2	
Max. Curvature (e max = 0.05) (ft)		2,245	694	Table 2.9.1/Table 2.9.2		
Vertical	Min. Vertical Clearance for Roadway over Railroad (ft)		23.5	23.5	Table 2.10.1	
	Max. Grade (Flat Terrain) (%)		6.0	6.0 <sup>(2)</sup>	Section 2.16.8/Table 2.6.1	
	Max. Change in Grade without Vertical Curve (%)		0.60	0.60 <sup>(2)</sup>	Table 2.6.2	
	Base Course Clearance Above Water Elevation (ft)		1	1	Table 2.6.3	
	Crest Curve	K Value	136	136 <sup>(2)</sup>	Table 2.8.5	
		Min. Length (ft)	300	300 <sup>(2)</sup>	Table 2.8.5	
	Sag Curve	K Value	96	96 <sup>(2)</sup>	Table 2.8.6	
		Min. Length (ft)	200	200 <sup>(2)</sup>	Table 2.8.6	

Notes:

1. Bicycle lanes located along the outside paved shoulders.
2. Vertical Alignment for the High Speed Urban Arterial is based on a Design Speed of 50 mph.

This section provides a summary of the existing and future traffic conditions within the US 301 study corridor. A more thorough discussion of the development of the existing and future year daily and peak hour traffic volumes, as well as the existing and future year peak hour traffic operations analyses that were conducted for this study, is provided in the US 301 Design Traffic Technical Memorandum (July 2014).

### 6.1 Existing Traffic Volumes and Traffic Characteristics

#### 6.1.1 Existing Traffic Volumes

A traffic count program was conducted during the months of February and March in 2013. Seventy-two (72) hour bi-directional volume counts were conducted at 32 locations (including cross streets) during the periods from February 26<sup>th</sup> to February 28<sup>th</sup> and March 5<sup>th</sup> to March 7<sup>th</sup>. Bi-directional vehicle classification counts were also conducted during two 72-hour periods at three locations along US 301. The 2013 Annual Average Daily Traffic (AADT) volumes were calculated by multiplying the 72-hour volume counts by seasonal and axle adjustment factors obtained from FDOT's Florida Traffic Online web site. **Figure 6-1** illustrates the 2013 AADT volumes for the study corridor. The 2013 AADT volumes on US 301 range between 29,700 vehicles per day (vpd) south of Elm Fair Boulevard and 36,200 vpd between Old Hopewell Road and Stannum Street/Massarò Boulevard.

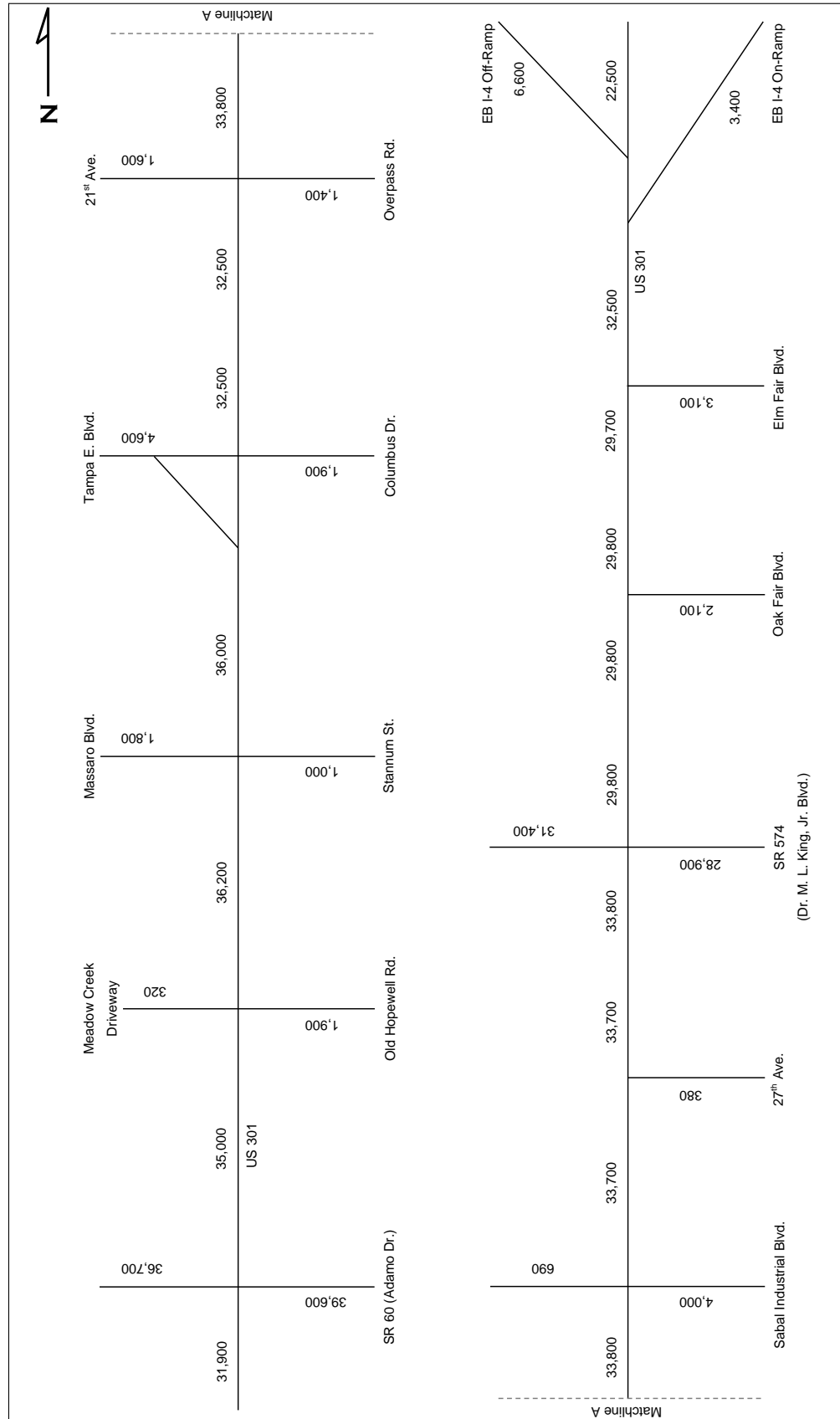
Four-hour manual turning movement counts were conducted at the ten intersections previously identified in **Table 4-12** on either a Tuesday, Wednesday or Thursday, between February 26<sup>th</sup> and March 6<sup>th</sup>, 2013 within the hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. Heavy vehicles (i.e., trucks and buses), bicyclists, and pedestrians were counted in addition to passenger vehicles.

#### 6.1.2 Existing Year Levels of Service

The study corridor was subdivided into ten roadway segments and these segments were analyzed using the 2010 Highway Capacity Manual software (HCS). These segments are listed in **Table 6-1** along with their associated peak hour volumes and levels of service. All of the roadway segments are operating at Level of Service (LOS) C or better in both travel directions during the a.m. and p.m. peak hours.

The seven unsignalized intersections were analyzed using the 2010 HCS and the results are summarized in **Table 6-2**. With one exception, all of the northbound and southbound US 301 left-turn movements are operating at LOS C or better during both peak hours. The northbound left-turn movement at the Columbus Drive/Tampa E. Boulevard intersection is operating at LOS D during the p.m. peak hour.

Signalized intersection analyses were conducted for the SR 60, Sabal Industrial Boulevard, and SR 574 intersections using the 2010 HCS. Signal timing observations (i.e., individual phase times and total cycle lengths) were recorded during the same time periods that the peak hour turning movement counts were conducted and the observed phase times were averaged. Traffic signal timing data for these three intersections was also obtained from Hillsborough County. The average phase times that were previously calculated using the peak hour observations were compared to the minimum and maximum phase times obtained from Hillsborough County to verify that the average peak hour phase timings were within these ranges and therefore, were reasonable to use in the HCS analyses. **Table 6-3** summarizes the results of the signalized intersection analyses.



**Figure 6-1 Existing Year (2013) AADT Volumes**

**Table 6-1 Existing Year (2013) Peak Hour Roadway Segment Analysis Summary**

Roadway Segment	Direction	AM Peak Hour			PM Peak Hour		
		Volume <sup>(1)</sup>	Density <sup>(2)</sup>	LOS <sup>(3)</sup>	Volume <sup>(1)</sup>	Density <sup>(2)</sup>	LOS <sup>(3)</sup>
Btwn SR 60 and Old Hopewell Rd.	NB	1,872	21.1	C	1,349	14.9	B
	SB	1,329	15.0	B	1,872	20.7	C
Btwn Old Hopewell Rd. and Stannum St./Massaro Blvd.	NB	1,870	21.1	C	1,401	15.5	B
	SB	1,338	15.1	B	1,857	20.6	C
Btwn Stannum St./Massaro Blvd. and Columbus Dr./Tampa E. Blvd.	NB	1,832	20.7	C	1,393	15.4	B
	SB	1,393	15.7	B	1,847	20.5	C
Btwn Columbus Dr./Tampa E. Blvd. and Overpass Rd./21 <sup>st</sup> Ave.	NB	1,638	18.5	C	1,322	14.6	B
	SB	1,398	17.5	B	1,627	20.0	C
Btwn Overpass Rd./21 <sup>st</sup> Ave. and Sabal Industrial Blvd.	NB	1,569	19.7	C	1,421	17.5	B
	SB	1,552	19.5	C	1,597	19.6	C
Btwn Sabal Industrial Blvd. and 27th Ave.	NB	1,393	15.7	B	1,711	18.9	C
	SB	1,654	18.7	C	1,386	15.3	B
Btwn 27 <sup>th</sup> Ave. and SR 574	NB	1,396	17.5	B	1,704	21.0	C
	SB	1,650	18.6	C	1,397	15.5	B
Btwn SR 574 and Oak Fair Blvd.	NB	1,198	15.0	B	1,538	18.9	C
	SB	1,538	17.4	B	1,154	12.8	B
Btwn Oak Fair Blvd. and Elm Fair Blvd.	NB	1,170	13.2	B	1,564	17.3	B
	SB	1,564	17.7	B	1,160	12.8	B
Btwn Elm Fair Blvd. and I-4	NB	1,223	10.2	A	1,695	13.9	B
	SB	1,695	12.8	B	1,223	9.0	A

<sup>(1)</sup> Volume (vehicles/hour)

<sup>(2)</sup> Average Density (passenger cars/mile/lane)

<sup>(3)</sup> Level of Service

The SR 60 intersection is currently operating at LOS F overall during both the a.m. and p.m. peak hours. Several individual movements at this intersection are operating overcapacity and these include the following:

- Northbound US 301 through movement (both peak hours)
- Southbound US 301 left-turn and through movement (a.m. peak hour)
- Eastbound SR 60 through movement (p.m. peak hour)
- Westbound SR 60 through movement (both peak hours)

The Sabal Industrial Boulevard intersection is currently operating at LOS C or better overall during the a.m. and p.m. peak hours; however, the westbound approach movements are overcapacity during the p.m. peak hour. Similarly, the SR 574 intersection is currently operating at LOS D overall during the a.m. and p.m. peak hours; however, the northbound US 301 left-turn movement is overcapacity during the a.m. peak hour.

**Table 6-2 Existing Year (2013) Peak Hour Unsignalized Intersection Operations Summary**

Intersection	Approach	Movement	AM Peak Hour			PM Peak Hour		
			V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
Old Hopewell Road	Northbound	LT	0.01	12.3	B	0.00	18.5	C
	Southbound	LT	0.15	22.5	C	0.10	14.9	B
	Eastbound	LT/TH/RT	0.13	35.7	E	0.60	118.1	F
	Westbound	LT/TH	1.88	748.3	F	0.78	159.9	F
	Westbound	RT	0.23	28.8	D	0.17	15.4	C
Stannum Street/ Massaro Boulevard	Northbound	LT	0.11	13.8	B	0.12	20.7	C
	Southbound	LT	0.09	18.8	C	0.06	14.4	B
	Eastbound	LT/TH	0.50	139.3	F	0.77	214.3	F
	Eastbound	RT	0.05	15.1	C	0.16	18.5	C
	Westbound	LT/TH/RT	0.09	32.7	D	0.70	92.2	F
Columbus Drive/ Tampa E. Boulevard	Northbound	LT	0.38	16.3	C	0.44	27.6	D
	Southbound	LT	0.29	19.3	C	0.15	13.5	B
	Eastbound	LT	*	**	F	*	**	F
	Eastbound	TH/RT	*	**	F	1.32	559.9	F
	Westbound	LT	*	**	F	4.06	1,833.0	F
	Westbound	TH	*	**	F	*	**	F
	Westbound	RT <sup>(4)</sup>	0.00	0.0	N/A	0.00	0.0	N/A
Overpass Road/ 21st Avenue	Northbound	LT	0.11	16.4	C	0.09	17.3	C
	Southbound	LT	0.17	16.6	C	0.07	13.6	B
	Eastbound	LT/TH/RT	0.58	106.4	F	2.27	686.8	F
	Westbound	LT/TH/RT	0.14	22.7	C	0.22	23.2	C
27th Avenue	Northbound	LT	0.01	15.0	B	0.00	0.0	N/A
	Southbound	LT	0.05	14.0	B	0.05	17.7	C
	Westbound	LT/RT	0.30	41.8	E	0.16	39.9	E
Oak Fair Boulevard	Southbound	LT	0.13	13.0	B	0.16	16.2	C
	Westbound	LT	0.56	79.4	F	1.04	173.7	F
	Westbound	RT	0.15	15.2	C	0.44	21.5	C
Elm Fair Boulevard	Northbound	LT	0.00	0.0	N/A	0.00	11.1	B
	Southbound	LT	0.31	14.4	B	0.33	23.7	C
	Westbound	LT	0.38	84.0	F	0.37	71.0	F
	Westbound	RT <sup>(4)</sup>	0.00	0.0	A	0.00	0.0	N/A

<sup>(1)</sup> Volume-to-Capacity Ratio

<sup>(2)</sup> Average Delay (seconds/vehicle)

<sup>(3)</sup> Level of Service

<sup>(4)</sup> Free-flow right-turn lane

\* Theoretically, the capacity for this movement is equal to zero. Therefore, the v/c ratio is infinite.

\*\* No estimate of delay is provided since the v/c ratio is infinite.

## 6.2 Future Year Traffic Projections

The methodology that was used to obtain the future year AADT volumes for the US 301 PD&E study was initially developed and documented in the US 301 Traffic Forecasting Methodology Statement

(July 2013). This Traffic Forecasting Methodology Statement was reviewed and approved by FDOT on July 30, 2013. The traffic forecasting was accomplished with the use of the 2035 Cost Affordable Tampa Bay Regional Planning Model (TBRPM), Version 7.1 and the methodology described in the National Cooperative Highway Research Program's Report No. 255. Several highway network coding revisions were made to the 2035 TBRPM to more accurately represent the study corridor and the revised 2035 travel demand model was run.

Since the design year established for this PD&E study is 2040, the design year AADT volumes were derived by extrapolation using the existing (2013) and 2035 AADT volumes. An opening year of 2020 was also established for the PD&E study and the opening year AADT volumes were derived through interpolation using the 2013 and 2035 AADT volumes. The 2013, 2020 and 2040 AADT volumes for the No-Build Alternative are graphically illustrated in **Figure 6-2** while the 2013, 2020 and 2040 AADT volumes for the Build Alternative are illustrated in **Figure 6-3**. The 2040 No-Build Alternative AADT volumes are projected to range between 48,000 vpd and 52,500 vpd while the 2040 Build Alternative AADT volumes are projected to range between 55,500 vpd and 64,500 vpd.

The 2040 AADT volumes were used along with a K-factor of 9.0%, a D-factor of 57.0% and the existing peak hour turning movement percentages to derive preliminary estimates of the 2040 a.m. and p.m. peak hour intersection volumes for the No-Build and Build Alternatives. The 2020 peak hour volumes were derived by interpolating between the 2013 and 2040 peak hour volumes.

A preliminary access management plan was developed for the US 301 study corridor as a part of the PD&E study. The type of median opening to be provided at each of the study corridor intersections is as follows:

- SR 60 – Full median opening (Existing Signal)
- Old Hopewell Road – Full median opening
- Stannum Street/Massaró Boulevard – Dual directional median opening
- Columbus Drive/Tampa E. Boulevard – Full median opening
- Overpass Road/21<sup>st</sup> Avenue – Dual directional median opening
- Sabal Industrial Boulevard – Full median opening (Existing Signal)
- 27<sup>th</sup> Avenue – Southbound directional median opening
- SR 574 – Full median opening (Existing Signal)
- Oak Fair Boulevard – Full median opening
- Elm Fair Boulevard – No median opening (right-in/right-out only)

**Table 6-3 Existing Year (2013) Peak Hour Signalized Intersection Operations Summary**

Approach	Movement	AM Peak Hour			PM Peak Hour		
		V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
<b>US 301 at SR 60</b>							
<b>Northbound US 301</b>	LT	0.81	75.2	E	0.70	77.4	E
	TH	1.11	118.2	F	1.06	115.2	F
	RT	0.11	30.8	C	0.32	47.1	D
	Approach	N/A	103.3	F	N/A	98.7	F
<b>Southbound US 301</b>	LT	1.27	218.3	F	0.73	65.3	E
	TH	1.04	101.9	F	0.98	74.1	E
	RT	0.63	51.4	D	0.01	23.3	C
	Approach	N/A	119.9	F	N/A	71.0	E
<b>Eastbound SR 60</b>	LT	0.98	127.9	F	0.59	67.3	E
	TH	0.95	67.9	E	1.06	96.7	F
	RT	0.22	5.1	A	0.33	5.6	A
	Approach	N/A	70.6	E	N/A	80.1	F
<b>Westbound SR 60</b>	LT	0.94	111.1	F	0.74	88.6	F
	TH	1.06	96.2	F	1.20	160.8	F
	RT	0.55	21.5	C	0.14	14.4	B
	Approach	N/A	84.2	F	N/A	141.1	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>93.5</b>	<b>F</b>	<b>N/A</b>	<b>95.0</b>	<b>F</b>
<b>US 301 at Sabal Industrial Blvd.</b>							
<b>Northbound US 301</b>	LT	0.06	15.9	B	0.01	14.0	B
	TH	0.91	21.5	C	0.65	8.3	A
	RT	0.34	13.7	B	0.03	4.8	A
	Approach	N/A	20.3	C	N/A	8.3	A
<b>Southbound US 301</b>	LT	0.33	14.4	B	0.18	16.1	B
	TH	0.72	8.3	A	0.66	8.6	A
	RT	0.02	3.9	A	0.01	4.8	A
	Approach	N/A	8.6	A	N/A	8.8	A
<b>Eastbound Sabal Industrial Blvd.</b>	LT	0.03	33.5	C	0.33	35.7	D
	TH	0.02	30.9	C	0.13	25.5	C
	RT	0.02	30.9	C	0.13	25.5	C
	Approach	N/A	32.5	C	N/A	30.7	C
<b>Westbound Sabal Industrial Blvd.</b>	LT	0.18	32.2	C	1.03	93.2	F
	TH	0.18	32.2	C	1.03	93.2	F
	RT	0.42	33.2	C	1.18	144.0	F
	Approach	N/A	32.8	C	N/A	117.8	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>14.8</b>	<b>B</b>	<b>N/A</b>	<b>26.6</b>	<b>C</b>

**Table 6-3 Existing Year (2013) Peak Hour Signalized Intersection Operations Summary  
(Continued)**

Approach	Movement	AM Peak Hour			PM Peak Hour		
		V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
<b>US 301 at SR 574</b>							
<b>Northbound US 301</b>	Left	0.90	57.7	E	0.90	59.7	E
	Thru	0.64	37.0	D	0.73	38.2	D
	Right	0.14	24.2	C	0.26	1.0	A
	Approach	N/A	43.0	D	N/A	40.4	D
<b>Southbound US 301</b>	Left	0.83	61.5	E	0.70	57.2	E
	Thru	0.80	43.1	D	0.61	37.3	D
	Right	0.10	24.4	C	0.07	23.8	C
	Approach	N/A	47.2	D	N/A	41.6	D
<b>Eastbound SR 574</b>	Left	0.54	59.1	E	0.51	58.3	E
	Thru	0.94	57.2	E	0.91	53.4	D
	Right	0.59	5.7	A	0.67	30.1	C
	Approach	N/A	45.9	D	N/A	48.1	D
<b>Westbound SR 574</b>	Left	0.65	62.9	E	0.59	60.4	E
	Thru	0.76	44.7	D	0.76	44.4	D
	Right	0.34	10.0	A	0.64	14.0	B
	Approach	N/A	41.1	D	N/A	38.1	D
<b>Overall Intersection</b>		<b>N/A</b>	<b>44.5</b>	<b>D</b>	<b>N/A</b>	<b>42.2</b>	<b>D</b>

<sup>(1)</sup> Volume-to-Capacity Ratio

<sup>(2)</sup> Average Delay (seconds/vehicle)

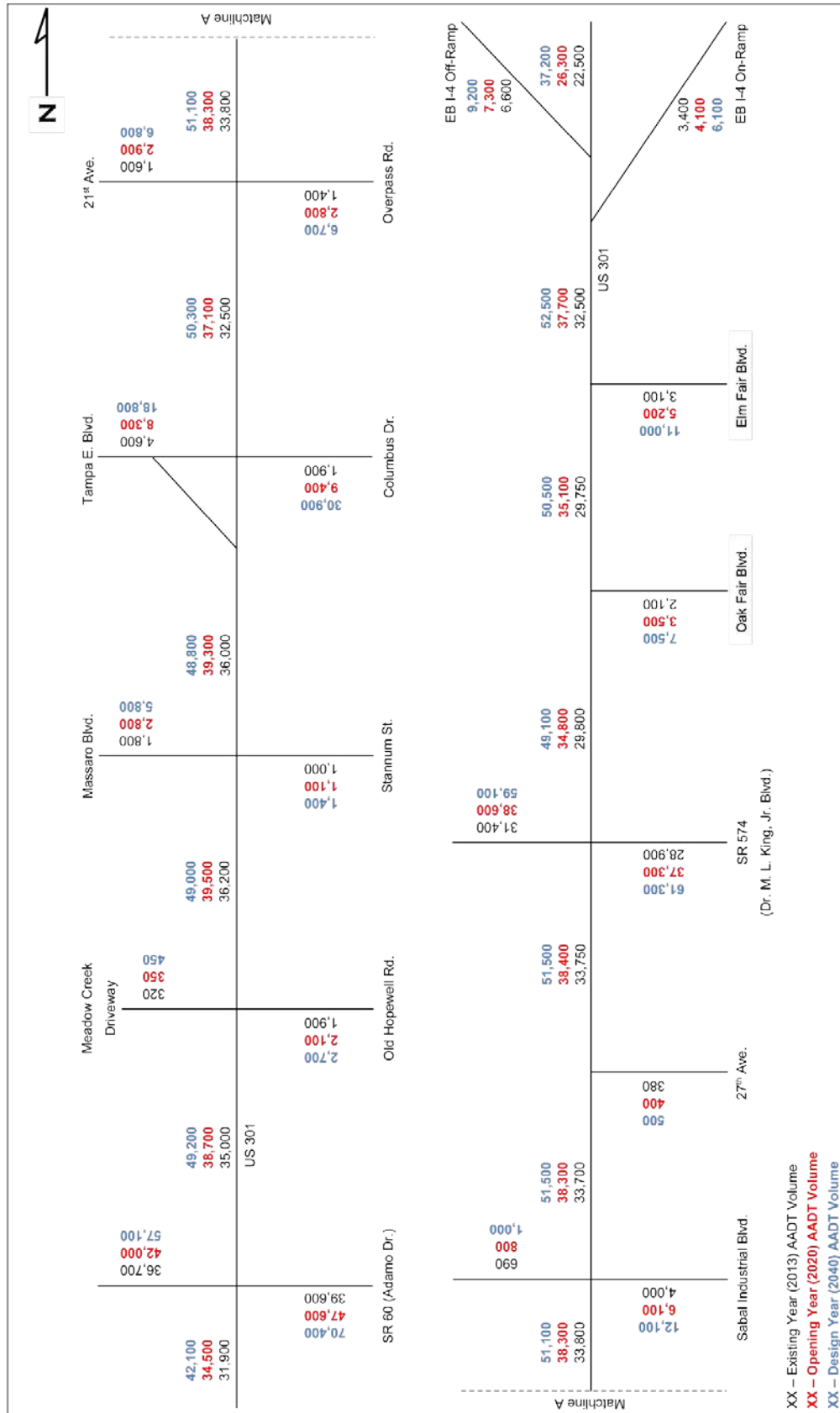
<sup>(3)</sup> Level of Service

\* Free-Flow Right-Turn Lane

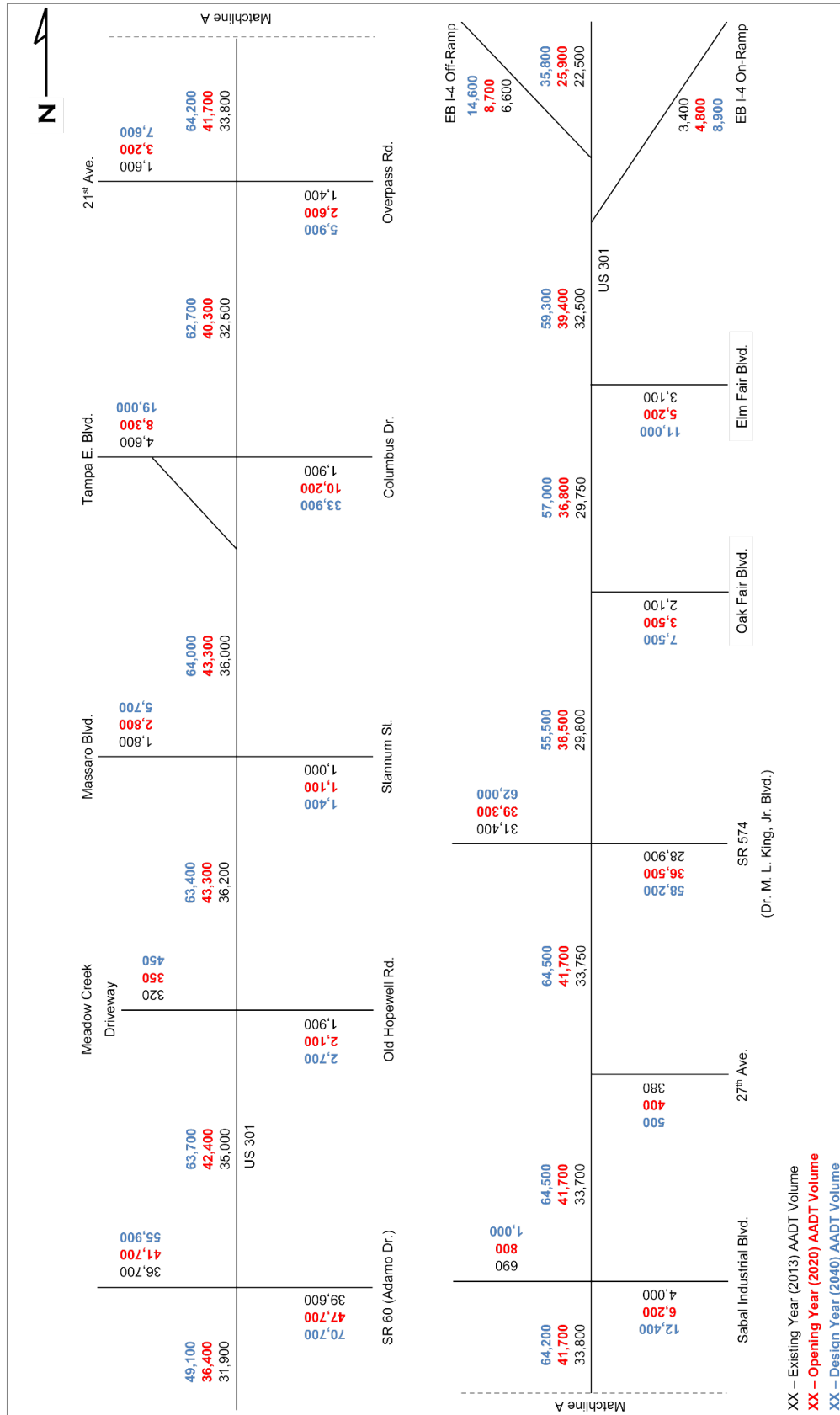
\*\* Values based on manual calculation of weighted average delay (including the zero delay for the free-flow right-turn movements)

Some of the 2020 and 2040 peak hour volumes that were initially developed for the Build Alternative were manually redistributed to reflect the median openings associated with the preliminary access management plan. The 2020 a.m. and p.m. peak hour volumes that resulted from this process are depicted in **Figure 6-4** and **Figure 6-5**, respectively; while the 2040 a.m. and p.m. peak hour volumes are depicted in **Figure 6-6** and **Figure 6-7**, respectively.



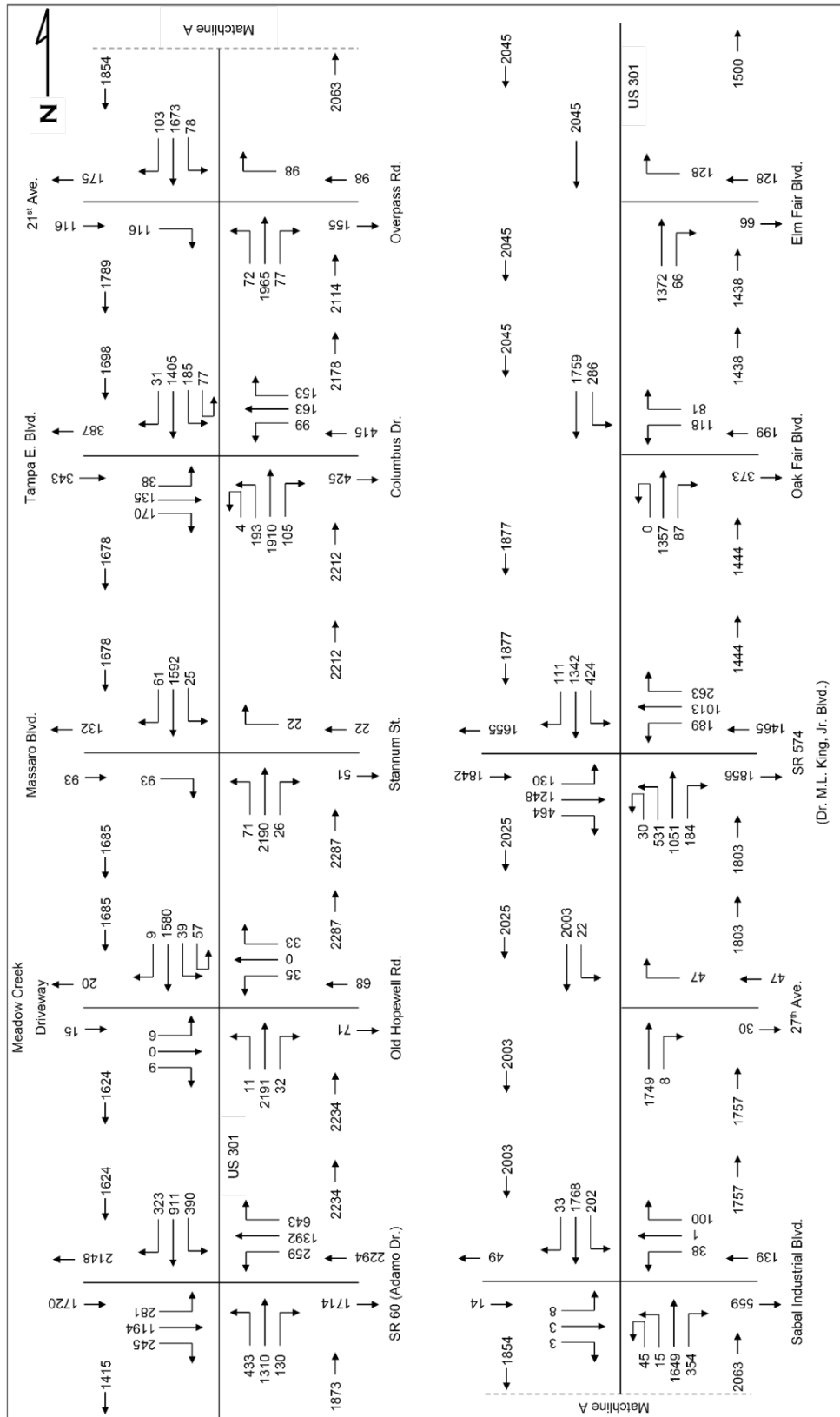


**Figure 6-2 No-Build AADT Volumes – 2013, 2020 & 2040**

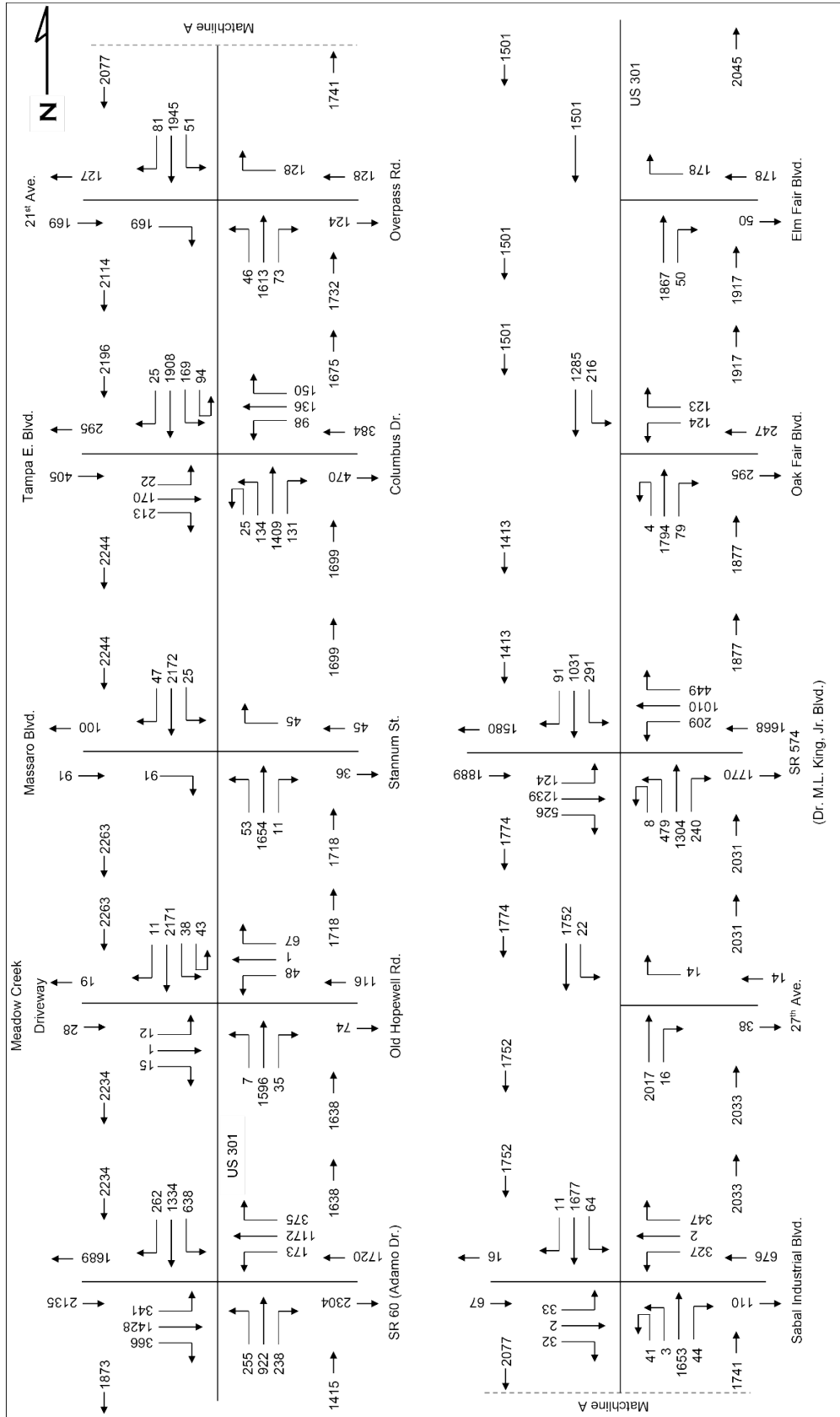


XX – Existing Year (2013) AADT Volume  
 XX – Opening Year (2020) AADT Volume  
 XX – Design Year (2040) AADT Volume

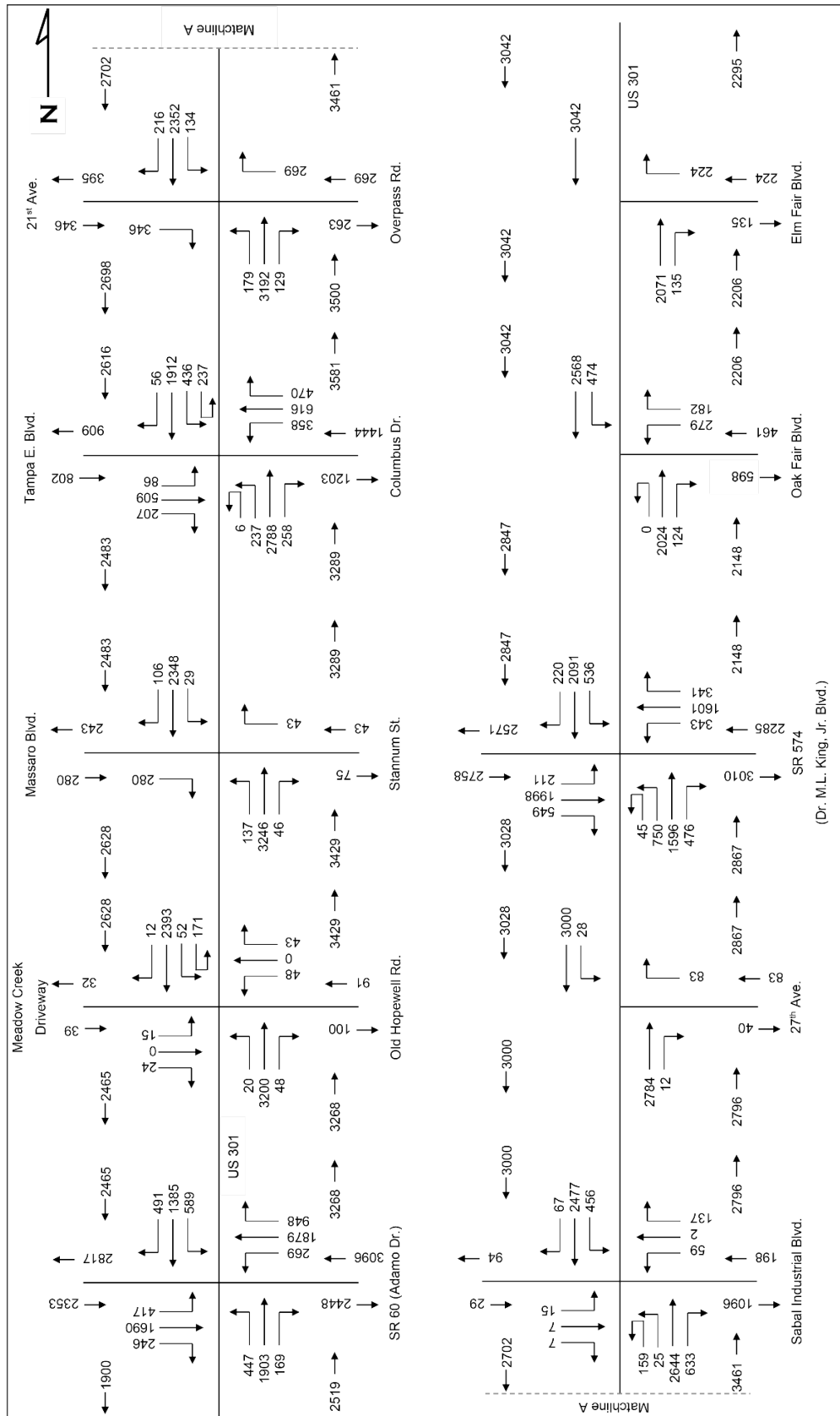
**Figure 6-3 Build AADT Volumes – 2013, 2020 & 2040**



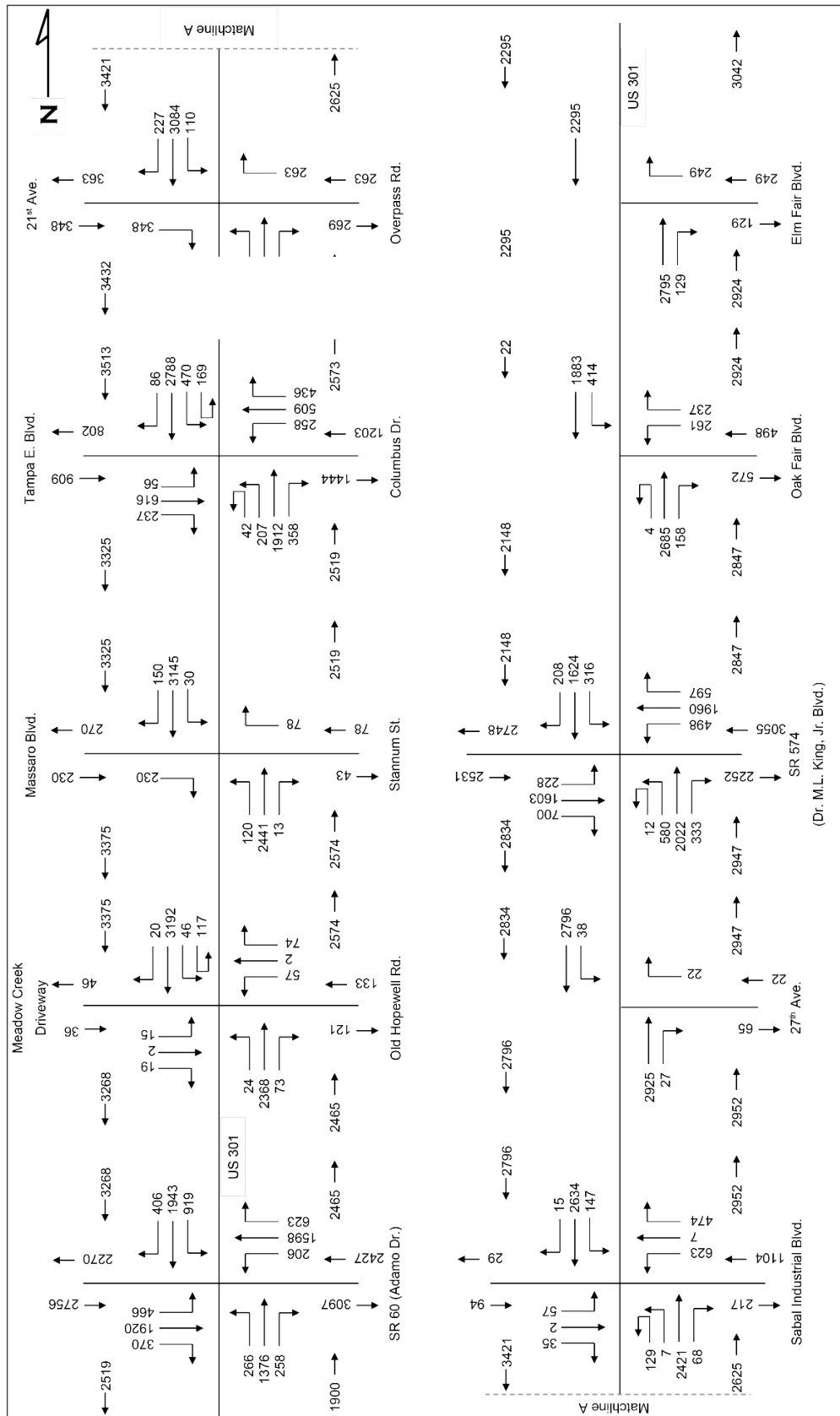
**Figure 6-4 2020 AM Build Alternative Peak Hour Turning Movements**



**Figure 6-5 2020 PM Build Alternative Peak Hour Turning Movements**



**Figure 6-6 2040 AM Build Alternative Peak Hour Turning Movements**



**Figure 6-7 2040 PM Build Alternative Peak Hour Turning Movements2**

### 6.3 Future Year Levels of Service

#### 6.3.1 No-Build Alternative Levels of Service

The opening year (2020) No-Build Alternative multilane highway segment analyses were conducted using the same parameter values that were used in the existing conditions analyses. **Table 6-4** summarizes the results of the 2020 peak hour multilane highway segment analyses. All of the roadway segments are projected to operate at LOS C or better in both travel directions during the a.m. and p.m. peak hours.

**Table 6-4 Opening Year (2020) Peak Hour Roadway Segment Analysis Summary – No-Build Alternative**

Roadway Segment	Direction	AM Peak Hour			PM Peak Hour		
		Volume <sup>(1)</sup>	Density <sup>(2)</sup>	LOS <sup>(3)</sup>	Volume <sup>(1)</sup>	Density <sup>(2)</sup>	LOS <sup>(3)</sup>
Btwn SR 60 and Old Hopewell Rd.	NB	2,040	23.0	C	1,493	16.5	B
	SB	1,478	16.7	B	2,041	22.6	C
Btwn Old Hopewell Rd. and Stannum St./Massaro Blvd.	NB	2,037	23.0	C	1,530	16.9	B
	SB	1,482	16.7	B	2,027	22.4	C
Btwn Stannum St./Massaro Blvd. and Columbus Dr./Tampa E. Blvd.	NB	2,006	22.6	C	1,522	16.9	B
	SB	1,521	17.2	B	2,017	22.3	C
Btwn Columbus Dr./Tampa E. Blvd. and Overpass Rd./21 <sup>st</sup> Ave.	NB	1,896	21.4	C	1,476	16.3	B
	SB	1,536	19.3	C	1,885	23.2	C
Btwn Overpass Rd./21 <sup>st</sup> Ave. and Sabal Industrial Blvd.	NB	1,842	23.1	C	1,565	19.2	C
	SB	1,663	20.9	C	1,863	22.9	C
Btwn Sabal Industrial Blvd. and 27 <sup>th</sup> Ave.	NB	1,580	17.8	B	1,897	21.0	C
	SB	1,855	20.9	C	1,576	17.4	B
Btwn 27 <sup>th</sup> Ave. and SR 574	NB	1,589	19.9	C	1,888	23.2	C
	SB	1,847	20.9	C	1,590	17.6	B
Btwn SR 574 and Oak Fair Blvd.	NB	1,380	17.3	B	1,792	22.0	C
	SB	1,792	20.2	C	1,349	14.9	B
Btwn Oak Fair Blvd. and Elm Fair Blvd.	NB	1,373	15.5	B	1,830	20.3	C
	SB	1,830	20.7	C	1,366	15.1	B
Btwn Elm Fair Blvd. and I-4	NB	1,433	12.0	B	1,954	16.0	B
	SB	1,953	14.7	B	1,432	10.6	A

<sup>(1)</sup> Volume (vehicles/hour)

<sup>(2)</sup> Average Density (passenger cars/mile/lane)

<sup>(3)</sup> Level of Service

**Table 6-5** summarizes the results of the 2020 unsignalized intersection analyses. With one exception, all of the northbound and southbound left-turn movements are projected to operate at LOS D or better during both of the peak hours. Only the southbound left-turn movement onto Stannum Street is projected to operate at LOS E and only during the a.m. peak hour. In contrast, many of the cross street movements are projected to operate overcapacity (or at capacity) during one or both of the peak hours. In addition, some of the other cross street movements that are projected to operate under capacity are projected to experience average delays greater than two minutes/vehicle (i.e., 120 seconds).

**Table 6-5 Opening Year (2020) Peak Hour Unsignalized Intersection Operations  
Summary – No-Build Alternative**

Intersection	Approach	Movement	AM Peak Hour			PM Peak Hour		
			V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
Old Hopewell Road	Northbound	LT	0.02	13.7	B	0.03	19.6	C
	Southbound	LT	0.19	25.3	D	0.10	15.5	C
	Eastbound	LT/TH/RT	0.35	54.1	F	0.67	128.0	F
	Westbound	LT/TH	2.50	1,052.0	F	0.93	213.6	F
	Westbound	RT	0.28	31.9	D	0.19	16.1	C
Stannum Street/Massaro Boulevard	Northbound	LT	0.29	24.4	C	0.23	24.4	C
	Southbound	LT	0.20	39.5	E	0.07	15.1	C
	Eastbound	LT/TH	0.81	171.1	F	1.23	440.9	F
	Eastbound	RT	0.15	19.0	C	0.24	24.1	C
	Westbound	LT/TH/RT	0.09	36.9	E	0.73	150.3	F
Columbus Drive/Tampa E. Boulevard	Northbound	LT	0.42	17.4	C	0.47	27.6	D
	Southbound	LT	0.58	30.6	D	0.34	15.9	C
	Eastbound	LT	*	**	F	*	**	F
	Eastbound	TH/RT	*	**	F	*	**	F
	Westbound	LT	*	**	F	*	**	F
	Westbound	TH	*	**	F	*	**	F
	Westbound	RT	0.00	0.0	A	0.00	0.0	A
Overpass Road/21 <sup>st</sup> Avenue	Northbound	LT	0.20	17.0	C	0.16	19.2	C
	Southbound	LT	0.27	21.2	C	0.14	15.0	B
	Eastbound	LT/TH/RT	*	**	F	2.67	901.2	F
	Westbound	LT/TH/RT	*	**	F	1.08	165.5	F
27 <sup>th</sup> Avenue	Northbound	LT	0.00	0.0	A	0.00	0.0	A
	Southbound	LT	0.06	15.3	C	0.08	19.2	C
	Westbound	LT/RT	0.38	50.7	F	0.25	48.0	E
Oak Fair Boulevard	Southbound	LT	0.23	14.5	B	0.28	20.1	C
	Westbound	LT	0.85	143.8	F	1.66	449.7	F
	Westbound	RT	0.21	16.2	C	0.64	35.8	E
Elm Fair Boulevard	Northbound	LT	0.00	0.0	A	0.00	12.5	B
	Southbound	LT	0.37	16.7	C	0.42	24.7	C
	Westbound	LT	0.70	132.3	F	1.00	234.2	F
	Westbound	RT	0.00	0.0	A	0.00	0.0	A

<sup>(1)</sup> Volume-to-Capacity Ratio

<sup>(2)</sup> Average Delay (seconds/vehicle)

<sup>(3)</sup> Level of Service

\* Theoretically, the capacity for this movement is equal to zero. Therefore, the v/c ratio is infinite.

\*\* No estimate of delay is provided since the v/c ratio is infinite.



**Table 6-6** summarizes the results of the 2020 No-Build Alternative signalized intersection analyses conducted for the SR 60, Sabal Industrial Boulevard and SR 574 intersections. With one exception, all of the existing intersection geometrics were assumed to be present in the year 2020 with the No-Build Alternative. It was assumed that by the year 2020, SR 60 would be widened to a six-lane divided roadway both east and west of US 301 in accordance with the recommended alternative that was documented in the FHWA-approved SR 60 PD&E study (from west of 50<sup>th</sup> Street to east of Falkenburg Road). In the a.m. peak hour, all three existing signalized intersections are projected to operate at LOS D or better overall. In the p.m. peak hour, both the SR 60 and SR 574 intersections are projected to operate at LOS D overall, while the Sabal Industrial Boulevard intersection is projected to operate at LOS E overall.

The US 301 roadway segments were initially analyzed as multilane highway segments for the design year (2040) No-Build Alternative using the 2010 HCS. **Table 6-7** summarizes the results of the initial 2040 No-Build Alternative multilane highway segment analyses for both the a.m. and p.m. peak hours. A review of this table indicates that LOS D operations were projected to occur in the peak travel directions and LOS C operations were projected to occur in the non-peak travel directions for the portion of US 301 between SR 60 and Elm Fair Boulevard during both the a.m. and p.m. peak hours. The segment of US 301 between Elm Fair Boulevard and the eastbound I-4 ramps is projected to operate at LOS C or better for both travel directions during both peak hours.

**Table 6-8** summarizes the results of the 2040 unsignalized intersection analyses. There are several southbound left-turn movements that are projected to operate overcapacity during one or both of the peak hours. All of the US 301 cross street left-turn and through movements are projected to operate significantly overcapacity during one or both of the peak hours. In addition, many of the cross street right-turn movements are also projected to operate overcapacity during one or both peak hours. Some of these overcapacity conditions are due to the lack of exclusive right-turn lanes on the cross street approaches. Although the westbound right-turn movement from Old Hopewell Road and the eastbound right-turn movement from Massaro Boulevard are both projected to operate under capacity with average peak hour delays ranging between 24.0 seconds/vehicle and 79.8 seconds/vehicle; the westbound and eastbound shared left-turn/through lanes are projected to operate significantly over capacity. Given the lengths of the exclusive right-turn lanes on these two cross streets and the overcapacity conditions projected for the adjacent left-turn/through lanes; it is quite likely that the vehicle queues in the left-turn/through lanes will extend back and block the access to the right-turn lanes – thus resulting in significantly higher right-turn vehicle delays.

Although the results of the 2040 No-Build Alternative multilane highway segment analyses indicate that LOS D or better operations are projected to occur for all of the study corridor segments, the results of the 2040 unsignalized intersection analyses conducted for this alternative indicate that unacceptable operations are projected to occur for one or more movements at each of the seven unsignalized intersections during one or both of the peak hours. Given the severe overcapacity conditions that are projected to occur at these unsignalized intersections, it is extremely unlikely that all seven of these locations would remain unsignalized through the year 2040. As traffic signals are implemented at some of these unsignalized intersections, the study corridor will begin to operate more like a signalized arterial and less like an uninterrupted flow highway. Consequently, a second analysis was conducted for the study corridor using the Urban Streets module of the 2010 HCS. For the purposes of this analysis, it was assumed that the existing unsignalized intersections at Old Hopewell Road, Columbus Drive/Tampa E. Boulevard and Oak Fair Boulevard would be signalized by the year 2040. These intersections were selected based on their projected 2040 peak hour operations as well as the distances between the existing signalized intersections.

**Table 6-6 Opening Year (2020) Peak Hour Signalized Intersection Operations  
Summary – No-Build Alternative**

Approach	Movement	AM Peak Hour			PM Peak Hour		
		V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
<b>US 301 at SR 60</b>							
<b>Northbound US 301</b>	Left	0.79	57.5	E	0.71	59.7	E
	Thru	0.98	61.8	E	0.87	53.5	D
	Right	N/A*	0.0*	N/A	N/A*	0.0*	N/A
	Approach	N/A	55.5**	E**	N/A	44.4**	D**
<b>Southbound US 301</b>	Left	0.94	71.4	E	0.86	52.0	D
	Thru	0.76	42.1	D	0.91	41.8	D
	Right	0.42	29.2	C	0.31	31.2	C
	Approach	N/A	47.4	D	N/A	43.9	D
<b>Eastbound SR 60</b>	Left	0.94	94.7	F	0.88	76.0	E
	Thru	0.97	66.2	E	0.98	63.3	E
	Right	N/A*	0.0*	N/A	N/A*	0.0*	N/A
	Approach	N/A	60.2**	E**	N/A	53.4**	D**
<b>Westbound SR 60</b>	Left	0.70	59.0	E	0.68	63.2	E
	Thru	0.99	66.7	E	0.89	52.1	D
	Right	N/A*	0.0*	N/A	N/A*	0.0*	N/A
	Approach	N/A	48.0**	D**	N/A	42.1**	D**
<b>Overall Intersection</b>		<b>N/A</b>	<b>52.6**</b>	<b>D**</b>	<b>N/A</b>	<b>46.4**</b>	<b>D**</b>
<b>US 301 at Sabal Industrial Boulevard</b>							
<b>Northbound US 301</b>	Left	0.06	18.3	B	0.01	22.9	C
	Thru	0.96	30.5	C	0.96	42.8	D
	Right	0.41	18.4	B	0.03	15.9	B
	Approach	N/A	28.5	C	N/A	42.4	D
<b>Southbound US 301</b>	Left	0.58	27.5	C	0.27	24.5	C
	Thru	0.88	24.5	C	0.95	38.9	D
	Right	0.02	11.0	B	0.01	15.7	B
	Approach	N/A	24.7	C	N/A	38.3	D
<b>Eastbound Sabal Industrial Blvd.</b>	Left	0.06	45.8	D	0.27	49.5	D
	Thru	0.05	45.7	D	0.31	49.8	D
	Right	0.05	45.7	D	0.31	49.8	D
	Approach	N/A	45.7	D	N/A	49.7	D
<b>Westbound Sabal Industrial Blvd.</b>	Left	0.30	47.2	D	1.30	207.6	F
	Thru	0.30	47.2	D	1.30	207.6	F
	Right	0.20	32.3	C	0.82	53.5	D
	Approach	N/A	38.0	D	N/A	137.1	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>27.0</b>	<b>C</b>	<b>N/A</b>	<b>55.8</b>	<b>E</b>

**Table 6-6: Opening Year (2020) Peak Hour Signalized Intersection Operations  
Summary – No-Build Alternative (Continued)**

Approach	Movement	AM Peak Hour			PM Peak Hour		
		V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
<b>US 301 at SR 574</b>							
<b>Northbound US 301</b>	Left	0.90	57.7	E	0.90	59.7	E
	Thru	0.64	37.0	D	0.73	38.2	D
	Right	0.14	24.2	C	0.26	1.0	A
	Approach	N/A	43.0	D	N/A	40.4	D
<b>Southbound US 301</b>	Left	0.83	61.5	E	0.70	57.2	E
	Thru	0.80	43.1	D	0.61	37.3	D
	Right	0.10	24.4	C	0.07	23.8	C
	Approach	N/A	47.2	D	N/A	41.6	D
<b>Eastbound SR 574</b>	Left	0.54	59.1	E	0.51	58.3	E
	Thru	0.94	57.2	E	0.91	53.4	D
	Right	0.59	5.7	A	0.67	30.1	C
	Approach	N/A	45.9	D	N/A	48.1	D
<b>Westbound SR 574</b>	Left	0.65	62.9	E	0.59	60.4	E
	Thru	0.76	44.7	D	0.76	44.4	D
	Right	0.34	10.0	A	0.64	14.0	B
	Approach	N/A	41.1	D	N/A	38.1	D
<b>Overall Intersection</b>		<b>N/A</b>	<b>44.5</b>	<b>D</b>	<b>N/A</b>	<b>42.2</b>	<b>D</b>

<sup>(1)</sup> Volume-to-Capacity Ratio

<sup>(2)</sup> Average Delay (seconds/vehicle)

<sup>(3)</sup> Level of Service

\* Free-Flow Right-Turn Lane

\*\* Values based on manual calculation of weighted average delay (including the zero delay for the free-flow right-turn movements)

**Table 6-7 Design Year (2040) Peak Hour Roadway Segment Analysis  
Summary – No-Build Alternative**

Roadway Segment	Direction	AM Peak Hour			PM Peak Hour		
		Volume <sup>(1)</sup>	Density <sup>(2)</sup>	LOS <sup>(3)</sup>	Volume <sup>(1)</sup>	Density <sup>(2)</sup>	LOS <sup>(3)</sup>
Btwn SR 60 and Old Hopewell Rd.	NB	2,524	27.4	D	1,904	20.6	C
	SB	1,904	20.6	C	2,524	27.4	D
Btwn Old Hopewell Rd. and Stannum St./Massaro Blvd.	NB	2,514	27.3	D	1,896	20.6	C
	SB	1,896	20.6	C	2,514	27.3	D
Btwn Stannum St./Massaro Blvd. and Columbus Dr./Tampa E. Blvd.	NB	2,503	27.1	D	1,889	20.5	C
	SB	1,889	20.5	C	2,503	27.1	D
Btwn Columbus Dr./Tampa E. Blvd. and Overpass Rd./21 <sup>st</sup> Ave.	NB	2,630	28.6	D	1,919	20.8	C
	SB	1,929	23.2	C	2,621	31.6	D
Btwn Overpass Rd./21 <sup>st</sup> Ave. and Sabal Industrial Blvd.	NB	2,621	31.6	D	1,978	23.8	C
	SB	1,978	23.8	C	2,621	31.6	D
Btwn Sabal Industrial Blvd. and 27 <sup>th</sup> Ave.	NB	2,115	22.9	C	2,430	26.3	D
	SB	2,430	26.3	D	2,115	22.9	C
Btwn 27 <sup>th</sup> Ave. and SR 574	NB	2,141	25.8	C	2,413	29.1	D
	SB	2,413	26.2	D	2,141	23.2	C
Btwn SR 574 and Oak Fair Blvd.	NB	1,900	22.9	C	2,519	30.3	D
	SB	2,519	27.3	D	1,900	20.6	C
Btwn Oak Fair Blvd. and Elm Fair Blvd.	NB	1,954	21.2	C	2,591	28.1	D
	SB	2,591	28.1	D	1,954	21.2	C
Btwn Elm Fair Blvd. and I-4	NB	2,032	16.3	B	2,693	21.6	C
	SB	2,693	19.5	C	2,032	14.7	B

<sup>(1)</sup> Volume (vehicles/hour)

<sup>(2)</sup> Average Density (passenger cars/mile/lane)

<sup>(3)</sup> Level of Service

**Table 6-8 Design Year (2040) Peak Hour Unsignalized Intersection Operations  
Summary – No-Build Alternative**

Intersection	Approach	Movement	AM Peak Hour			PM Peak Hour		
			V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
Old Hopewell Road	Northbound	LT	0.07	18.3	C	0.16	31.8	D
	Southbound	LT	0.34	38.2	E	0.16	19.2	C
	Eastbound	LT/TH/RT	*	**	F	1.76	754.4	F
	Westbound	LT/TH	*	**	F	3.65	1,650.0	F
	Westbound	RT	0.28	35.6	E	0.29	24.0	C
Stannum Street/ Massaro Boulevard	Northbound	LT	0.46	25.7	D	0.69	59.5	F
	Southbound	LT	0.17	30.0	D	0.10	17.9	C
	Eastbound	LT/TH	*	**	F	*	**	F
	Eastbound	RT	0.47	28.4	D	0.83	79.8	F
	Westbound	LT/TH/RT	*	**	F	*	**	F
Columbus Drive/ Tampa E. Boulevard	Northbound	LT	0.62	27.2	D	0.99	104.3	F
	Southbound	LT	1.95	480.6	F	1.05	88.9	F
	Eastbound	LT	*	**	F	*	**	F
	Eastbound	TH/RT	*	**	F	*	**	F
	Westbound	LT	*	**	F	*	**	F
	Westbound	TH	*	**	F	*	**	F
	Westbound	RT	0.00	0.0	A	0.00	0.0	A
Overpass Road/ 21 <sup>st</sup> Avenue	Northbound	LT	0.61	34.6	D	0.72	72.7	F
	Southbound	LT	0.87	93.1	F	0.49	28.8	D
	Eastbound	LT/TH/RT	*	**	F	*	**	F
	Westbound	LT/TH/RT	*	**	F	*	**	F
27 <sup>th</sup> Avenue	Northbound	LT	0.00	0.0	A	0.00	0.0	A
	Southbound	LT	0.13	23.4	C	0.24	33.7	D
	Westbound	LT/RT	1.18	258.4	F	0.42	114.5	F
Oak Fair Boulevard	Southbound	LT	0.76	46.1	E	1.03	130.5	F
	Westbound	LT	9.00	4,017.0	F	*	**	F
	Westbound	RT	0.66	39.7	E	1.28	210.5	F
Elm Fair Boulevard	Northbound	LT	0.00	0.0	A	0.01	17.0	C
	Southbound	LT	0.80	51.7	F	1.48	296.7	F
	Westbound	LT	8.19	3,703.0	F	*	**	F
	Westbound	RT	0.00	0.0	A	0.00	0.0	A

(1) Volume-to-Capacity Ratio

(2) Average Delay (seconds/vehicle)

(3) Level of Service

\* Theoretically, the capacity for this movement is equal to zero. Therefore, the v/c ratio is infinite.

\*\* No estimate of delay is provided since the v/c ratio is infinite.

**Table 6-9** summarizes the results of the 2040 No-Build Alternative signalized intersection analyses. Three of the six intersections are projected to operate at LOS F overall during both the a.m. and p.m. peak hours. These include the existing signalized intersections at SR 60 and SR 574, as well as the Columbus Drive/Tampa E. Boulevard intersection. The Sabal Industrial Boulevard intersection is also projected to operate at LOS F overall, but only during the p.m. peak hour. In the a.m. peak hour this intersection is projected to operate at LOS E overall. The Old Hopewell Road and Oak Fair Boulevard intersections are projected to operate at LOS D or better overall during both peak hours with the implementation of traffic signal control.

**Table 6-10** summarizes the results of the 2040 No-Build Alternative signalized arterial analyses. In the a.m. peak hour, two of the six roadway segments analyzed are projected to operate at LOS F in the peak travel direction and one additional segment is projected to operate at LOS E. In the p.m. peak hour, two segments are projected to operate at LOS F and two segments are projected to operate at LOS E in the peak travel directions. In addition, LOS F operations are also projected to occur in the off-peak travel direction for the segment between Columbus Drive/Tampa E. Boulevard and Sabal Industrial Boulevard. The overall corridor travel speeds are indicative of LOS D conditions for both travel directions in the a.m. peak hour and for the northbound direction in the p.m. peak hour. The southbound travel direction is projected to operate at LOS E overall in the p.m. peak hour.

### **6.3.2 Build Alternative Levels of Service**

The US 301 roadway segments were initially analyzed as multilane highway segments for the design year (2040) Build Alternative using the 2010 HCS. **Table 6-11** summarizes the results of the initial 2040 Build Alternative multilane highway segment analyses for both the a.m. and p.m. peak hours. A review of this table indicates that with one exception, LOS C or better operations were projected to occur in both travel directions for all segments during the a.m. peak hour. The segment between Overpass Road/21<sup>st</sup> Avenue and Sabal Industrial Boulevard was projected to operate at LOS D in the northbound travel direction. A similar set of conditions was projected to occur during the p.m. peak hour with LOS C or better operations projected in both travel directions for all but two segments. The segments between Columbus Drive/Tampa E. Boulevard and Overpass Road/21<sup>st</sup> Avenue and between Overpass Road/21<sup>st</sup> Avenue and Sabal Industrial Boulevard were both projected to operate at LOS D in the southbound travel direction.

Unsignalized intersection analyses were conducted for the seven existing unsignalized intersections using the 2010 HCS. **Table 6-12** summarizes the results of the 2040 Build Alternative unsignalized intersection analyses. There are seven northbound and southbound left-turn movements that are projected to operate significantly overcapacity during one or both of the peak hours. In addition, all of the US 301 cross street left-turn and through movements are projected to operate significantly overcapacity during one or both of the peak hours.

**Table 6-9 Design Year (2040) Peak Hour Signalized Intersection Operations  
Summary – No-Build Alternative**

Approach	Movement	AM Peak Hour			PM Peak Hour		
		V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
<b>US 301 at SR 60</b>							
<b>Northbound US 301</b>	Left	1.11	141.4	F	1.20	190.5	F
	Thru	0.99	68.7	E	0.72	46.1	D
	Right	N/A*	0.0*	N/A	N/A*	0.0*	N/A
	Approach	N/A	78.4**	E**	N/A	68.9**	E**
<b>Southbound US 301</b>	Left	1.24	192.8	F	1.43	269.4	F
	Thru	0.66	37.7	D	0.74	25.4	C
	Right	0.50	28.3	C	0.24	12.4	B
	Approach	N/A	78.5	E	N/A	104.0	F
<b>Eastbound SR 60</b>	Left	1.41	281.3	F	1.11	149.1	F
	Thru	1.22	162.0	F	1.27	182.9	F
	Right	N/A*	0.0*	N/A	N/A*	0.0*	N/A
	Approach	N/A	156.1**	F**	N/A	145.4**	F**
<b>Westbound SR 60</b>	Left	1.41	279.3	F	1.03	137.2	F
	Thru	1.34	216.4	F	1.17	141.7	F
	Right	N/A*	0.0*	N/A	N/A*	0.0*	N/A
	Approach	N/A	165.7**	F**	N/A	106.3**	F**
<b>Overall Intersection</b>		<b>N/A</b>	<b>125.9**</b>	<b>F**</b>	<b>N/A</b>	<b>111.1**</b>	<b>F**</b>
<b>US 301 at Old Hopewell Road</b>							
<b>Northbound US 301</b>	Left	0.08	13.6	B	0.12	25.9	C
	Thru	1.02	50.0	F	0.84	22.6	C
	Right	0.02	13.4	B	0.04	12.5	B
	Approach	N/A	49.4	D	N/A	22.4	C
<b>Southbound US 301</b>	Left	0.31	45.4	D	0.16	25.2	C
	Thru	0.70	15.9	B	0.83	25.9	C
	Right	0.01	7.4	A	0.01	11.8	B
	Approach	N/A	16.6	B	N/A	25.9	C
<b>Eastbound Meadow Creek Driveway</b>	Left	0.49	74.2	E	0.30	68.1	E
	Thru	0.49	74.2	E	0.30	68.1	E
	Right	0.49	74.2	E	0.30	68.1	E
	Approach	N/A	74.2	E	N/A	68.1	E
<b>Westbound Old Hopewell Rd.</b>	Left	0.56	77.5	E	0.46	69.5	E
	Thru	0.56	77.5	E	0.46	69.5	E
	Right	0.14	62.5	E	0.19	58.9	E
	Approach	N/A	72.8	E	N/A	65.4	E
<b>Overall Intersection</b>		<b>N/A</b>	<b>36.9</b>	<b>D</b>	<b>N/A</b>	<b>25.6</b>	<b>C</b>

**Table 6-9 Design Year (2040) Peak Hour Signalized Intersection Operations  
Summary – No-Build Alternative (Continued)**

Approach	Movement	AM Peak Hour			PM Peak Hour		
		V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
<b>US 301 at Columbus Drive/Tampa E. Boulevard</b>							
<b>Northbound US 301</b>	Left	0.99	68.4	E	1.11	136.9	F
	Thru	1.23	127.4	F	1.00	39.8	D
	Right	0.07	9.3	A	0.29	11.6	B
	Approach	N/A	118.6	F	N/A	47.4	D
<b>Southbound US 301</b>	Left	1.98	512.2	F	1.35	221.5	F
	Thru	0.87	33.5	C	1.20	136.2	F
	Right	0.02	13.2	B	0.04	24.5	C
	Approach	N/A	134.5	F	N/A	148.6	F
<b>Eastbound Tampa E. Blvd.</b>	Left	0.43	47.6	D	0.48	45.6	D
	Thru	1.50	302.3	F	1.36	231.0	F
	Right	1.50	302.3	F	1.36	231.0	F
	Approach	N/A	276.5	F	N/A	216.2	F
<b>Westbound Columbus Dr.</b>	Left	1.46	291.5	F	1.07	153.0	F
	Thru	1.63	359.7	F	1.10	127.9	F
	Right	0.95	83.5	F	0.60	37.3	D
	Approach	N/A	253.4	F	N/A	98.1	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>166.6</b>	<b>F</b>	<b>N/A</b>	<b>116.5</b>	<b>F</b>
<b>US 301 at Sabal Industrial Boulevard</b>							
<b>Northbound US 301</b>	Left	0.12	50.7	D	0.16	111.0	F
	Thru	0.91	44.1	D	1.06	90.8	F
	Right	0.60	45.4	D	0.05	36.7	D
	Approach	N/A	44.5	D	N/A	89.8	F
<b>Southbound US 301</b>	Left	1.29	193.4	F	0.92	82.7	F
	Thru	0.81	39.2	D	1.01	64.2	F
	Right	0.03	98.8	F	0.01	27.9	C
	Approach	N/A	68.8	E	N/A	65.1	E
<b>Eastbound Sabal Industrial Blvd.</b>	Left	0.17	71.4	E	0.91	154.4	F
	Thru	0.16	71.3	E	0.66	94.6	F
	Right	0.16	71.3	E	0.66	94.6	F
	Approach	N/A	71.4	E	N/A	130.9	F
<b>Westbound Sabal Industrial Blvd.</b>	Left	0.54	73.8	E	1.55	316.1	F
	Thru	0.54	73.8	E	1.55	316.1	F
	Right	0.27	48.0	D	1.02	102.5	F
	Approach	N/A	58.7	E	N/A	228.7	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>57.0</b>	<b>E</b>	<b>N/A</b>	<b>108.7</b>	<b>F</b>



**Table 6-9 Design Year (2040) Peak Hour Signalized Intersection Operations  
Summary – No-Build Alternative (Continued)**

Approach	Movement	AM Peak Hour			PM Peak Hour		
		V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
<b>US 301 at SR 574</b>							
<b>Northbound US 301</b>	Left	1.31	225.0	F	1.07	109.4	F
	Thru	0.67	33.5	C	0.92	50.7	D
	Right	0.36	22.3	C	0.29	26.4	C
	Approach	N/A	87.8	F	N/A	61.9	E
<b>Southbound US 301</b>	Left	1.51	299.1	F	1.03	115.8	F
	Thru	0.98	53.5	D	0.84	56.9	E
	Right	0.30	26.3	C	0.32	36.6	D
	Approach	N/A	114.6	F	N/A	67.4	E
<b>Eastbound SR 574</b>	Left	1.12	171.5	F	1.15	183.2	F
	Thru	1.32	204.4	F	0.99	72.1	E
	Right	0.68	36.6	D	0.76	8.4	A
	Approach	N/A	173.3	F	N/A	68.4	E
<b>Westbound SR 574</b>	Left	1.18	191.9	F	0.99	127.0	F
	Thru	1.06	95.0	F	1.21	149.6	F
	Right	0.55	32.0	C	0.83	30.4	C
	Approach	N/A	94.9	F	N/A	123.6	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>121.6</b>	<b>F</b>	<b>N/A</b>	<b>83.8</b>	<b>F</b>
<b>US 301 at Oak Fair Boulevard</b>							
<b>Northbound US 301</b>	Left	N/A	N/A	N/A	N/A	N/A	N/A
	Thru	0.74	22.7	C	1.00	39.5	D
	Right	0.07	11.9	B	0.11	15.5	B
	Approach	N/A	22.3	C	N/A	38.4	D
<b>Southbound US 301</b>	Left	0.77	47.8	D	0.66	60.3	E
	Thru	0.90	17.3	B	0.65	6.5	A
	Right	N/A	N/A	N/A	N/A	N/A	N/A
	Approach	N/A	20.0	B	N/A	11.3	B
<b>Eastbound Oak Fair Blvd.</b>	Left	N/A	N/A	N/A	N/A	N/A	N/A
	Thru	N/A	N/A	N/A	N/A	N/A	N/A
	Right	N/A	N/A	N/A	N/A	N/A	N/A
	Approach	N/A	N/A	N/A	N/A	N/A	N/A
<b>Westbound Oak Fair Blvd.</b>	Left	0.75	77.7	E	0.70	78.5	E
	Thru	N/A	N/A	N/A	N/A	N/A	N/A
	Right	0.57	54.7	D	0.71	60.5	E
	Approach	N/A	65.4	E	N/A	66.6	E
<b>Overall Intersection</b>		<b>N/A</b>	<b>24.1</b>	<b>C</b>	<b>N/A</b>	<b>29.0</b>	<b>C</b>

<sup>(1)</sup> Volume-to-Capacity Ratio

<sup>(2)</sup> Average Delay (seconds/vehicle)

<sup>(3)</sup> Level of Service

\* Free-Flow Right-Turn Lane

\*\* Values based on manual calculation of weighted average delay  
(including the zero delay for the free-flow right-turn movements)

**Table 6-10 Design Year (2040) Peak Hour Signalized Arterial Analysis  
Summary – No-Build Alternative**

Segment	Travel Direction	AM Peak Hour		PM Peak Hour	
		Travel Speed <sup>(1)</sup>	LOS <sup>(2)</sup>	Travel Speed <sup>(1)</sup>	LOS <sup>(2)</sup>
Btwn SR 60 and Old Hopewell Rd.	NB	18.98	F	27.80	C
	SB	22.06	D	26.31	C
Btwn Old Hopewell Rd. and Columbus Dr./Tampa E. Blvd.	NB	7.92	F	18.04	E
	SB	27.71	C	22.60	D
Btwn Columbus Dr./Tampa E. Blvd. and Sabal Industrial Blvd.	NB	28.31	C	20.35	F
	SB	31.31	C	15.80	F
Btwn Sabal Industrial Blvd. and SR 574	NB	26.00	C	21.24	D
	SB	23.76	D	18.46	F
Btwn SR 574 and Oak Fair Blvd.	NB	25.77	C	19.63	D
	SB	16.62	E	16.07	E
Overall Corridor	NB	19.55	D	21.04	D
	SB	24.34	D	18.37	E

<sup>(1)</sup> Average Travel Speed (miles per hour)

<sup>(2)</sup> Level of Service

**Table 6-11 Design Year (2040) Peak Hour Roadway Segment Analysis  
Summary – Build Alternative**

Roadway Segment	Direction	AM Peak Hour			PM Peak Hour		
		Volume <sup>(1)</sup>	Density <sup>(2)</sup>	LOS <sup>(3)</sup>	Volume <sup>(1)</sup>	Density <sup>(2)</sup>	LOS <sup>(3)</sup>
Btwn SR 60 and Old Hopewell Rd.	NB	3,268	23.6	C	2,465	17.8	B
	SB	2,465	17.8	B	3,268	23.6	C
Btwn Old Hopewell Rd. and Stannum St./Massaro Blvd.	NB	3,429	24.8	C	2,574	18.6	C
	SB	2,628	19.0	C	3,375	24.4	C
Btwn Stannum St./Massaro Blvd. and Columbus Dr./Tampa E. Blvd.	NB	3,289	23.8	C	2,519	18.2	C
	SB	2,483	17.9	B	3,325	24.0	C
Btwn Columbus Dr./Tampa E. Blvd. and Overpass Rd./21 <sup>st</sup> Ave.	NB	3,541	25.6	C	2,602	18.8	C
	SB	2,657	21.3	C	3,473	27.9	D
Btwn Overpass Rd./21 <sup>st</sup> Ave. and Sabal Industrial Blvd.	NB	3,461	27.8	D	2,625	21.1	C
	SB	2,702	21.7	C	3,421	27.5	D
Btwn Sabal Industrial Blvd. and 27 <sup>th</sup> Ave.	NB	2,796	20.2	C	2,952	21.3	C
	SB	3,000	21.7	C	2,796	20.2	C
Btwn 27th Ave. and SR 574	NB	2,867	23.0	C	2,947	23.7	C
	SB	3,028	21.9	C	2,834	20.5	C
Btwn SR 574 and Oak Fair Blvd.	NB	2,148	17.2	B	2,847	22.9	C
	SB	2,847	20.6	C	2,148	15.5	B
Btwn Oak Fair Blvd. and Elm Fair Blvd.	NB	2,206	15.9	B	2,924	21.1	C
	SB	3,042	22.0	C	2,295	16.6	B
Btwn Elm Fair Blvd. and I-4	NB	2,295	18.4	C	3,042	24.4	C
	SB	3,042	22.0	C	2,295	16.6	B

<sup>(1)</sup> Volume (vehicles/hour)

<sup>(2)</sup> Average Density (passenger cars/mile/lane)

<sup>(3)</sup> Level of Service

**Table 6-12** summarizes the results of the 2040 Build Alternative unsignalized intersection analyses. These results indicate that overcapacity operations are projected to occur for one or more movements at six of the seven unsignalized intersections. Given the severe overcapacity conditions that are projected to occur at these unsignalized intersections, it is extremely unlikely that all seven of these locations would remain unsignalized through the year 2040 with the Build Alternative. Consequently, a second analysis was also conducted for the Build Alternative using the Urban Streets module of the 2010 HCS. To maintain consistency with the previous No-Build Alternative signalized arterial analysis, it was once again assumed that the existing unsignalized intersections at Old Hopewell Road, Columbus Drive/Tampa E. Boulevard and Oak Fair Boulevard would be signalized by the year 2040.

**Table 6-13** summarizes the results of the 2040 Build Alternative signalized intersection analyses. Three of the six intersections are projected to operate at LOS F overall during both the a.m. and p.m. peak hours. These include the existing signalized intersections at SR 60 and SR 574, as well as the Columbus Drive/Tampa E. Boulevard intersection. The Sabal Industrial Boulevard intersection is projected to operate at LOS E overall in the p.m. peak hour and LOS D overall in the a.m. peak hour. The Old Hopewell Road and Oak Fair Boulevard intersections are projected to operate at LOS D or better overall during both peak hours with the implementation of traffic signal control. The geometrics that were analyzed at each of the ten intersections with the Build Alternative are graphically illustrated in **Figure 6-8**.

**Table 6-12 Design Year (2040) Peak Hour Unsignalized Intersection Operations Summary – Build Alternative**

Intersection	Approach	Movement	AM Peak Hour			PM Peak Hour		
			V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
Old Hopewell Road	Northbound	LT	0.12	28.2	D	0.28	59.7	F
	Southbound	LT	2.72	882.6	F	1.02	131.8	F
	Eastbound	LT/TH/RT	*	**	F	*	**	F
	Westbound	LT/TH/RT	*	**	F	*	**	F
Stannum Street/Massaro Boulevard	Northbound	LT	0.78	71.0	F	1.31	277.4	F
	Southbound	LT	0.36	71.1	F	0.18	31.0	D
	Eastbound	RT	1.17	153.0	F	1.52	316.3	F
	Westbound	RT	0.30	39.0	E	0.34	27.9	D
Columbus Drive/Tampa E. Boulevard	Northbound	LT	1.34	213.1	F	2.66	821.7	F
	Southbound	LT	6.41	2,514.0	F	3.44	1,147.0	F
	Eastbound	LT	*	**	F	*	**	F
	Eastbound	TH/RT	*	**	F	*	**	F
	Westbound	LT	*	**	F	*	**	F
	Westbound	TH	*	**	F	*	**	F
	Westbound	RT	2.64	786.2	F	1.38	217.8	F
Overpass Road/21 <sup>st</sup> Avenue	Northbound	LT	1.02	122.5	F	1.13	207.2	F
	Southbound	LT	1.53	367.3	F	0.63	53.1	F
	Eastbound	RT	1.35	218.1	F	2.02	521.3	F
	Westbound	RT	1.65	366.8	F	1.03	104.3	F
27th Avenue	Southbound	LT	0.23	41.2	E	0.36	54.0	F
	Westbound	RT	0.41	33.3	D	0.12	26.2	D
Oak Fair Boulevard	Southbound	LT	2.07	527.2	F	3.09	1,005.0	F
	Westbound	LT	*	**	F	*	**	F
	Westbound	TH/RT	*	**	F	*	**	F
Elm Fair Boulevard	Westbound	RT	0.78	49.5	E	1.31	217.2	F

<sup>(1)</sup> Volume-to-Capacity Ratio

<sup>(2)</sup> Average Delay (seconds/vehicle)

<sup>(3)</sup> Level of Service

\* Theoretically, the capacity for this movement is equal to zero; therefore, the v/c ratio is infinite.

\*\* No estimate of delay is provided since the v/c ratio is infinite.

**Table 6-13 Design Year (2040) Peak Hour Signalized Intersection Operations  
Summary – Build Alternative**

Approach	Movement	AM Peak Hour			PM Peak Hour		
		V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
<b>US 301 at SR 60</b>							
Northbound US 301	Left	1.15	162.5	F	0.87	92.1	F
	Thru	1.21	155.8	F	1.10	116.0	F
	Right	N/A*	0.0*	N/A	N/A*	0.0*	N/A
	Approach	N/A	146.5**	F	N/A	96.9**	F
Southbound US 301	Left	1.24	188.5	F	1.16	131.2	F
	Thru	0.78	47.5	D	0.91	32.8	D
	Right	0.61	33.7	C	0.40	15.7	B
	Approach	N/A	79.3	E	N/A	58.9	E
Eastbound SR 60	Left	1.13	157.7	F	1.11	146.2	F
	Thru	1.06	92.4	F	1.13	116.6	F
	Right	0.30	3.7	A	0.48	4.0	A
	Approach	N/A	96.5	F	N/A	108.2	F
Westbound SR 60	Left	0.85	88.6	F	0.84	93.2	F
	Thru	1.23	165.5	F	1.10	113.1	F
	Right	1.34	182.6	F	0.77	25.5	C
	Approach	N/A	163.7	F	N/A	90.1	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>124.6**</b>	<b>F</b>	<b>N/A</b>	<b>86.3**</b>	<b>F</b>
<b>US 301 at Old Hopewell Road</b>							
Northbound US 301	Left	0.07	55.1	E	0.21	75.9	E
	Thru	0.81	28.8	C	0.89	39.0	D
	Right	0.02	16.8	B	0.04	29.8	C
	Approach	N/A	28.9	C	N/A	39.2	D
Southbound US 301	Left	0.83	79.3	E	0.64	75.0	E
	Thru	0.68	20.5	C	0.95	35.4	D
	Right	0.01	10.2	B	0.01	14.6	B
	Approach	N/A	25.5	C	N/A	37.2	D
Eastbound Meadow Creek Driveway	Left	0.29	68.7	E	0.23	63.7	E
	Thru	0.29	68.7	E	0.23	63.7	E
	Right	0.29	68.7	E	0.23	63.7	E
	Approach	N/A	68.7	E	N/A	63.7	E
Westbound Old Hopewell Rd.	Left	0.66	80.0	E	0.85	99.1	F
	Thru	0.66	80.0	E	0.85	99.1	F
	Right	0.66	80.0	E	0.85	99.1	F
	Approach	N/A	80.0	E	N/A	99.1	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>28.5</b>	<b>C</b>	<b>N/A</b>	<b>39.9</b>	<b>D</b>

**Table 6-13 Design Year (2040) Peak Hour Signalized Intersection Operations  
Summary – Build Alternative (Continued)**

Approach	Movement	AM Peak Hour			PM Peak Hour		
		V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
<b>US 301 at Columbus Drive/Tampa E. Boulevard</b>							
Northbound US 301	Left	0.85	85.9	F	1.11	150.5	F
	Thru	1.07	58.4	F	0.85	22.4	C
	Right	0.21	9.4	A	0.38	11.7	B
	Approach	N/A	57.2	E	N/A	34.0	C
Southbound US 301	Left	1.42	275.0	F	1.07	106.6	F
	Thru	0.86	30.8	C	1.14	114.7	F
	Right	0.04	12.9	B	0.05	26.8	C
	Approach	N/A	93.5	F	N/A	112.2	F
Eastbound Tampa E. Blvd.	Left	0.60	52.2	D	0.49	49.8	D
	Thru	1.03	115.2	F	1.20	176.4	F
	Right	1.03	119.4	F	1.21	178.7	F
	Approach	N/A	110.2	F	N/A	169.7	F
Westbound Columbus Dr.	Left	1.09	145.7	F	1.03	135.9	F
	Thru	1.40	252.2	F	1.17	157.8	F
	Right	0.76	47.2	D	0.64	37.9	D
	Approach	N/A	162.7	F	N/A	112.4	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>96.2</b>	<b>F</b>	<b>N/A</b>	<b>96.1</b>	<b>F</b>
<b>US 301 at Sabal Industrial Boulevard</b>							
Northbound US 301	Left	0.94	89.1	F	0.91	101.7	F
	Thru	0.81	49.7	D	0.83	52.4	D
	Right	0.58	55.4	E	0.04	35.1	D
	Approach	N/A	52.8	D	N/A	54.8	D
Southbound US 301	Left	1.00	60.4	E	0.83	77.7	E
	Thru	0.69	19.7	B	0.99	54.8	D
	Right	0.02	13.1	B	0.01	31.0	C
	Approach	N/A	25.9	C	N/A	55.7	E
Eastbound Sabal Industrial Blvd.	Left	0.17	71.4	E	0.71	94.7	F
	Thru	0.16	71.3	E	0.51	75.9	E
	Right	0.16	71.3	E	0.51	75.9	E
	Approach	N/A	71.4	E	N/A	87.3	F
Westbound Sabal Industrial Blvd.	Left	0.29	71.9	E	0.96	86.7	F
	Thru	0.02	70.4	E	0.02	51.0	D
	Right	0.25	41.8	D	1.11	136.2	F
	Approach	N/A	53.8	D	N/A	105.9	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>39.8</b>	<b>D</b>	<b>N/A</b>	<b>64.5</b>	<b>E</b>

**Table 6-13 Design Year (2040) Peak Hour Signalized Intersection Operations  
Summary – Build Alternative (Continued)**

Approach	Movement	AM Peak Hour			PM Peak Hour		
		V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>	V/C <sup>(1)</sup>	Delay <sup>(2)</sup>	LOS <sup>(3)</sup>
<b>US 301 at SR 574</b>							
<b>Northbound US 301</b>	Left	1.31	228.6	F	1.11	139.2	F
	Thru	0.64	31.9	C	0.99	51.9	D
	Right	0.46	21.0	C	0.33	15.7	B
	Approach	N/A	85.6	F	N/A	66.2	E
<b>Southbound US 301</b>	Left	1.19	168.8	F	1.04	129.9	F
	Thru	1.10	93.5	F	0.99	72.3	E
	Right	0.25	22.5	C	0.26	31.9	C
	Approach	N/A	103.5	F	N/A	77.9	E
<b>Eastbound SR 574</b>	Left	0.93	112.9	F	0.88	99.4	F
	Thru	1.34	212.3	F	1.10	110.2	F
	Right	0.82	11.1	B	1.09	65.9	F
	Approach	N/A	167.2	F	N/A	97.5	F
<b>Westbound SR 574</b>	Left	1.28	222.5	F	1.03	114.8	F
	Thru	1.03	85.2	F	1.09	100.7	F
	Right	0.47	13.9	B	0.84	30.4	C
	Approach	N/A	96.8	F	N/A	90.2	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>115.3</b>	<b>F</b>	<b>N/A</b>	<b>83.3</b>	<b>F</b>
<b>US 301 at Oak Fair Boulevard</b>							
<b>Northbound US 301</b>	Left	N/A	N/A	N/A	N/A	N/A	N/A
	Thru	0.92	40.7	D	1.00	47.5	D
	Right	0.12	17.8	B	0.14	23.2	C
	Approach	N/A	39.9	D	N/A	46.5	D
<b>Southbound US 301</b>	Left	0.94	77.9	E	1.06	120.4	F
	Thru	0.76	16.1	B	0.51	7.0	A
	Right	N/A	N/A	N/A	N/A	N/A	N/A
	Approach	N/A	25.7	C	N/A	27.5	C
<b>Eastbound Oak Fair Blvd.</b>	Left	N/A	N/A	N/A	N/A	N/A	N/A
	Thru	N/A	N/A	N/A	N/A	N/A	N/A
	Right	N/A	N/A	N/A	N/A	N/A	N/A
	Approach	N/A	N/A	N/A	N/A	N/A	N/A
<b>Westbound Oak Fair Blvd.</b>	Left	0.87	79.1	E	1.10	152.0	F
	Thru	N/A	N/A	N/A	N/A	N/A	N/A
	Right	0.27	20.6	C	0.45	35.6	D
	Approach	N/A	56.0	E	N/A	96.6	F
<b>Overall Intersection</b>		<b>N/A</b>	<b>33.1</b>	<b>C</b>	<b>N/A</b>	<b>43.0</b>	<b>D</b>

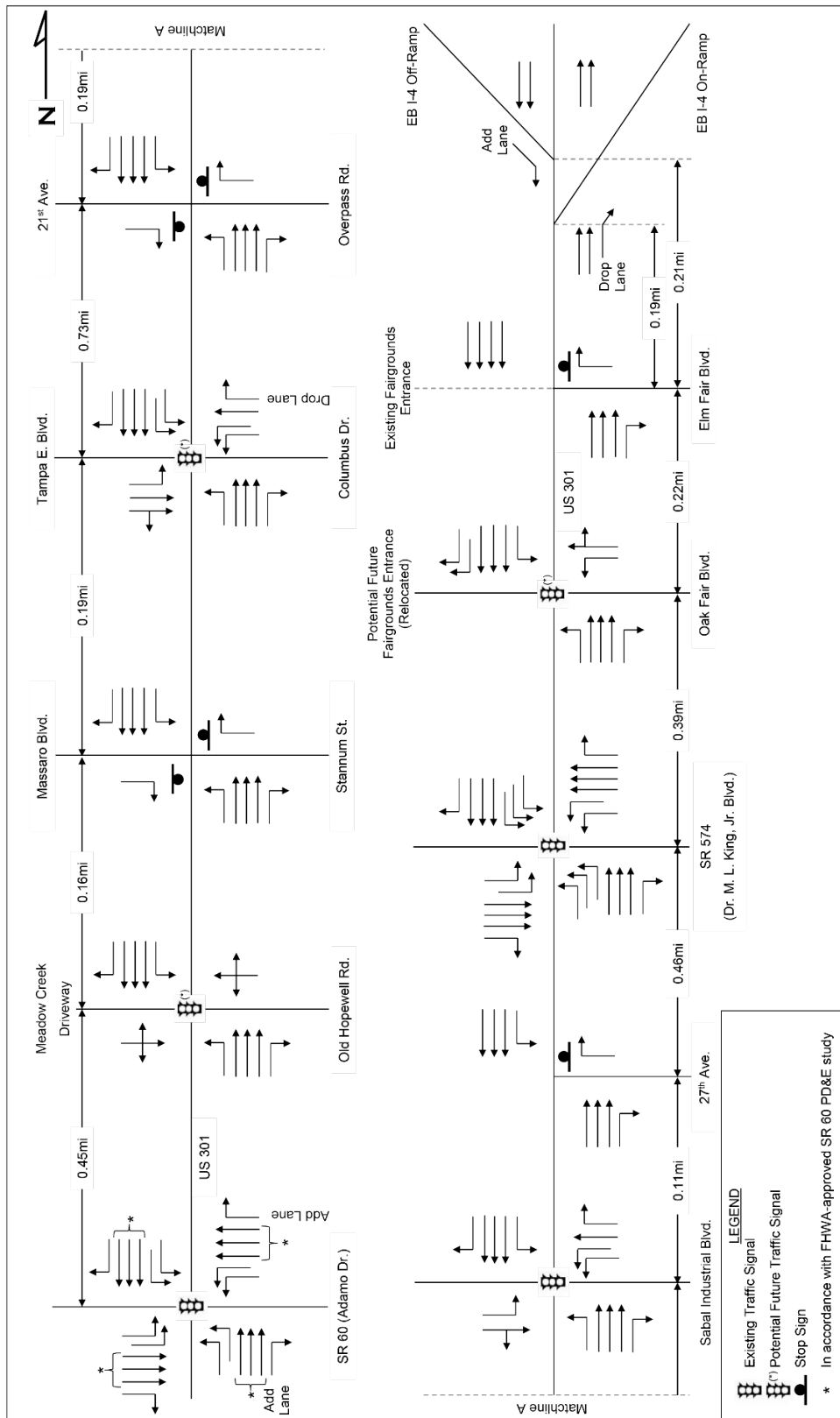
<sup>(1)</sup> Volume-to-Capacity Ratio

<sup>(2)</sup> Average Delay (seconds/vehicle)

<sup>(3)</sup> Level of Service

\* Free-Flow Right-Turn Lane

\*\* Values based on manual calculation of weighted average delay (including the zero delay for the free-flow right-turn movement)



**Figure 6-8 Design Year (2040) Recommended Intersection Geometry – Build Alternative**



Although the SR 60, Columbus Drive/Tampa E. Boulevard and SR 574 intersections are all projected to operate at LOS F overall in the design year, the 2040 peak hour volumes projected to occur at these locations with the Build Alternative are significantly higher than the existing peak hour volumes and the 2040 No-Build Alternative peak hour volumes. In addition, the overall average vehicle delays at these intersections are projected to be lower with the Build Alternative than with the No-Build Alternative. Consequently, the six-laning of US 301 is expected to provide better peak hour traffic operations for a higher level of travel demand as compared to the No-Build Alternative, thus improving the mobility within this corridor.

**Table 6-14** summarizes the results of the 2040 Build Alternative signalized arterial analyses. In the a.m. peak hour, two of the six roadway segments analyzed are projected to operate at LOS F. In the p.m. peak hour, two segments are also projected to operate at LOS F. The overall a.m. peak hour corridor travel speeds are indicative of LOS D conditions in both the northbound and southbound travel directions. In the p.m. peak hour, the overall corridor travel speeds are indicative of LOS D conditions in the northbound direction and LOS E conditions in the southbound direction.

**Table 6-14 Design Year (2040) Peak Hour Signalized Arterial Analysis  
Summary – Build Alternative**

Segment	Travel Direction	AM Peak Hour		PM Peak Hour	
		Travel Speed <sup>(1)</sup>	LOS <sup>(2)</sup>	Travel Speed <sup>(1)</sup>	LOS <sup>(2)</sup>
Btwn SR 60 and Old Hopewell Rd.	NB	24.99	C	21.76	D
	SB	19.56	D	23.55	D
Btwn Old Hopewell Rd. and Columbus Dr./Tampa E. Blvd.	NB	14.22	F	24.22	D
	SB	25.18	C	19.27	E
Btwn Columbus Dr./Tampa E. Blvd. and Sabal Industrial Blvd.	NB	27.28	C	26.80	C
	SB	32.42	C	17.67	F
Btwn Sabal Industrial Blvd. and SR 574	NB	26.47	C	20.90	D
	SB	31.20	C	20.27	D
Btwn SR 574 and Oak Fair Blvd.	NB	19.64	D	17.87	E
	SB	11.35	F	13.69	F
Overall Corridor	NB	22.77	D	22.58	D
	SB	22.62	D	18.35	E

<sup>(1)</sup> Average Travel Speed (miles per hour)

<sup>(2)</sup> Level of Service

## 7.0 ALTERNATIVES ANALYSIS

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The objective of the alternatives analysis process is to identify technically and environmentally sound alternatives that meet the needs of the project, are cost-effective and are acceptable to the community. This section describes the alternatives that were considered and the results of the alternatives analysis.

### 7.1 No-Build Alternative

The No-Build Alternative assumes that US 301 will remain a four-lane divided roadway through the design year 2040, with only routine maintenance being performed during this period. The traffic analysis conducted for the No-Build Alternative indicates that portions of the US 301 corridor are projected to operate at LOS E or F in the year 2040. This is below the acceptable level of service standard (i.e., LOS D) for a four-lane facility in an urban area.

The primary advantages and disadvantages associated with the No-Build Alternative are as follows:

#### *Advantages of the No-Build Alternative*

- No additional right-of-way needed;
- No design, right-of-way acquisition or construction costs incurred;
- No construction impacts to the natural, physical and social environment; and
- No delays to motorists or inconveniences to property owners during construction.

#### *Disadvantages of the No-Build Alternative*

- Increased traffic congestion and road user costs associated with increased levels of vehicle delay at intersections;
- Increased potential for crashes to occur due to increased traffic congestion on the roadway segments and at intersections;
- Increased response times for emergency vehicles; and
- Increased vehicle emission pollutants due to higher levels of traffic congestion.

The No-Build Alternative remained a viable alternative throughout the PD&E study phase.

### 7.2 Transportation System Management & Operations (TSM&O)

Transportation Systems Management and Operations (TSM&O) alternatives involve improvements designed to maximize the operational efficiency of the existing facility and/or strategies designed to manage the demand for travel on the existing facility. The various TSM&O options typically include traffic signal phasing/timing improvements, intersection turn lane improvements, median opening modifications (i.e., access management improvements) and transit improvements. The additional capacity that is required to accommodate the projected traffic volumes within the US 301 corridor cannot be provided solely through the implementation of TSM&O improvements; however, access management is included as part of the build alternatives. Since the six-laning of the US 301 study corridor is not included in the Hillsborough County MPO's 2040 LRTP as a cost-affordable improvement and there are no funds currently programmed for design, right-of-way acquisition or construction; it is possible that interim TSM&O improvements could be implemented at some locations in the future to provide some short-term congestion relief.

### **7.3 Corridor Analysis**

The objective of the corridor analysis process is to identify viable corridors within which alignment alternatives can be developed. The areas both west and east of the US 301 corridor are highly developed with only a few small pockets of vacant land. The land uses include light industrial/warehousing/distribution, commercial/business park, and residential. In addition, the Florida State Fairgrounds property is located to the north of SR 574 and extends from US 301 over to Orient Road. Constructing a new roadway in a corridor located outside of the existing US 301 corridor would result in a significant number of residential and business relocations. Consequently, the overall cost and impacts associated with the construction of a new parallel corridor would be prohibitive. In addition, the existing spacing between the Orient Road, US 301/US 92 and I-75 interchanges on I-4, would likely preclude the ability to construct an additional interchange on I-4 for a new corridor. Based on the characteristics of the surrounding area, the existing US 301 corridor is the only viable corridor for the proposed improvements.

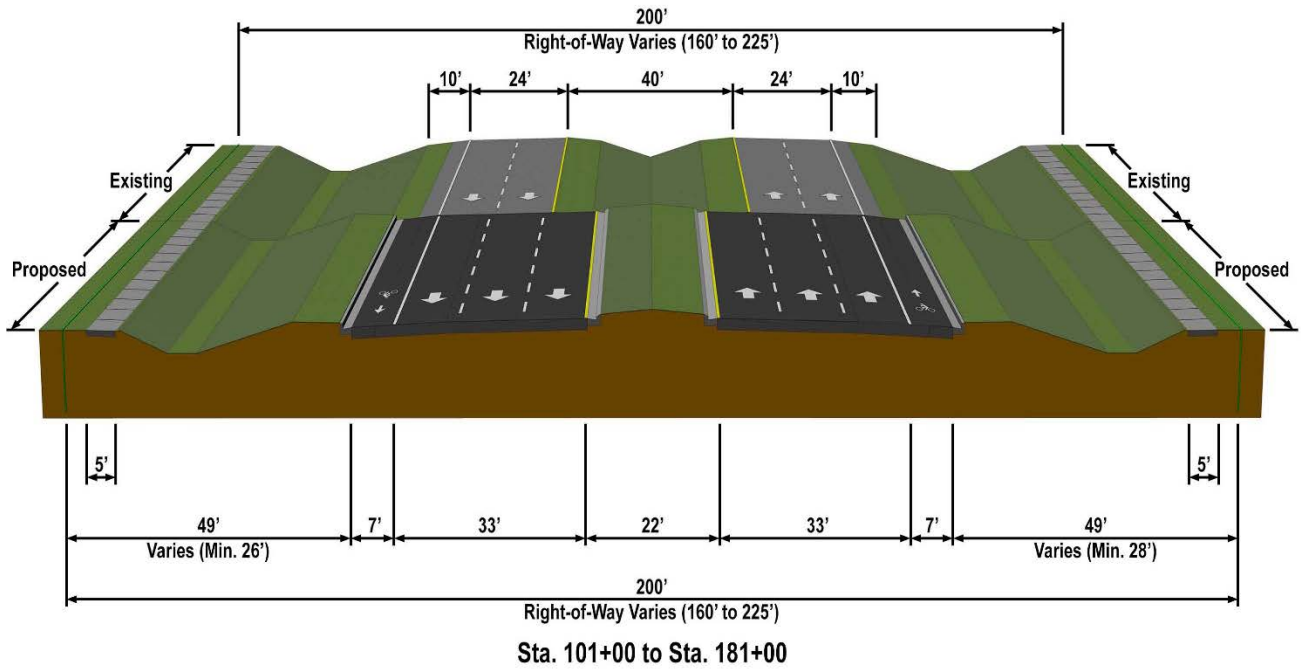
### **7.4 Build Alternatives**

Based on the results of the travel demand forecasting and traffic analysis conducted for this PD&E study, six through lanes will be needed on US 301 prior to the year 2040. Two roadway typical sections were developed to meet the needs of this project and these are discussed in the following section. For the purposes of the alternatives development and analysis, the US 301 corridor was subdivided into the following three segments:

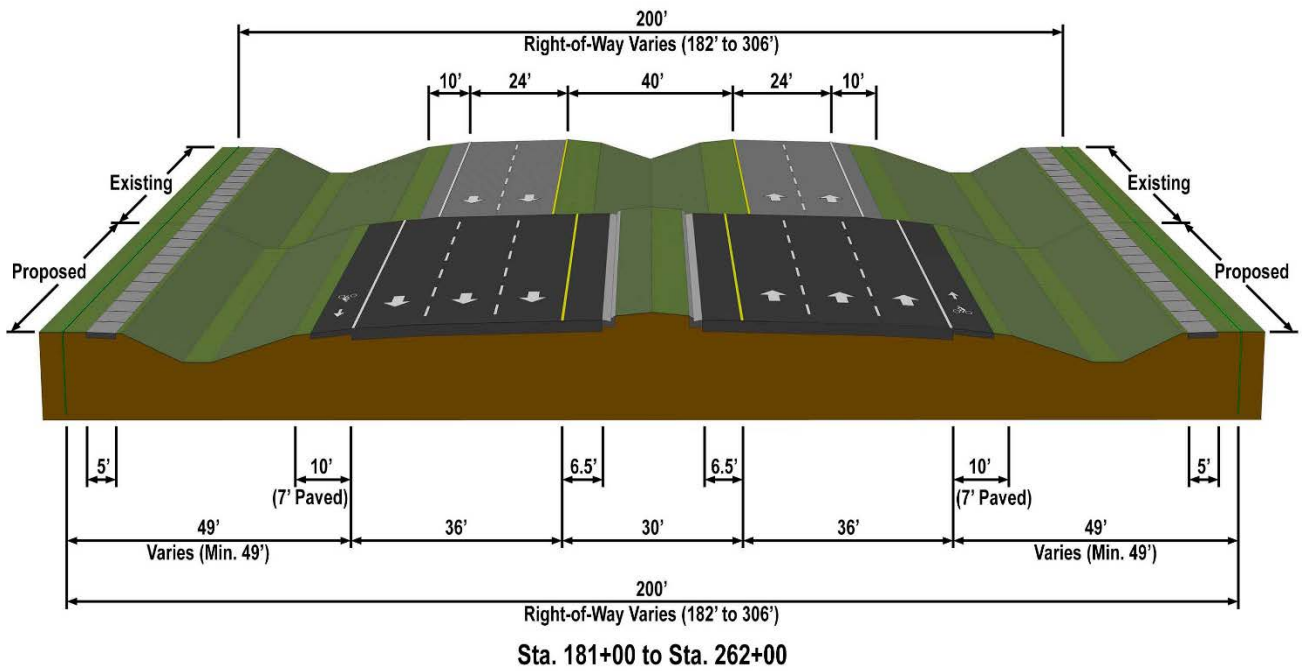
- Segment 1 – From SR 60 to just north of Overpass Road/21<sup>st</sup> Avenue
- Segment 2 – From just north of Overpass Road/21<sup>st</sup> Avenue to SR 574
- Segment 3 – From SR 574 to just south of the eastbound I-4 on-/off-ramps

#### **7.4.1 Typical Sections**

Typical section No. 1 is a 45 mph urban typical section that consists of six 11-foot travel lanes (three in each direction), 7-foot designated buffered bicycle lanes, a 22-foot raised median, and 5-foot sidewalks and curb and gutter on both sides. This urban typical section is illustrated in **Figure 7-1**. Typical section No. 2 is a 50 mph suburban typical section that consists of six 12-foot travel lanes (three in each direction), 6.5-foot paved inside shoulders, 10-foot outside shoulders (with 7 feet paved), a 30-foot raised median with curb and gutter in the median and 5-foot sidewalks on both sides. **Figure 7-2** illustrates Typical section No. 2.



**Figure 7-1 Proposed Urban Typical Section – Segment 1**



**Figure 7-2 Proposed Suburban Typical Section – Segment 2 & 3**

The urban typical section was developed for Segment 1 based on existing right-of-way and horizontal alignment considerations. As discussed previously in **Section 4.1.2**, although the majority of the existing right-of-way is 200 feet wide, the right-of-way width just north of SR 60 is only 160 feet. There are also two portions of US 301 between Old Hopewell Road and just north of Columbus Drive/Tampa East Boulevard where the existing right-of-way width is only 182 feet. In addition, the existing horizontal curve located between the CSX S-Line and the Stannum Street/Massaro Boulevard intersection has a 1,910-foot radius and does not meet PPM criteria for a 50 mph suburban typical section. The minimum radius that can be used for a suburban typical section with the maximum superelevation rate of 5% is 2,245 feet. Therefore, the use of a 50 mph suburban typical section in this portion of the study corridor would either require the acquisition of additional right-of-way (to increase the radius of the existing horizontal curve) or the approval of a design variation for superelevation. Although a 45 mph urban typical section was used for the portion of US 301 from SR 60 to Overpass Road/21<sup>st</sup> Avenue, FDOT requested the vertical alignment be based on a design speed of 50 mph.

The suburban typical section depicted in **Figure 7-2** was developed for Segments 2 and 3. The suburban typical section is modified along the Florida State Fairgrounds property to provide for dual southbound right-turn lanes. The differences in the typical sections are the width of the outside shoulder (i.e., 8 feet vs. 6.5 feet), curb and gutter, and the sidewalk on the west side only to provide for the dual right-turn lanes. The 6.5-foot outside shoulder was used in combination with a Type E curb for the portion of US 301 from Oak Fair Boulevard to I-4 based on existing right-of-way considerations.

It should be noted that a 55 mph rural typical section was also considered for Segments 2 and 3; however, the rural typical section was not viewed as being viable for this corridor based on the current functional classification of the roadway (i.e., Urban Other Principal Arterial), the existing right-of-way width, and drainage concerns. A rural typical section consisting of six 12-foot travel lanes, 10-foot outside shoulders, a 40-foot median and a 40-foot border width would require 212 feet of right-of-way. Since the existing right-of-way is 200 feet wide throughout a majority of the study corridor, the use of a rural typical section would either require the acquisition of additional right-of-way or the approval of a design variation for border width. In addition, the existing sidewalk that was recently constructed from just south of SR 574 to north of I-4 is not located immediately adjacent to the right-of-way line. Consequently, there would be minimal area available to maintain a drainage swale.

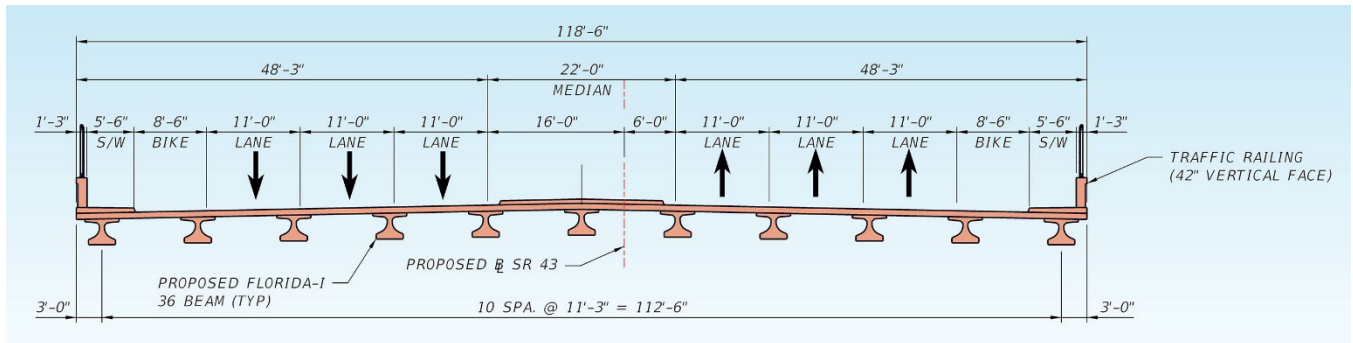
#### **7.4.2 Segment 1 – Alternative No. 1**

Alternative No. 1 assumes that the existing bridges over the CSX S-Line and the CSX A-Line and CR 574 would be widened. The existing vertical alignment over both CSX rail lines and CR 574 would be maintained. As discussed previously in **Section 4.1.6** of this report, both of the existing crest vertical curves provide for a design speed of 40 mph. Consequently, a design exception would be required for vertical alignment. Since the stopping sight distance associated with both of these crest vertical curves (i.e., 388 feet) does not meet the minimum PPM requirement for a design speed of 50 mph, a design exception would also be required for stopping sight distance. The vertical clearances associated with the four existing bridges over the CSX rail lines range from 20.6 feet (for the southbound US 301 bridge over the CSX S-Line) to 21.2 feet (for the southbound US 301 bridge over the CSX A-Line). All four of the existing vertical clearances are less than the 23.5-foot minimum value required by the PPM and, therefore, a third design exception would be required for vertical clearance.

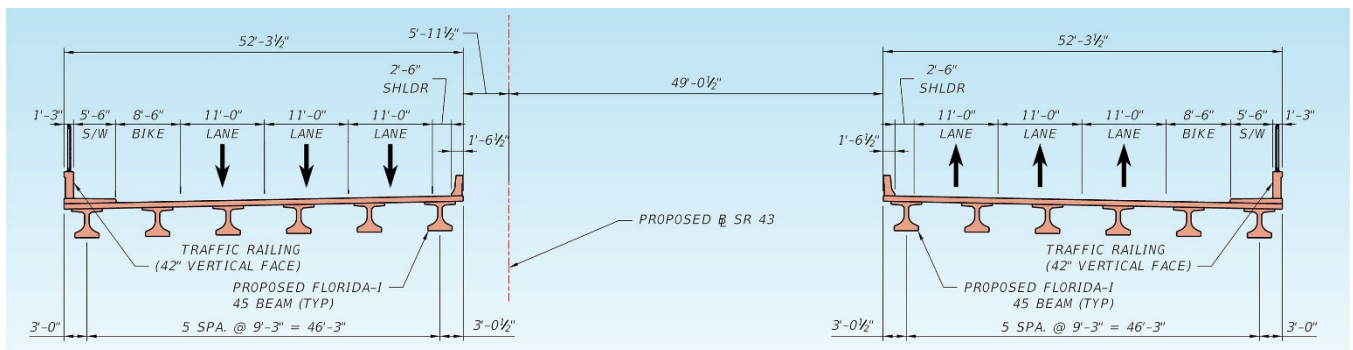
Since the existing median width throughout a majority of the study corridor is 40 feet, it was not possible to provide both of the additional through lanes by widening to the inside and also maintain a 22-foot median. Consequently, a combination of both inside and outside widening was utilized. The outside widening maximized the use of the existing pavement that is currently functioning as acceleration lanes.

**7.4.3 Segment 1 – Alternative No. 2**

Alternative No. 2 assumes that the bridges over the CSX S-Line and the CSX A-Line and CR 574 would be reconstructed. The proposed typical sections for these bridges are illustrated in **Figure 7-3** and **Figure 7-4**. The proposed vertical alignment over the CSX S-Line consists of a 475-foot sag vertical curve (with a K-value of 97), a 1,360-foot crest vertical curve (with a K-value of 136) and a 508-foot sag vertical curve (with a K-value of 96). All three of these vertical curves provide for a design speed of 50 mph. This proposed vertical profile ties into the existing profile less than 200 feet to the north of the southbound US 301 stop bar at the SR 60 intersection and approximately 200 feet north of the Old Hopewell Road intersection. This proposed profile requires that some modifications be made at the US 301 entrances to the Brandon Ford dealership (on the west side of SR 60) and the Courtesy Toyota/Scion dealership (on the east side of SR 60), as well as at the Old Hopewell Road intersection, due to the differences in the existing and proposed elevations.



**Figure 7-3 Proposed Bridge Typical Section over CSX S-Line**



**Figure 7-4 Proposed Bridge Typical Section over CSX A-Line and CR 574**

The proposed vertical alignment over the CSX A-Line and CR 574 consists of a 510-foot sag vertical curve (with a K-value of 96), a 1,350-foot crest vertical curve (with a K-value of 136) and a 460-foot sag vertical curve (with a K-value of 96). All three of these vertical curves provide for a design speed of 50

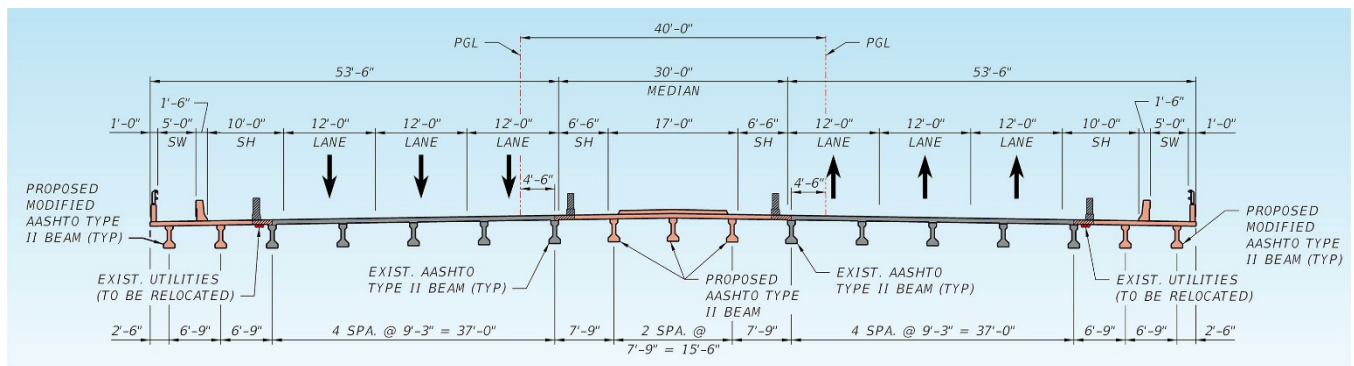
mph. This proposed vertical profile ties into the existing profile approximately 400 feet to the south of the E. Meadow Boulevard intersection and approximately 80 feet to the north of the Overpass Road/21<sup>st</sup> Avenue intersection. This proposed profile requires that some modifications be made at both of these intersections, as well as at the northernmost entrance to the Centerpoint Business Park, due to the differences in the existing and proposed elevations.

Alternative No. 2 provides 23.5 feet of vertical clearance over both CSX rail lines and 16.5 feet of vertical clearance over CR 574. The vertical clearances, as well as the vertical alignment and stopping sight distances, meet PPM criteria and therefore, no design exceptions would be required. In addition to the six vertical curves associated with the CSX S-Line and A-Line, Alternative No. 2 includes eight other vertical curves. **Appendix C** includes profile sheets for Alternative No. 2.

Since the existing median width throughout a majority of the study corridor is 40 feet, it was not possible to provide both of the additional through lanes by widening to the inside and also maintain a 22-foot median. Consequently, a combination of both inside and outside widening was utilized. The outside widening maximized the use of the existing pavement that is currently functioning as acceleration lanes.

#### **7.4.4 Segment 2 – Alternatives No. 1 and No. 2**

Alternative No. 1 and No. 2 are identical in Segment 2. Segment 2 utilizes the proposed suburban typical section as shown in **Figure 7-2** and assumes widening the Tampa Bypass Canal as shown in the proposed bridge typical section in **Figure 7-5**. The two existing bridges with an open median will be closed to provide a southbound left-turn lane to 27th Avenue. The driveway entrance to the Veteran’s Memorial Park will be relocated approximately 300 feet north of its current location to shift the northbound left-turn lane off of the Tampa Bypass Canal Bridge.



**Figure 7-5 Proposed Bridge Typical Section over Tampa Bypass Canal**

#### **7.4.5 Segment 3 – Alternatives No. 1 and No. 2**

Alternative No. 1 and No. 2 are identical in Segment 3. Both alternatives relocate the main US 301 entrance and exit to the Florida State Fairgrounds further south to line up with the existing Oak Fair Boulevard intersection. The dual southbound right-turn lanes at the existing Fairgrounds entrance are extended southward an additional 900 feet to the relocated entrance, resulting in two 1,500-foot right-turn lanes. This significantly increases the vehicle queue storage for this movement and reduces the

potential for vehicle queues to extend back onto the eastbound I-4 on-ramp and the eastbound I-4 mainline. A single northbound left-turn lane is also provided at the relocated Fairgrounds entrance.

## 7.5 Evaluation Matrix

Each build alternative was evaluated based on potential business and residential relocations, environmental effects, right-of-way needs and project costs. The matrix provided in **Table 7-1** quantifies considerations such as potential residential and business relocations, impacts to environmental resources, and the acres of right-of-way needed for roadway improvements and stormwater facilities (flood plain compensation is anticipated to be provided within the existing US 301 ROW). The potential for the project widening to impact archaeological/historic sites, noise sensitive sites, and threatened and endangered species were also qualified in the matrix.

**Table 7-1 Alternatives Evaluation Matrix**

Evaluation Criteria	No-Build Alternative	Alternative 1	Alternative 2
<b>Potential Business and Residential Impacts</b>			
Number of business relocations	0	0	0
Number of residential relocations	0	0	0
<b>Potential Environmental Effects</b>			
Archaeological/Historic sites	None	Low	Low
Noise <sup>1</sup>	3	7	6
Wetlands (acres)	0.0	0.0	0.0
Floodplains (acre feet)	0.0	0.0	0.0
Threatened and endangered species	None	Low	Low
Contamination sites (high/medium)	None	5/9	5/9
<b>Right-of-Way (ROW) Needs</b>			
ROW to be acquired for roadway improvements (acres)	0	0.21	0.48
ROW to be acquired for stormwater facilities (acres)	0	8.50	8.50
<b>Estimated Total Project Costs (2015 Cost)</b>			
Design <sup>2</sup>	\$0	\$3,697,800	\$5,208,400
Mitigation Cost <sup>3</sup>	\$0	\$0	\$0
Total ROW cost	\$0	\$7,950,300	\$8,594,900
Total construction cost	\$0	\$36,978,200	\$52,083,500
Construction Engineering & Inspection (CEI) <sup>4</sup>	\$0	\$3,697,800	\$5,208,400
<b>Preliminary Estimate of Total Project Cost (2015 Cost)</b>	<b>\$0</b>	<b>\$52,324,100</b>	<b>\$71,095,200</b>

Notes:

1. Number of noise sensitive sites that meet or exceed FHWA NAC.
2. Design cost is estimated at 10% of the total construction cost.
3. Mitigation cost will be determined through consultation with environmental agencies.
4. CEI is estimated at 10% of the total construction cost.



The bottom portion of the matrix details cost estimates for wetland mitigation, right-of-way acquisition, construction, design, and construction engineering and inspection. The estimates were based on 2015 unit costs. The cost for design and construction engineering and inspection is estimated as 10% of the total construction cost.

## 7.6 Preferred Build Alternative

A review of **Table 7-1** indicates that no residential or business relocations are expected to occur with either build Alternative 1 or 2. Neither of those two alternatives are expected to have any impact on wetlands. Most of the other potential environmental impacts associated with Alternatives 1 or 2 are viewed as being low. Alternative 2 is estimated to cost approximately \$18.8 million more than Alternative 1 and requires 0.27 acres more ROW than Alternative 1. This is because four new bridges over the CSX railroad are constructed with Alternative 2 as opposed to the widening of the existing bridges that is included with Alternative 1. **Table 7-2** summarizes the critical characteristics of each of the four existing CSX bridges. Even though the age of the four CSX bridges ranges from 45 to 84 years, all of these bridges have a high sufficiency rating and health index.

**Table 7-2 CSX Bridges**

Bridge Number	Description	Year Built	Year Widened	Age	Minimum Vertical Clearance <sup>1</sup>	Sufficiency Rating	Health Index
100101	CSX S-Line (Northbound US 301)	1970	N/A	45	20.9	95.2	99.03
100910	CSX S-Line (Southbound US 301)	1937	1971	78	20.6	95.2	99.54
100102	CSX A-Line (Northbound US 301)	1970	N/A	45	21.0	95.2	98.00
100011	CSX A-Line (Southbound US 301)	1931	1971	84	21.2	95.2	97.42

Note:

1. All four bridges are considered to be functionally obsolete due to the minimum vertical clearance.

All four bridges do not meet the minimum vertical clearance of 23.5 feet for a roadway over a railroad and therefore, they are all considered functionally obsolete. Information contained in the bridge inspection reports for both southbound bridges over the CSX lines identify minor nicks, scrapes or impacts to the bridges which are potentially the result of train and/or cargo strikes. In addition, the existing crest vertical curves over the CSX lines provide for a design speed of 40 mph and the stopping sight distance associated with both of these crest vertical curves does not meet the minimum PPM requirement for a design speed of 50 mph.

Based on the evaluation of the alternatives described, Alternative 2 has been selected as the Recommended Build Alternative.

## 8.0 DESIGN DETAILS OF RECOMMENDED BUILD ALTERNATIVE

Based on the evaluation of the alternatives described in **Section 7.5**, Alternative 2 has been selected as the Recommended Build Alternative. Following the public hearing process, the Recommended Build Alternative was selected as the Preferred Build Alternative. The Preferred Build Alternative is approved for advancement to future project development (i.e. design, right-of-way acquisition, and construction) as funding becomes available. The Preferred Build Alternative is illustrated on the concept plans contained in **Appendix A**.

### 8.1 Typical Sections and Design Speed

Alternative 2 consists of two typical sections for the widening of US 301. **Table 8-1** identifies the limits of the two typical sections. Typical section No. 1 is a 45 mph urban typical section that consists of six 11-foot travel lanes (three in each direction), 7-foot designated buffered bicycle lanes, a 22-foot raised median, and 5-foot sidewalks and curb and gutter on both sides. This urban typical section is illustrated in **Figure 8-1**.

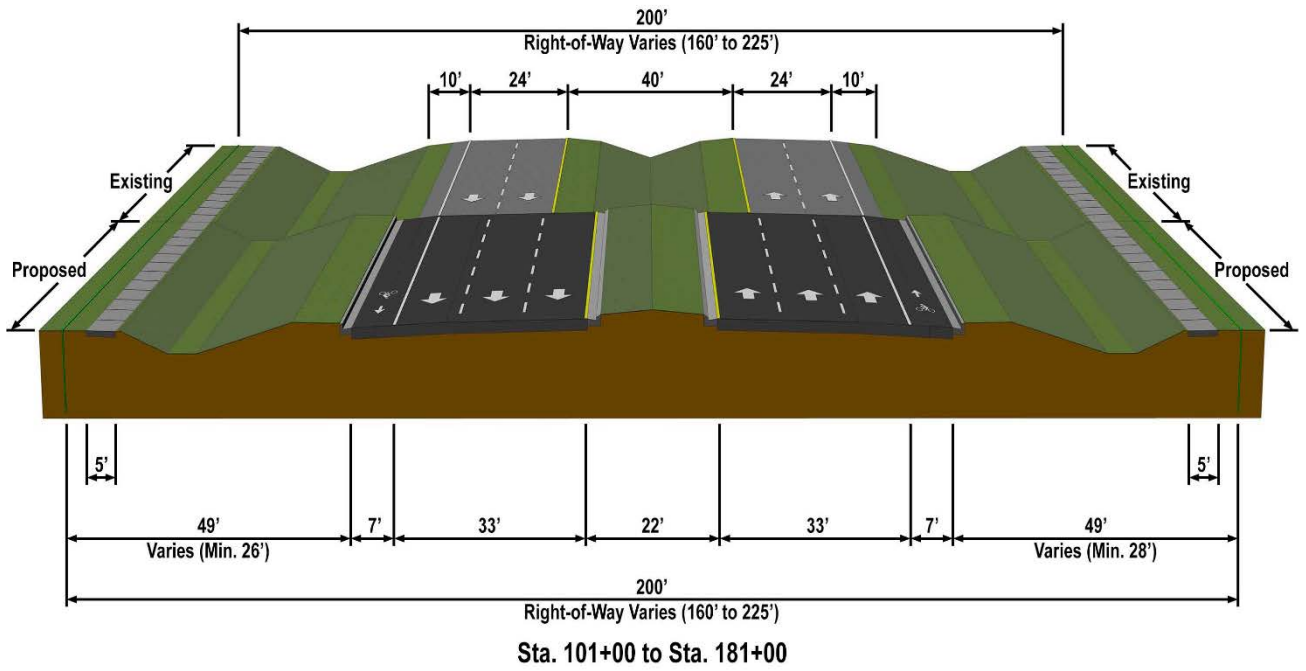
**Table 8-1 Typical Section Limits**

Segment	Limits	Typical Section	Design Speed (mph)
1	From SR 60 to just north of Overpass Road/21 <sup>st</sup> Avenue	Urban	45 <sup>1</sup>
2	From just north of Overpass Road/21 <sup>st</sup> Avenue to SR 574	Suburban	50
3	From SR 574 to just south of the eastbound I-4 on-/off-ramps	Suburban	50

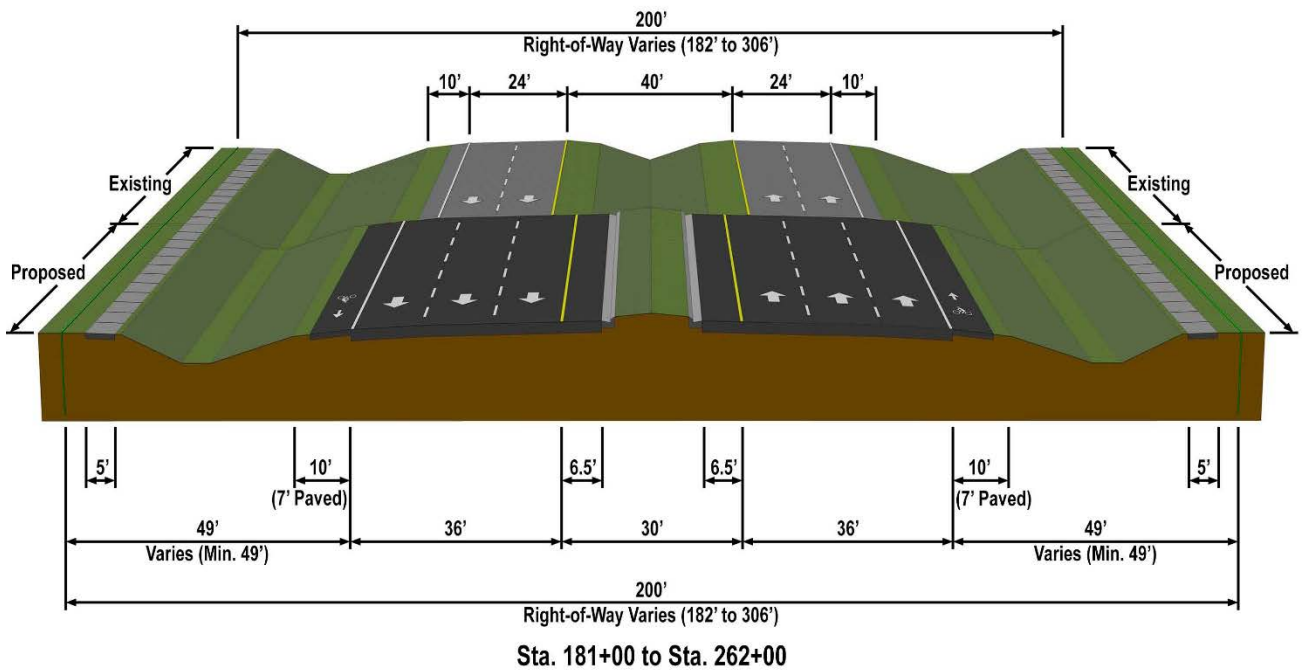
1. FDOT required the vertical alignment to be based on a design speed of 50 mph.

Typical section No. 2 is a 50 mph suburban typical section that consists of six 12-foot travel lanes (three in each direction), 6.5-foot paved inside shoulders, 10-foot outside shoulders (with 7 feet paved), a 30 foot raised median with curb and gutter in the median and 5-foot sidewalks on both sides. Typical section No. 2 is illustrated in **Figure 8-2**. The proposed typical sections for the bridges over the CSX S-Line and the CSX A-Line and CR 574 are shown in **Figure 8-3** and **Figure 8-4**, respectively. The proposed typical section for the bridges over the Tampa Bypass Canal will be widened and the open median between the bridges will be closed as shown in **Figure 8-5**. The signed typical section package is provided in **Appendix D**.

**SECTION 8.0**  
**DESIGN DETAILS OF RECOMMENDED BUILD ALTERNATIVE**



**Figure 8-1 Proposed Urban Typical Section – Segment 1**



**Figure 8-2 Proposed Suburban Typical Section – Segments 2 & 3**

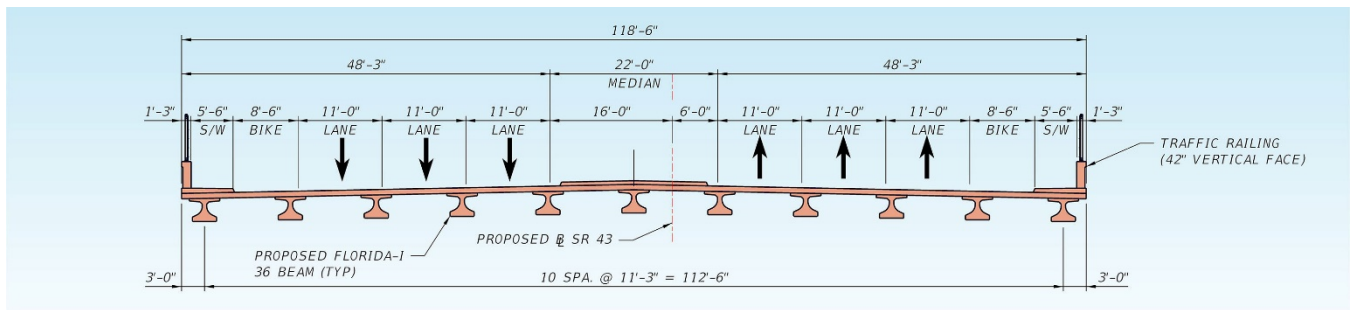
**8.2 Structures**

There are seven structures within the project limits and the proposed improvements are listed in All four structures crossing the CSX Transportation rail lines will be replaced due to the minimum vertical clearance and potential train and/or cargo strikes. The proposed typical sections for the bridges over the CSX S-Line and the CSX A-Line and CR 574 are shown in **Figure 8-3** and **Figure 8-4**, respectively.

**Table 8-2 Recommended Bridge Improvements**

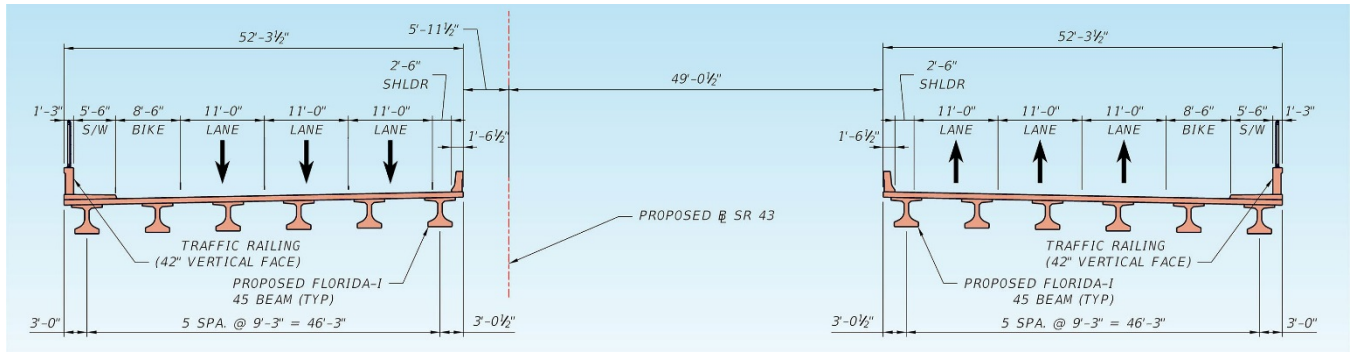
Bridge Number	Description	Year Built	Year Widened	Sufficiency Rating	Health Index	Recommended Improvement
100101 *	CSX S-Line (Northbound US 301)	1970	N/A	95.2	99.03	Replacement
100910 *	CSX S-Line (Southbound US 301)	1937	1971	95.2	99.54	Replacement
100574	Bruce Creek Double 10'x8' Culvert	1973	N/A	78.7	83.19	Extension
100102 *	CSX A-Line (Northbound US 301)	1970	N/A	95.2	98.00	Replacement
100011 *	CSX A-Line (Southbound US 301)	1931	1971	95.2	97.42	Replacement
100103	Tampa Bypass Canal (Northbound US 301)	1972	N/A	99.3	96.16	Widen
100012	Tampa Bypass Canal (Southbound US 301)	1972	N/A	99.2	96.52	Widen

\*All four bridges are considered to be functionally obsolete due to the minimum vertical clearance.



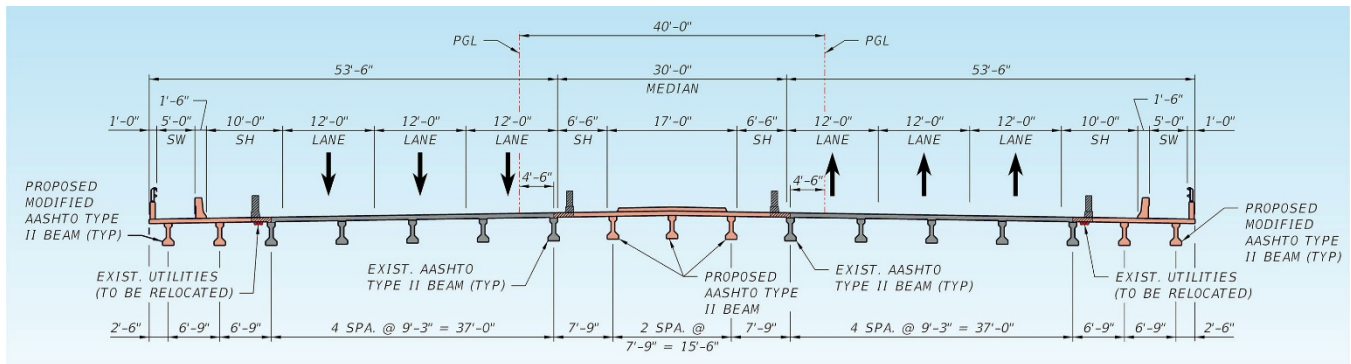
**Figure 8-3 Proposed Bridge Typical Section over CSX S-Line**

**SECTION 8.0**  
**DESIGN DETAILS OF RECOMMENDED BUILD ALTERNATIVE**



**Figure 8-4 Proposed Bridge Typical Section over CSX A-Line and CR 574**

The Bruce Creek bridge culvert will be extended and both Tampa Bypass Canal bridges will be widened. The open median between the two Tampa Bypass Canal bridges will be closed based on the proposed improvements shown in **Figure 8-5**.



**Figure 8-5 Proposed Bridge Typical Section over Tampa Bypass Canal**

**8.3 Right-of-Way Needs and Relocations**

The majority of the US 301 mainline widening is located within the existing right-of-way. Additional right-of-way is required for corner clips resulting from the turning radius of the WB-62FL design vehicle and offsite stormwater facilities. The proposed roadway right-of-way requirements for the US 301 improvements does not include any business or residential relocations and is shown in the Preferred Build Alternative concept contained in **Appendix A**.

**8.4 Cost Estimates**

The project costs estimated for the Preferred Build Alternative are summarized in **Table 8-3**. Construction costs were estimated in June 2015 using FDOT's Long Range Estimate (LRE) and the cost estimate is provided in **Appendix E**. The cost for design and construction engineering and inspection is estimated as 10% of the total construction cost, respectively.

**Table 8-3 Preliminary Project Cost Estimate**

Cost Component	Alternative 2
Design <sup>1</sup>	\$5,208,400
Mitigation Cost <sup>2</sup>	\$0
Total ROW cost	\$8,594,900
Total construction cost	\$52,083,500
Construction Engineering & Inspection (CEI) <sup>3</sup>	\$5,208,400
<b>Preliminary Estimate of Total Project Cost (2015 Cost)</b>	<b>\$71,095,200</b>

Notes:

1. Design cost is estimated at 10% of the total construction cost.
2. Mitigation cost will be determined through consultation with environmental agencies.
3. CEI is estimated at 10% of the total construction cost.

### 8.5 Intersection Concepts and Signal Analysis

The design year (2040) recommended intersection geometry for the Build Alternative is illustrated in **Figure 6-8** and the signalized intersection analyses are summarized in **Table 6-13**. Two different methodologies were used to obtain estimates of the peak hour queue lengths for the northbound and southbound left-turn, through and right-turn lanes at the US 301 signalized intersections. The first methodology involved the use of the FDOT *Plans Preparation Manual* while the second methodology involved the use of the 50<sup>th</sup>-percentile “back of queue” estimates obtained from the 2010 HCS analyses. **Table 8-4** summarizes the design year (2040) a.m. and p.m. peak hour queue length estimates obtained using these two methodologies, along with the total lengths of the turn lanes that are provided with the recommended roadway improvement concept.

The peak hour queue lengths for the northbound and southbound left-turn lanes at the US 301 unsignalized intersections were estimated using the 95<sup>th</sup>-percentile queue lengths obtained from the 2010 HCS analyses. **Table 8-5** summarizes the design year (2040) a.m. and p.m. peak hour queue length estimates for the unsignalized intersections along with the total lengths of the left-turn lanes that are provided with the recommended roadway improvement concept.

### 8.6 Design Traffic Volume

The design year (2040) daily and peak hour traffic volumes are provided in **Section 6.0**.

**SECTION 8.0**  
**DESIGN DETAILS OF RECOMMENDED BUILD ALTERNATIVE**

**Table 8-4 Design Year (2040) Build Alternative Queue Length Estimates – Signalized Intersections**

Intersection	Movement	No. of Lanes	AM Peak Hour				PM Peak Hour				Total Turn Lane Length <sup>(3)</sup> (feet)		Constraint (Why Turn Lane Length cannot be Longer)	
			Volume (veh/lane)	Queue Length (feet) PPM <sup>(1)</sup>	Queue Length (feet) 50% HCS <sup>(2)</sup>	Volume (veh/lane)	Queue Length (feet) PPM <sup>(1)</sup>	Queue Length (feet) 50% HCS <sup>(2)</sup>	Volume (veh/lane)	Queue Length (feet) PPM <sup>(1)</sup>	Queue Length (feet) 50% HCS <sup>(2)</sup>	Desirable		Provided
SR 60	SB LT	2	589	295	656	373	919	460	1,022	523	1,025	1,025	None	
	SB TH	3	1,385	462	1,027	303	1,943	648	1,440	455	N/A	N/A	-	
	SB RT	1	446	446	991	140	361	80	1,025	80	1,025	N/A	N/A	
Old Hopewell Rd.	NB LT	1	20	20	44	15	24	24	53	23	340	340	None	
	NB TH	3	3,200	1,067	2,371	738	2,368	789	1,753	608	N/A	N/A	-	
	NB RT	1	48	48	107	10	73	73	162	23	400	400	None	
Columbus Dr./ Tampa E. Blvd.	SB LT	1	223	223	496	223	163	163	362	153	750	405	NB left-turn lane for Massaro Blvd.	
	SB TH	3	2,393	798	1,773	428	3,192	1,064	2,364	718	N/A	N/A	-	
	SB RT	1	12	12	27	3	20	20	44	3	290	415	None	
Sabal Industrial Blvd.	NB LT	1	243	243	540	248	249	249	553	343	800	610	SB left-turn lane for Stannum St.	
	NB TH	3	2,788	929	2,064	393	1,912	637	1,416	148	N/A	N/A	-	
	NB RT	1	258	258	573	33	358	358	796	45	1,050	745	Stannum St. curb return	
SR 574	SB LT	2	673	337	749	588	639	320	711	370	1,125	900	NB left-turn lane for business access	
	SB TH	3	1,912	637	1,416	375	2,788	929	2,064	1,118	N/A	N/A	-	
	SB RT	1	56	56	124	10	86	86	191	35	450	390	Driveway conflicts	
Oak Fair Blvd.	NB LT	1	184	184	409	188	136	136	302	148	725	495	SB left-turn lane for Overpass Rd.	
	NB TH	3	2,644	881	1,958	675	2,421	807	1,793	718	N/A	N/A	-	
	NB RT	1	633	633	1,407	598	68	68	151	30	850	685	Overpass Rd. curb return and driveway	
SR 574	SB LT	1	456	456	1,013	413	120	120	267	128	925	465	SB left-turn lane for 27th Ave.	
	SB TH	3	2,477	826	1,836	450	2,634	878	1,951	918	N/A	N/A	-	
	SB RT	1	67	67	149	8	15	15	33	5	925	600	Tampa Bypass Canal Bridge	
SR 574	NB LT	3	795	265	589	363	592	197	438	248	825	480	SB left-turn lane for business access	
	NB TH	3	1,596	532	1,182	280	2,022	674	1,498	575	N/A	N/A	-	
	NB RT	1	476	476	1,058	158	333	333	740	98	1,050	800	Additional driveway conflicts	
SR 574	SB LT	3	536	179	398	265	316	105	233	148	850	850	None	
	SB TH	3	2,091	697	1,549	845	1,624	541	1,202	635	N/A	N/A	-	
	SB RT	1	220	220	489	3	208	208	462	118	850	760	Driveway conflict to Fairgrounds	
Oak Fair Blvd.	NB LT	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	570	570	None	
	NB TH	3	2,024	675	1,500	478	2,685	895	1,989	835	N/A	N/A	-	
	NB RT	1	124	124	276	25	158	158	351	58	850	495	Driveway conflicts	
Oak Fair Blvd.	SB LT	1	474	474	1,053	563	414	414	920	590	1,050	1,050	None	
	SB TH	3	2,568	856	1,902	458	1,883	628	1,396	183	N/A	N/A	-	
	SB RT	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,500	1,500	None	

<sup>(1)</sup> Queue Length Based on FDOT Plans Preparation Manual = (2.0 x Per lane Volume x 25)/(3600/Cycle Length)  
<sup>(2)</sup> 50th Percentile Queue Length Estimated from 2010 Highway Capacity Software = Back of Queue (veh/lane) x 25  
<sup>(3)</sup> Includes Queue Storage, Decel and Taper [Decel length = 240 feet (Based on a 50 mph Urban Roadway from the FDOT Design Standards)]  
**Denotes Higher of the Two Peak Hour Queue Lengths**

**Table 8-5 Design Year (2040) Build Alternative  
Queue Length Estimates – Unsignalized Intersections**

Intersection	Movement	No. of Lanes	AM Peak Hour		PM Peak Hour		Total Turn Lane Length <sup>(2)</sup> (feet)		Constraint (Why Turn Lane Length Cannot be Longer)
			Volume	Queue Length <sup>(1)</sup> (feet)	Volume	Queue Length <sup>(1)</sup> (feet)	Desirable	Provided	
Stannum St./ Massaro Blvd.	NB LT	1	137	131	120	225	465	340	SB left-turn lane for Old Hopewell Rd. None
	SB LT	1	29	35	30	16	340	340	
Overpass Rd./ 21 <sup>st</sup> Ave.	NB LT	1	179	294	109	233	535	535	None NB left-turn lane for Sabal Industrial Blvd.
	SB LT	1	134	305	110	117	545	390	
27 <sup>th</sup> Ave.	SB LT	1	28	21	38	36	340	390	None

<sup>(1)</sup> 95th Percentile Queue Length Estimated from 2010 Highway Capacity Software = 95th Percentile Back of Queue (veh/lane) x 25

<sup>(2)</sup> Includes Queue Storage, Decel and Taper [Decel length = 240 feet (Based on a 50 mph Urban Roadway from the FDOT Design Standards)]

Denotes Higher of the Two Peak Hour Queue Lengths

## 8.7 Noise

As discussed previously in **Section 4.2.6** of this report, existing (2013) traffic noise levels were predicted to range from 51.2 to 70.6 decibels on the “A” weighted scale (dB(A)) at the 18 noise sensitive receptors evaluated. In the future, without the proposed improvements (2040 No-Build), traffic noise levels are predicted to range from 53.1 to 70.8 dB(A) at these receptors. With the recommended build improvements (2040 Build), traffic noise levels are predicted to range from 55.4 to 73.2 dB(A) with levels approaching, meeting, or exceeding the NAC at six of the receptors. When compared to the existing condition, traffic noise levels with the improvements are not predicted to increase more than 5 dB(A). Therefore, the project would not substantially increase traffic noise (i.e., cause an increase in traffic noise of 15 dB(A) or more with an improvement when compared to an existing level).

Noise abatement measures were considered for the six noise sensitive receptors where traffic noise levels are predicted to approach, meet, or exceed the NAC. The measures were traffic management, alternative roadway alignments, buffer zones, and noise barriers. The results of the analysis indicate that although feasible, traffic management and alternative roadway alignments are not reasonable methods of reducing predicted traffic noise levels at the impacted receptors. Additionally, providing a buffer between the highway and noise sensitive land uses is only reasonable for locating future noise sensitive uses and should be considered as part of the local land use planning process. The results of the analysis also indicate that noise barriers do not appear to be a potentially reasonable and feasible method of reducing predicted traffic noise levels for any of the impacted noise sensitive receptors should the project be implemented in the future.

Because the consideration of abatement measures did not indicate there are any measures that would be both feasible and reasonable, there is no commitment to further consider any measure during the project’s design phase. However, there is a commitment to perform a land use review at that time to ensure that all noise sensitive land uses that received a building permit prior to the project’s Date of Public Knowledge (i.e., the date the SEIR is approved) will be evaluated during the proposed project’s design phase. It should be noted that there was no construction or posted permits observed within the project limits when the land uses were surveyed on November 13, 2014.



Construction of the proposed roadway improvements could result in temporary construction-related noise and/or vibration impacts. It is anticipated that the application of *FDOT Standard Specifications for Road and Bridge Construction* will minimize or eliminate potential construction noise and/or vibration impacts. Should noise or vibration issues arise during the construction process, the Project Engineer, in coordination with the District Noise Specialist and the Contractor, will investigate additional methods of controlling these impacts.

Land uses such as residences, offices, and parks are considered incompatible with highway noise levels exceeding the NAC. In order to reduce the possibility of new noise-related impacts, noise level contours were developed for the future improved roadway facility. These contours delineate the distance from the improved roadway's edge-of-travel lane where traffic noise levels of 56, 66, and 71 dB(A) (FDOT's NAC for Activity Categories A, B/C, and E, respectively) are expected to occur in the year 2040 with the proposed improvements. Local officials will be provided a copy of the *Final NSR* to promote compatibility between land development and the construction of the proposed US 301 project.

### **8.8 Recycling of Salvageable Materials**

The majority of the existing four lanes of pavement is going to be utilized in the widening of the project. Removal of any portion of the existing facility will be in accordance with all permitting requirements and specifications. Disposal of the existing bridge components and/or any other unsuitable materials, as appropriate, shall be the responsibility of the contractor. The materials from the existing pavement that will be milled and the existing pavement to be removed could be recycled into the proposed pavement. The existing concrete decks from the bridges could be recycled into the proposed roadway construction as base course (after crushing to specified gradation), or fill material (after partial crushing). This type of reuse would require the removal of the structural steel embedded in the concrete deck and could make this type of reuse cost prohibitive.

### **8.9 Multimodal Considerations**

The Hillsborough Area Regional Transit Authority (HART) does not currently provide transit service on this section of US 301. In addition, there are no plans to begin transit service within the project corridor in HART's 2015-2024 Transit Development Plan. Two HART bus routes (No. 32 and No. 37) cross US 301 at SR 574 and have stops on each side of the intersection along SR 574.

### **8.10 Temporary Traffic Control Plan**

The temporary traffic control plans for areas where the existing roadway will be milled and resurfaced can be developed in one of two phased construction methods. The first phased construction method for these segments would be to reduce the northbound and southbound travel lanes to one lane in each direction under allowable lane closure restrictions and construct the northbound and southbound inside widening, median openings, and curb and gutter along the median. Enough pavement width should be constructed to accommodate two lanes of travel in each direction for the following phase. The next phase of construction would be to shift traffic to the newly constructed pavement on the inside in both directions and construct the outside widening, curb and gutter (urban section only), shoulders, drainage features, and sidewalks. The final phase would be the milling and resurfacing and final friction course of the existing and proposed pavement.

An alternate construction method for the milling and resurfacing areas utilizes temporary pavement on the outside. The temporary pavement would be constructed under allowable lane closure restrictions during Phase One. The existing travel lanes (two in each direction) could then be shifted to the outside during Phase Two with temporary concrete barrier wall placed adjacent to the shifted lanes for construction of the inside northbound and southbound widening, associated median openings, and curb and gutter. Phase Three would shift the traffic to the inside widening constructed in Phase Two, remove the temporary pavement, and construct the outside widening, curb and gutter (urban section only), shoulders, drainage features, and sidewalks. The final phase would be the milling and resurfacing and final friction course of the existing and proposed pavement.

The construction of the new bridges over the CSX S-Line will require a temporary northbound bridge east of the existing northbound bridge. The existing northbound traffic would be shifted to the temporary northbound bridge and the existing southbound traffic would be shifted to the existing northbound bridge. The existing southbound bridge would be demolished and the new bridge can be partially built with enough width to accommodate four lanes of travel. Traffic would then be shifted to the new bridge while the northbound existing and temporary bridges are demolished. Upon completion of the remaining portion of the new bridge the traffic would be shifted to its permanent configuration.

The new structures over the CSX A-line can be built without long-term lane closures. The majority of the new northbound bridge can be constructed with traffic in its current configuration. Northbound traffic (two lanes) could then be shifted to the new structure and the existing northbound bridge could be utilized for two lanes of southbound traffic, via temporary crossovers, while the existing southbound bridge is demolished and the new southbound structure built. Upon completion of the southbound span, southbound traffic would be shifted to its permanent configuration and the existing northbound bridge could be demolished. Lastly, the remaining inside portion of the median would be built.

The widening of the bridges over the Tampa Bypass Canal can be accomplished under allowable lane closure restrictions by utilizing barrier wall, lane width reductions, and shifting the lanes onto the shoulders.

The temporary traffic control plan will be developed during the final design phase to safely and efficiently move vehicles, bicycles, and pedestrians through and around the work zones. Advance notice will be given if street closures and detours are necessary and construction will take place during off-peak hours, whenever feasible, to minimize disruptions to the traveling public and adjacent residences and businesses.

### **8.11 Pedestrian and Bicycle Facilities**

The proposed typical sections provide 5-foot sidewalks on both sides of US 301. Bicycles are accommodated in the 7-foot designated buffered bike lanes in the urban typical section and on the 7-foot paved shoulders in the suburban typical section.

The Tampa Bypass Canal Trail Concept and Master Plan Feasibility Study was conducted by the Hillsborough MPO in January 2013, which looked at a multi-use trail along the canal system in eastern Hillsborough County. This project was included as part of a planned countywide network of trails and greenways identified in the 2040 Long Range Transportation Plan, and is also included in the Hillsborough County Greenways Master Plan. This trail would connect the communities of New Tampa,

Temple Terrace, East Lake/Orient Park and Palm River as well as several additional public resources in Tampa and Hillsborough County creating new commuting and recreational opportunities for bicycle and pedestrian uses. The proposed widening of the Tampa Bypass Canal bridges as shown in the Preferred Build Alternative will not change the vertical clearance under the bridges.

## 8.12 Utility and Railroad Impacts

### 8.12.1 Utility Impacts

The utility companies listed in **Table 8-6** were contacted by letters on December 11, 2013, requesting that they identify the location and type of utilities within the project limits. The existing utilities include overhead electric lines (distribution and transmission), overhead and buried television lines, buried communication lines (coaxial and fiber optic), gas pipelines, as well as water and wastewater mains.

**Table 8-6 Existing Utilities and Estimated Relocation Costs**

Utility Agency Owner	Description	Estimated Cost
AT&T Transmission	AT&T has 3-2" conduits with FOC on the west side of US 301 from south of SR 60 to Tampa East Blvd.; 3-1.25" conduits with FOC on the west side of US 301 from Tampa East Blvd. to E. Meadow Blvd. 1-2" conduit with FOC on the west side of US 301 from E. Meadow Blvd to E. Broadway Ave. where it enters into the CSX railroad A-Line R/W and heads east. AT&T also has 1-6" steel casing within the CSX railroad A-Line R/W as well as 1-4" conduit with FOC which goes west within the CSX railroad S-Line R/W and 2-2" conduits with FOC which go west on E. Meadow Blvd.	\$1,000,000
Bright House Networks	Bright House has OTV on the east side of US 301 from SR 60 to CSX railroad A-Line R/W; OTV and BTV on both sides of the roadway from Old Hopewell Rd. to CSX railroad S-Line R/W; OTV and BTV on the west side of the roadway from CSX railroad S-Line R/W to south of Tampa Bypass Canal and OTV and BTV on both sides of the roadway from north of Tampa Bypass Canal to Oak Fair Blvd and OTV and BTV on the east side of US 301 from north of Oak Fair Blvd. to I-4. They also cross US 301 on the north side of SR 60 (OTV), on the north side of Columbus Dr. (OTV), on the north side of E. Broadway Ave (OTV), on the south side of Sabal Industrial Blvd. (BTV), on the south side of 27 <sup>th</sup> Avenue (OTV) and north of Oak Fair Blvd (BTV).	No response to cost request
Central Florida Pipeline/Kinder Morgan	Central Florida Pipeline/Kinder Morgan has a 10" gas pipeline within the CSX railroad A-Line R/W.	\$300,000
CenturyLink/Qwest	CenturyLink has 2-2" HDPE conduits with FOC on the east side of US 301 from SR 60 to E. Broadway Ave where it turns east onto E. Broadway Ave and 2-2" HDPE conduits with FOC on the east side of US 301 from CSX railroad A-Line to I-4. They also have 2-2" conduits with FOC on the west side of US 301 from SR 60 to the CSX railroad S-Line where it turns west into the railroad corridor.	\$600,000
City of Tampa Wastewater Department	The City of Tampa Wastewater Dept. has a 4" FM on the east side of US 301 from SR 60 to north of Tampa East Blvd and a 4" FM on the west side of the roadway from Sabal Industrial Blvd to MLK Jr. Blvd. The FM is attached to the bridge over the Tampa Bypass Canal. The City also has an 8" FM on the west side of the roadway from MLK Jr. Blvd. to Oak Fair Blvd. They have 8 roadway crossings throughout the study area: a 16" FM, 12" FM (Out of Service (OOS)) and 16" FM in 30" casing (OOS) at SR 60, a 4" FM in 12" steel casing north of Tampa East Blvd., a 4" FM and 4" FM in 12" casing south of MLK Jr. Blvd., a 4" FM in 12" casing north of MLK Jr. Blvd., and an 8" FM in 21" casing at Oak Fair Blvd.	\$900,000

**SECTION 8.0**  
**DESIGN DETAILS OF RECOMMENDED BUILD ALTERNATIVE**

**Table 8-6 Existing Utilities and Estimated Relocation Costs (Continued)**

Utility Agency Owner	Description	Estimated Cost
City of Tampa Water Department	The City of Tampa Water Department owns and operates a 36" WM which extends north on the west side of US 301 from south of SR 60 to south of Oak Fair Blvd. where it turns west; a 12" WM on the west side of US 301 from SR 60 to north of Massaro Blvd, a 12" WM on the east side of the roadway from Old Hopewell Rd. to E. Broadway Ave., a 12" WM on the east side of the roadway from south of Overpass Rd. to 27th Ave. and a 12" WM on the east side of the roadway from MLK Jr. Blvd. to I-4. They also have 9 roadway crossings throughout the study area: a 12" WM at SR 60, a 12" WM in 20" casing north of Old Hopewell Rd., a 36" WM in 48" casing at Columbus Dr., an 8" WM in 14" steel casing south of CSX railroad A-Line corridor, a 12" WM at E. Broadway Ave., an 8" WM at Overpass Rd., an 8" WM at 27 <sup>th</sup> Ave., an 8" WM in 16" casing north of the Tampa Bypass Canal and a 12" WM at MLK Jr. Blvd.	No response to cost request
FiberLight, LLC	No Response to Request	No response to cost request
FPL Fibernet	FPL Fibernet has FOC crossing US 301 at Tampa East Blvd. and just south of E. Meadow Blvd. They also have a crossing on the south side of SR 60; however, it is outside the study corridor limits.	No response to cost request
Hillsborough County Public Utilities	No existing or planned facilities located within the study corridor.	N/A
Hillsborough County Sheriff's Office (HCSO)	HCSO has FOC for their message boards on the west side of US 301 starting south of SR 60 and ending approximately 700 feet north of SR 60. They also have FOC crossing US 301 on the south side of E. Broadway Ave.	\$200,000
Level 3 Communications, Inc.	Level 3 has 2-2" conduits with FOC and 9-1.25" conduits with FOC going north on the east side of US 301 from SR 60 to the CSX railroad A-Line corridor where the 9-1.25" conduits with FOC enter the railroad corridor; 2-2" conduits with FOC on the east side of US 301 from CSX A-Line to Sabal Industrial Blvd. and 3-1.25" conduits with FOC on the west side of the roadway from Massaro Blvd. to I-4. The conduits are attached to the bridge over the Tampa Bypass Canal. Level 3 also has 9-1.25" conduits with FOC on the east side of US 301 from MLK Jr. Blvd. to I-4 and 3-1.25" conduits with FOC crossing US 301 on the south side of MLK Jr. Blvd. Level 3 also has 3-1.25" HDPE conduits with FOC on the west side of US 301 going south from SR 60. However, these conduits are outside the study corridor limits.	\$515,000
MCI	MCI has 4-2" conduits with FOC on the west side of US 301 and aerial FOC on the east side from SR 60 to Tampa East Blvd.; FOC within the CSX railroad A-Line corridor and 4-2" conduits with FOC on the west side of US 301 from E. Broadway Ave. to 21 <sup>st</sup> Ave where it crosses to the east side of US 301 and continues to Sabal Industrial Blvd.	\$185,000
Pluris/Utility Partners, LLC	No existing or planned facilities located within the study corridor.	N/A
Sprint/Ericsson Services	Sprint has FOC crossing US 301 on the south side of SR 60. This FOC is outside the study corridor limits.	N/A
Tampa Bay Water	No existing or planned facilities located within the study corridor.	N/A
Tampa Electric Company	TECO has overhead distribution lines (13.2 kV) located on both sides of the roadway throughout the study area and overhead transmission lines (230 kV) crossing US 301 between Oak Fair Blvd. and Elm Fair Blvd. The 230 kV transmission line is in an easement. TECO also has overhead transmission lines (69 kV) crossing US 301 at MLK Jr. Blvd. as well as 69kV overhead transmission lines in an easement north of the CSX railroad A-Line corridor.	No response to cost request

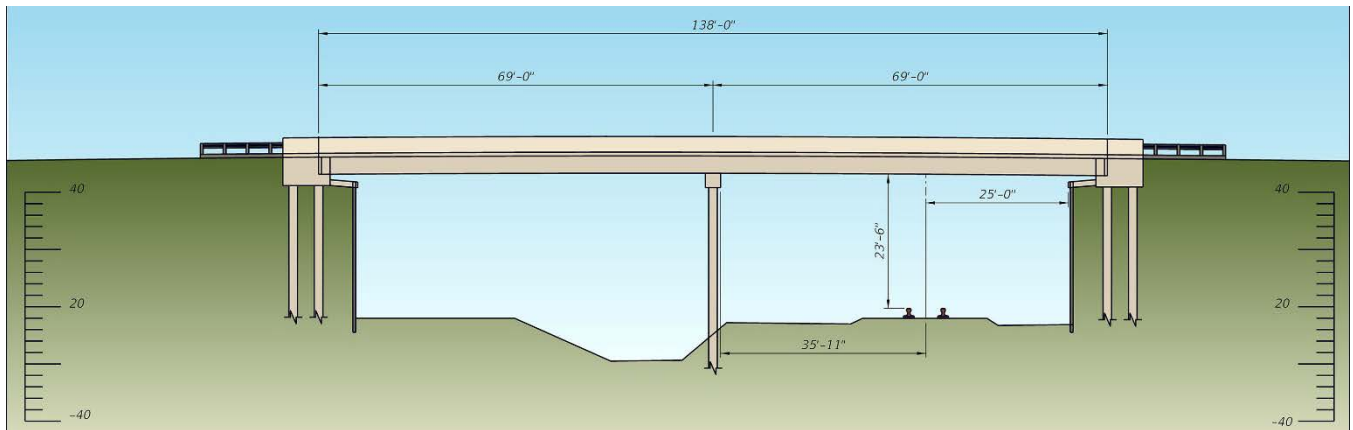
**Table 8-6 Existing Utilities and Estimated Relocation Costs (Continued)**

Utility Agency Owner	Description	Estimated Cost
TECO Peoples Gas	Peoples Gas owns a 6" GM that crosses US 301 on the north side of SR 60 and a 6" GM that crosses SR 60 on the west side of US 301. The 6" GM which crosses SR 60 on the west side of US 301 is outside the study corridor limits. They also have a 4" GM on the east side of US 301 from Old Hopewell Rd. to Stannum St. where it crosses to the west side of US 301 and continues north to E. Broadway Ave. A 2" GM crosses US 301 on the north side of E. Broadway Ave.	\$36,000
TW Telecom	TW Telecom has a 1.5" conduit with coaxial cable on the west side of US 301 from SR 60 to Tampa East Blvd. and 2-2" conduits with coaxial cable that cross US 301 at E. Meadow Blvd.	\$156,800
Verizon Florida, LLC	Verizon has a manhole system crossing US 301 on the south side of SR 60 as well as multi-duct systems and aerial facilities on both sides of US 301 from SR 60 to south of I-4. The manhole system is outside the study corridor limits.	\$15,000,000
XO Communications	XO Communications has 8-1.25" conduits with FOC on the east side of US 301 from SR 60 to E. Broadway Ave where they cross US 301 and head west. They also have 8-1.25" conduits with FOC which cross US 301 on the south side of MLK Jr. Blvd. and are located on the east side of US 301 from MLK Jr. Blvd. to north of I-4.	No response to cost request

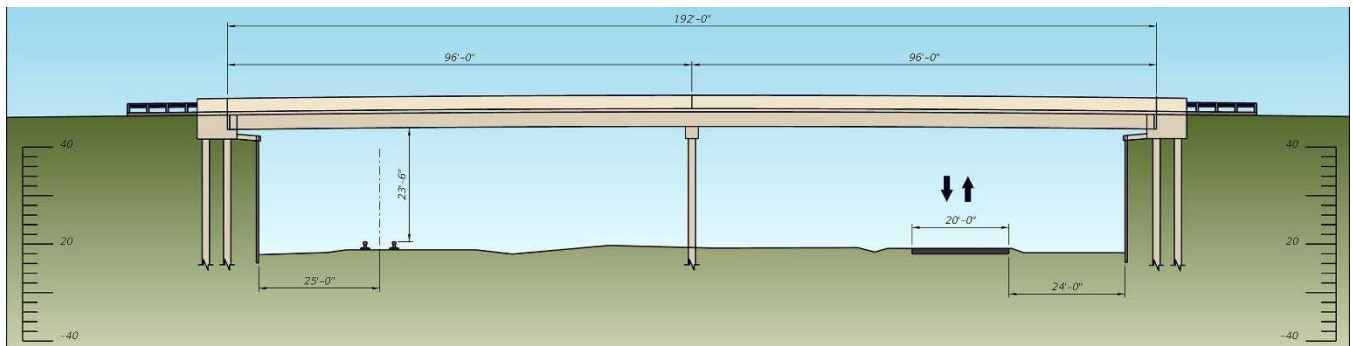
The proposed improvements may require the relocation of some existing utilities depending on their specific location and depth. There are also utilities attached to the existing bridges that will require relocation.

**8.12.2 Railroad Impacts**

Both bridges crossing over the CSX rail lines are proposed to be two-span bridges as shown in **Figure 8-6** and **Figure 8-7**. The construction of new bridges over both the CSX S-Line and A-Line will require coordination with CSX Transportation.



**Figure 8-6 Proposed Bridge Elevation over CSX S-Line**



**Figure 8-7 Proposed Bridge Elevation over CSX A-Line and CR 574**

### **8.13 Drainage**

A *Final Location Hydraulics Memorandum* and a *Final Preliminary Stormwater Management Facility Report* were prepared as part of the PD&E study.

#### **8.13.1 Location Hydraulics**

The latest revision of the FEMA Flood Insurance Study for Hillsborough County was adopted in 2013. Portions of the study area are located within the floodplain limits. Two locations along the study corridor are contiguous or situated within areas of Zone AE, which have base flood elevations determined from floodplain analyses of the 100-year frequency storm event. The effected floodplains are associated with the Tampa Bypass Canal, a U.S. Army Corps of Engineers project that alleviates major flooding along the Hillsborough River within Hillsborough County and the City of Tampa. The Tampa Bypass Canal is operated and maintained by the SWFWMD. The corridor crossing Tampa Bypass Canal Tributary 2, also known as Bruce Creek, has a base flood elevation (BFE) of 17.0 (NAVD 1988) on the downstream (west) side of US 301 and a BFE of 18.0 (NAVD 1988) on the upstream (east) side. The corridor crossing the Tampa Bypass Canal, also known as Six Mile Creek, has a BFE of 11.0 at both the upstream and downstream sides of the bridge.

The two floodplain crossings which occur along the existing US 301 alignment are short, transverse encroachments of freshwater or riverine floodplains. The floodplain encroachments will be minimal due to the proposed roadway alignment following the same alignment as the existing roadway and headwaters staying within the channel banks. Floodplain compensation for any freshwater encroachments may be required by SWFWMD. It is anticipated that compensation for the minor floodplain encroachments will be provided within the roadway right-of-way by steeping side slopes and excavating where feasible. Bruce Creek and the Tampa Bypass Canal are regulated floodways and will require preparation of "No Rise" Certifications during design.

All cross drain structures will have to be longer to accommodate the requirements of the widened roadway. Based upon visual observations it appears that the existing cross drains, if hydraulically suitable, are candidates for extension. However, it is recognized that some culverts may need to be replaced with hydraulically equivalent structures when they are analyzed in more detail (hydraulically and structurally) in the design phase.

The modifications to drainage structures included in this project will result in an insignificant change in their capacity to carry floodwater. This change will cause minimal increase in flood heights and flood limits. These minimal increases will not result in any significant adverse impacts on the natural and beneficial floodplain values or any significant change in flood risks or damage. There will not be a significant change in the potential for interruption or termination of emergency service of this emergency evacuation route. Therefore, it has been determined that this encroachment is not significant.

#### **8.13.2 Stormwater Management**

The project area resides within four waterbodies as defined by the FDEP, (WBIDs 1536A, 1536B, 1536F, and 1576). All four waterbodies are listed as impaired; however, WBID 1536A is listed as impaired for Fecal Coliform which is not a pollutant of concern for FDOT. Pollutant loading removal calculations were performed for all basins and the preliminary pond sizes for each basin were checked to ensure that the required permanent pool volumes would fit.

US 301, south of the Tampa Bypass Canal crossing, is within the Hillsborough River/Tampa Bypass Canal watershed. The Tampa Bypass Canal basin generally drains southwesterly towards the Tampa Bypass Canal; however, there are lateral ditches within the project limits that cross US 301 in an easterly direction prior to turning south then west back towards the canal. The ultimate outfall is Tampa Bay. The section of US 301, north of the Tampa Bypass Canal crossing, lies within the East Lake Watershed. The East Lake basin generally drains southeasterly and discharges to the Tampa Bypass Canal via several outfalls.

Roadway high points, larger box culvert crossings, and the canal divide the project corridor into nine roadway drainage basins. It is assumed that the smaller cross drain crossings will be piped under the roadway to maintain one basin for that cross drain. Where major cross drain crossings served as a divide during the preliminary analysis, it is possible that it may be more cost-effective to pipe under these crossings as well to reduce pond acquisition costs.

The pond sizes for all basins will need to be reassessed during the design phase of the project when complete survey and geotechnical data will be available to obtain a refined seasonal high groundwater table and starting tailwater elevations for the sizing calculations. The hydraulic feasibility calculations can then be performed based on actual site locations. **Table 8-7** lists the preliminary pond sizes required for each basin.

**Table 8-7 Preliminary Stormwater Management Facility Summary**

Basin	From Station	To Station	Treatment Volume Depth (Ft.)	Attenuation Volume Depth (Ft.)	Required SMF Size (Ac.)
1	100+00	113+00	0.46	0.44	1.1
2	113+00	122+00	1.00	0.66	0.5 *
3	122+00	132+00	1.00	1.08	0.6
4	132+00	170+00	0.54	0.63	2.3
5	170+00	181+00	1.50	1.05	0.5
6	181+00	203+00	0.67	0.00	1.3
7	203+00	237+00	1.13	0.00	1.3
8	237+00	248+40	1.50	1.43	0.4 *
9	248+40	262+00	1.00	1.08	0.5 *

\*Assuming a linear pond adjacent to the right-of-way

#### 8.14 Design Exceptions and Variations

The design criteria used for this project is provided in **Table 5-1**. The Preferred Build Alternative, Alternative 2, requires no design variations or exceptions.

#### 8.15 Public Involvement

A Public Involvement Program (PIP) was created to identify stakeholders, agencies and other interested parties that should be included on the project mailing list. The PIP also documented numerous public outreach techniques including a project web site, newsletters, small group meetings and a public hearing. A Comments and Coordination Report was prepared at the end of the PD&E study to document the results of implementing the PIP.

**8.15.1 Efficient Transportation Decision Making**

This project was entered into the Programming Screen phase of the Efficient Transportation Decision Making (ETDM) Environmental Screening Tool (EST) in 2012 for agency review (ETDM #3097). At that time, preliminary information was entered including the draft purpose and need as well as the study area limits. The Environmental Technical Advisory Team (ETAT), comprised of agency representatives, reviewed this information and their comments are documented in the ETDM *Final Programming Screen Summary Report* (published January 9, 2013). The comments were reviewed and a degree of effect was identified for each of the environmental issues.

**8.15.2 Agency Meetings**

At the beginning of the project, numerous agencies that would have an interest in the project were identified. The agency mailing list contained representatives from the ETAT, including federal and state government, as well as state permitting agencies. On January 22, 2014 a preliminary meeting was held with SWFWMD to discuss the project. The file number assigned to this project is PA 400766. During this meeting it was discussed that attenuation of the 25-year, 24-hour design storm event is not required for ponds discharging to the Tampa Bypass Canal, and that SWFWMD will acknowledge compensatory treatment to offset pollutant loads associated with portions of the project that cannot be physically treated. This includes the bridges over the Tampa Bypass Canal which are flat and are proposed for widening rather than replacement.

**8.15.3 Stakeholder Meetings**

At the beginning of the study, numerous stakeholders that could have an interest in the project were identified. The stakeholder mailing list included representatives from the various local governments, chambers of commerce, civic organizations, environmental groups and local businesses. Presentations were also made upon special request. A list of the small group meetings held during the study is shown in **Table 8-8**.

**Table 8-8 Small Group Meetings**

Date	Organization/Company Attending	Location
03-21-2014	Florida State Fair Authority, FDOT, and AIM	Florida State Fairgrounds Administration Office
09-16-2014	Ker's Winghouse Bar & Grill, Red Roof Inn, Holiday Inn Express, BP, Five Guys, Duke Realty, Cardinal Point Management, La Quinta Inn and Suites, FDOT, and AIM	Ker's Winghouse Bar & Grill
09-17-2014	Sims Crane & Equipment, FDOT, and AIM	Sims Crane & Equipment Office
09-19-2014	Florida State Fair Authority, FDOT, and AIM	Florida State Fairgrounds Administration Office

The study team met with the Florida State Fair Authority (FSFA) and business operators adjacent to US 301. The primary interest and topic of discussion with these groups was the proposed changes to the existing median openings and adjacent property access depicted in the US 301 improvement concepts.

The study team met with FSFA's Executive Director and staff on March 21, 2014. FDOT presented the preliminary improvement concept and discussed the access management plan that was developed for the portion of US 301 from SR 574 to just south of the eastbound I-4 ramps. A colored 1"=100' scale



concept drawing depicting the six-laning of US 301 and the proposed median openings was used to facilitate this discussion. With this access management plan, the primary entrance and exit for the Florida State Fairgrounds would be relocated further south to the existing Oak Fair Boulevard intersection. The proposed concept would still provide dual right-turn lanes on southbound US 301 at the Fairgrounds entrance; however, the length of these dual right-turn lanes would be increased significantly (from 600 feet to 1,500 feet). This would provide more queue storage on US 301 for vehicles entering the Fairgrounds and reduce the vehicle backups that currently occur on the exit ramp from eastbound I-4 to southbound US 301 during Florida State Fairgrounds events and amphitheater concerts.

FSFA staff asked if the existing full median opening located to the north of SR 574 could be maintained. The Fairgrounds purchased the property that was formerly owned by Jim Walters Corporation several years ago and currently uses this roadway to direct vehicles that originate from the southern portions of Hillsborough County into and out of the Fairgrounds during peak periods (to alleviate some of the traffic congestion at the main entrance/exit). The FSFA Executive Director stated that the Fairgrounds was currently working with a developer and exploring the possibility of developing some of the vacant land in the southeast portion of their property. The Fairgrounds felt that this existing median opening and entrance/exit roadway could be used to separate Fairgrounds event traffic from non-Fairgrounds event traffic and increase the potential viability of developing this area. FDOT explained that this full median opening was too close to the signalized full median opening at the SR 574 intersection and the spacing between these two existing median openings did not meet FDOT's minimum spacing standards. It was also pointed out that the proposed US 301 improvement concept provided triple left-turn lanes on the southbound US 301 approach at SR 574 and the length of these left-turn lanes precludes the ability to provide a northbound left-turn lane at this existing Fairgrounds access point. A follow-up meeting was held with FSFA's Executive Director and staff on September 19, 2014 and FDOT's US 301 improvement concept and FSFA's development plans were discussed in more detail. On September 28, 2014, the governing board of the FSFA voted unanimously to reject a proposal from Republic Land Development to develop the southeast portion of the Fairgrounds property.

On September 16, 2014, the study team met with the owners/operators of the businesses located on the east side of US 301 from Oak Fair Boulevard to north of Elm Fair Boulevard, just south of the I-4 interchange. The meeting was held at Ker's WingHouse Bar & Grill of Brandon at 5003 US 301. Representatives from the following businesses attended: Ker's Winghouse Bar & Grill, Red Roof Inn, Holiday Inn Express, BP, Five Guys, Duke Realty, Cardinal Point Management, and La Quinta Inn and Suites. FDOT presented the preliminary improvement concept and discussed the access management plan that was developed for the portion of US 301 from SR 574 to just south of the eastbound I-4 ramps. The proposed access management plan closed the existing full median opening at Elm Fair Boulevard and the existing full median opening located just south of the I-4 interchange. These median opening closures would require southbound traffic to use the full median opening at Oak Fair Boulevard to access the businesses. The owners/operators of the businesses located between Elm Fair Boulevard and the I-4 interchange voiced their concern about customers not being willing to make a U-turn at Oak Fair Boulevard to access their businesses and choosing to patronize one of the businesses with more convenient access at Oak Fair Boulevard. Consequently, it was requested that FDOT reconsider the closure of the full median opening located just south of the I-4 interchange and provide a directional median opening that would allow southbound US 301 vehicles to turn left and access the northern businesses just south of the I-4 interchange. FDOT subsequently modified the proposed improvements concept to provide this southbound directional median opening.

On September 17, 2014, the study team met with Steven Stodgill, president of Sims Crane & Equipment at Sims Crane's headquarters adjacent to US 301 at 1219 US 301. FDOT presented the preliminary improvement concept and discussed the median opening at Massaro Boulevard/Stannum Street. The proposed concept includes modifying this existing full median opening to provide a dual directional median opening. The directional median opening would prohibit vehicles from exiting Sims Crane and turning left onto southbound US 301. Mr. Stodgill was not opposed to the directional median opening at Massaro Boulevard/Stannum Street and stated that he thought it would be safer. Mr. Stodgill indicated that he has instructed Sims Crane's employees to turn right rather than left when exiting the property. Mr. Stodgill was concerned about the high vehicle speeds on northbound US 301 south of his entrance/exit and asked FDOT to consider providing an acceleration lane north of his driveway to help heavy trucks merge into the northbound US 301 traffic.

The existing posted speed limit in this area is 50 mph and with the proposed widening the posted speed limit will be reduced to 45 mph. The acceleration length from a stop condition to 45 mph is 560 feet based on AASHTO's A Policy on Geometric Design of Highways and Streets, 2004. The proposed US 301 improvement concept provides an exclusive northbound right-turn lane at Columbus Drive that extends back to south of the Southern Equipment Corporation driveway. The Southern Equipment Corporation driveway is located approximately 450 feet north of Stannum Street. If an acceleration lane was provided from Stannum Street northward to Columbus Drive, there could be potential operational problems in the shared acceleration lane/right-turn deceleration lane due to excessive vehicle weaving/lane changing. In addition, if the acceleration lane was provided at Stannum Street additional right-of-way would be required from the Southern Equipment Corporation property. The crash data was reviewed for this area and there were no rear-end crashes recorded. Based on these considerations an acceleration lane was not included at this location.

#### **8.15.4 Public Hearing**

The FDOT held a Public Hearing for the PD&E Study for the proposed improvements to US 301 on March 1, 2016 at the Sheraton Tampa East Hotel from 5:30 p.m. to 7:30 p.m. draft project documents, including a draft of this *PER*, along with other project-related materials were on display as well as a project video presentation that ran continuously. The formal presentation began at 6:30 p.m. and discussed the project in detail. These details included the PD&E process, description of the Recommended Build Alternative, and anticipated right-of-way acquisition. The public was then invited to make formal oral comments following the formal portion of the public hearing, submit written comments at the hearing, or to mail/email comments following the hearing. A court reporter was also available at the hearing to receive comments in a one-on-one setting.

One formal oral comment was provided by a representative of Veteran's Memorial Park and Museum Complex. The formal portion of the public hearing concluded at 6:41 p.m. and the open house portion of the public hearing concluded at 7:30 p.m. The one formal oral comment included concerns about the US 301 improvements affecting the footprint of the Veteran's Memorial Park and Museum Complex and if the proposed access to the property would accommodate all sizes of vehicles. One additional comment was received through the mail on March 4, 2016 and included a critique of the selected location of the public hearing venue and the difficulty navigating through traffic in an effort to attend the hearing.

### **8.16 Access Management**

The recommended access management plan for the study corridor is summarized in **Table 8-9**. The recommended access management plan closes six existing median openings (four full median openings and two directional median openings) and converts five other existing full median openings to directional median openings. Seven existing full median openings are recommended to be maintained.

**Table 8-9** indicates that with two exceptions, all of the median opening spacings associated with the recommended access management plan satisfy the spacing standards contained in Rule 14-97. The two exceptions are as follows:

- The spacing between the directional median opening at 27<sup>th</sup> Avenue and the full median opening at Sabal Industrial Boulevard (558 feet); and
- The spacing between the full median openings at SR 574 and Oak Fair Boulevard (2,112 feet).

The Preferred Build Alternative concept plans provided in **Appendix A** incorporate the median openings listed in **Table 8-9**. In addition, a WB-62FL design vehicle can make U-turn movements at all full median openings using the pavement provided in the concept plans.

### **8.17 Value Engineering**

A value engineering study has not been performed for this project.

### **8.18 Potential Construction Segments and Phasing**

The project can be divided into the following three construction segments based on funding:

- Segment 1 – From SR 60 to just north of Overpass Road/21<sup>st</sup> Avenue.
- Segment 2 – From just north of Overpass Road/21<sup>st</sup> Avenue to SR 574.
- Segment 3 – From SR 574 to just south of the eastbound I-4 on-/off-ramps.

### **8.19 Work Program Schedule**

The six-laning of the US 301 study corridor is not included in the Hillsborough County MPO's 2040 LRTP as a cost-affordable improvement and there are no funds currently programmed in the FDOT's Adopted Five Year Work Program for design, right-of-way acquisition or construction activities.

**SECTION 8.0**  
**DESIGN DETAILS OF RECOMMENDED BUILD ALTERNATIVE**

**Table 8-9 Recommended Access Management Plan**

Connection	Station	Median Type	Directional Openings		Full Median Openings		Exist. Access Class	Posted Speed
			Distance Between Openings	Meets Std or % Deviation	Distance Between Openings	Meets Std or % Deviation		
SR 60	100+00	Full					5	45
					2,436	Meets		
Old Hopewell Rd	124+36	Full						
			821	Meets				
Massaro Blvd/ Stannum St	132+57	Dual Dir			1,828	Meets		
			1,007	Meets				
Columbus Dr/Tampa East Blvd	142+64	Full					50	45
					1,338	Meets		
Business Entr	149+48	Closed						
Centerpoint Business Park	156+02	Full						
			2,516	Meets				
21 <sup>st</sup> Ave/ Overpass Rd	181+18	Dual Dir			3,528	Meets		
							3	45
Sabal Industrial Blvd	191+30	Full						
			558	15%				
27 <sup>th</sup> Ave	196+88	SB Dir						
			1,467	Meets				
Veteran's Memorial Park	211+55	Dual Dir			2,978	Meets		
							3	45
Eastshore Business Center	214+17	Closed	953	Meets				
SR 574	221+08	Full						
					2,112	20%		
Fairgrounds	230+66	Closed						
Oak Fair Blvd	242+20	Full						
							1,866	Meets
Fairgrounds	247+20	Closed						
Fairgrounds	250+62	Closed						
Elm Fair Blvd	253+68	Closed						
							SB Dir	
Business Entr	260+86	SB Dir						

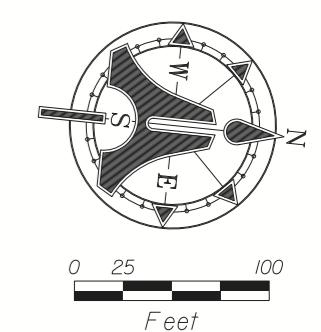
## **9.0 LIST OF DOCUMENTS**

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The following is a list of documents that have been prepared for the proposed project's PD&E Study:

- Advance Notification/ICAR Package
- Final Air Quality Memorandum
- Final Comments and Coordination Report
- Final Contamination Screening Evaluation Report
- Cultural Resource Assessment Survey
- Final Design Traffic Technical Memorandum
- Final Location Hydraulic Memorandum
- Final Noise Study Report
- Final Preliminary Engineering Report
- Final Preliminary Stormwater Management Facility Report
- Public Hearing Transcript
- Public Involvement Plan
- Final State Environmental Impact Report
- Typical Section Package
- Water Quality Impact Evaluation
- Final Wetlands Evaluation and Biological Assessment Report

**Appendix A – Recommended Build Alternative Concept Plans**



ADAMO DR

BRANDON FORD

ENTERPRISE RENT-A-CAR

MARATHON

COURTESY TOYOTA SCION

105'



SEGMENT 1

2/16/2016

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 KJ Singer Campo & Associates, Corp.  
 Omni Communications, LLC  
 Rummel, Klepper & Kahl, LLP  
 Scheda Ecological Associates, Inc.  
 Tierra, Inc.

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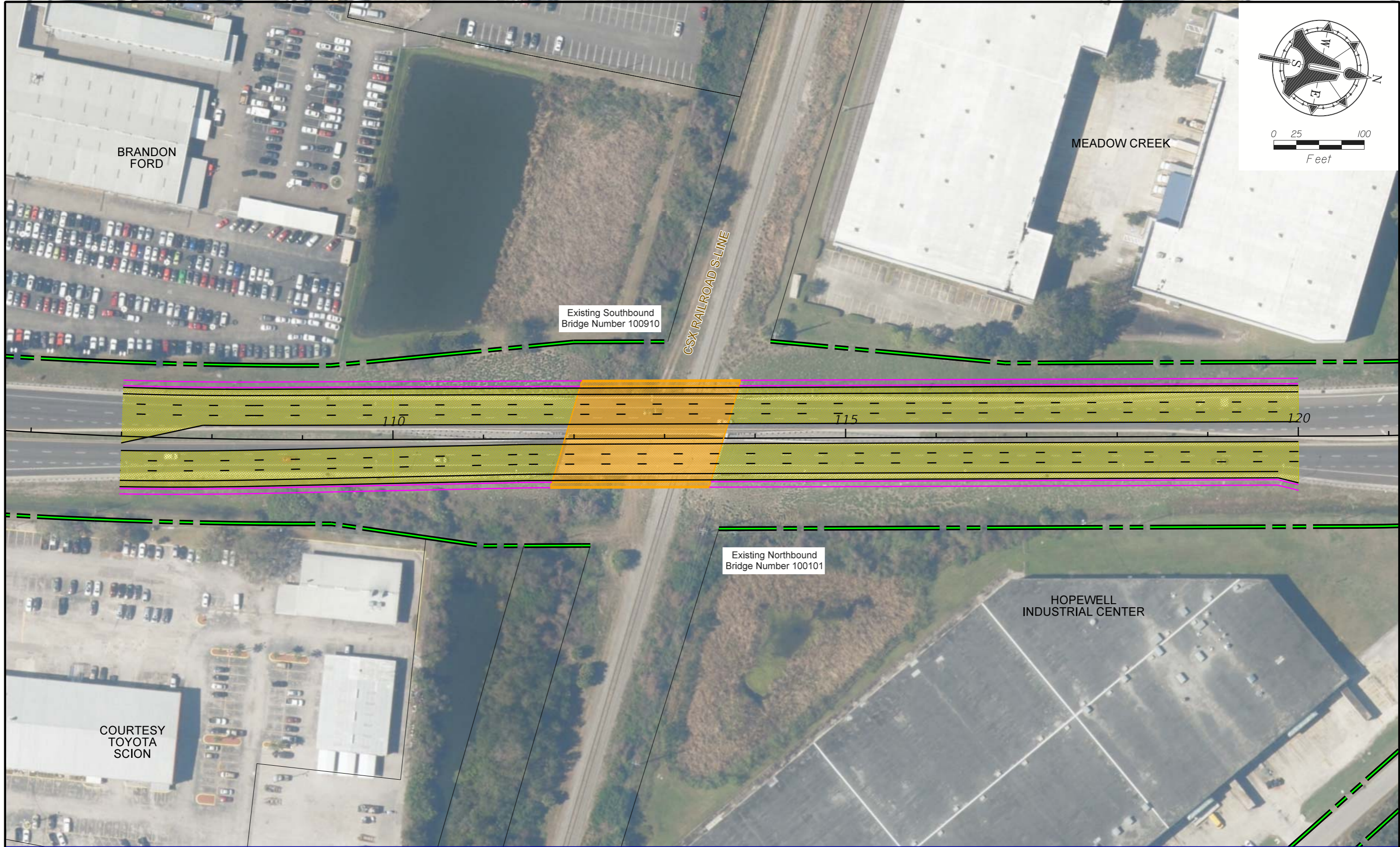
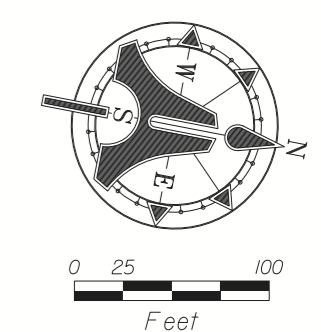
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**PLAN SHEET ALTERNATIVE 2**

SHEET: 1



Existing Southbound  
Bridge Number 100910

Existing Northbound  
Bridge Number 100101

**SEGMENT 1**

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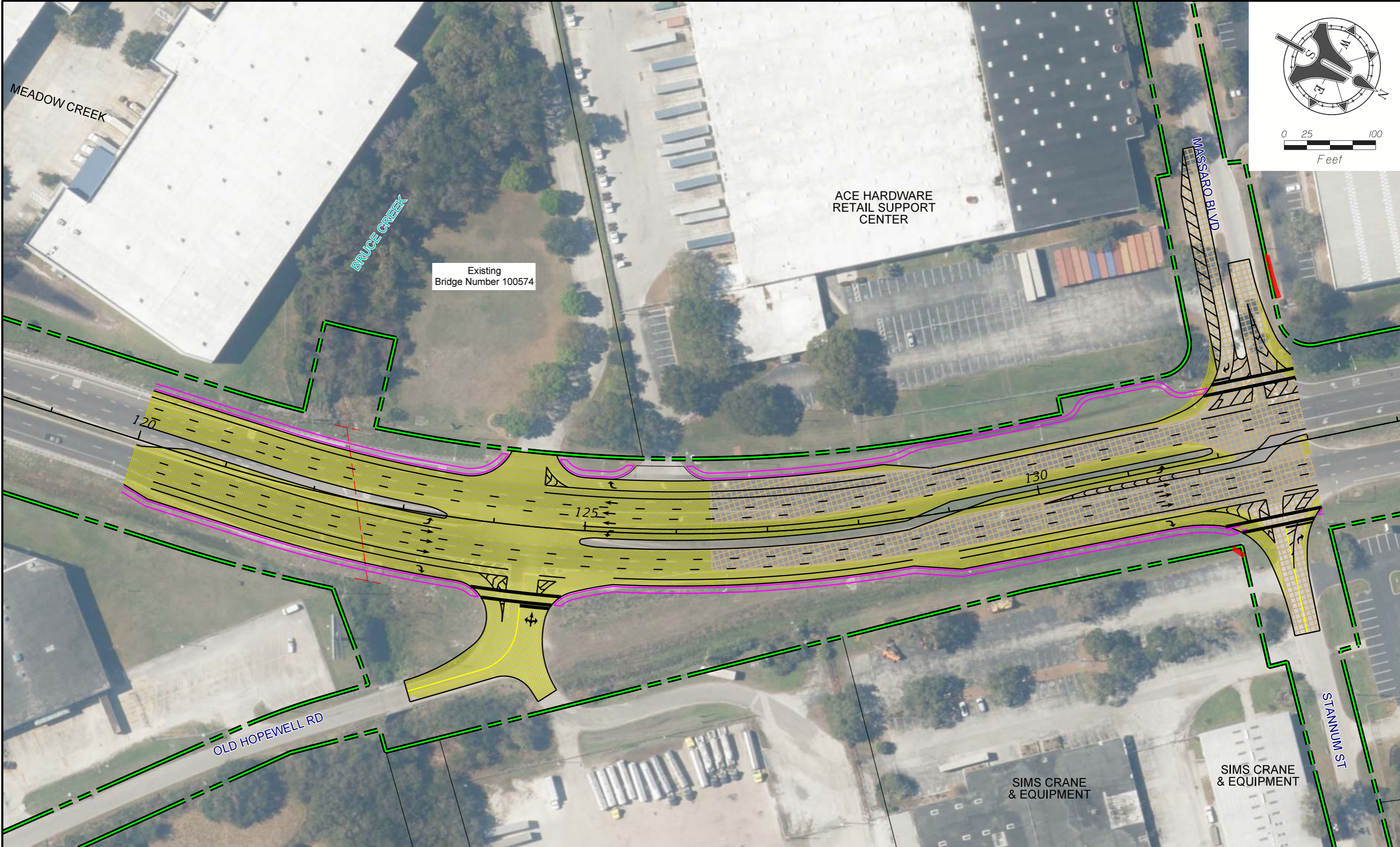
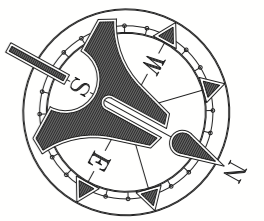
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**PLAN SHEET  
 ALTERNATIVE 2**





Existing  
Bridge Number 100574

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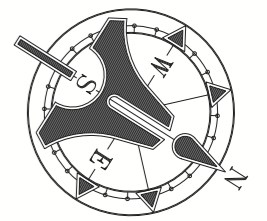
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**PLAN SHEET  
ALTERNATIVE 2**

2/16/2016



MASSARO BLVD

GOODYEAR TRUCKWISE TIRE CENTER

PPG PORTER PAINTS

CASE CONSTRUCTION

KRAUSS BLVD

TAMPA FAST BLVD

7 ELEVEN

135

140

145

SOUTHERN EQUIPMENT CORP.

STANNUM ST

E COLUMBUS DR

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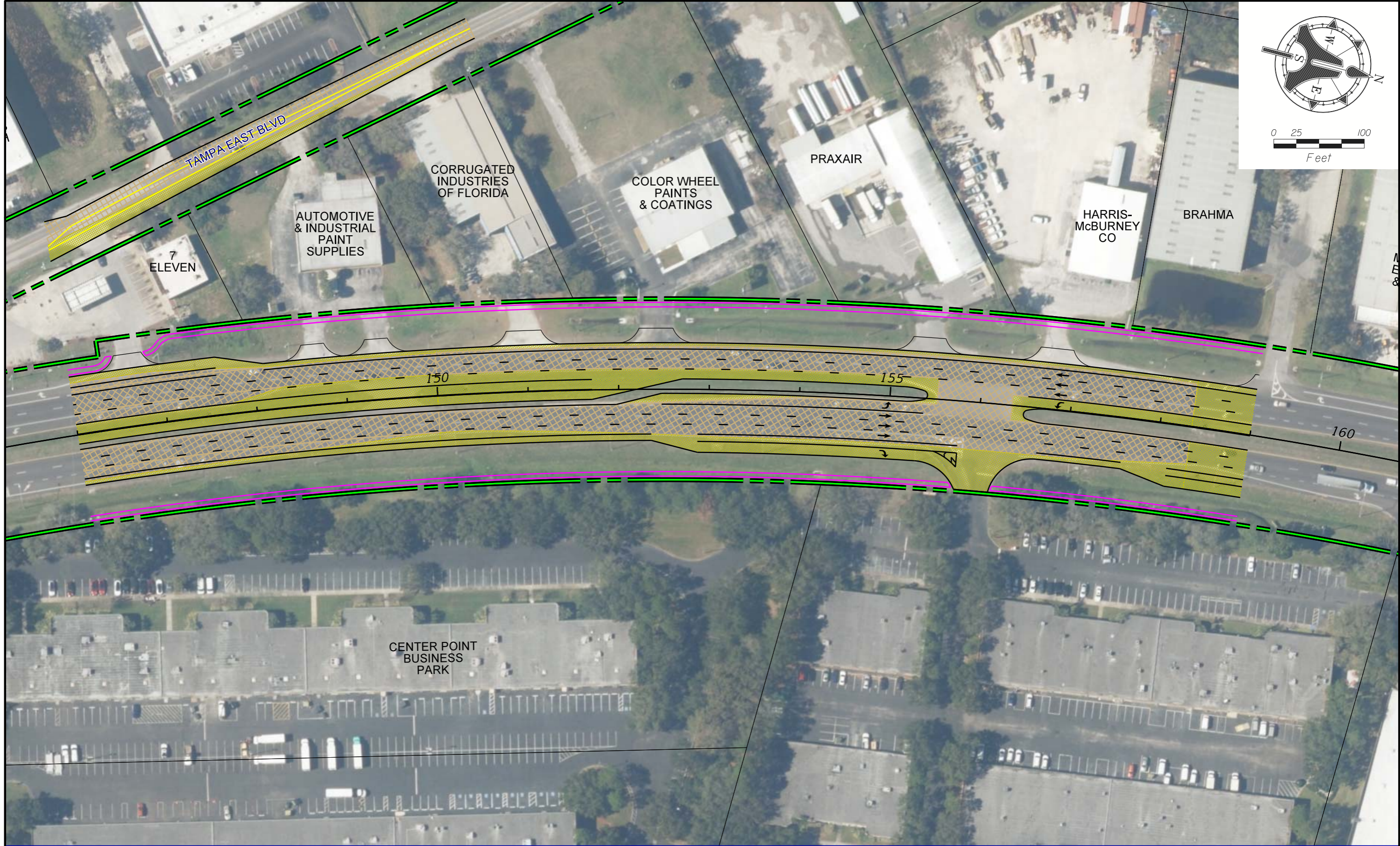
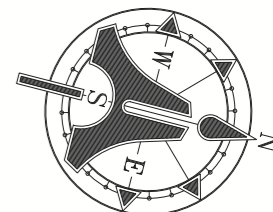
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SHEET: 4

2/16/2016



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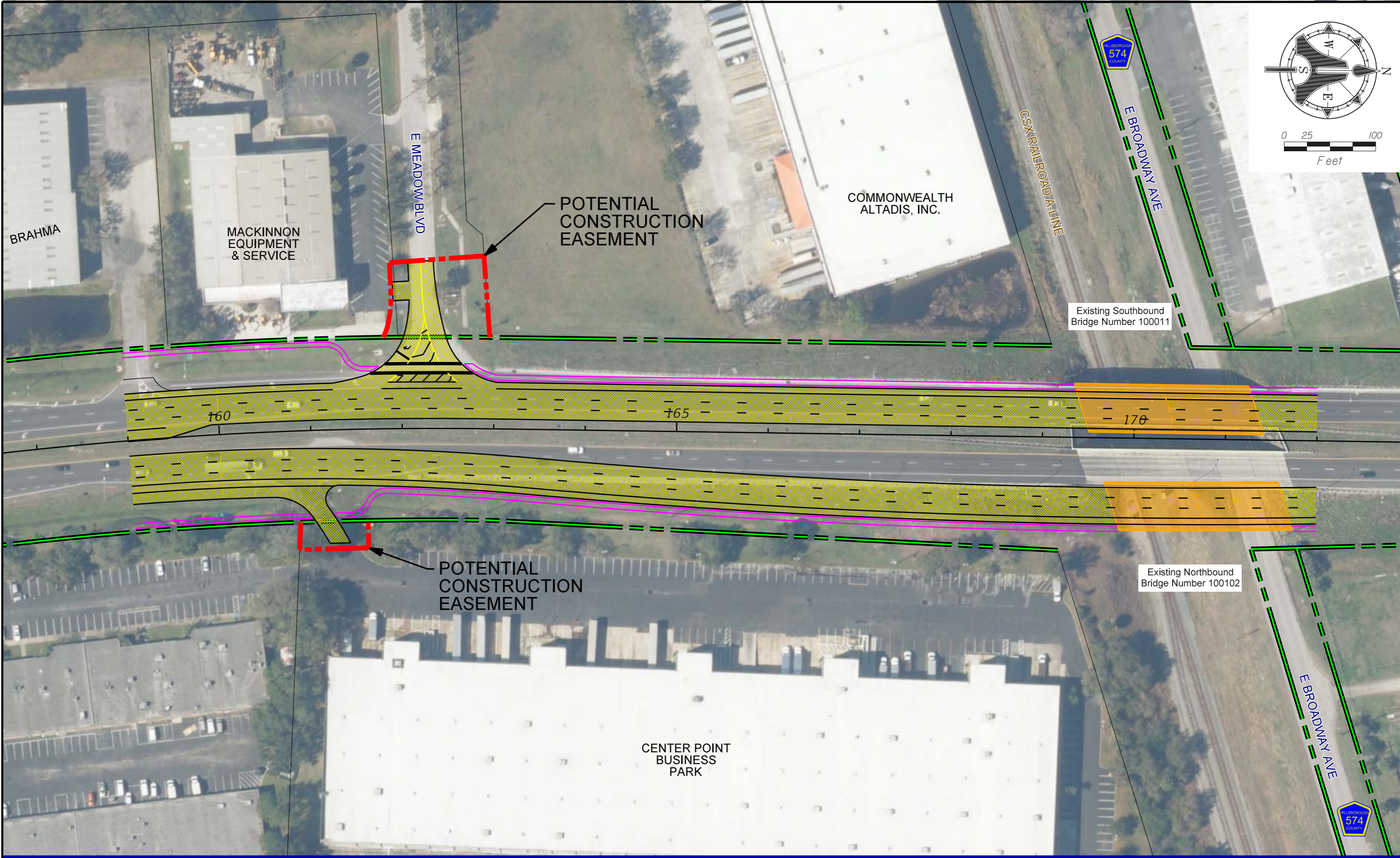
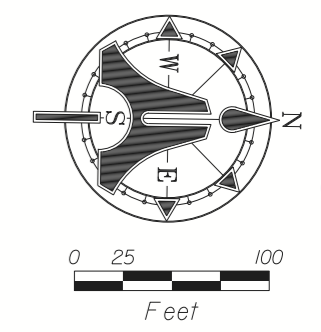
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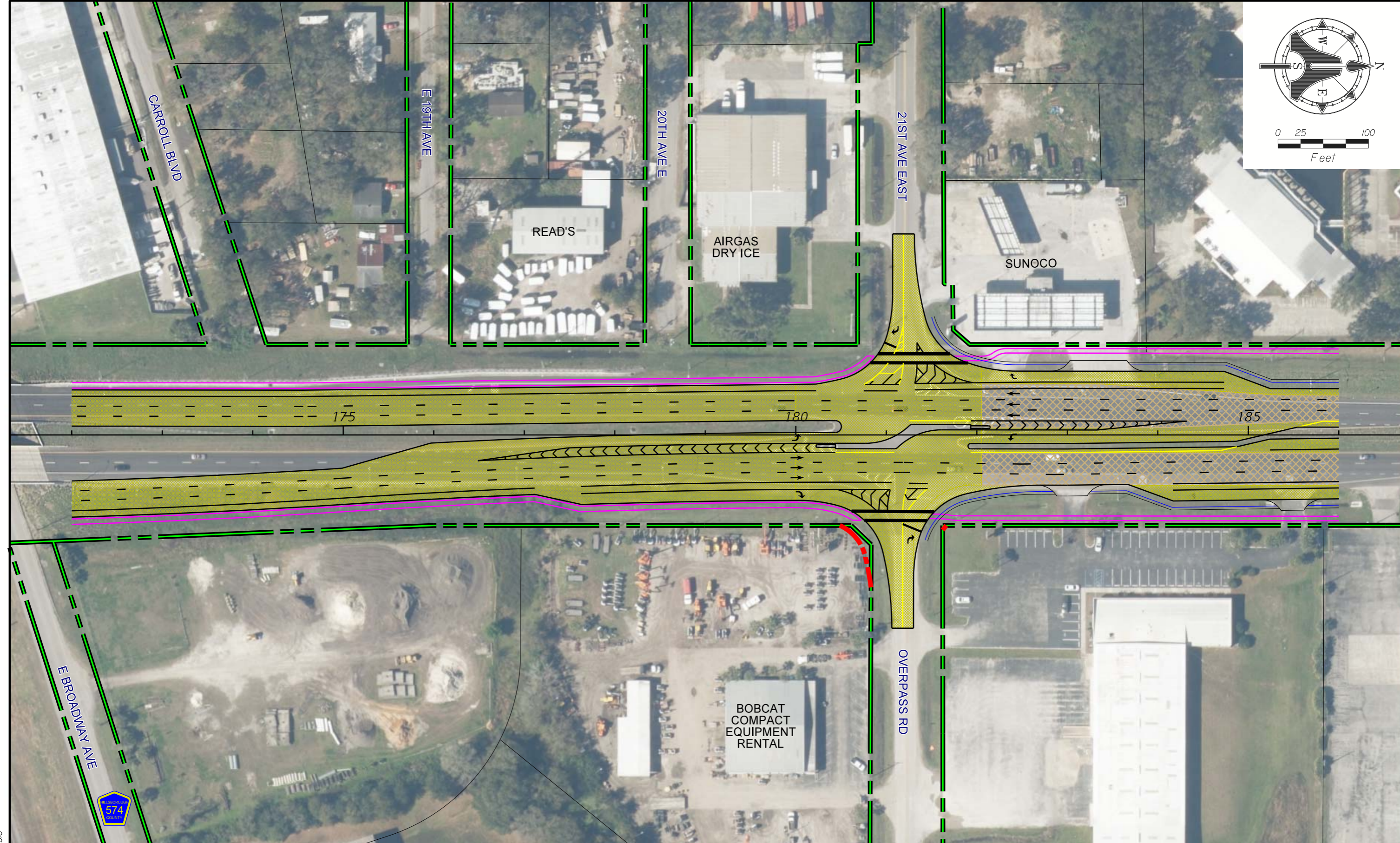
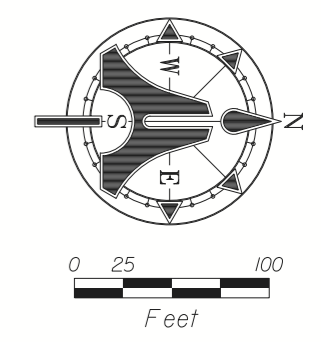
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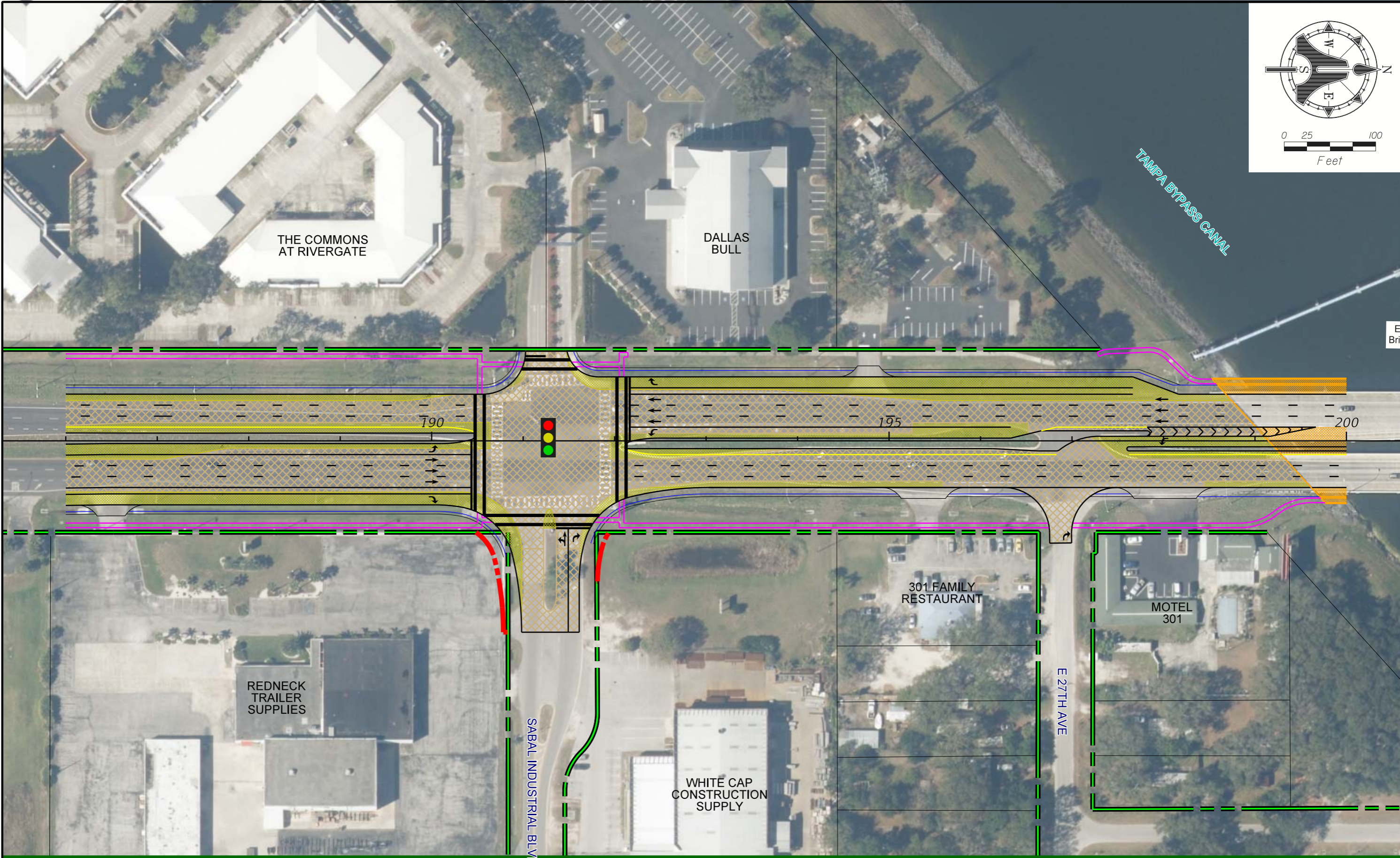
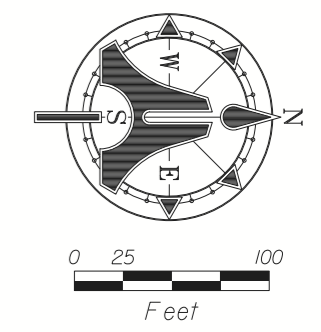
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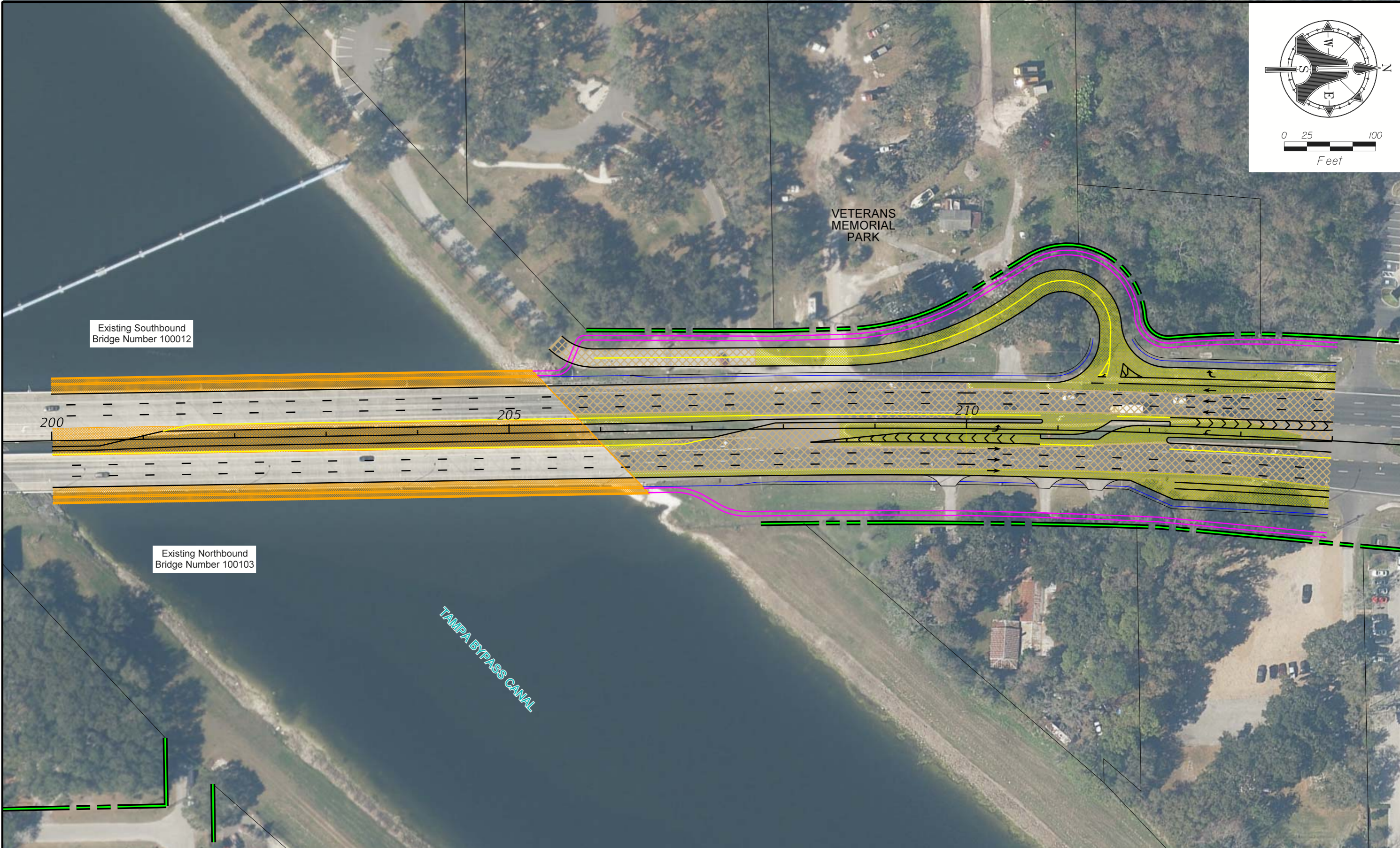
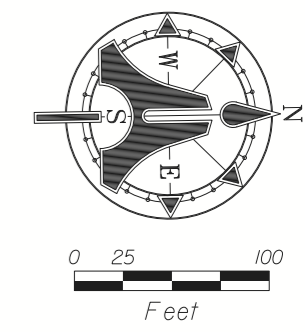
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**PLAN SHEET ALTERNATIVE 2**

2/16/2016



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 Rummel, Klepper & Kahl, LLP  
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110	BASELINE & STATIONS		MILLING & OVERLAY		TRAFFIC SIGNAL
	EXISTING R.O.W.		PROPOSED PAVEMENT		PAVEMENT REMOVED
	PROPOSED R.O.W.		PROPOSED BRIDGE		
			PROPOSED SIDEWALK		

AERIALS FLOWN IN 2014

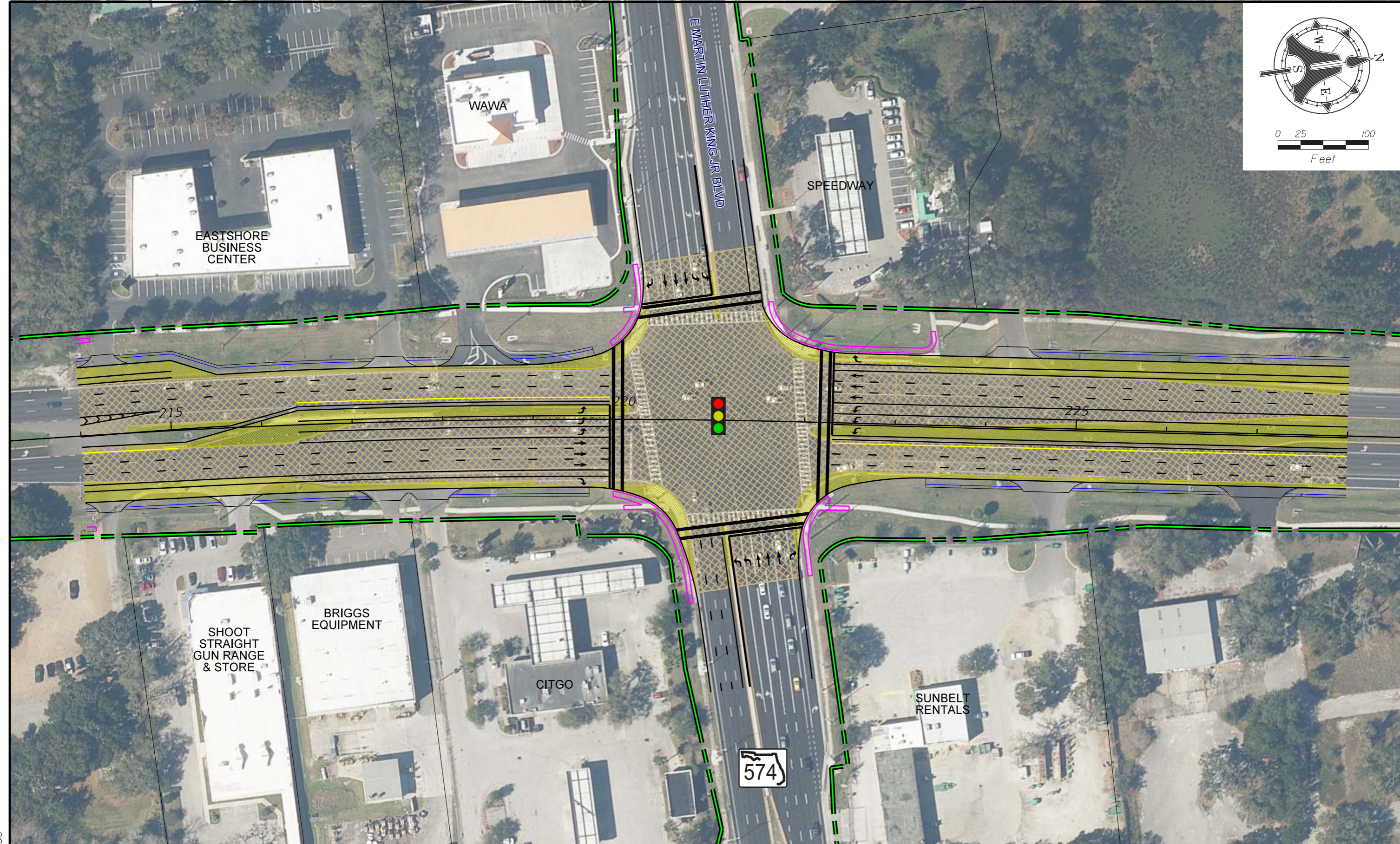
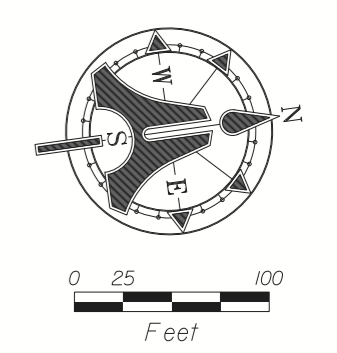
**US 301 (SR 43) PD&E STUDY**  
**FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)**

COUNTY: HILLSBOROUGH COUNTY  
 WORK PROGRAM SEGMENT NO. 430050-1

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2/16/2016



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 FAX: (813) 664-1899 WWW.AIMENGR.COM

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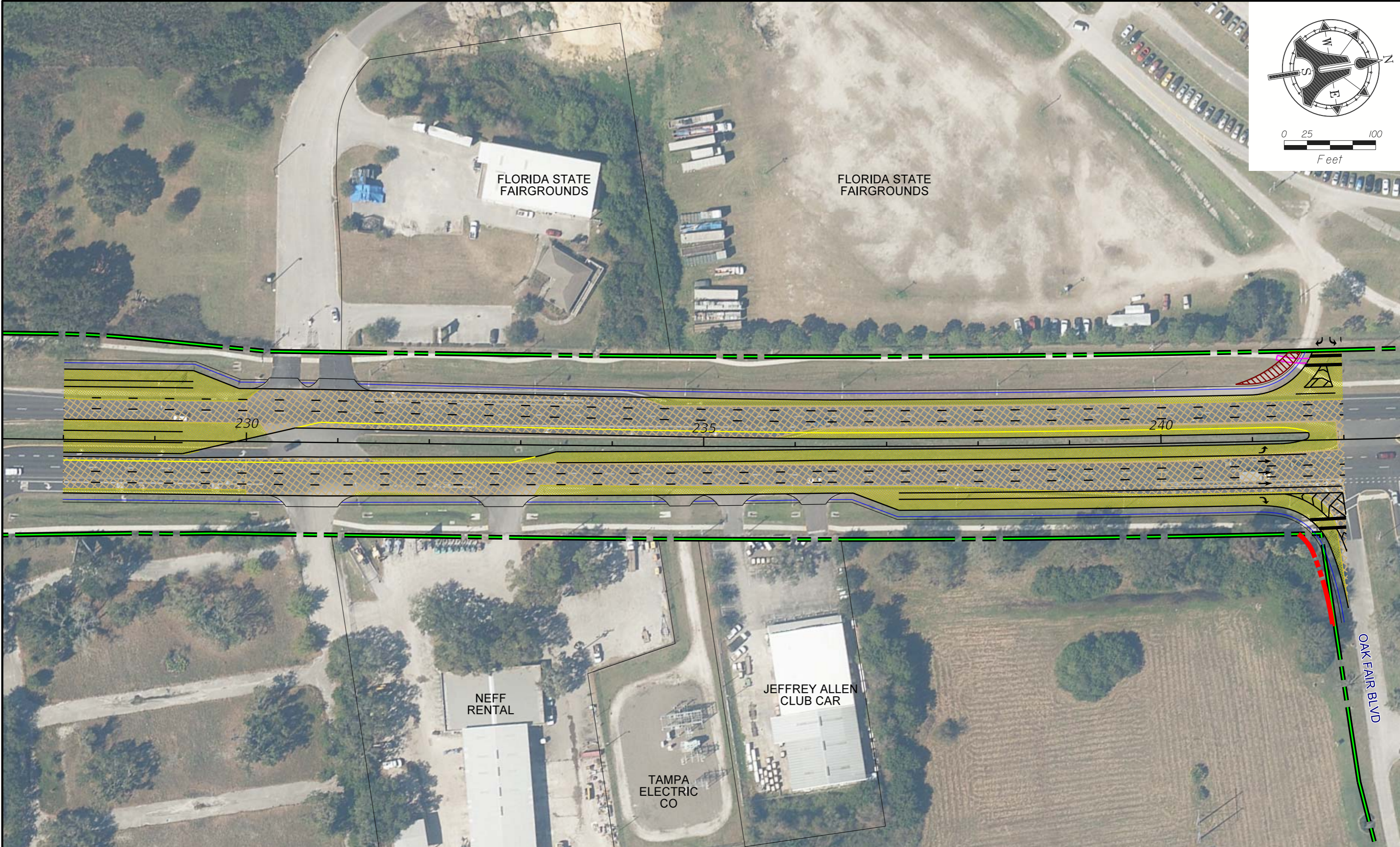
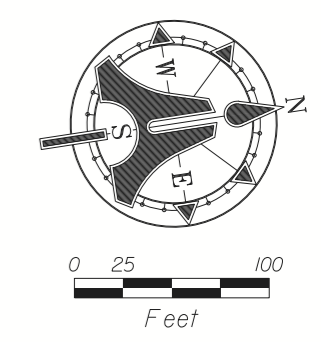
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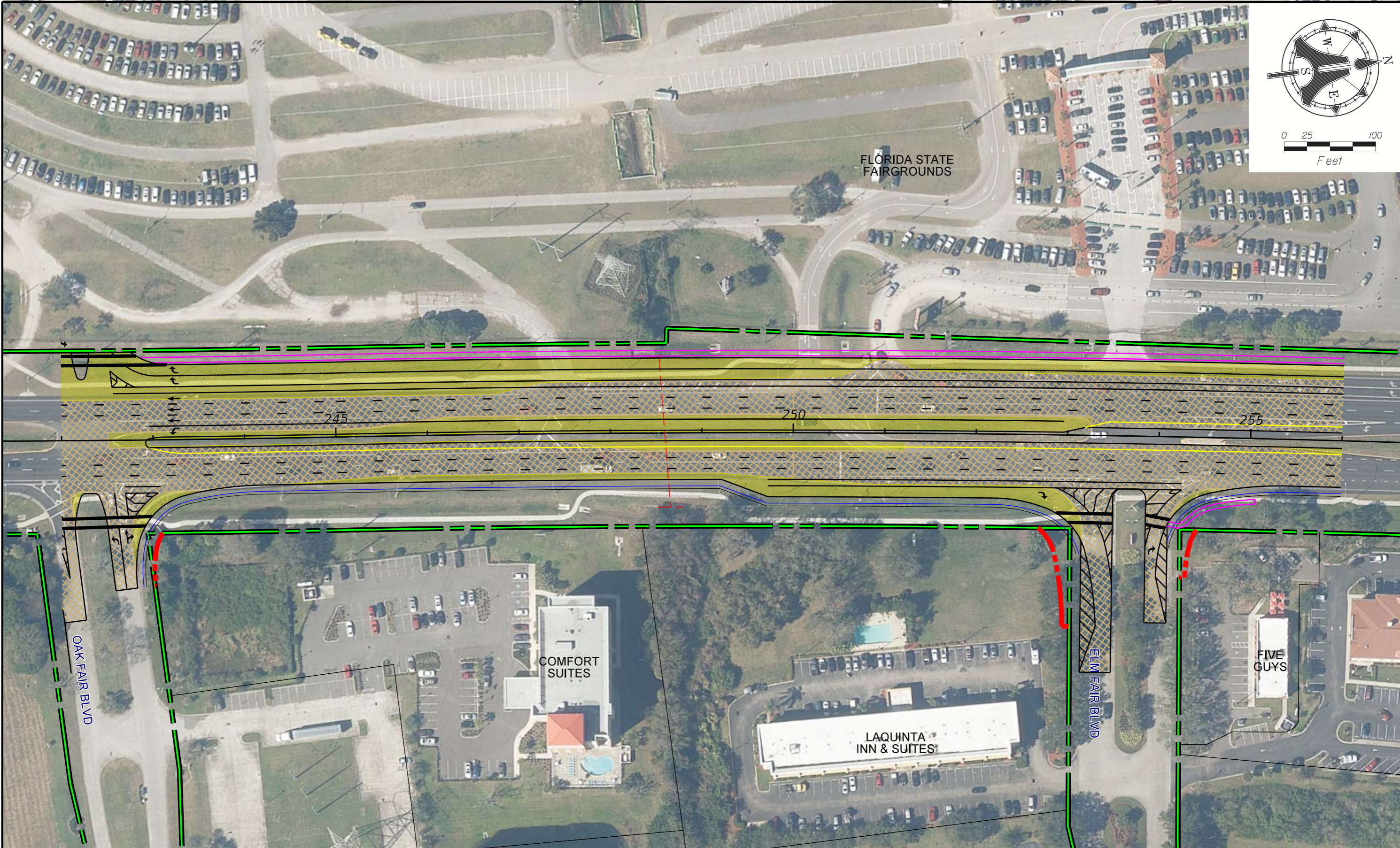
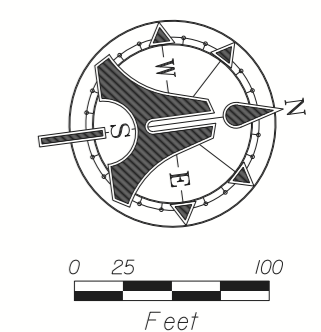
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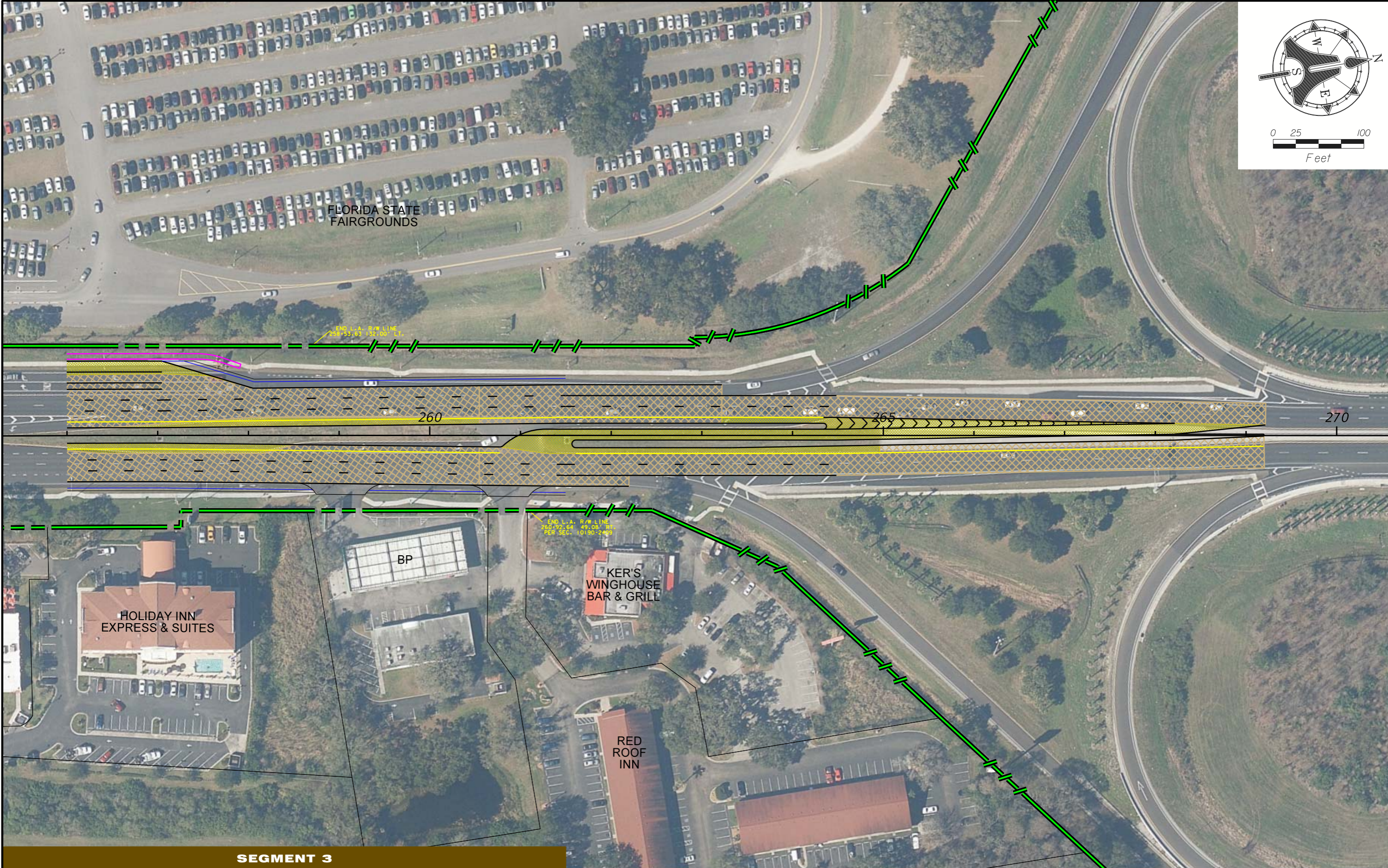
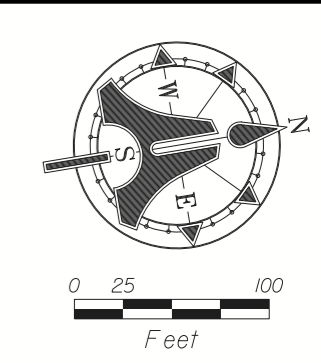
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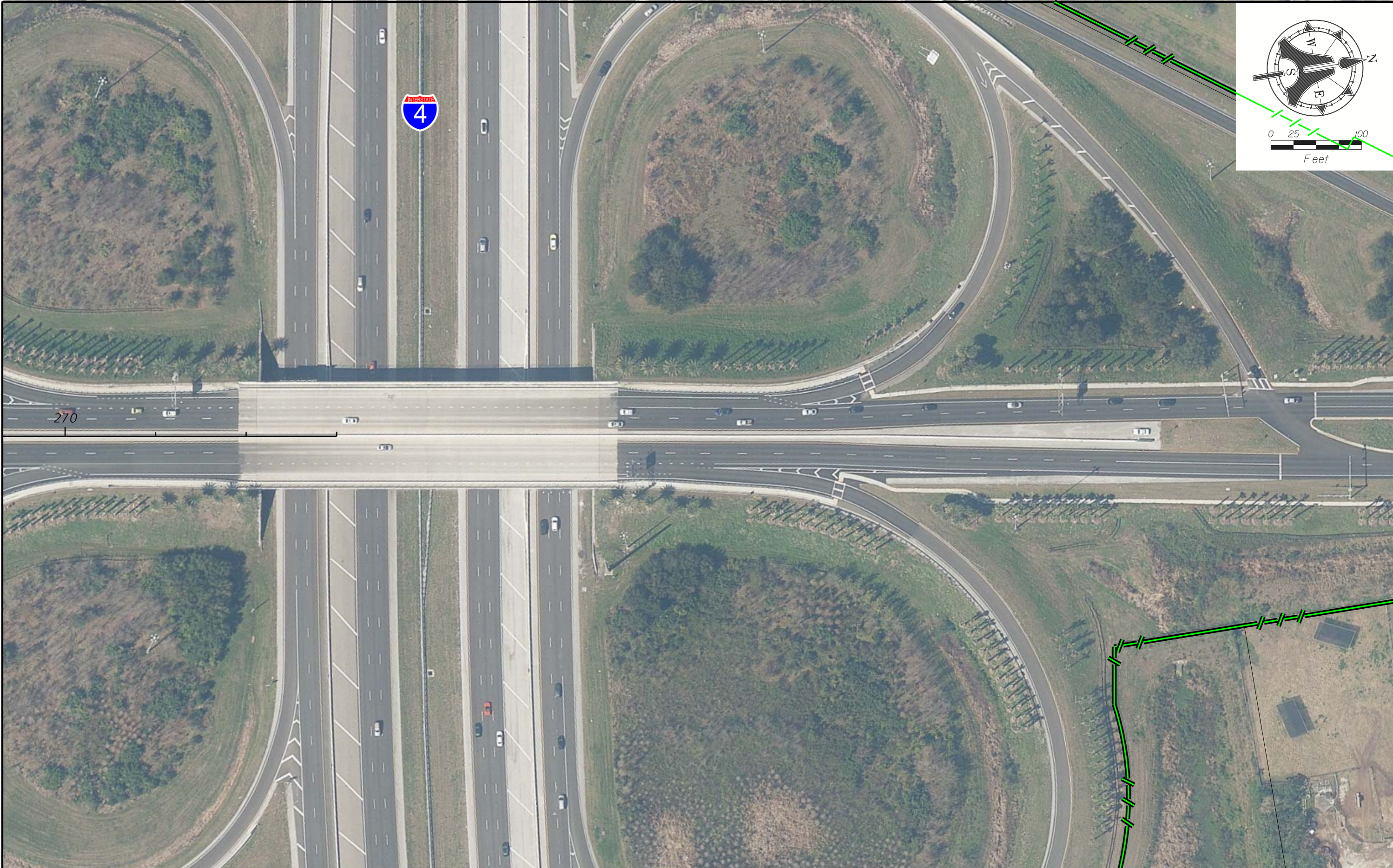
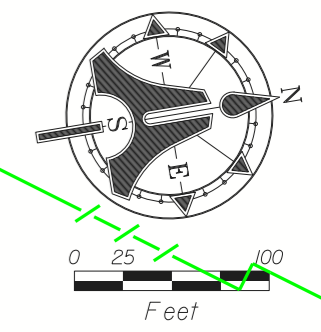
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 --- BASELINE & STATIONS  
 --- EXISTING R.O.W.  
 --- PROPOSED R.O.W.

--- MILLING & OVERLAY  
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AERIALS FLOWN IN 2014  
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**PLAN SHEET  
 ALTERNATIVE 2**

SHEET:  
 14

**Appendix B – State Historic Preservation Officer Concurrence Letter**



## Florida Department of Transportation

**RICK SCOTT**  
GOVERNOR

11201 N. McKinley Drive  
Tampa, FL 33612-6456

**JIM BOXOLD**  
SECRETARY

April 14, 2015

Mr. Robert F. Bendus  
State Historic Preservation Officer  
Florida Division of Historical Resources  
500 South Bronough Street  
Tallahassee, Florida 32399-0250

Attention: Transportation Compliance Review Program

RE: US 301 (SR 43) from SR 60 (Adamo Drive) to I-4 (SR 400)  
Work Program Segment No.: 430050-1  
Hillsborough County, Florida

RECEIVED  
BUREAU OF  
HISTORIC PRESERVATION  
2015 APR 15 P 4:51

Dear Mr. Bendus:

The Florida Department of Transportation (FDOT), District Seven is preparing a state funded Project Development and Environment (PD&E) Study to evaluate roadway capacity improvements to US 301. Within the project limits, the existing roadway is a four-lane divided arterial roadway and the proposed improvements will expand it to a six-lane divided arterial roadway within the existing right-of-way (ROW). The total project length is 3.3 miles. A *State Environmental Impact Report* (SEIR) is being prepared for this study.

Enclosed is one (1) copy of the Cultural Resource Assessment Survey (CRAS) (March 2015) that was prepared for the above referenced project. Also enclosed are 17 Florida Master Site File (FMSF) forms (8HI333, 8HI1058, 8HI6547A, 8HI6547B, 8HI11335, 8HI11481, 8HI12133 through 8HI12143); a CD containing the FMSF photographs and pdf files of the FMSF forms and CRAS; and a Survey Log Sheet.

The CRAS included background research and a field survey. The purpose was to locate and identify any archaeological sites and historic resources located within the project area of potential effect (APE) and to assess their significance in terms of eligibility for listing in the National Register of Historic Places (NRHP). The archaeological Area of Potential Effect (APE) was defined as the existing ROW; the historical APE includes the existing ROW as well as immediately adjacent properties within 250 feet. Proposed pond and floodplain compensation sites were not identified in the PD&E Study and will be evaluated later during design.

Mr. Robert F. Bendus  
US 301 (SR 43) from SR 60 (Adamo Drive) to I-4 (SR 400)  
Work Program Segment No.: 430050-1  
April 14, 2015  
Page 2 of 3

Background research indicated that two (2) previously recorded archaeological sites (8HI333 and 8HI1058) are located within or near the project APE. The background research suggested a generally low potential for archaeological sites. As a result of field survey, no new archaeological sites were discovered and no evidence of the two (2) previously recorded sites was found.

Background research revealed that four (4) previously recorded historic resources are located within the project APE. Historical/architectural field survey resulted in the identification and evaluation of 15 historic resources. This includes one (1) bridge (8HI12133); two (2) building complex resource groups (8HI12134 and 8HI12136); four (4) linear resource groups (8HI11335, 8HI11481, 8HI12135, and 8HI12137); and eight (8) buildings (8HI06547A, 8HI06547B, and 8HI12138 through 8HI12143). Of these 15 historic resources, four (4) were previously recorded in the FMSF and 11 were newly identified as a result of this survey. None of the historic buildings is considered potentially eligible for listing in the NRHP due to their commonality of style and lack of significant historical associations. Similarly, each building complex resource group is comprised of undistinguished examples of their respective types and styles and, therefore, does not meet the criteria of eligibility for listing in the NRHP. Further, there is no potential for historic districts within the APE. There is insufficient information to determine the NRHP eligibility of the Seaboard Railway (8HI11335), the Atlantic Coast Line Railroad (8HI11481), and the Tampa Bypass Canal (8HI12135), because only short segments of these linear resource groups are located within the US 301 project APE. The segment of US 301 (8HI12137) contained within the project APE is not considered potentially eligible for NRHP listing because of its lack of physical historic integrity.

Based on the results of background research and field surveys, with the exception of the three unevaluated linear resources (8HI11335, 8HI11481, and 8HI12135), there are no NRHP listed or eligible resources associated with this project.

This information is being provided in accordance with the provisions contained in the revised Chapter 267, Florida Statutes. Provided you approve the recommendations and findings in the enclosed cultural resource document, please sign below for concurrence. If you have any questions, please contact me at (813) 975-6456 or [todd.bogner@dot.state.fl.us](mailto:todd.bogner@dot.state.fl.us) or Rebecca Spain Schwarz at (813) 281- 8308 or [rebecca.spain-schwarz@atkinsglobal.com](mailto:rebecca.spain-schwarz@atkinsglobal.com).

Sincerely,



Todd L. Bogner  
Environmental Specialist III  
Cultural Resource Coordinator


Enclosure

cc: Roy Jackson (FDOT SEMO) Robin Rhinesmith (FDOT) Stephanie Pierce (FDOT)  
Sean Donahoo (AIM) Rebecca Spain Schwarz (Atkins/GEC)

Mr. Robert F. Bendus  
US 301 (SR 43) from SR 60 (Adamo Drive) to I-4 (SR 400)  
Work Program Segment No.: 430050-1  
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Page 3 of 3

The Florida State Historic Preservation Officer finds the attached Cultural Resource Assessment Survey complete and sufficient and concurs with the recommendations and findings provided in this cover letter for SHPO/DHR Project File Number 2015-1775 Or, the SHPO finds the attached Technical Memorandum contains \_\_\_ insufficient information.

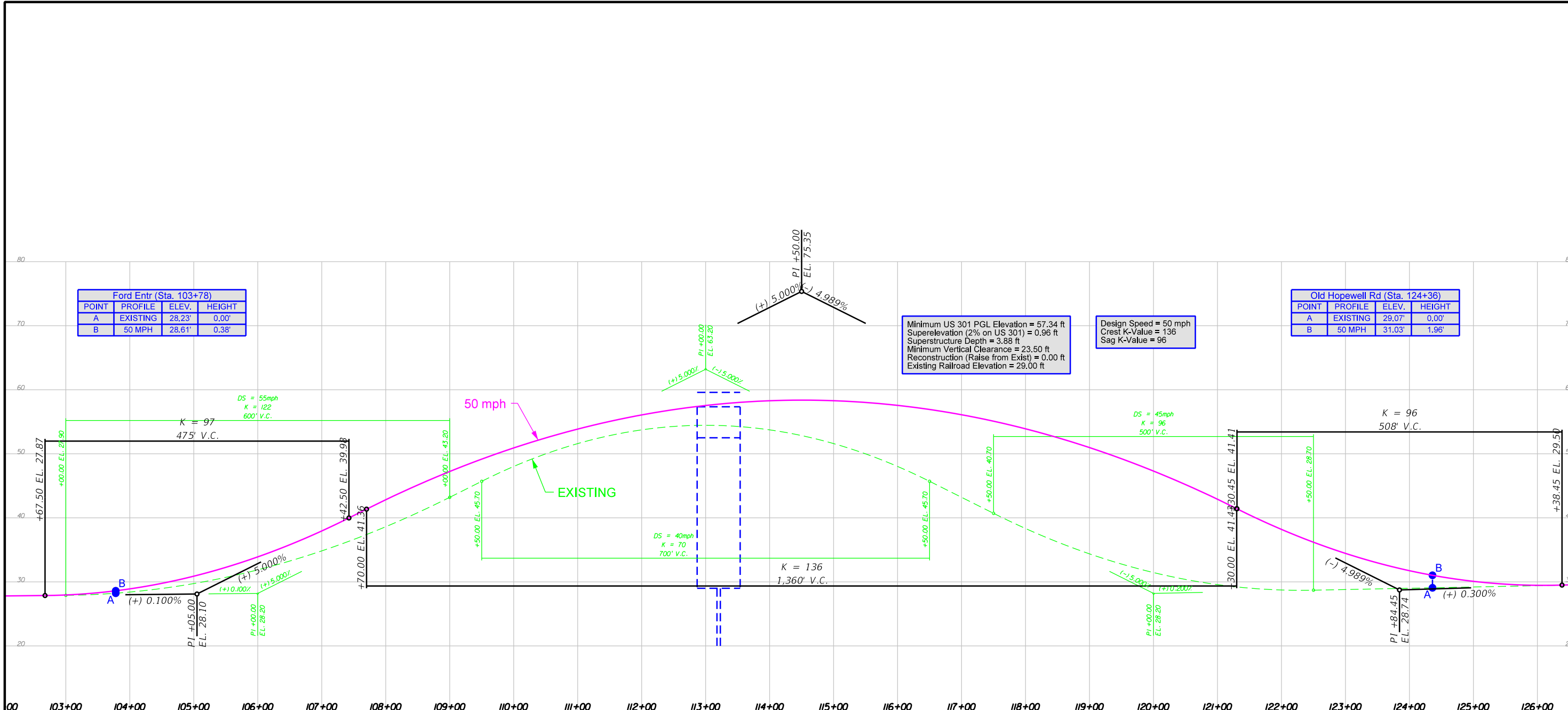
SHPO Comments:


/s/   
Robert F. Bendus, Director  
Florida Division of Historical Resources  
and State Historic Preservation Officer

4/20/15  
Date



**Appendix C – Recommended Build Alternative Profile Sheets**



Ford Entr. (Sta. 103+78)			
POINT	PROFILE	ELEV.	HEIGHT
A	EXISTING	28.23'	0.00'
B	50 MPH	28.61'	0.38'

Old Hopewell Rd (Sta. 124+36)			
POINT	PROFILE	ELEV.	HEIGHT
A	EXISTING	29.07'	0.00'
B	50 MPH	31.03'	1.96'

Minimum US 301 PGL Elevation = 57.34 ft  
 Superlevation (2% on US 301) = 0.96 ft  
 Superstructure Depth = 3.88 ft  
 Minimum Vertical Clearance = 23.50 ft  
 Reconstruction (Raise from Exist) = 0.00 ft  
 Existing Railroad Elevation = 29.00 ft

Design Speed = 50 mph  
 Crest K-Value = 136  
 Sag K-Value = 96

US 301 over CSX S-Line

(Alternative 2 utilizes a design speed of 50 mph for the vertical alignment and constructs new bridges)

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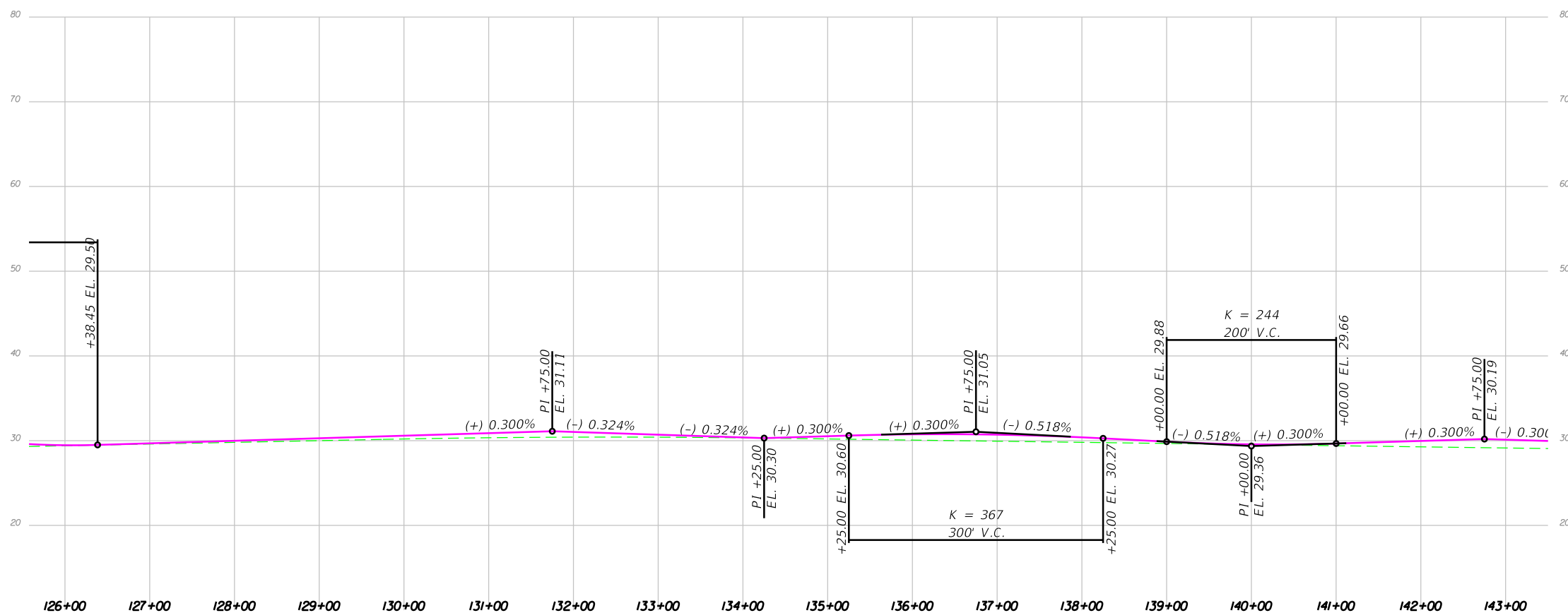
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**FROM SR 60 (ADAMO DRIVE) TO I-4 (SR 400)**

COUNTY: HILLSBOROUGH COUNTY  
 WORK PROGRAM SEGMENT NO. 430050-1



**PROFILE SHEET  
 ALTERNATIVE 2**



(Alternative 2 utilizes a design speed of 50 mph for the vertical alignment and constructs new bridges)

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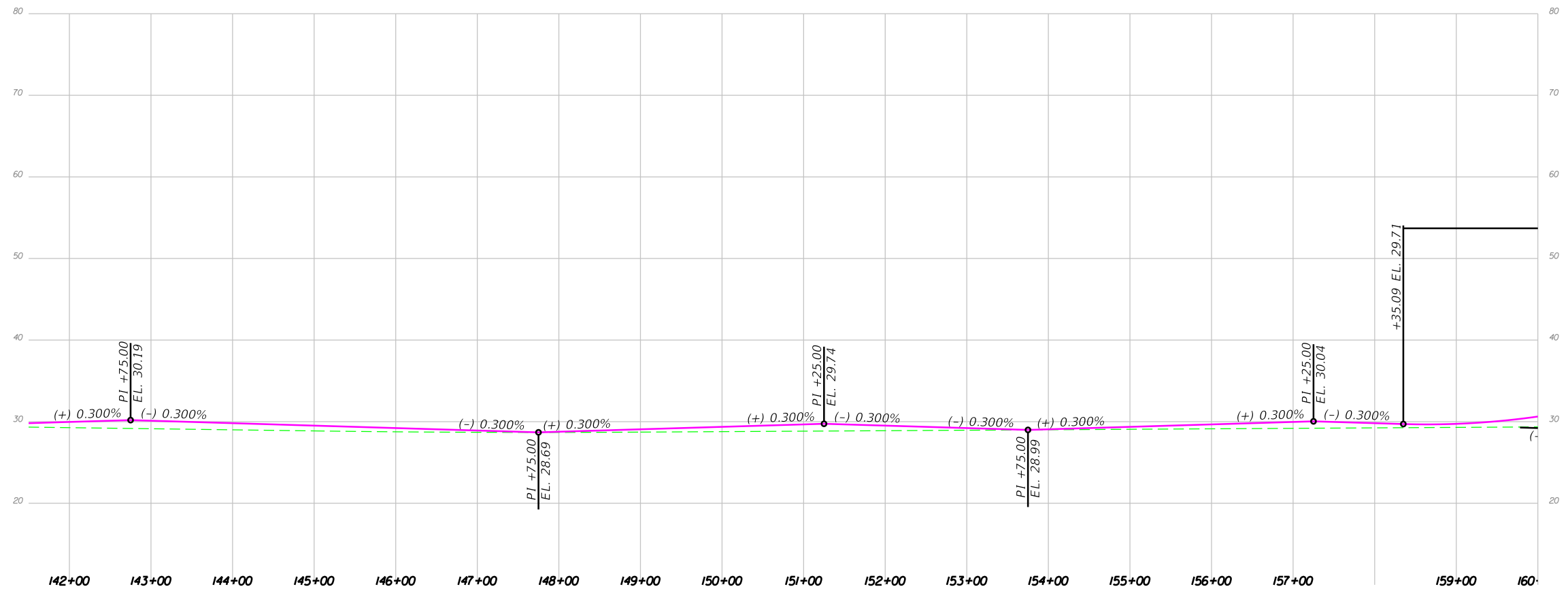
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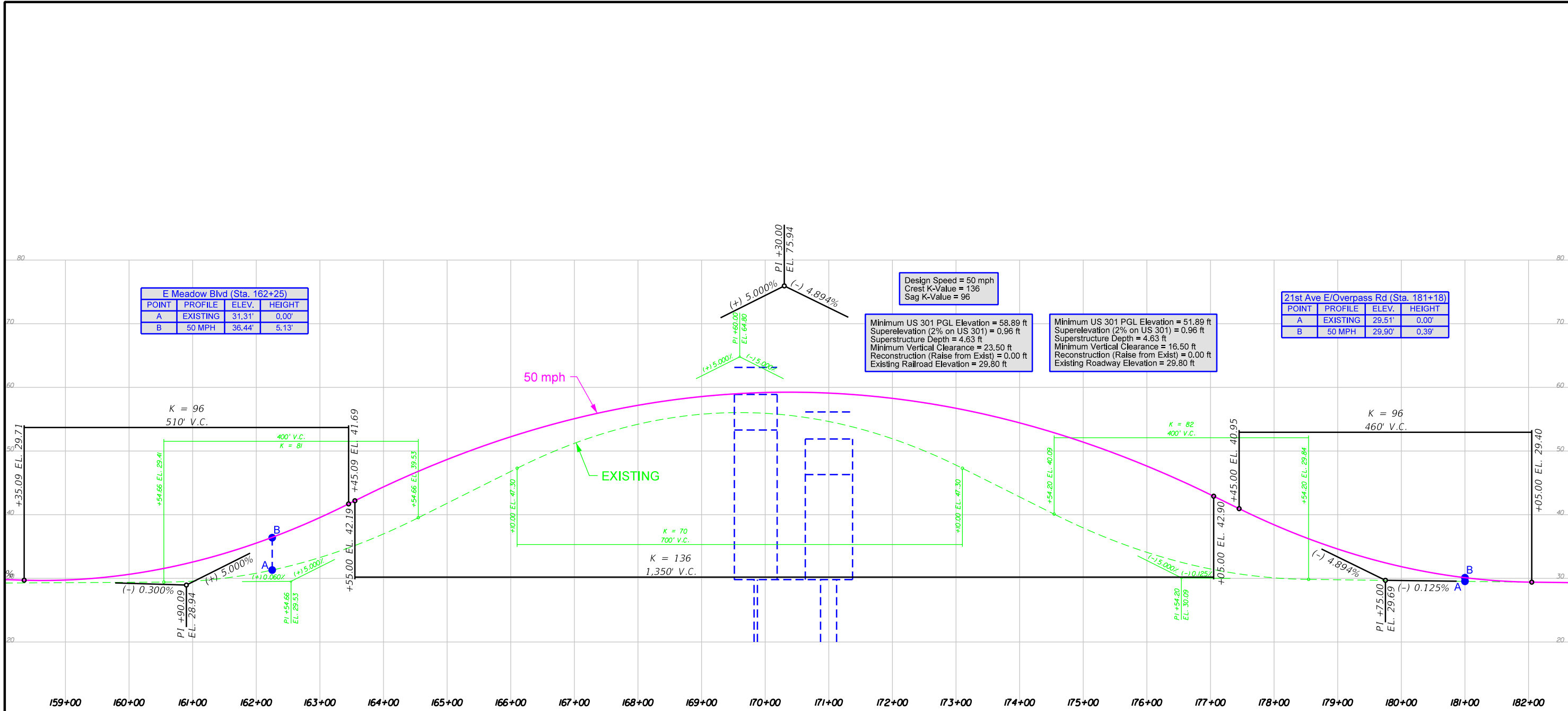
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**PROFILE SHEET  
ALTERNATIVE 2**

SHEET:  
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E Meadow Blvd (Sta. 162+25)			
POINT	PROFILE	ELEV.	HEIGHT
A	EXISTING	31.31'	0.00'
B	50 MPH	36.44'	5.13'

21st Ave E/Overpass Rd (Sta. 181+18)			
POINT	PROFILE	ELEV.	HEIGHT
A	EXISTING	29.51'	0.00'
B	50 MPH	29.90'	0.39'

Design Speed = 50 mph  
 Crest K-Value = 136  
 Sag K-Value = 96

Minimum US 301 PGL Elevation = 58.89 ft  
 Superlevation (2% on US 301) = 0.96 ft  
 Superstructure Depth = 4.63 ft  
 Minimum Vertical Clearance = 23.50 ft  
 Reconstruction (Raise from Exist) = 0.00 ft  
 Existing Railroad Elevation = 29.80 ft

Minimum US 301 PGL Elevation = 51.89 ft  
 Superlevation (2% on US 301) = 0.96 ft  
 Superstructure Depth = 4.63 ft  
 Minimum Vertical Clearance = 16.50 ft  
 Reconstruction (Raise from Exist) = 0.00 ft  
 Existing Roadway Elevation = 29.80 ft

US 301 over CSX A-Line/CR 574

(Alternative 2 utilizes a design speed of 50 mph for the vertical alignment and constructs new bridges)

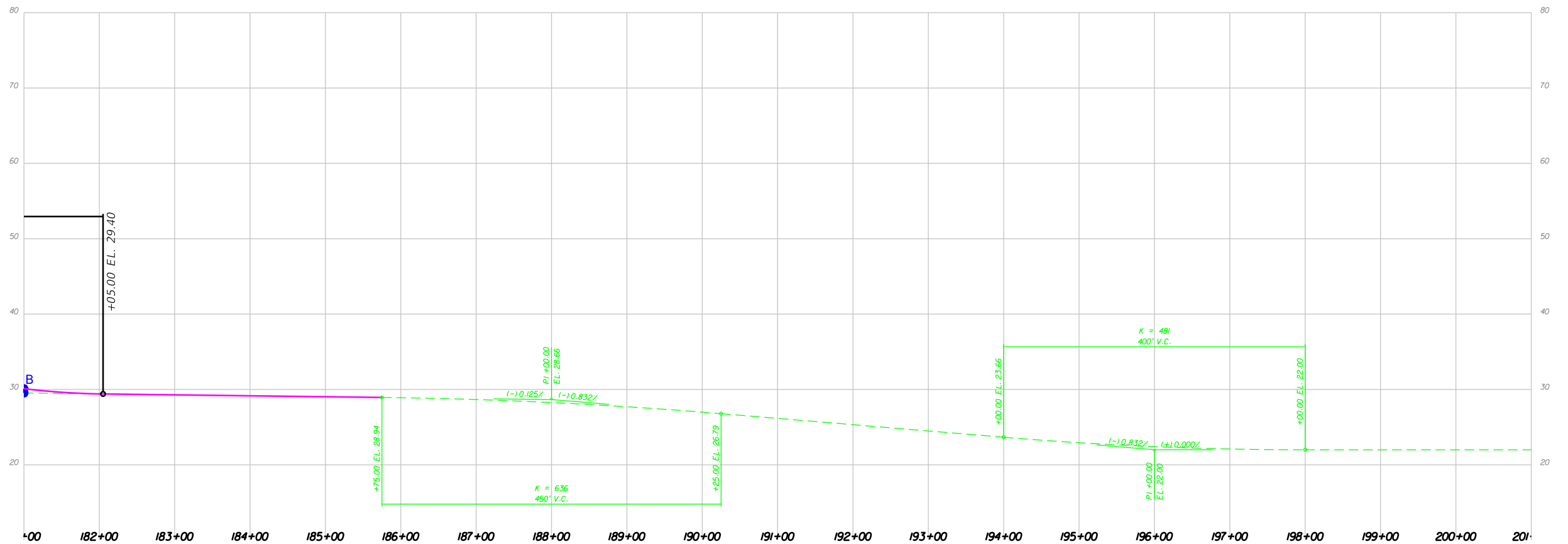
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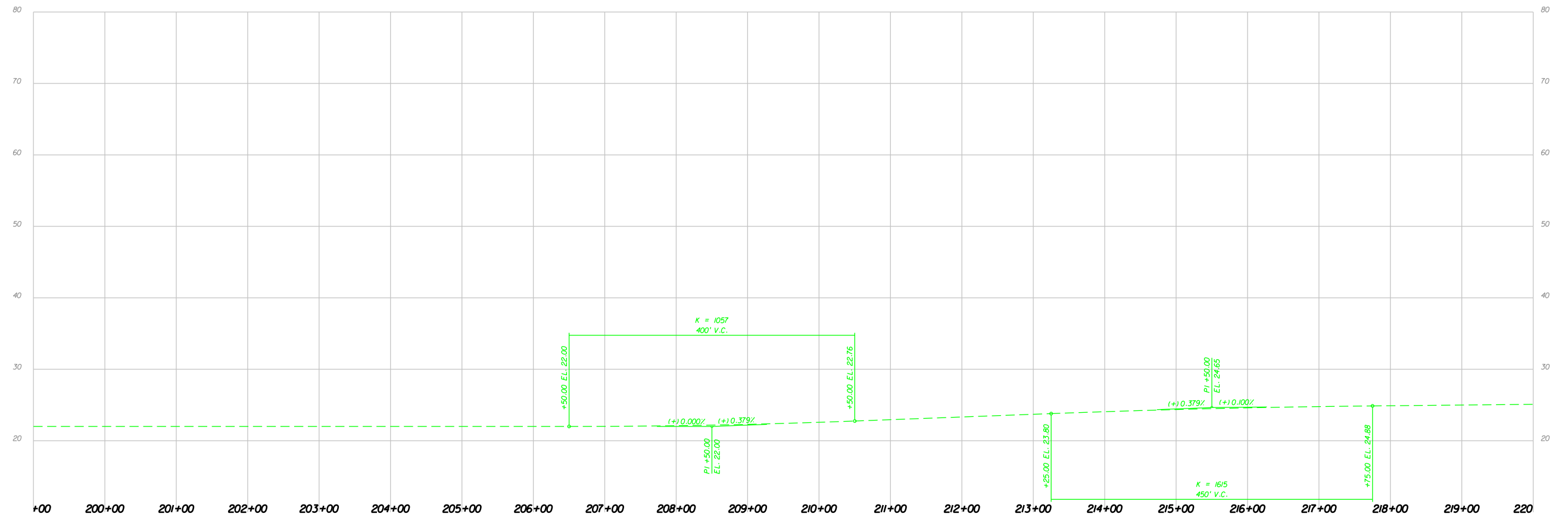
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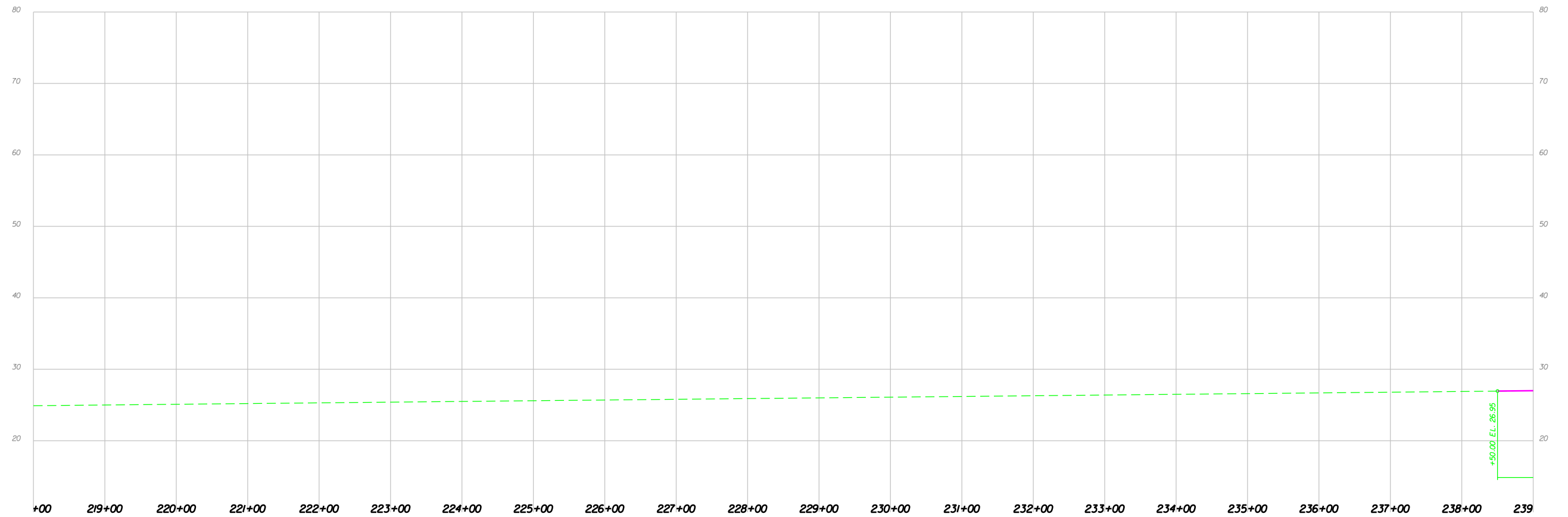
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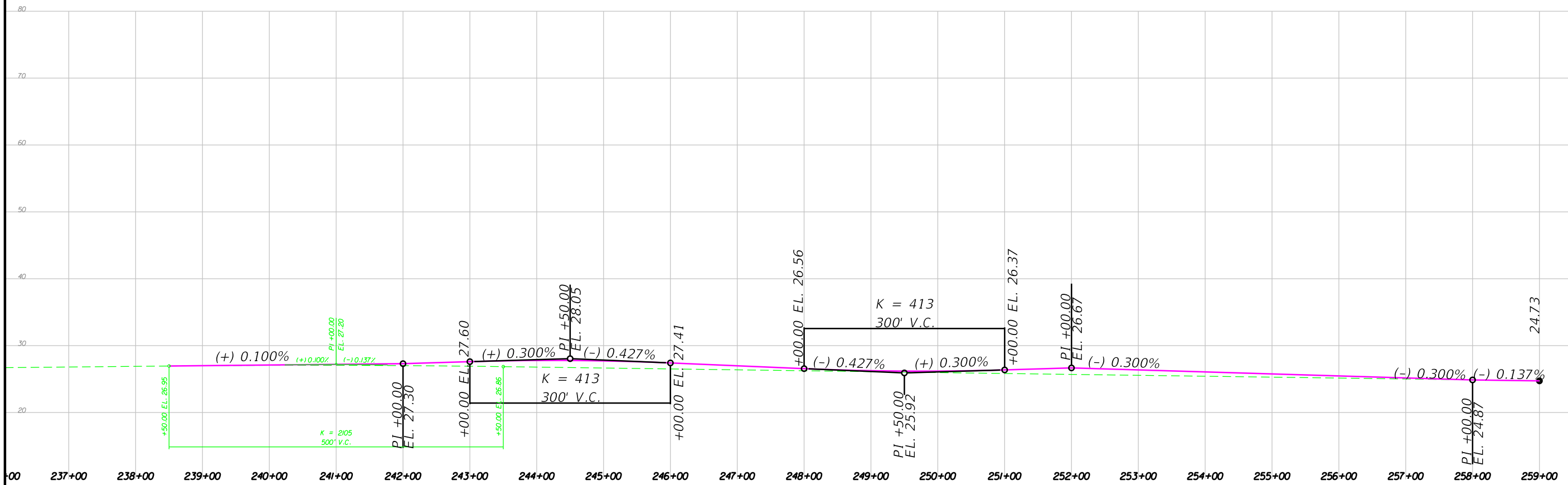
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SHEET:  
8

**Appendix D – Signed Typical Section Package**

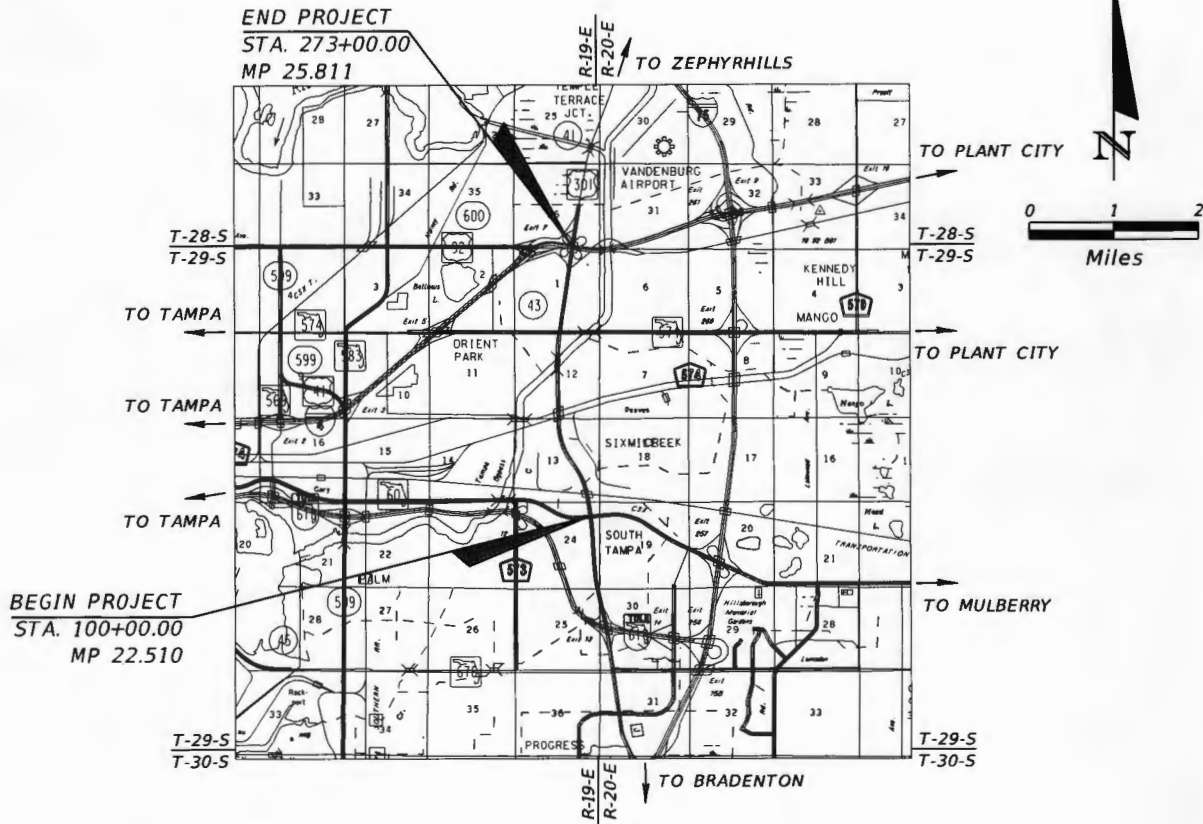
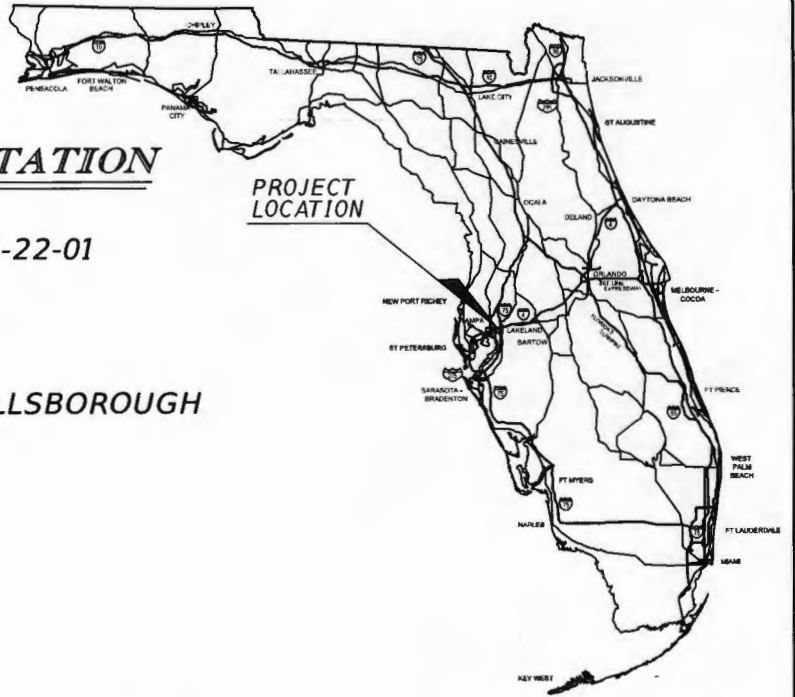
**STATE OF FLORIDA**  
**DEPARTMENT OF TRANSPORTATION**

FINANCIAL PROJECT ID 430050-1-22-01

FEDERAL AID # N/A

COUNTY SECTION (10010000) HILLSBOROUGH

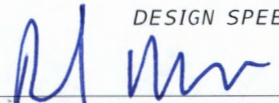
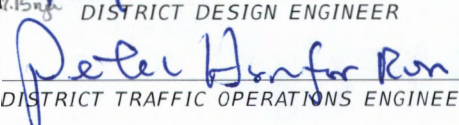
STATE ROAD NO. 43 (US 301)



## PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 430050-1-22-01 COUNTY (SECTION) HILLSBOROUGH (10010000)  
 PROJECT DESCRIPTION FOUR TO SIX LANE WIDENING OF SR 43 (US 301) FROM SR 60 TO I-4

## PROJECT CONTROLS

<p style="text-align: center;"><u>FUNCTIONAL CLASSIFICATION</u></p> <p>( ) RURAL                  (X) URBAN                  ( ) FREEWAY/EXPWY. ( ) MAJOR COLL.                  (X) PRINCIPAL ART. ( ) MINOR COLL.                  ( ) MINOR ART. ( ) LOCAL</p>	<p style="text-align: center;"><u>HIGHWAY SYSTEM</u></p> <p>Yes No                  (X) ( ) NATIONAL HIGHWAY SYSTEM                  ( ) (X) FLORIDA INTRASTATE HIGHWAY SYSTEM                  ( ) (X) STRATEGIC INTERMODAL SYSTEM                  (X) ( ) STATE HIGHWAY SYSTEM                  ( ) (X) OFF STATE HIGHWAY SYSTEM</p>																				
<p style="text-align: center;"><u>ACCESS CLASSIFICATION</u></p> <p>( ) 1 - FREEWAY                  ( ) 2 - RESTRICTIVE w/Service Roads                  (X) 3 - RESTRICTIVE w/660 ft. Connection Spacing                      MP 22.510 TO MP 24.816                  ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing                  (X) 5 - RESTRICTIVE w/440 ft. Connection Spacing                      MP 24.816 TO MP 25.811                  ( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing                  ( ) 7 - BOTH MEDIAN TYPES</p>	<p style="text-align: center;"><u>TRAFFIC</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">YEAR</th> <th style="text-align: center;">AADT</th> <th colspan="2" style="text-align: center;">DISTRIBUTION</th> </tr> </thead> <tbody> <tr> <td>CURRENT</td> <td style="text-align: center;"><u>2013</u></td> <td style="text-align: center;"><u>36,200</u></td> <td style="text-align: center;">K</td> <td style="text-align: center;">9.0%</td> </tr> <tr> <td>OPENING</td> <td style="text-align: center;"><u>2020</u></td> <td style="text-align: center;"><u>43,300</u></td> <td style="text-align: center;">D</td> <td style="text-align: center;">57.0%</td> </tr> <tr> <td>DESIGN</td> <td style="text-align: center;"><u>2040</u></td> <td style="text-align: center;"><u>64,500</u></td> <td style="text-align: center;">T<sub>24</sub></td> <td style="text-align: center;">8.6%</td> </tr> </tbody> </table> <p>DESIGN SPEED MP 22.510 TO MP 24.058: 45 MPH                  MP 24.058 TO MP 25.811: 50 MPH</p> <p>POSTED SPEED 50 MPH</p>		YEAR	AADT	DISTRIBUTION		CURRENT	<u>2013</u>	<u>36,200</u>	K	9.0%	OPENING	<u>2020</u>	<u>43,300</u>	D	57.0%	DESIGN	<u>2040</u>	<u>64,500</u>	T <sub>24</sub>	8.6%
	YEAR	AADT	DISTRIBUTION																		
CURRENT	<u>2013</u>	<u>36,200</u>	K	9.0%																	
OPENING	<u>2020</u>	<u>43,300</u>	D	57.0%																	
DESIGN	<u>2040</u>	<u>64,500</u>	T <sub>24</sub>	8.6%																	
<p style="text-align: center;"><u>CRITERIA</u></p> <p>(X) NEW CONSTRUCTION / RECONSTRUCTION                  ( ) RRR INTERSTATE / FREEWAY                  ( ) RRR NON-INTERSTATE / FREEWAY                  ( ) TDLC / NEW CONSTRUCTION / RECONSTRUCTION                  ( ) TDLC / RRR                  ( ) MANUAL OF UNIFORM MINIMUM STANDARDS                  (FLORIDA GREENBOOK) (OFF-STATE HIGHWAY SYSTEM ONLY)</p>	<p style="text-align: center;">DESIGN SPEED APPROVALS</p> <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;">                   3/17/15                  DISTRICT DESIGN ENGINEER             </div> <div style="text-align: center;">                 3-18-15                  DATE             </div> </div> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 10px;"> <div style="text-align: center;">                   DISTRICT TRAFFIC OPERATIONS ENGINEER             </div> <div style="text-align: center;">                 3/23/15                  DATE             </div> </div>																				

**LIST ANY POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION ELEMENTS:**

NONE

**LIST MAJOR STRUCTURES LOCATION/DESCRIPTION - REQUIRING INDEPENDENT STRUCTURE DESIGN:**

- 100910: US 301 SOUTHBOUND OVER CSX RAILROAD S-LINE
- 100101: US 301 NORTHBOUND OVER CSX RAILROAD S-LINE
- 100011: US 301 SOUTHBOUND OVER CSX RAILROAD A-LINE
- 100102: US 301 NORTHBOUND OVER CSX RAILROAD A-LINE
- 100012: US 301 SOUTHBOUND OVER TAMPA BYPASS CANAL
- 100103: US 301 NORTHBOUND OVER TAMPA BYPASS CANAL

**LIST MAJOR UTILITIES WITHIN PROJECT CORRIDOR:**

- |  |  |
|--|--|
| AT&T - FIBER OPTIC<br>BRIGHT HOUSE NETWORKS - CABLE TV/FIBER OPTIC<br>CENTRAL FL PIPELINE/KINDER MORGAN - GAS<br>CENTURY LINK/QWEST - FIBER OPTIC<br>CITY OF TAMPA WASTEWATER - SEWER<br>CITY OF TAMPA WATER - WATER<br>FIBER LIGHT, LLC - FIBER OPTIC<br>FPL FIBERNET - FIBER OPTIC<br>HILLSBOROUGH CO. SHERIFF - FIBER OPTIC | LEVEL 3 COMMUNICATIONS, INC. - FIBER OPTIC<br>MCI/VERIZON BUSINESS - FIBER OPTIC<br>SPRINT/ERICSSON SERVICES - FIBER OPTIC<br>TAMPA ELECTRIC COMPANY - ELECTRIC<br>TECO PEOPLES GAS - GAS<br>TW TELECOM - COAXIAL CABLE<br>VERIZON FL, LLC - FIBER OPTIC, TELEPHONE<br>XO COMMUNICATIONS - FIBER OPTIC |
|--|--|

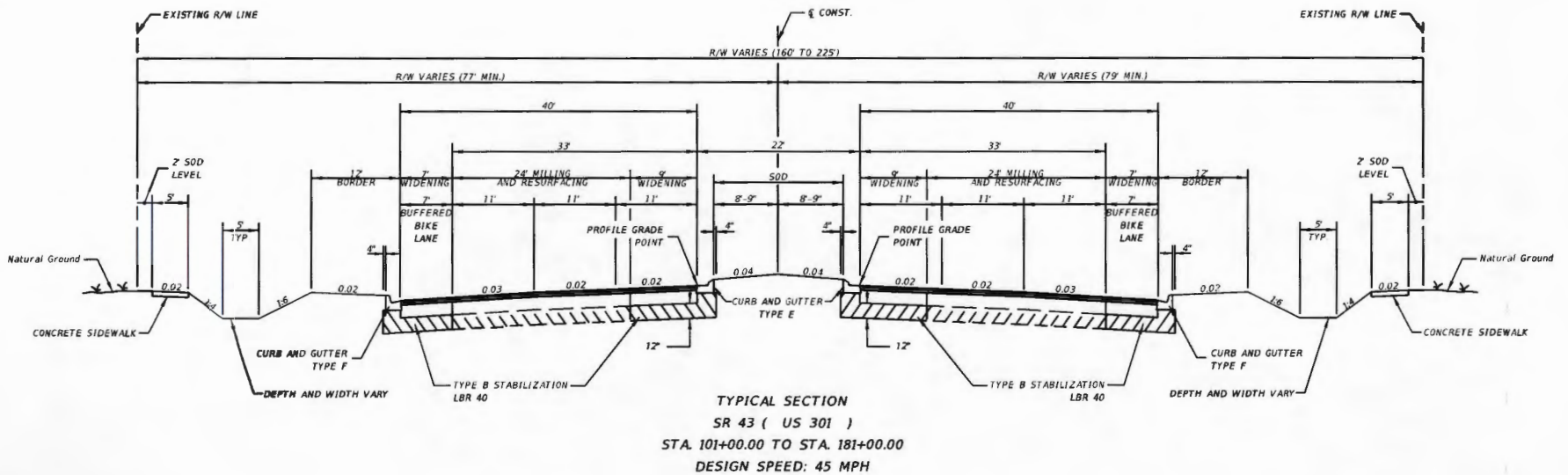
**LIST OTHER INFORMATION PERTINENT TO DESIGN OF PROJECT:**

NONE

# PROJECT IDENTIFICATION

FINANCIAL PROJECT ID 430050-1-22-01 FEDERAL AID PROJECT NO. N/A COUNTY NAME HILLSBOROUGH  
 SECTION NO. 10010000 ROAD DESIGNATION SR 43 (US 301) LIMITS/MILEPOST MP 22.510 TO MP 25.811  
 PROJECT DESCRIPTION FOUR TO SIX LANE WIDENING OF SR 43 (US 301) FROM SR 60 (ADAMO DR) TO I-4 (SR 400)

## PROPOSED ROADWAY TYPICAL SECTION



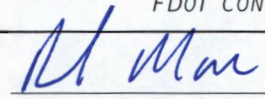
APPROVED BY: Erik Fleming, P.E.

FDOT CONCURRENCE

FHWA CONCURRENCE

Engineer Of Record Signature

Date

  
 RICHARD MOSS, P.E.  
 FDOT District Design Engineer

Date

3-18-15

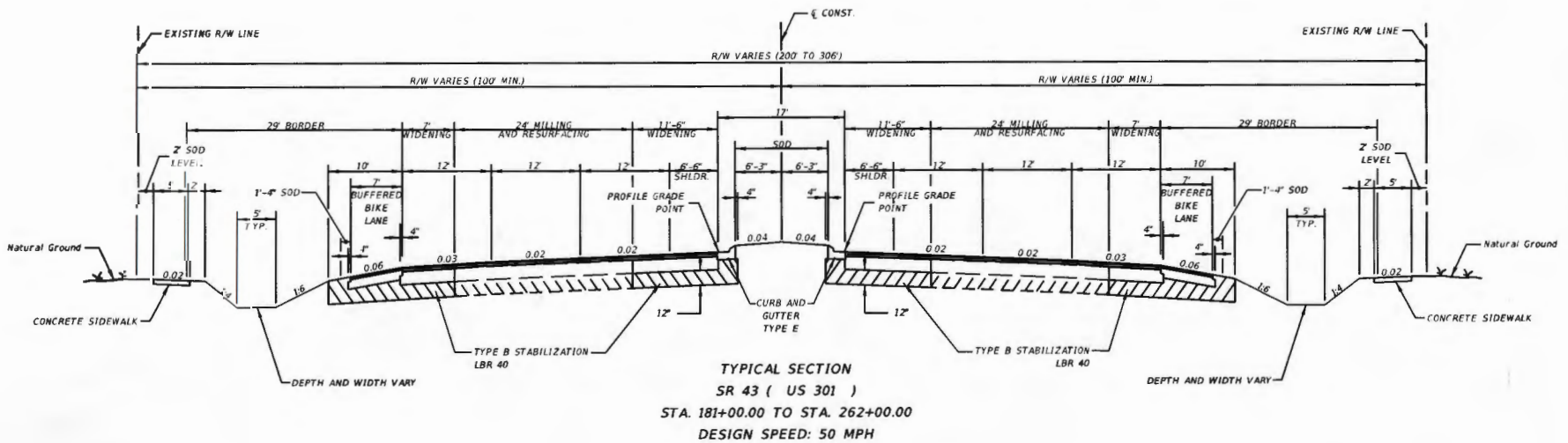
FHWA Transportation Engineer

Date

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APPROVED BY: Erik Fleming, P.E.

FDOT CONCURRENCE

FHWA CONCURRENCE

\_\_\_\_\_  
Engineer Of Record Signature

\_\_\_\_\_  
Date

*Richard Muss*  
\_\_\_\_\_  
RICHARD MUSS, P.E.  
FDOT District Design Engineer

*3-18-15*  
\_\_\_\_\_  
Date

\_\_\_\_\_  
FHWA Transportation Engineer

\_\_\_\_\_  
Date

# MEMORANDUM

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS M.S. 7-1300

**DATE:** March 19, 2015  
**TO:** Traffic Operations Staff /ITS Staff and Consultants  
**FROM:** Ron Chin *Ronald D. Chin*  
**COPIES:** Brian McKishnie  
**SUBJECT:** (REVISED) Delegation of Authority

I will be out of the office March 23 – April 3, 2015. Signature/approval delegation during my absence will be as during the following dates:

Peter Hsu: March 23 – 31, Friday, 4/3.

Chester Chandler: April 1 – 2, and April 7- 8.

Mark Hall is the delegate for p-card approvals and for MyFloridaMarketPlace (invoice and requisition) approvals.

If you have any questions or concerns, please let me know.

RC:GS

**Appendix E – Long Range Estimate**



Date: 6/19/2015 10:35:27 AM

## FDOT Long Range Estimating System - Production

### R3: Project Details by Sequence Report

**Project:** 430050-1-22-01**Letting Date:** 01/2099**Description:** US 301 FROM SR 60 TO I-4**District:** 07**County:** 10 HILLSBOROUGH**Market Area:** 08**Units:** English**Contract Class:** 4 Lump Sum Project: N**Design/Build:** N**Project Length:** 3.079 MI**Project Manager:** PRD-SMP-AIM**Version 2 Project Grand Total****\$52,083,509.19****Description:** US 301 Alternative 2 - Replace Bridges over CSX**Sequence:** 1 WDU - Widen/Resurface, Divided, Urban**Net Length:** 0.051 MI  
268 LF**Description:** Widening north of SR 60 intersection

#### EARTHWORK COMPONENT

**User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	90.00 / 90.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.051
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.11 AC	\$10,915.91	\$12,116.66
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	444.41 CY	\$15.22	\$6,763.92
<b>Earthwork Component Total</b>				<b>\$18,880.58</b>

#### ROADWAY COMPONENT

**User Input Data**

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	60.00 / 36.00

Structural Spread Rate	275
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	5.00 / 5.00
Widened Inside Pavement Width L/R	0.00 / 0.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	451.81	SY	\$5.22	\$2,358.45
285-709	OPTIONAL BASE,BASE GROUP 09	317.70	SY	\$21.57	\$6,852.79
327-70-11	MILLING EXIST ASPH PAVT,2 1/4" AVG DEPTH	2,861.06	SY	\$3.06	\$8,754.84
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	393.40	TN	\$135.34	\$53,242.76
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	40.98	TN	\$135.34	\$5,546.23
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	114.44	TN	\$132.79	\$15,196.49
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	11.92	TN	\$132.79	\$1,582.86

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	5.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	22.59	SY	\$5.22	\$117.92
285-709	OPTIONAL BASE,BASE GROUP 09	15.88	SY	\$21.57	\$342.53
327-70-11	MILLING EXIST ASPH PAVT,2 1/4" AVG DEPTH	143.05	SY	\$3.06	\$437.73
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	19.67	TN	\$135.34	\$2,662.14
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	5.72	TN	\$132.79	\$759.56

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
----------	-------------	----------	------	------------	-----------------

706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	34.00 EA	\$3.52	\$119.68
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.20 NM	\$902.09	\$180.42
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	0.20 GM	\$336.37	\$67.27
711-15-111	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.20 NM	\$4,354.66	\$870.93
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	0.20 GM	\$1,392.99	\$278.60

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Roadway Component Total**

\$99,371.20

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	13.25 / 13.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	6.00 / 6.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	268.22	LF	\$19.36	\$5,192.74
520-1-10	CONCRETE CURB & GUTTER, TYPE F	268.22	LF	\$19.36	\$5,192.74
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	357.63	SY	\$28.13	\$10,060.13
570-1-1	PERFORMANCE TURF	298.03	SY	\$0.64	\$190.74

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	536.45	LF	\$1.19	\$638.38
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,548.05	\$1,548.05
104-18	INLET PROTECTION SYSTEM	3.00	EA	\$71.51	\$214.53
107-1	LITTER REMOVAL	0.44	AC	\$36.71	\$16.15
107-2	MOWING	0.44	AC	\$60.98	\$26.83

**Shoulder Component Total**

\$23,080.29

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	0.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	268.00	LF	\$36.85	\$9,875.80
<b>Median Component Total</b>					<b>\$9,875.80</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	0.91	CY	\$1,354.57	\$1,232.66
425-1-351	INLETS, CURB, TYPE P-5, <10'	2.00	EA	\$3,092.46	\$6,184.92
425-1-451	INLETS, CURB, TYPE J-5, <10'	1.00	EA	\$6,421.25	\$6,421.25
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	136.00	LF	\$57.71	\$7,848.56
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	272.00	LF	\$148.56	\$40,408.32
570-1-1	PERFORMANCE TURF	15.44	SY	\$0.64	\$9.88
<b>Drainage Component Total</b>					<b>\$62,105.59</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$268.97	\$537.94
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$877.84	\$877.84
700-1-50	SINGLE POST SIGN, RELOCATE	1.00	AS	\$139.22	\$139.22
700-1-60	SINGLE POST SIGN, REMOVE	2.00	AS	\$14.81	\$29.62
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$3,809.35	\$3,809.35
700-2-60	MULTI- POST SIGN, REMOVE	1.00	AS	\$247.06	\$247.06
<b>Signing Component Total</b>					<b>\$5,641.03</b>

**LIGHTING COMPONENT****Conventional Lighting Subcomponent**

Description	Value
Spacing	MIN

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	268.22	LF	\$4.45	\$1,193.58
630-2-12		53.24	LF	\$20.75	\$1,104.73

	CONDUIT, F& I, DIRECTIONAL BORE				
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	2.00	EA	\$506.56	\$1,013.12
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	979.63	LF	\$1.88	\$1,841.70
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	2.00	EA	\$3,848.43	\$7,696.86
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	2.00	EA	\$459.10	\$918.20
	<b>Subcomponent Total</b>				<b>\$13,768.19</b>

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
715-4-600	LIGHT POLE COMP, REMOVE	2.00	EA	\$503.02	\$1,006.04
	<b>Lighting Component Total</b>				<b>\$14,774.23</b>

**LANDSCAPING COMPONENT****User Input Data**

Description	Value
Cost %	10.00
Component Detail	N

**Landscaping Component Total** **\$19,443.29**

**MISCELLANEOUS COMPONENT****X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
109-71-3	FIELD OFFICE, 900 SQ FT	900.00	DA	\$85.84	\$77,256.00
	<b>Miscellaneous Component Total</b>				<b>\$77,256.00</b>

**Sequence 1 Total** **\$330,428.01**

<b>Sequence:</b> 2NDU - New Construction, Divided, Urban	<b>Net Length:</b> 0.449 MI 2,370 LF
<b>Description:</b> Two new bridges over CSX S-Line	

**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	105.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.449
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	11.43	AC	\$10,915.91	\$124,768.85
120-6	EMBANKMENT	58,542.74	CY	\$5.73	\$335,449.90

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-6	EMBANKMENT	39,336.00	CY	\$5.73	\$225,395.28

**Earthwork Component Total** \$685,614.03

**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	6
Roadway Pavement Width L/R	40.00 / 40.00
Structural Spread Rate	330
Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	23,786.19	SY	\$5.22	\$124,163.91
285-709	OPTIONAL BASE,BASE GROUP 09	21,068.37	SY	\$21.57	\$454,444.74
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	3,476.28	TN	\$135.34	\$470,479.74
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	842.73	TN	\$132.79	\$111,906.12

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y

Friction Course Code Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	2,378.62 SY	\$5.22	\$12,416.40
285-709	OPTIONAL BASE,BASE GROUP 09	2,106.84 SY	\$21.57	\$45,444.54
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	347.63 TN	\$135.34	\$47,048.24
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	84.27 TN	\$132.79	\$11,190.21

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	303.00 EA	\$3.52	\$1,066.56
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.59 NM	\$902.09	\$3,238.50
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.59 GM	\$336.37	\$1,207.57

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Roadway Component Total**

\$1,282,606.53

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	13.25 / 13.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	6.00 / 6.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,370.19 LF	\$19.36	\$45,886.88
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,370.19 LF	\$19.36	\$45,886.88
522-1		3,160.26 SY	\$28.13	\$88,898.11

	CONCRETE SIDEWALK AND DRIVEWAYS, 4"			
570-1-1	PERFORMANCE TURF	2,633.55 SY	\$0.64	\$1,685.47

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,740.38 LF	\$1.19	\$5,641.05
104-11	FLOATING TURBIDITY BARRIER	112.22 LF	\$10.09	\$1,132.30
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	112.22 LF	\$4.25	\$476.94
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$1,548.05	\$1,548.05
104-18	INLET PROTECTION SYSTEM	23.00 EA	\$71.51	\$1,644.73
107-1	LITTER REMOVAL	11.42 AC	\$36.71	\$419.23
107-2	MOWING	11.42 AC	\$60.98	\$696.39
<b>Shoulder Component Total</b>				<b>\$193,916.03</b>

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	5.34

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	4,740.38 LF	\$16.35	\$77,505.21
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	430.00 LF	\$36.85	\$15,845.50
570-1-1	PERFORMANCE TURF	1,406.31 SY	\$0.64	\$900.04
<b>Median Component Total</b>				<b>\$94,250.75</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	8.08 CY	\$1,354.57	\$10,944.93
425-1-351	INLETS, CURB, TYPE P-5, <10'	17.00 EA	\$3,092.46	\$52,571.82
425-1-451	INLETS, CURB, TYPE J-5, <10'	5.00 EA	\$6,421.25	\$32,106.25
425-1-521	INLETS, DT BOT, TYPE C, <10'	3.00 EA	\$2,491.70	\$7,475.10
425-2-41	MANHOLES, P-7, <10'	3.00 EA	\$3,051.90	\$9,155.70
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,192.00 LF	\$57.71	\$68,790.32
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	112.00 LF	\$148.56	\$16,638.72
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	2,248.00 LF	\$175.00	\$393,400.00
570-1-1	PERFORMANCE TURF	136.47 SY	\$0.64	\$87.34

**Box Culvert 1**

Description	Value
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Size	10 x 8
Length	20.00
Multiplier	2

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	99.60 CY	\$1,562.16	\$155,591.14
415-1-1	REINF STEEL- ROADWAY	8,982.00 LB	\$0.95	\$8,532.90

**Retention Basin 1**

Description	Value
Size	1.5 AC
Multiplier	1
Depth	10.00
Description	

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50 AC	\$10,915.91	\$16,373.87
120-1	REGULAR EXCAVATION	24,200.00 CY	\$5.64	\$136,488.00
400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$1,354.57	\$24,382.26
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$3,372.99	\$3,372.99
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$5,021.56	\$15,064.68
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	504.00 LF	\$150.00	\$75,600.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$218.70	\$43,740.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00 LF	\$10.25	\$10,506.25
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00 EA	\$2,671.64	\$2,671.64
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$0.64	\$4,646.40

**Retention Basin 2**

Description	Value
Size	1 AC
Multiplier	1
Depth	10.00
Description	

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00 AC	\$10,915.91	\$10,915.91
120-1	REGULAR EXCAVATION	16,133.33 CY	\$5.64	\$90,991.98
400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$1,354.57	\$24,382.26
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$3,372.99	\$3,372.99
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$5,021.56	\$15,064.68
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	504.00 LF	\$150.00	\$75,600.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$218.70	\$43,740.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00 LF	\$10.25	\$8,610.00

550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$2,671.64	\$2,671.64
570-1-1	PERFORMANCE TURF	4,840.00 SY	\$0.64	\$3,097.60
<b>Drainage Component Total</b>				<b>\$1,366,587.37</b>

### INTERSECTIONS COMPONENT

#### Intersection 1

Description	Value
Mainline No. of Left Turn Lanes	2
Mainline No. of Right Turn Lanes	2
Mainline Design Speed	45
Cross Street Thru Lanes	2
Cross Street No. of Left Turn Lanes	0
Cross Street No. of Right Turn Lanes	0
Cross Street Design Speed	35
T-Intersection?	N
Multiplier	1
Description	Old Hopewell Rd

#### Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.92 AC	\$10,915.91	\$10,042.64
120-1	REGULAR EXCAVATION	595.82 CY	\$5.64	\$3,360.42
160-4	TYPE B STABILIZATION	2,006.56 SY	\$5.22	\$10,474.24
160-4	TYPE B STABILIZATION	1,525.58 SY	\$5.22	\$7,963.53
285-709	OPTIONAL BASE,BASE GROUP 09	2,006.56 SY	\$21.57	\$43,281.50
285-709	OPTIONAL BASE,BASE GROUP 09	1,525.58 SY	\$21.57	\$32,906.76
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	331.08 TN	\$135.34	\$44,808.37
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	80.26 TN	\$132.79	\$10,657.73
520-1-7	CONCRETE CURB & GUTTER, TYPE E	202.84 LF	\$16.35	\$3,316.43
520-1-10	CONCRETE CURB & GUTTER, TYPE F	498.00 LF	\$19.36	\$9,641.28
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	670.00 LF	\$36.85	\$24,689.50
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	276.67 SY	\$28.13	\$7,782.73
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	173.89 SY	\$36.95	\$6,425.24
570-1-1	PERFORMANCE TURF	276.67 SY	\$0.64	\$177.07

#### X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	251.72 TN	\$135.34	\$34,067.78
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	61.02 TN	\$132.79	\$8,102.85

#### Intersections Component Total

\$257,698.07

**SIGNING COMPONENT**

<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	11.00	AS	\$268.97	\$2,958.67
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$877.84	\$877.84
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00	AS	\$4,884.17	\$4,884.17
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00	AS	\$8,405.48	\$8,405.48
<b>Signing Component Total</b>					<b>\$17,126.16</b>

**LIGHTING COMPONENT****Conventional Lighting Subcomponent**

<b>Description</b>				<b>Value</b>	
Spacing				MIN	
<b>Pay Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	2,370.19	LF	\$4.45	\$10,547.35
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	470.45	LF	\$20.75	\$9,761.84
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	22.00	EA	\$506.56	\$11,144.32
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	8,656.59	LF	\$1.88	\$16,274.39
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	22.00	EA	\$3,848.43	\$84,665.46
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	22.00	EA	\$459.10	\$10,100.20
<b>Subcomponent Total</b>					<b>\$142,493.55</b>
<b>X-Items</b>					
<b>Pay item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
715-4-600	LIGHT POLE COMP, REMOVE	22.00	EA	\$503.02	\$11,066.44
<b>Lighting Component Total</b>					<b>\$153,560.00</b>

**LANDSCAPING COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>	
Cost %	10.00	
Component Detail	N	
<b>Landscaping Component Total</b>		<b>\$293,736.07</b>

**BRIDGES COMPONENT****Bridge 100101**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	176.00

Width (LF)	132.20
Type	Medium Level
Cost Factor	1.00
Structure No.	100101
Removal of Existing Structures area	15,171.00
Default Cost per SF	\$130.00
Factored Cost per SF	\$130.00
<b>Final Cost per SF</b>	<b>\$135.26</b>
<b>Basic Bridge Cost</b>	<b>\$3,024,736.00</b>
Description	US 301 OVER CSX S-LINE

**Bridge Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURE	15,171.00 SF	\$16.81	\$255,024.51
400-2-10	CONC CLASS II, APPROACH SLABS	293.78 CY	\$281.77	\$82,778.39
415-1-9	REINF STEEL- APPROACH SLABS	51,411.50 LB	\$0.77	\$39,586.85
<b>Bridge 100101 Total</b>				<b>\$3,402,125.76</b>

**Bridge 999999**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	176.00
Width (LF)	43.10
Type	Medium Level
Cost Factor	1.00
Structure No.	999999
Removal of Existing Structures area	0.00
Default Cost per SF	\$130.00
Factored Cost per SF	\$130.00
<b>Final Cost per SF</b>	<b>\$135.26</b>
<b>Basic Bridge Cost</b>	<b>\$986,128.00</b>
Description	TEMPORARY NB BRIDGE FOR MOT

**Bridge Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	95.78 CY	\$281.77	\$26,987.93
415-1-9	REINF STEEL- APPROACH SLABS	16,761.50 LB	\$0.77	\$12,906.36
<b>Bridge 999999 Total</b>				<b>\$1,026,022.29</b>
<b>Bridges Component Total</b>				<b>\$4,428,148.05</b>

**RETAINING WALLS COMPONENT****Retaining Wall 1**

Description	Value
Length	970.00
Begin height	1.00
End Height	28.70

Multiplier 2

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	28,809.00	SF	\$31.29	\$901,433.61

**Retaining Wall 2**

Description	Value
Length	1,285.00
Begin height	28.70
End Height	1.00
Multiplier	2

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	38,164.50	SF	\$31.29	\$1,194,167.20

**Retaining Wall 3**

Description	Value
Length	980.00
Begin height	24.00
End Height	28.70
Multiplier	1

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-13	RETAINING WALL SYSTEM,TEMP, EXC BAR.	25,823.00	SF	\$16.36	\$422,464.28

**Retaining Wall 4**

Description	Value
Length	850.00
Begin height	28.70
End Height	24.00
Multiplier	1

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-13	RETAINING WALL SYSTEM,TEMP, EXC BAR.	22,397.50	SF	\$16.36	\$366,423.10

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<b>Retaining Walls Component Total</b>	<b>\$2,884,488.20</b>
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<b>Sequence 2 Total</b>	<b>\$11,657,731.26</b>
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<b>Sequence:</b> 3WDU - Widen/Resurface, Divided, Urban	<b>Net Length:</b> 0.606 MI 3,197 LF
<b>Description:</b> Widening US 301 between CSX bridges	

**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	105.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.605
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	15.43	AC	\$10,915.91	\$168,432.49
120-1	REGULAR EXCAVATION	4,107.76	CY	\$5.64	\$23,167.77
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	5,655.27	CY	\$15.22	\$86,073.21
<b>Earthwork Component Total</b>					<b>\$277,673.47</b>

**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	385
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	11.00 / 11.00
Widened Inside Pavement Width L/R	5.00 / 5.00
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	15,033.19	SY	\$5.22	\$78,473.25
285-709	OPTIONAL BASE,BASE GROUP 09	11,836.15	SY	\$21.57	\$255,305.76
327-70-11	MILLING EXIST ASPH PAVT,2 1/4" AVG DEPTH	17,050.88	SY	\$3.06	\$52,175.69
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	3,282.29	TN	\$135.34	\$444,225.13
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	1,875.60	TN	\$135.34	\$253,843.70

337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	682.04 TN	\$132.79	\$90,568.09
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	454.69 TN	\$132.79	\$60,378.29

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	3,006.64	SY	\$5.22	\$15,694.66
285-709	OPTIONAL BASE,BASE GROUP 09	2,367.23	SY	\$21.57	\$51,061.15
327-70-11	MILLING EXIST ASPH PAVT,2 1/4" AVG DEPTH	3,410.18	SY	\$3.06	\$10,435.15
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	656.46	TN	\$135.34	\$88,845.30
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	136.41	TN	\$132.79	\$18,113.88

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	409.00	EA	\$3.52	\$1,439.68
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	4.84	NM	\$902.09	\$4,366.12
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	4.84	GM	\$336.37	\$1,628.03

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Roadway Component Total****\$1,426,553.88****SHOULDER COMPONENT**

**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	13.25 / 13.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	6.00 / 6.00

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	3,197.04	LF	\$19.36	\$61,894.69
520-1-10	CONCRETE CURB & GUTTER, TYPE F	3,197.04	LF	\$19.36	\$61,894.69
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	4,262.72	SY	\$28.13	\$119,910.31
570-1-1	PERFORMANCE TURF	3,552.27	SY	\$0.64	\$2,273.45

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	6,394.08	LF	\$1.19	\$7,608.96
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,548.05	\$1,548.05
104-18	INLET PROTECTION SYSTEM	28.00	EA	\$71.51	\$2,002.28
107-1	LITTER REMOVAL	5.28	AC	\$36.71	\$193.83
107-2	MOWING	5.28	AC	\$60.98	\$321.97

**Shoulder Component Total**

\$257,648.23

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	5.34

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	1,090.00	LF	\$36.85	\$40,166.50
570-1-1	PERFORMANCE TURF	1,896.91	SY	\$0.64	\$1,214.02

**Median Component Total**

\$41,380.52

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	10.90	CY	\$1,354.57	\$14,764.81
425-1-351	INLETS, CURB, TYPE P-5, <10'	22.00	EA	\$3,092.46	\$68,034.12
425-1-451	INLETS, CURB, TYPE J-5, <10'	7.00	EA	\$6,421.25	\$44,948.75
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	336.00	LF	\$57.71	\$19,390.56
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	96.00	LF	\$148.56	\$14,261.76



570-1-1	PERFORMANCE TURF	184.07 SY	\$0.64	\$117.80
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**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	3,200.00 LF	\$175.00	\$560,000.00

**Retention Basin 3**

Description	Value
Size	2 AC
Multiplier	1
Depth	10.00
Description	

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.00 AC	\$10,915.91	\$21,831.82
120-1	REGULAR EXCAVATION	32,266.67 CY	\$5.64	\$181,984.02
400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$1,354.57	\$24,382.26
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$3,372.99	\$3,372.99
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$5,021.56	\$15,064.68
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	1,000.00 LF	\$150.00	\$150,000.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	504.00 LF	\$218.70	\$110,224.80
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00 LF	\$10.25	\$12,095.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00 EA	\$2,671.64	\$2,671.64
570-1-1	PERFORMANCE TURF	9,680.00 SY	\$0.64	\$6,195.20

**Retention Basin 4**

Description	Value
Size	2.5 AC
Multiplier	1
Depth	10.00
Description	

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50 AC	\$10,915.91	\$27,289.78
120-1	REGULAR EXCAVATION	40,333.33 CY	\$5.64	\$227,479.98
400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$1,354.57	\$24,382.26
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00 EA	\$4,130.68	\$4,130.68
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$5,021.56	\$15,064.68
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	1,000.00 LF	\$150.00	\$150,000.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	504.00 LF	\$218.70	\$110,224.80
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$10.25	\$13,683.75
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00 EA	\$2,671.64	\$2,671.64
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$0.64	\$7,744.00

**Drainage Component Total**

\$1,832,011.78

**SIGNING COMPONENT****Pay Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	14.00 AS	\$268.97	\$3,765.58
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00 AS	\$877.84	\$1,755.68
700-1-50	SINGLE POST SIGN, RELOCATE	2.00 AS	\$139.22	\$278.44
700-1-60	SINGLE POST SIGN, REMOVE	14.00 AS	\$14.81	\$207.34
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00 AS	\$3,809.35	\$7,618.70
700-2-60	MULTI- POST SIGN, REMOVE	2.00 AS	\$247.06	\$494.12
<b>Signing Component Total</b>				<b>\$14,119.86</b>

**LIGHTING COMPONENT****Conventional Lighting Subcomponent**

<b>Description</b>	<b>Value</b>			
Spacing	MIN			
<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	3,197.04 LF	\$4.45	\$14,226.83
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	634.56 LF	\$20.75	\$13,167.12
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	37.00 EA	\$506.56	\$18,742.72
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	11,676.46 LF	\$1.88	\$21,951.74
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	37.00 EA	\$3,848.43	\$142,391.91
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	37.00 EA	\$459.10	\$16,986.70
<b>Subcomponent Total</b>				<b>\$227,467.02</b>
<b>X-Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
715-4-600	LIGHT POLE COMP, REMOVE	37.00 EA	\$503.02	\$18,611.74
<b>Lighting Component Total</b>				<b>\$246,078.76</b>

**LANDSCAPING COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Cost %	10.00
Component Detail	N

**Landscaping Component Total**

\$355,759.44

**Sequence 3 Total**

\$4,451,225.94



<b>Sequence:</b> 4 NDU - New Construction, Divided, Urban	<b>Net Length:</b> 0.449 MI 2,370 LF
<b>Description:</b> Two new bridges over CSX A-Line	

**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	105.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.449
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	11.43	AC	\$10,915.91	\$124,768.85
120-6	EMBANKMENT	58,542.74	CY	\$5.73	\$335,449.90

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
120-6	EMBANKMENT	5,875.00	CY	\$5.73	\$33,663.75
<b>Earthwork Component Total</b>					<b>\$493,882.50</b>

**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	6
Roadway Pavement Width L/R	40.00 / 40.00
Structural Spread Rate	330
Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	23,786.19	SY	\$5.22	\$124,163.91
285-709	OPTIONAL BASE,BASE GROUP 09	21,068.37	SY	\$21.57	\$454,444.74
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	3,476.28	TN	\$135.34	\$470,479.74
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	842.73	TN	\$132.79	\$111,906.12

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	2.00	EA	\$508.90	\$1,017.80

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	10.00
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	2,378.62 SY	\$5.22	\$12,416.40
285-709	OPTIONAL BASE,BASE GROUP 09	2,106.84 SY	\$21.57	\$45,444.54
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	347.63 TN	\$135.34	\$47,048.24
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	84.27 TN	\$132.79	\$11,190.21

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	303.00 EA	\$3.52	\$1,066.56
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.80 NM	\$902.09	\$1,623.76
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.80 GM	\$336.37	\$605.47
711-15-111	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	1.80 NM	\$4,354.66	\$7,838.39
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	1.80 GM	\$1,392.99	\$2,507.38

**Peripherals Subcomponent**

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
339-1	MISCELLANEOUS ASPHALT PAVEMENT	5.87 TN	\$178.88	\$1,050.03
536-1-1	GUARDRAIL- ROADWAY	136.00 LF	\$16.30	\$2,216.80
536-8	GUARDRAIL- BRIDGE ANCHORAGE ASSEM, F&I	4.00 EA	\$2,115.23	\$8,460.92

536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	2.00 EA	\$1,981.56	\$3,963.12
<b>Roadway Component Total</b>				<b>\$1,307,444.13</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	13.25 / 13.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	6.00 / 6.00

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,370.19 LF	\$19.36	\$45,886.88
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,370.19 LF	\$19.36	\$45,886.88
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	3,160.26 SY	\$28.13	\$88,898.11
570-1-1	PERFORMANCE TURF	2,633.55 SY	\$0.64	\$1,685.47

**Erosion Control****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,740.38 LF	\$1.19	\$5,641.05
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$1,548.05	\$1,548.05
104-18	INLET PROTECTION SYSTEM	23.00 EA	\$71.51	\$1,644.73
107-1	LITTER REMOVAL	11.42 AC	\$36.71	\$419.23
107-2	MOWING	11.42 AC	\$60.98	\$696.39

**Shoulder Component Total** **\$192,306.79**

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	5.34

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	4,740.38 LF	\$16.35	\$77,505.21
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	40.00 LF	\$36.85	\$1,474.00
570-1-1	PERFORMANCE TURF	1,406.31 SY	\$0.64	\$900.04

**Median Component Total** **\$79,879.25**

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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400-2-2	CONC CLASS II, ENDWALLS	8.08 CY	\$1,354.57	\$10,944.93
425-1-351	INLETS, CURB, TYPE P-5, <10'	17.00 EA	\$3,092.46	\$52,571.82
425-1-451	INLETS, CURB, TYPE J-5, <10'	5.00 EA	\$6,421.25	\$32,106.25
425-1-521	INLETS, DT BOT, TYPE C, <10'	3.00 EA	\$2,491.70	\$7,475.10
425-2-41	MANHOLES, P-7, <10'	3.00 EA	\$3,051.90	\$9,155.70
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,192.00 LF	\$57.71	\$68,790.32
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	112.00 LF	\$148.56	\$16,638.72
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	2,248.00 LF	\$175.00	\$393,400.00
570-1-1	PERFORMANCE TURF	136.47 SY	\$0.64	\$87.34

**Retention Basin 5**

<b>Description</b>	<b>Value</b>
Size	1 AC
Multiplier	1
Depth	6.00
Description	

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00	AC	\$10,915.91	\$10,915.91
120-1	REGULAR EXCAVATION	9,680.00	CY	\$5.64	\$54,595.20
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,354.57	\$24,382.26
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,372.99	\$3,372.99
425-2-71	MANHOLES, J-7, <10'	3.00	EA	\$5,021.56	\$15,064.68
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	504.00	LF	\$150.00	\$75,600.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$218.70	\$43,740.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00	LF	\$10.25	\$8,610.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$2,671.64	\$2,671.64
570-1-1	PERFORMANCE TURF	4,840.00	SY	\$0.64	\$3,097.60

**Retention Basin 6**

<b>Description</b>	<b>Value</b>
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50	AC	\$10,915.91	\$27,289.78
120-1	REGULAR EXCAVATION	24,200.00	CY	\$5.64	\$136,488.00
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,354.57	\$24,382.26
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00	EA	\$4,130.68	\$4,130.68
425-2-71	MANHOLES, J-7, <10'	3.00	EA	\$5,021.56	\$15,064.68
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	1,000.00	LF	\$150.00	\$150,000.00

430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	504.00 LF	\$218.70	\$110,224.80
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$10.25	\$13,683.75
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$2,671.64	\$2,671.64
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$0.64	\$7,744.00
<b>Drainage Component Total</b>				<b>\$1,324,900.05</b>

### INTERSECTIONS COMPONENT

#### Intersection 1

Description	Value
Mainline No. of Left Turn Lanes	2
Mainline No. of Right Turn Lanes	2
Mainline Design Speed	45
Cross Street Thru Lanes	2
Cross Street No. of Left Turn Lanes	0
Cross Street No. of Right Turn Lanes	0
Cross Street Design Speed	35
T-Intersection?	N
Multiplier	1
Description	21st Ave/Overpass Rd

#### Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.40	AC	\$10,915.91	\$15,282.27
120-1	REGULAR EXCAVATION	595.82	CY	\$5.64	\$3,360.42
160-4	TYPE B STABILIZATION	2,006.56	SY	\$5.22	\$10,474.24
160-4	TYPE B STABILIZATION	1,525.58	SY	\$5.22	\$7,963.53
285-709	OPTIONAL BASE,BASE GROUP 09	2,006.56	SY	\$21.57	\$43,281.50
285-709	OPTIONAL BASE,BASE GROUP 09	1,525.58	SY	\$21.57	\$32,906.76
520-1-7	CONCRETE CURB & GUTTER, TYPE E	202.84	LF	\$16.35	\$3,316.43
520-1-10	CONCRETE CURB & GUTTER, TYPE F	498.00	LF	\$19.36	\$9,641.28
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	670.00	LF	\$36.85	\$24,689.50
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	276.67	SY	\$28.13	\$7,782.73
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	173.89	SY	\$36.95	\$6,425.24
570-1-1	PERFORMANCE TURF	276.67	SY	\$0.64	\$177.07

#### X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	331.08	TN	\$135.34	\$44,808.37
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	251.72	TN	\$135.34	\$34,067.78
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	80.26	TN	\$132.79	\$10,657.73
337-7-43	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	61.02	TN	\$111.88	\$6,826.92



**Intersections Component Total**

\$261,661.77

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	11.00	AS	\$268.97	\$2,958.67
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00	AS	\$877.84	\$877.84
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00	AS	\$4,884.17	\$4,884.17
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00	AS	\$8,405.48	\$8,405.48

**Signing Component Total**

\$17,126.16

**LIGHTING COMPONENT****Conventional Lighting Subcomponent**

Description	Value				
Spacing	MIN				
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	2,370.19	LF	\$4.45	\$10,547.35
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	470.45	LF	\$20.75	\$9,761.84
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	26.00	EA	\$506.56	\$13,170.56
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	8,656.59	LF	\$1.88	\$16,274.39
715-4-111	LIGHT POLE COMP, F&I, WS150, 40'	26.00	EA	\$3,848.43	\$100,059.18
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	26.00	EA	\$459.10	\$11,936.60
<b>Subcomponent Total</b>					\$161,749.91

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
715-4-600	LIGHT POLE COMP, REMOVE	26.00	EA	\$503.02	\$13,078.52

**Lighting Component Total**

\$174,828.44

**LANDSCAPING COMPONENT****User Input Data**

Description	Value
Cost %	10.00
Component Detail	N

**Landscaping Component Total**

\$1,087,932.84

**BRIDGES COMPONENT**

Bridge 100102

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	190.00
Width (LF)	66.10
Type	Medium Level
Cost Factor	1.00
Structure No.	100102
Removal of Existing Structures area	11,468.00
Default Cost per SF	\$130.00
Factored Cost per SF	\$130.00
<b>Final Cost per SF</b>	<b>\$134.87</b>
<b>Basic Bridge Cost</b>	<b>\$1,632,670.00</b>
Description	US 301 NB OVER CSX S-LINE

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURE	11,468.00	SF	\$16.81	\$192,777.08
400-2-10	CONC CLASS II, APPROACH SLABS	146.89	CY	\$281.77	\$41,389.20
415-1-9	REINF STEEL- APPROACH SLABS	25,705.75	LB	\$0.77	\$19,793.43
<b>Bridge 100102 Total</b>					<b>\$1,886,629.71</b>

**Bridge 100011**

<b>Description</b>	<b>Value</b>
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	190.00
Width (LF)	66.10
Type	Medium Level
Cost Factor	1.00
Structure No.	100011
Removal of Existing Structures area	11,468.00
Default Cost per SF	\$130.00
Factored Cost per SF	\$130.00
<b>Final Cost per SF</b>	<b>\$134.87</b>
<b>Basic Bridge Cost</b>	<b>\$1,632,670.00</b>
Description	US 301 SB OVER CSX A-LINE

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURE	11,468.00	SF	\$16.81	\$192,777.08
400-2-10	CONC CLASS II, APPROACH SLABS	146.89	CY	\$281.77	\$41,389.20
415-1-9	REINF STEEL- APPROACH SLABS	25,705.75	LB	\$0.77	\$19,793.43
<b>Bridge 100011 Total</b>					<b>\$1,886,629.71</b>
<b>Bridges Component Total</b>					<b>\$3,773,259.42</b>

**RETAINING WALLS COMPONENT**

**Retaining Wall 1**

Description	Value
Length	1,115.00
Begin height	1.00
End Height	28.70
Multiplier	2

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	33,115.50	SF	\$31.29	\$1,036,184.00

**Retaining Wall 2**

Description	Value
Length	1,068.00
Begin height	28.70
End Height	1.00
Multiplier	2

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	31,719.60	SF	\$31.29	\$992,506.28

**Retaining Wall 3**

Description	Value
Length	980.00
Begin height	1.00
End Height	28.70
Multiplier	1

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-13	RETAINING WALL SYSTEM,TEMP, EXC BAR.	14,553.00	SF	\$16.36	\$238,087.08

**Retaining Wall 4**

Description	Value
Length	850.00
Begin height	28.70
End Height	1.00
Multiplier	1

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-13	RETAINING WALL SYSTEM,TEMP, EXC BAR.	12,622.50	SF	\$16.36	\$206,504.10

**Retaining Wall 5**

Description	Value
Length	980.00
Begin height	24.00
End Height	28.70

Multiplier 1

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-13	RETAINING WALL SYSTEM,TEMP, EXC BAR.	25,823.00	SF	\$16.36	\$422,464.28

**Retaining Wall 6**

Description	Value
Length	850.00
Begin height	28.70
End Height	24.00
Multiplier	1

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-13	RETAINING WALL SYSTEM,TEMP, EXC BAR.	22,397.50	SF	\$16.36	\$366,423.10

**Retaining Walls Component Total** \$3,262,168.84

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**Sequence 4 Total** \$11,975,390.19

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<b>Sequence:</b> 5WDR - Widen/Resurface, Divided, Rural	<b>Net Length:</b> 0.757 MI 3,995 LF
<b>Description:</b> Widen US 301 from Overpass Rd to MLK	

**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	105.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.757
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	19.27	AC	\$10,915.91	\$210,349.59
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	5,560.22	CY	\$15.22	\$84,626.55
<b>Earthwork Component Total</b>					<b>\$294,976.13</b>

**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	385
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	7.00 / 7.00
Widened Inside Pavement Width L/R	11.50 / 11.50
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	25,300.70	SY	\$5.22	\$132,069.65
285-709	OPTIONAL BASE,BASE GROUP 09	17,009.18	SY	\$21.57	\$366,888.01
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	21,305.86	SY	\$2.34	\$49,855.71
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	4,101.38	TN	\$135.34	\$555,080.77
334-1-14		2,709.84	TN	\$135.34	\$366,749.75

	SUPERPAVE ASPHALTIC CONC, TRAFFIC D			
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	852.23 TN	\$132.79	\$113,167.62
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	656.93 TN	\$132.79	\$87,233.73

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
536-1-1	GUARDRAIL- ROADWAY	136.00 LF	\$16.30	\$2,216.80
536-8	GUARDRAIL- BRIDGE ANCHORAGE ASSEM, F&I	4.00 EA	\$2,115.23	\$8,460.92
536-85-22	GUARDRAIL END ANCHORAGE ASSEMBLY- FLARED	2.00 EA	\$1,981.56	\$3,963.12
536-85-25	GUARDRAIL END ANCHORAGE ASSEM- TYPE II	2.00 EA	\$508.90	\$1,017.80

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	5,060.14 SY	\$5.22	\$26,413.93
285-709	OPTIONAL BASE,BASE GROUP 09	3,401.84 SY	\$21.57	\$73,377.69
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	4,261.17 SY	\$2.34	\$9,971.14
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	820.28 TN	\$135.34	\$111,016.70
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	170.45 TN	\$132.79	\$22,634.06

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	511.00 EA	\$3.52	\$1,798.72
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	3.03 NM	\$902.09	\$2,733.33
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.03 GM	\$336.37	\$1,019.20
711-15-111	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	3.03 NM	\$4,354.66	\$13,194.62

711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	3.03 GM	\$1,392.99	\$4,220.76
<b>Roadway Component Total</b>				<b>\$1,953,084.04</b>

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00
New Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	7.00 / 7.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	6,507.16	SY	\$12.73	\$82,836.15
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	4,438.72	SY	\$2.97	\$13,183.00
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	341.78	TN	\$135.34	\$46,256.51
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	248.57	TN	\$132.79	\$33,007.61
570-1-1	PERFORMANCE TURF	2,370.28	SY	\$0.64	\$1,516.98

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	9,188.15	LF	\$1.19	\$10,933.90
104-11	FLOATING TURBIDITY BARRIER	75.66	LF	\$10.09	\$763.41
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	75.66	LF	\$4.25	\$321.56
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,548.05	\$1,548.05
107-1	LITTER REMOVAL	5.50	AC	\$36.71	\$201.90
107-2	MOWING	5.50	AC	\$60.98	\$335.39

**Shoulder Component Total**

\$190,904.45

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	40.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	0.00 / 0.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110

Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	2,020.00 LF	\$36.85	\$74,437.00
570-1-1	PERFORMANCE TURF	2,370.28 SY	\$0.64	\$1,516.98

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	5,282.00 LF	\$16.35	\$86,360.70
521-1	MEDIAN CONC BARRIER WALL	500.00 LF	\$94.67	\$47,335.00

**Median Component Total**

\$209,649.68

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	13.62 CY	\$1,354.57	\$18,449.24
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	608.00 LF	\$93.76	\$57,006.08
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	64.00 LF	\$148.56	\$9,507.84
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	31.00 EA	\$1,367.19	\$42,382.89
570-1-1	PERFORMANCE TURF	532.65 SY	\$0.64	\$340.90

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-891	INLETS, BARRIER WALL, <10'	3.00 EA	\$4,281.19	\$12,843.57

**Retention Basin 7**

Description	Value
Size	1.5 AC
Multiplier	1
Depth	10.00
Description	

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50 AC	\$10,915.91	\$16,373.87
120-1	REGULAR EXCAVATION	24,200.00 CY	\$5.64	\$136,488.00
400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$1,354.57	\$24,382.26
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$3,372.99	\$3,372.99
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$5,021.56	\$15,064.68
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	504.00 LF	\$150.00	\$75,600.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$218.70	\$43,740.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00 LF	\$10.25	\$10,506.25



550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$2,671.64	\$2,671.64
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$0.64	\$4,646.40

**Retention Basin 8**

<b>Description</b>	<b>Value</b>
Size	1.5 AC
Multiplier	2
Depth	10.00
Description	

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	3.00	AC	\$10,915.91	\$32,747.73
120-1	REGULAR EXCAVATION	48,400.00	CY	\$5.64	\$272,976.00
400-2-2	CONC CLASS II, ENDWALLS	36.00	CY	\$1,354.57	\$48,764.52
425-1-541	INLETS, DT BOT, TYPE D, <10'	2.00	EA	\$3,372.99	\$6,745.98
425-2-71	MANHOLES, J-7, <10'	6.00	EA	\$5,021.56	\$30,129.36
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	1,008.00	LF	\$150.00	\$151,200.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00	LF	\$218.70	\$87,480.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	2,050.00	LF	\$10.25	\$21,012.50
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00	EA	\$2,671.64	\$5,343.28
570-1-1	PERFORMANCE TURF	14,520.00	SY	\$0.64	\$9,292.80

**Retention Basin 9**

<b>Description</b>	<b>Value</b>
Size	1 AC
Multiplier	1
Depth	10.00
Description	

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00	AC	\$10,915.91	\$10,915.91
120-1	REGULAR EXCAVATION	16,133.33	CY	\$5.64	\$90,991.98
400-2-2	CONC CLASS II, ENDWALLS	18.00	CY	\$1,354.57	\$24,382.26
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00	EA	\$3,372.99	\$3,372.99
425-2-71	MANHOLES, J-7, <10'	3.00	EA	\$5,021.56	\$15,064.68
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	504.00	LF	\$150.00	\$75,600.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00	LF	\$218.70	\$43,740.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00	LF	\$10.25	\$8,610.00
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00	EA	\$2,671.64	\$2,671.64
570-1-1	PERFORMANCE TURF	4,840.00	SY	\$0.64	\$3,097.60

**Drainage Component Total****\$1,417,515.84**

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00	AS	\$268.97	\$537.94
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	19.00	AS	\$877.84	\$16,678.96
700-1-50	SINGLE POST SIGN, RELOCATE	2.00	AS	\$139.22	\$278.44
700-1-60	SINGLE POST SIGN, REMOVE	19.00	AS	\$14.81	\$281.39
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00	AS	\$3,809.35	\$7,618.70
700-2-60	MULTI- POST SIGN, REMOVE	2.00	AS	\$247.06	\$494.12
<b>Signing Component Total</b>					<b>\$25,889.55</b>

**SIGNALIZATIONS COMPONENT****Signalization 1**

Description	Value
Type	6 Lane Strain Pole
Multiplier	1
Description	Sabal Industrial Blvd

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	700.00	LF	\$4.45	\$3,115.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	\$20.75	\$5,187.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$4,393.85	\$4,393.85
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$3,297.10	\$3,297.10
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00	EA	\$506.56	\$10,131.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$1,206.59	\$1,206.59
639-2-1	ELECTRICAL SERVICE WIRE	30.00	LF	\$1.93	\$57.90
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00	EA	\$883.02	\$883.02
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00	EA	\$7,921.33	\$31,685.32
650-1-311	TRAFFIC SIGNAL,F&I,3 SECT,1 WAY,ALUMINUM	20.00	AS	\$835.07	\$16,701.40
653-191	PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1	8.00	AS	\$555.98	\$4,447.84
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	20.00	EA	\$164.17	\$3,283.40
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	20.00	AS	\$746.24	\$14,924.80
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$259.81	\$2,078.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$27,880.68	\$27,880.68
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	\$238.70	\$954.80

**Signalization 2**

Description		Value			
Type		6 Lane Strain Pole			
Multiplier		1			
Description	MLK				
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	700.00	LF	\$4.45	\$3,115.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	250.00	LF	\$20.75	\$5,187.50
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$4,393.85	\$4,393.85
634-4-143	SPAN WIRE ASSEMBLY, F&I, SINGLE PT, BOX	1.00	PI	\$3,297.10	\$3,297.10
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	20.00	EA	\$506.56	\$10,131.20
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	1.00	AS	\$1,206.59	\$1,206.59
639-2-1	ELECTRICAL SERVICE WIRE	30.00	LF	\$1.93	\$57.90
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	1.00	EA	\$883.02	\$883.02
641-2-17	PREST CNC POLE,F&I,TYP P-VII	4.00	EA	\$7,921.33	\$31,685.32
650-1-311	TRAFFIC SIGNAL,F&I,3 SECT,1 WAY,ALUMINUM	24.00	AS	\$835.07	\$20,041.68
653-191	PEDESTRIAN SIGNAL, F&I, LED-COUNT DWN, 1	8.00	AS	\$555.98	\$4,447.84
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$164.17	\$3,940.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$746.24	\$17,909.76
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	8.00	EA	\$259.81	\$2,078.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$27,880.68	\$27,880.68
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	4.00	EA	\$238.70	\$954.80
<b>Signalizations Component Total</b>					<b>\$267,439.68</b>

### LIGHTING COMPONENT

#### Rural Lighting Subcomponent

Description		Value			
Multiplier (Number of Poles)		48			
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	9,600.00	LF	\$4.45	\$42,720.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	48.00	EA	\$506.56	\$24,314.88
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	28,800.00	LF	\$1.88	\$54,144.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	48.00	EA	\$4,820.17	\$231,368.16
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	48.00	EA	\$459.10	\$22,036.80
<b>Subcomponent Total</b>					<b>\$374,583.84</b>

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
715-4-600	LIGHT POLE COMP, REMOVE	48.00	EA	\$503.02	\$24,144.96
<b>Lighting Component Total</b>					<b>\$398,728.80</b>

**LANDSCAPING COMPONENT**

**User Input Data**

Description	Value
Cost %	10.00
Component Detail	N
<b>Landscaping Component Total</b>	
	<b>\$1,188,460.81</b>

**BRIDGES COMPONENT**

**Bridge 100103**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	675.00
Width (LF)	63.00
Type	Low Level, Widen
Cost Factor	1.25
Structure No.	100103
Removal of Existing Structures area	9,806.00
Default Cost per SF	\$131.00
Factored Cost per SF	\$163.75
<b>Final Cost per SF</b>	<b>\$165.12</b>
<b>Basic Bridge Cost</b>	<b>\$6,963,468.75</b>
Description	US 301 OVER TAMPA BYPASS CANAL

**Bridge Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURE	9,806.00	SF	\$16.81	\$164,838.86
400-2-10	CONC CLASS II, APPROACH SLABS	140.00	CY	\$281.77	\$39,447.80
415-1-9	REINF STEEL- APPROACH SLABS	24,500.00	LB	\$0.77	\$18,865.00
<b>Bridge 100103 Total</b>					<b>\$7,186,620.41</b>
<b>Bridges Component Total</b>					<b>\$7,186,620.41</b>

<b>Sequence 5 Total</b>					<b>\$13,133,269.39</b>
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<b>Sequence:</b> 6 WDR - Widen/Resurface, Divided, Rural	<b>Net Length:</b> 0.393 MI 2,076 LF
<b>Description:</b> Widen US 301 from MLK to Oak Fair Blvd	

**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	105.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.393
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	10.00	AC	\$10,915.91	\$109,159.10
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	2,886.61	CY	\$15.22	\$43,934.20
<b>Earthwork Component Total</b>					<b>\$153,093.30</b>

**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	275
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	7.00 / 7.00
Widened Inside Pavement Width L/R	11.50 / 11.50
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	13,148.61	SY	\$5.22	\$68,635.74
285-709	OPTIONAL BASE,BASE GROUP 09	8,839.56	SY	\$21.57	\$190,669.31
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	11,072.51	SY	\$2.34	\$25,909.67
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	1,522.47	TN	\$135.34	\$206,051.09
334-1-14		1,408.29	TN	\$135.34	\$190,597.97

	SUPERPAVE ASPHALTIC CONC, TRAFFIC D			
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	442.90 TN	\$132.79	\$58,812.69
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	341.40 TN	\$132.79	\$45,334.51

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	20.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	2,629.72 SY	\$5.22	\$13,727.14
285-709	OPTIONAL BASE,BASE GROUP 09	1,767.91 SY	\$21.57	\$38,133.82
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	2,214.50 SY	\$2.34	\$5,181.93
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	304.49 TN	\$135.34	\$41,209.68
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	88.58 TN	\$132.79	\$11,762.54

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	265.00 EA	\$3.52	\$932.80
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.57 NM	\$902.09	\$1,416.28
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.57 GM	\$336.37	\$528.10
711-15-111	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	1.57 NM	\$4,354.66	\$6,836.82
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	1.57 GM	\$1,392.99	\$2,186.99

**Roadway Component Total**

\$907,927.09

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00

New Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	7.00 / 7.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	3,381.73	SY	\$12.73	\$43,049.42
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	2,306.77	SY	\$2.97	\$6,851.11
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	177.62	TN	\$135.34	\$24,039.09
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	129.18	TN	\$132.79	\$17,153.81
570-1-1	PERFORMANCE TURF	1,231.82	SY	\$0.64	\$788.36

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,775.02	LF	\$1.19	\$5,682.27
104-11	FLOATING TURBIDITY BARRIER	39.32	LF	\$10.09	\$396.74
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	39.32	LF	\$4.25	\$167.11
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,548.05	\$1,548.05
107-1	LITTER REMOVAL	2.86	AC	\$36.71	\$104.99
107-2	MOWING	2.86	AC	\$60.98	\$174.40

**Shoulder Component Total**

\$99,955.36

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	40.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	0.00 / 0.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	718.00	LF	\$36.85	\$26,458.30
570-1-1	PERFORMANCE TURF	1,231.82	SY	\$0.64	\$788.36

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	2,716.00 LF	\$16.35	\$44,406.60
<b>Median Component Total</b>				<b>\$71,653.26</b>

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	7.08 CY	\$1,354.57	\$9,590.36
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	320.00 LF	\$93.76	\$30,003.20
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	32.00 LF	\$148.56	\$4,753.92
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	16.00 EA	\$1,367.19	\$21,875.04
570-1-1	PERFORMANCE TURF	276.81 SY	\$0.64	\$177.16

**Retention Basin 10**

Description	Value
Size	1 AC
Multiplier	1
Depth	10.00
Description	

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.00 AC	\$10,915.91	\$10,915.91
120-1	REGULAR EXCAVATION	16,133.33 CY	\$5.64	\$90,991.98
400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$1,354.57	\$24,382.26
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$3,372.99	\$3,372.99
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$5,021.56	\$15,064.68
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	504.00 LF	\$150.00	\$75,600.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$218.70	\$43,740.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	840.00 LF	\$10.25	\$8,610.00
550-60-234	FENCE GATE, TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$2,671.64	\$2,671.64
570-1-1	PERFORMANCE TURF	4,840.00 SY	\$0.64	\$3,097.60
<b>Drainage Component Total</b>				<b>\$344,846.74</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$268.97	\$268.97
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	10.00 AS	\$877.84	\$8,778.40
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$139.22	\$139.22



700-1-60	SINGLE POST SIGN, REMOVE	10.00 AS	\$14.81	\$148.10
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,809.35	\$3,809.35
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$247.06	\$247.06
<b>Signing Component Total</b>				<b>\$13,391.10</b>

**LIGHTING COMPONENT****Rural Lighting Subcomponent**

<b>Description</b>		<b>Value</b>		
Multiplier (Number of Poles)		24		
<b>Pay Items</b>				
<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
630-2-11	CONDUIT, F& I, OPEN TRENCH	4,800.00 LF	\$4.45	\$21,360.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	24.00 EA	\$506.56	\$12,157.44
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	14,400.00 LF	\$1.88	\$27,072.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	24.00 EA	\$4,820.17	\$115,684.08
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	24.00 EA	\$459.10	\$11,018.40
<b>Subcomponent Total</b>				<b>\$187,291.92</b>

**X-Items**

<b>Pay item</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Extended Amount</b>
715-4-600	LIGHT POLE COMP, REMOVE	24.00 EA	\$503.02	\$12,072.48
<b>Lighting Component Total</b>				<b>\$199,364.40</b>

**LANDSCAPING COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Cost %	10.00
Component Detail	N

**Landscaping Component Total** **\$175,894.70**

**Sequence 6 Total** **\$1,966,125.95**

<b>Sequence:</b> 7WDR - Widen/Resurface, Divided, Rural	<b>Net Length:</b> 0.355 MI 1,874 LF
<b>Description:</b> Widen US 301 from Oak Fair Blvd to South of I-4	

**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	105.00 / 105.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.355
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	9.04	AC	\$10,915.91	\$98,679.83
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	4,980.35	CY	\$15.22	\$75,800.93
<b>Earthwork Component Total</b>					<b>\$174,480.75</b>

**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	385
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	24.00 / 7.00
Widened Inside Pavement Width L/R	11.50 / 11.50
Widened Structural Spread Rate	330
Widened Friction Course Spread Rate	80

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	18,738.72	SY	\$5.22	\$97,816.12
285-709	OPTIONAL BASE,BASE GROUP 09	11,518.07	SY	\$21.57	\$248,444.77
327-70-11	MILLING EXIST ASPH PAVT,2 1/4" AVG DEPTH	9,993.98	SY	\$3.06	\$30,581.58
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	1,923.84	TN	\$135.34	\$260,372.51
334-1-14		1,855.13	TN	\$135.34	\$251,073.29

	SUPERPAVE ASPHALTIC CONC, TRAFFIC D			
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	399.76 TN	\$132.79	\$53,084.13
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	449.73 TN	\$132.79	\$59,719.65

**Turnouts/Crossovers Subcomponent**

Description	Value
Asphalt Adjustment	5.00
Milling Code	Y
Stabilization Code	Y
Base Code	Y
Friction Course Code	Y

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	936.94 SY	\$5.22	\$4,890.83
285-709	OPTIONAL BASE,BASE GROUP 09	575.90 SY	\$21.57	\$12,422.16
327-70-11	MILLING EXIST ASPH PAVT,2 1/4" AVG DEPTH	499.70 SY	\$3.06	\$1,529.08
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	96.19 TN	\$135.34	\$13,018.35
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	19.99 TN	\$132.79	\$2,654.47

**Pavement Marking Subcomponent**

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	4

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	240.00 EA	\$3.52	\$844.80
710-11-111	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.42 NM	\$902.09	\$1,280.97
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.42 GM	\$336.37	\$477.65
711-15-111	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	1.42 NM	\$4,354.66	\$6,183.62
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	1.42 GM	\$1,392.99	\$1,978.05

**Roadway Component Total**

\$1,046,372.02

**SHOULDER COMPONENT****User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 10.00

New Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 2.67
Existing Paved Outside Shoulder Width L/R	5.00 / 5.00
New Paved Outside Shoulder Width L/R	7.00 / 7.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	3,052.33	SY	\$12.73	\$38,856.16
327-70-1	MILLING EXIST ASPH PAVT, 1" AVG DEPTH	2,082.08	SY	\$2.97	\$6,183.78
334-1-14	SUPERPAVE ASPHALTIC CONC, TRAFFIC D	160.32	TN	\$135.34	\$21,697.71
337-7-22	ASPH CONC FC,INC BIT,FC-5,PG76-22,PMA	116.60	TN	\$132.79	\$15,483.31
570-1-1	PERFORMANCE TURF	1,111.83	SY	\$0.64	\$711.57

**X-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,650.00	LF	\$19.36	\$31,944.00
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6"	1,002.00	SY	\$36.95	\$37,023.90

**Erosion Control****Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,309.91	LF	\$1.19	\$5,128.79
104-11	FLOATING TURBIDITY BARRIER	35.49	LF	\$10.09	\$358.09
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	35.49	LF	\$4.25	\$150.83
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$1,548.05	\$1,548.05
107-1	LITTER REMOVAL	2.58	AC	\$36.71	\$94.71
107-2	MOWING	2.58	AC	\$60.98	\$157.33

**Shoulder Component Total**

\$159,338.24

**MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	40.00
Performance Turf Width	5.34
New Total Median Shoulder Width L/R	8.00 / 8.00
New Paved Median Shoulder Width L/R	0.00 / 0.00
Existing Total Median Shoulder Width L/R	8.00 / 8.00
Existing Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips No. of Sides	0

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
570-1-1	PERFORMANCE TURF	1,111.83 SY	\$0.64	\$711.57

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-7	CONCRETE CURB & GUTTER, TYPE E	4,152.00 LF	\$16.35	\$67,885.20

**Median Component Total**

\$68,596.77

**DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	6.39 CY	\$1,354.57	\$8,655.70
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	288.00 LF	\$93.76	\$27,002.88
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	32.00 LF	\$148.56	\$4,753.92
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	15.00 EA	\$1,367.19	\$20,507.85
570-1-1	PERFORMANCE TURF	249.85 SY	\$0.64	\$159.90

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-461	INLETS, CURB, TYPE J-6, <10'	6.00 EA	\$6,107.10	\$36,642.60
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	1,656.00 LF	\$175.00	\$289,800.00

**Box Culvert 1**

Description	Value
Size	10 x 8
Length	30.00
Multiplier	1

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-4-1	CONC CLASS IV, CULVERTS	61.80 CY	\$1,562.16	\$96,541.49
415-1-1	REINF STEEL- ROADWAY	5,983.50 LB	\$0.95	\$5,684.32

**Retention Basin 11**

Description	Value
Size	1.5 AC
Multiplier	1
Depth	10.00
Description	

**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.50 AC	\$10,915.91	\$16,373.87
120-1	REGULAR EXCAVATION	24,200.00 CY	\$5.64	\$136,488.00

400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$1,354.57	\$24,382.26
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$3,372.99	\$3,372.99
425-2-71	MANHOLES, J-7, <10'	3.00 EA	\$5,021.56	\$15,064.68
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	504.00 LF	\$150.00	\$75,600.00
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$218.70	\$43,740.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,025.00 LF	\$10.25	\$10,506.25
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00 EA	\$2,671.64	\$2,671.64
570-1-1	PERFORMANCE TURF	7,260.00 SY	\$0.64	\$4,646.40
<b>Drainage Component Total</b>				<b>\$822,594.76</b>

**SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$268.97	\$268.97
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	9.00 AS	\$877.84	\$7,900.56
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$139.22	\$139.22
700-1-60	SINGLE POST SIGN, REMOVE	9.00 AS	\$14.81	\$133.29
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$3,809.35	\$3,809.35
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$247.06	\$247.06
<b>Signing Component Total</b>				<b>\$12,498.45</b>

**LIGHTING COMPONENT****Rural Lighting Subcomponent**

Description	Value			
Multiplier (Number of Poles)	22			
<b>Pay Items</b>				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	4,400.00 LF	\$4.45	\$19,580.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	22.00 EA	\$506.56	\$11,144.32
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	13,200.00 LF	\$1.88	\$24,816.00
715-4-122	LIGHT POLE COMP, F&I, WS130, 45'	22.00 EA	\$4,820.17	\$106,043.74
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	22.00 EA	\$459.10	\$10,100.20
<b>Subcomponent Total</b>				<b>\$171,684.26</b>

**X-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
715-4-600	LIGHT POLE COMP, REMOVE	22.00 EA	\$503.02	\$11,066.44
<b>Lighting Component Total</b>				<b>\$182,750.70</b>

**LANDSCAPING COMPONENT****User Input Data**

<b>Description</b>	<b>Value</b>
Cost %	10.00
Component Detail	N

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<b>Landscaping Component Total</b>	<b>\$243,949.86</b>
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<b>Sequence 7 Total</b>	<b>\$2,710,581.55</b>
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Date: 6/19/2015 10:35:36 AM

## FDOT Long Range Estimating System - Production

### R3: Project Details by Sequence Report

**Project:** 430050-1-22-01**Letting Date:** 01/2099**Description:** US 301 FROM SR 60 TO I-4**District:** 07**County:** 10 HILLSBOROUGH**Market Area:** 08**Units:** English**Contract Class:** 4 Lump Sum Project: N**Design/Build:** N**Project Length:** 3.079 MI**Project Manager:** PRD-SMP-AIM**Version 2 Project Grand Total****\$52,083,509.19****Description:** US 301 Alternative 2 - Replace Bridges over CSX

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**Project Sequences Subtotal** **\$46,224,752.29**

102-1	Maintenance of Traffic	5.00 %	\$2,311,237.61
101-1	Mobilization	7.00 %	\$3,397,519.29

**Project Sequences Total** **\$51,933,509.19**

Project Unknowns	0.00 %	\$0.00
Design/Build	0.00 %	\$0.00

**Non-Bid Components:**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

**Project Non-Bid Subtotal** **\$150,000.00**
**Version 2 Project Grand Total** **\$52,083,509.19**