

Final Project Development Summary Report

US 301 (SR 39)

**From CR 54 (Eiland Boulevard)
to US 98 Bypass (SR 533)
Pasco County, Florida**

**Work Program Item Segment No: 408075-1
Federal Aid Project No.: 3112-020-P**

Prepared For:



**Florida Department of Transportation
11201 North McKinley Drive
Tampa, Florida 33612**

September 2010

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**Work Program Item Segment No: 408075-1
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Prepared For:



Florida Department of Transportation

Prepared By:

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(Prepared By)

Steve Gordillo, P.E., Project Engineer
(Name and Title of Engineer)

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Officer)

50586
(P.E. Number)



Florida Department of Transportation

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SECRETARY

September 21, 2010

Mr. Martin Knopp, Division Administrator
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303
Attention: Nahir DeTizio, District Transportation Engineer

Subject: US 301 (SR 39) PD&E Study
Type 2 Categorical Exclusion with Project Location and Design Concepts
Financial Project No. 408075 1 22 01
Federal Aid Project No. 3112 020 P
US 301 (SR 39) PD&E Study from CR 54 (Eiland Boulevard) to US 98 Bypass (SR 533), Pasco County, Florida

Dear Mr. Knopp,

Enclosed is a copy of the Project Development Summary Report, which includes the Summary of Environmental Impacts Checklist for Type 2 Categorical Exclusions and a transcript of the public hearing held for this project. Upon your review and acceptance of this document, we request your concurrence that the project is properly classified as a Categorical Exclusion as described in 23 CFR 771.115 and 771.117, and that the general project location and design concepts described in this document is acceptable as allowable in 23 CFR 771.113. Please acknowledge your concurrence with this finding by signing and dating this request in the space provided below, and then returning a signed copy for the project files.

Sincerely,

Ming Gao, P.E.
District Intermodal Systems
Development Manager

Concurrence by FHWA:

FHWA Division Administrator

9 / 21 / 2010
Date

**Summary of Environmental Impacts Checklist
For Type 2 Categorical Exclusions**

Topical Categories	S	NS	N	NI	Basis for Decision *
A. NATURAL ENVIRONMENT					
1. Air Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
2. Coastal and Marine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Contaminated Sites	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
4. Farmlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
5. Floodplains	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Section 6
6. Infrastructure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Section 6
7. Navigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
8. Special Designations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
9. Water Quality/Quantity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Section 6
10. Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
11. Wildlife and Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
B. CULTURAL IMPACTS					
1. Historic /Archaeological	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
2. Recreation Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
3. Section 4(f) Potential	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
C. COMMUNITY IMPACTS					
1. Aesthetics	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
2. Economic	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
3. Land Use	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
4. Mobility	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
5. Relocation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
6. Social	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Section 6
D. OTHER IMPACTS					
1. Noise	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Section 6
2. Construction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Section 6

* S = Significant; NS = Not Significant; N = None; NI = No Involvement. Basis of decision will be a reference to the Programming Summary Report, or summary following this checklist that is included in the Project Development Summary Report.

Prepared By: [Signature] DOT Representative

Date: 9/21/10

Reviewed By:

Signature: [Signature] District Environmental Administrator

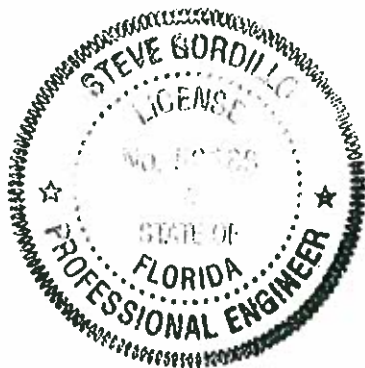
Date: 9/21/10

PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida authorized to operate as an engineering business by the State of Florida Department of Professional Regulation, Board of Engineers, and that I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice hereby reported for:

Financial Project Number: 408075 1 22 01
FAP Project Number: 3112 020 P
Project: US 301 (SR 39) PD&E Study
From CR 54 (Eiland Boulevard) to US 98 Bypass (SR 533)
County: Pasco
FDOT Project Manager: Manuel E. Santos
FDOT District 7
Project Manager

I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience.



Date:
P.E. No.

9/21/10
No. 50586

Signature:
Name:

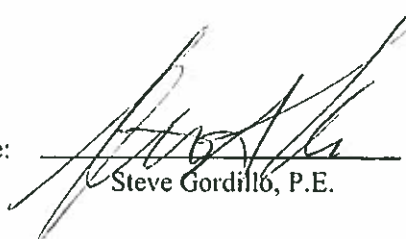

Steve Gordillo, P.E.

TABLE OF CONTENTS

Section	Title	Page
LIST OF TABLES		viii
LIST OF FIGURES		x
SECTION 1 EXECUTIVE SUMMARY.....		1-1
SECTION 2 COMMITMENTS AND RECOMMENDATIONS		2-1
2.1	Commitments	2-1
2.2	Recommendations	2-1
2.3	References	2-3
SECTION 3 INTRODUCTION.....		3-1
3.1	Study Purpose and PD&E Study Process.....	3-1
3.2	Project Description.....	3-1
3.3	Project Purpose and Need	3-3
3.4	Project Segmentation	3-3
3.5	Need for Improvement	3-4
3.5.1	Deficiencies.....	3-4
3.5.2	Existing and Future Traffic Conditions.....	3-4
3.5.3	Safety	3-6
3.5.4	Hurricane Evacuation.....	3-7
3.5.5	Consistency with Transportation Plans	3-7
3.5.6	Social and Economic Demands.....	3-7
3.6	References	3-8
SECTION 4 ALTERNATIVES DEVELOPMENT		4-1
4.1	Existing Conditions	4-1
4.1.1	Typical Sections	4-1
4.1.1.1	Typical Section 1: Segments A, B [from Kossik Road to North of Wire Road and North of Centennial Road to US 98], C, and D [from Morningside Drive to North of Countryside Place] (Rural).....	4-1
4.1.1.2	Typical Section 2: Segment B from North of Wire Road to North of Centennial Road (Rural with Shoulder Gutter).....	4-3
4.1.1.3	Typical Section 3: Segment D from North of Countryside Place to US 98 Bypass (Urban)	4-3
4.1.2	Horizontal Alignment	4-3
4.1.3	Vertical Alignment.....	4-6
4.1.4	Drainage.....	4-7
4.2	Corridor Analysis.....	4-10
4.2.1	Evaluation of Alternate Corridors.....	4-10

4.2.2	Improvement of Parallel Roadways.....	4-10
4.2.3	Development of a New Roadway Corridor.....	4-11
4.2.4	Enhancement of Transit Service	4-11
4.2.5	Improvement of the Existing Corridor.....	4-11
4.2.6	Corridor Selection.....	4-11
4.3	No-Build Alternative.....	4-12
4.4	Transportation System Management Multi-Modal Improvements	4-15
4.5	Build Alternatives	4-15
4.5.1	Design Criteria.....	4-15
4.5.2	Typical Sections.....	4-22
4.5.3	Selection of Preferred Alternative.....	4-31
4.6	References.....	4-37
SECTION 5 PREFERRED ALTERNATIVE.....		5-1
5.1	Description of Preferred Alternative.....	5-1
5.2	Design Traffic Volumes.....	5-3
5.2.1	Development of Design Hour Traffic Volumes.....	5-3
5.2.2	Traffic Characteristics.....	5-3
5.2.3	Existing Roadway Characteristics.....	5-9
5.2.4	Traffic Volume Projections.....	5-9
5.2.5	Future Conditions Traffic Analysis.....	5-15
5.2.5.1	Interim Year (2025).....	5-15
5.2.5.2	Design Year (2035).....	5-15
5.3	Typical Section	5-30
5.4	Intersection Concepts and Signal Analysis.....	5-31
5.5	Alignment and Right-of-Way Needs	5-34
5.6	Relocations.....	5-34
5.7	Right-of-Way Costs	5-34
5.8	Construction Costs	5-35
5.9	Preliminary Engineering and Construction Engineering Costs.....	5-36
5.10	Recycling of Salvageable Materials.....	5-36
5.11	User Benefits.....	5-36
5.12	Pedestrian and Bicycle Facilities	5-37
5.13	Safety	5-37
5.14	Economic and Community Development.....	5-37
5.15	Utility Impacts.....	5-37
5.16	Traffic Control Plan	5-38
5.17	Value Engineering.....	5-38
5.18	Drainage.....	5-39
5.19	Structures	5-39
5.20	Access Management.....	5-39
5.21	Regional Transit Locations	5-44
5.22	Aesthetics and Landscaping.....	5-44

5.23 Evaluation Summary	5-44
5.24 References	5-45

SECTION 6 ENVIRONMENTAL IMPACTS SUMMARY.....6-1

6.1 Natural Environment	6-2
6.1.1 Air Quality Impacts	6-2
6.1.2 Costal and Marine	6-3
6.1.3 Farmlands	6-4
6.1.4 Floodplains	6-4
6.1.5 Infrastructure	6-5
6.1.6 Navigation	6-6
6.1.7 Special Designations	6-6
6.1.8 Water Quality and Quantity	6-6
6.1.8.1 Water Quantity Requirements	6-8
6.1.9 Wetlands/Surface Waters	6-8
6.1.10 Wildlife and Habitat	6-9
6.2 Cultural Environment	6-10
6.2.1 Historic and Archaeological Sites	6-10
6.2.1.1 Cultural Resources Assessment Survey	6-10
6.2.2 Recreation Areas	6-11
6.2.2.1 Community Facilities	6-11
6.2.3 Section 4(f) Properties	6-11
6.3 Social Environment	6-12
6.3.1 Aesthetics	6-12
6.3.2 Economic	6-12
6.3.3 Land Use	6-13
6.3.4 Mobility	6-15
6.3.5 Relocation	6-15
6.3.6 Social	6-15
6.3.6.1 Community Cohesion	6-16
6.4 Other	6-16
6.4.1 Traffic Noise	6-16
6.4.1.1 Noise Sensitive Sites within Segment A and a portion of Segment C	6-17
6.4.1.2 Traffic Noise Levels within Segment A	6-17
6.4.1.3 Noise Abatement Measures within Segment A	6-18
6.4.1.4 Construction Noise	6-19
6.4.1.5 Noise Contours	6-19
6.4.2 Construction	6-19
6.5 References	6-20

SECTION 7 PERMITS AND MITIGATION SUMMARY7-1

7.1 Permits	7-1
7.2 Avoidance/Minimization/Mitigation	7-1

7.3	References.....	7-1
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SECTION 8 PUBLIC INVOLVEMENT SUMMARY.....8-1

8.1	Public Involvement	8-1
8.2	Advance Notification	8-1
8.3	Newsletters.....	8-1
8.3.1	Public Kickoff.....	8-1
8.3.2	Alternatives Public Workshop	8-1
8.4	Alternatives Public Workshop	8-2
8.5	Public Hearing.....	8-2
8.6	References.....	8-3

APPENDIX A CONCEPTUAL DESIGN PLANS (PREFERRED ALTERNATIVE)

APPENDIX B CORRESPONDENCE

LIST OF TABLES

Table	Title	Page
Table 3-1	Existing Year (2008) and Design Year (2035) US 301 Intersection Control Delay Summary	3-4
Table 3-2	Existing Year (2008) and Design Year (2035) US 301 Arterial Northbound Level of Service Summary	3-5
Table 3-3	Existing Year (2008) and Design Year (2035) US 301 Arterial Southbound Level of Service Summary	3-6
Table 3-4	Pasco County Socioeconomic Information	3-8
Table 4-1	Existing Horizontal Alignment Characteristics within the Study Limits	4-6
Table 4-2	Existing Vertical Alignment Characteristics within the Study Limits	4-6
Table 4-3	Existing Cross Drains	4-7
Table 4-4	Design Year (2035) No-Build US 301 Intersection Level of Service Summary	4-12
Table 4-5	Design Year (2035) No-Build US 301 Intersection Control Delay Summary	4-13
Table 4-6	Design Year (2035) No-Build US 301 Arterial Northbound Level of Service Summary	4-13
Table 4-7	Design Year (2035) No-Build US 301 Arterial Southbound Level of Service Summary	4-14
Table 4-8	Typical Section Design Criteria	4-16
Table 4-9	Evaluation Matrix – Segment A	4-32
Table 4-10	Evaluation Matrix – Segment B	4-33
Table 4-11	Evaluation Matrix – Segment C	4-34
Table 4-12	Evaluation Matrix – Segment D	4-35
Table 4-13	Evaluation Matrix – Complete Corridor Summary	4-36
Table 5-1	Traffic Characteristics	5-3
Table 5-2	Interim Year (2025) Build US 301 Intersection Level of Service Summary	5-26
Table 5-3	Interim Year (2025) Build US 301 Intersection Control Delay Summary	5-26
Table 5-4	Interim Year (2025) US 301 Arterial Northbound Level of Service Summary	5-27
Table 5-5	Interim Year (2025) US 301 Arterial Southbound Level of Service Summary	5-27
Table 5-6	Design Year (2035) Build US 301 Intersection Level of Service Summary	5-28
Table 5-7	Design Year (2035) Build US 301 Intersection Control Delay Summary	5-29
Table 5-8	Design Year (2035) Build US 301 Arterial Northbound Level of Service Summary	5-29
Table 5-9	Design Year (2035) Build US 301 Arterial Southbound Level of Service Summary	5-30
Table 5-10	TSM 2035 US 301 Intersection Level of Service Summary	5-34
Table 5-11	TSM 2035 US 301 Intersection Control Delay Summary	5-34

Table 5-12 Summary of Right-of-Way Costs for Preferred Alternative.....	5-35
Table 5-13 Summary of Right-of-Way Costs for Off System Improvements in Support of the Preferred Alternative.....	5-35
Table 5-14 Summary of Construction Cost for Preferred Alternative and Supporting Improvements	5-36
Table 5-15 Potential Pond Site Evaluation	5-39
Table 5-16 Access Classification and Standards for Controlled Access Facilities.....	5-40
Table 5-17 US 301 Corridor Proposed Median Openings	5-41
Table 5-18 Evaluation Matrix – No-Build and Preferred Build Alternative.....	5-45
Table 6-1 Degree of Effect Programming Screen.....	6-1
Table 6-2 CR 54 (Eiland Boulevard)/US 301 Intersection CO Screening Results	6-3
Table 6-2 Federal Highway Administration’s Noise Abatement Criteria.....	6-17

LIST OF FIGURES

Figure	Title	Page
Figure 2-1:	Roadway Typical Section from South of CR 54 (Eiland Boulevard) to North of Kossik Road Segment A - Preferred Alternative	2-4
Figure 2-2:	Preferred Roadway Typical Section from US 98 (SR 700) to CR 52A (Clinton Avenue).....	2-5
Figure 3-1:	Location Map	3-2
Figure 4-1:	Existing Roadway Typical Section from south of CR 54 (Eiland Boulevard) to North of Wire Road and From North of Centennial Road to North of Countryside Place	4-2
Figure 4-2:	Existing Roadway Typical Section from North of Wire Road to North of Centennial Road.....	4-4
Figure 4-3:	Existing Roadway Typical Section from North of Countryside Place to North of US 98 Bypass (SR 533)	4-5
Figure 4-4:	FEMA Floodplain Map	4-9
Figure 4-5:	Proposed Roadway Typical Section from south of CR 54 (Eiland Boulevard) to north of Kossik Road Segment A - Alternative 1(High-Speed Urban Alternative).....	4-23
Figure 4-6:	Proposed Roadway Typical Section from south of CR 54 (Eiland Boulevard) to north of Kossik Road Segment A - Alternative 2 (Low-Speed Urban Alternative).....	4-24
Figure 4-7:	Proposed Roadway Typical Section from north of Kossik Road to Morningside Drive Segments B & C - Alternative 1 (High-Speed Urban Alternative).....	4-26
Figure 4-8:	Proposed Roadway Typical Section from north of Kossik Road to north of Wire Road and from north of Centennial Road to Morningside Drive Segments B & C - Alternative 2 (Rural Alternative)	4-27
Figure 4-9:	Proposed Roadway Typical Section from north of Wire Road to north of Centennial Road Segment B – Alternative 2A (Rural Alternative – Shoulder Gutter Section).....	4-28
Figure 4-10:	Proposed Roadway Typical Section from Morningside Drive to US 98 Bypass (SR 533) Segment D – Alternative 1 (High-Speed Urban Alternative).....	4-29
Figure 4-11:	Proposed Roadway Typical Section from Morningside Drive to US 98 Bypass (SR 533) Segment D – Alternative 2 (Low-Speed Urban Alternative).....	4-30
Figure 5-1A:	Existing Year (2008) AADT and Turning Movement Volumes.....	5-4
Figure 5-1B:	Existing Year (2008) AADT and Turning Movement Volumes	5-5
Figure 5-1C:	Existing Year (2008) AADT and Turning Movement Volumes	5-6
Figure 5-1D:	Existing Year (2008) AADT and Turning Movement Volumes.....	5-7
Figure 5-1E:	Existing Year (2008) AADT and Turning Movement Volumes	5-8
Figure 5-2A:	Existing Year (2008) Corridor Lane Geometry	5-10
Figure 5-2B:	Existing Year (2008) Corridor Lane Geometry.....	5-11
Figure 5-2C:	Existing Year (2008) Corridor Lane Geometry.....	5-12
Figure 5-2D:	Existing Year (2008) Corridor Lane Geometry	5-13
Figure 5-2E:	Existing Year (2008) Corridor Lane Geometry.....	5-14

Figure 5-3A: Design Year (2035) Turning Movement Volumes.....	5-16
Figure 5-3B: Design Year (2035) Turning Movement Volumes.....	5-17
Figure 5-3C: Design Year (2035) Turning Movement Volumes.....	5-18
Figure 5-3D: Design Year (2035) Turning Movement Volumes.....	5-19
Figure 5-3E: Design Year (2035) Turning Movement Volumes	5-20
Figure 5-4A: Interim Year (2025) Turning Movement Volumes	5-21
Figure 5-4B: Interim Year (2025) Turning Movement Volumes	5-22
Figure 5-4C: Interim Year (2025) Turning Movement Volumes	5-23
Figure 5-4D: Interim Year (2025) Turning Movement Volumes	5-24
Figure 5-4E: Interim Year (2025) Turning Movement Volumes.....	5-25
Figure 5-5: Roadway Typical Section from South of CR 54 (Eiland Boulevard) to North of Kossik Road Segment A - Preferred Alternative	5-32
Figure 5-6: Preferred Roadway Typical Section from US 98 (SR 700) to CR 52A (Clinton Avenue).....	5-33
Figure 6-1: Future Land Use/Land Cover.....	6-14

SECTION 1

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study to evaluate improvements to US 301 (SR 39) in eastern Pasco County. The project limits are from south of CR 54 (Eiland Boulevard) to the US 98 Bypass (SR 533). The length of the study is 7.6 miles. The objective of the PD&E Study was to provide documented environmental and engineering analyses, which would help the FDOT and the Federal Highway Administration (FHWA) reach a decision on the type, conceptual design and location of the necessary improvements within the US 301 PD&E Study limits to accommodate future transportation needs in a safe and efficient manner. This Project Development Summary Report (PDSR) was prepared as part of the PD&E Study. The objective of this PDSR was to document the need for the project and present the procedures used to develop and evaluate various improvement alternatives as they relate to the transportation facility.

Originally, the PD&E Study evaluated the proposed widening of US 301 to a six-lane divided roadway from south of CR 54 to the US 98 Bypass for two Build Alternatives representing three separate typical sections: Build Alternative 1 - High Speed Urban typical section for Segments A through D; and Build Alternative 2 - Low Speed Urban typical section for Segments A and D and Rural typical section for Segments B and C. A summary of the impacts that could occur if either Build Alternative were to be implemented for each of the study segments was presented at the Alternatives Public Workshop held on June 3, 2009.

The purpose of the Alternatives Public Workshop was to solicit public input regarding the proposed Build Alternatives and the No-Build Alternative for the proposed project. On July 16, 2009 the FDOT determined a recommended Build Alternative would be presented at the Study's Public Hearing in addition to the No Build Alternative. The recommended Build Alternative determination was based on the results of the Build Alternative's impact evaluation, public feedback received during the public involvement process, and consistency with current transportation plans.

As a result of this determination, the Recommended Build Alternative presented at the Public Hearing on November 4, 2009 consisted of widening US 301 to a six-lane roadway facility in Segment A only (from south of CR 54 to north of Kossik Road) and maintaining the existing four-lanes on US 301 in Segments B-D (from north of Kossik Road to the US 98 Bypass). The recommended typical section for the six-lane widening was a low-speed urban typical section. The section of US 301 between Kossik Road and Wire

Road would be used to transition the proposed six-lanes into the existing four-lane roadway. To minimize traffic congestion and improve safety north of Kossik Road, Transportation System Management (TSM) improvements were also recommended. The TSM improvements could include, but not be limited to, median modifications on US 301 from north of Kossik Road to US 98 Bypass and turn lane improvements at four signalized intersections: Centennial Road, CR 52A (Clinton Avenue), Morningside Drive, and US 98 Bypass.

The Preferred Build Alternative developed for the US 301 PD&E Study is required to be consistent with the Pasco County Metropolitan Planning Organization's (MPO) Cost Affordable Roadway Long Range Transportation Plan (LRTP). The Recommended Build Alternative presented at the Study's Public Hearing on November 4, 2009 was consistent with the Pasco MPO 2025 Cost Affordable LRTP. Subsequent to the Public Hearing, the Pasco County MPO adopted their 2035 LRTP on December 10, 2009. The adopted 2035 Cost Affordable Roadway Plan contains an additional roadway segment on US 301 between US 98 (SR 700) and CR 52A where six-lanes are proposed in addition to the six-lane roadway section on US 301 from south of CR 54 to Kossik Road.

Preferred Build Alternative

Therefore, the Preferred Build Alternative consists of widening US 301 to a six-lane roadway facility in Segment A (from south of CR 54 to north of Kossik Road) and a portion of Segment C from south of US 98 to CR 52A. The section of US 301 between Kossik Road and Wire Road will be used to transition the proposed six-lanes in Segment A into the existing four-lane roadway. Within the portion of Segment C from south of US 98 to CR 52A, the section of US 301 from north of Musselman Road to US 98 will be used to transition the proposed six-lanes in Segment C into the existing four-lane roadway. Elsewhere within the study limits, the existing four-lanes on US 301 in Segments B-D (from north of Kossik Road to US 98 Bypass) will remain as is. The preferred typical section for the six-lane widening is a low-speed urban typical section within Segment A, and a rural typical section within the portion of Segment C between US 98 to and CR 52A. To minimize traffic congestion and improve safety north of Kossik Road, TSM improvements will be provided at three signalized intersections: Centennial Road, Morningside Drive, and US 98 Bypass. The previously recommended TSM improvements at CR 52A would be constructed as part of the widening in the portion of Segment C.

As a result of the Alternatives Public Workshop and Public Hearing, environmental studies, and interagency coordination, the Preferred Alternative has been selected. The documented findings of the Preferred Build Alternative are listed as follows:

- Implementing the Preferred Build Alternative will cause no business or residential relocations.
- No potential wetland impacts are associated with the Preferred Build Alternative.
- No National Register of Historic Places (NRHP)-eligible or NRHP-listed cultural resources will be affected as a result of implementing the Preferred Build Alternative.
- No adverse effects to threatened and endangered species are anticipated as a result of implementing the Preferred Build Alternative.
- The estimated total project cost, which includes preliminary engineering (PE) design, right-of-way (ROW) acquisition, construction, and construction engineering inspection (CEI) for the Preferred Build Alternative, is \$43.03 million.

Note: This PDSR includes suggested locations for storm water management facilities. The locations are tentative and subject to change. The locations were not evaluated for impact identification purposes. Accordingly, these locations do not necessarily represent the final location for such a proposed use. During the project's final design phase, alternative storm water management facility locations would be evaluated in order to identify the preferred storm water management facility site for each drainage basin within the design project limits.

SECTION 2

COMMITMENTS AND RECOMMENDATIONS

2.1 COMMITMENTS

To minimize the impacts of this project on local residents and business owners, and optimize the effectiveness of the proposed improvements, the following commitments were made during the Project Development and Environment (PD&E) Study process:

1. The Florida Department of Transportation (FDOT) will perform an update to the Noise Study Report (NSR) during the final design phase for the project. The NSR update will be undertaken to confirm that the potential noise barrier locations identified in the report would remain a reasonable and feasible method of reducing the predicted increase in traffic noise levels for the Pinecrest Mobile Home Park (MHP), Parkview Acres, and Spanish Trails Village noise sensitive areas due to the proposed widening of US 301. The FDOT will construct the noise barriers as part of the US 301 project contingent on the following:
 - a. The property owners of the Pinecrest MHP, Parkview Acres, and Spanish Trails Village indicate a positive desire for a barrier (including type, height, length, and location).
 - b. All safety and engineering aspects of the barriers, as they relate to the roadway user and to the adjacent property owners, have been reviewed and approved.
2. The City of Zephyrhills has indicated that an approved multi-purpose trail is planned for the west side of US 301 which would include the portion of US 301 within Segment A. The FDOT will consider revising the Preferred Build Alternative's typical section during the future design project if it is determined that the City's multi-purpose trail plan is in effect at the time that the design scope is prepared.
3. The United States Fish and Wildlife Service (USFWS) *Standard Protection Measures for the Eastern Indigo Snake* will be included in the construction plans if suitable habitat is identified within the construction limits of the Preferred Build Alternative during design.

2.2 RECOMMENDATIONS

The FDOT conducted a PD&E Study to evaluate improvement alternatives along the US 301 corridor in Pasco County, Florida. The limits of the study extend from south of CR 54 (Eiland Boulevard) to the US

98 Bypass (SR 533). The length of the study is 7.6 miles. The design year for the study is 2035. Both the existing and design year conditions were evaluated, and various improvement alternatives were considered, including a No-Build Alternative, in order to determine the most appropriate recommendation for this project. After a thorough technical analysis and a comprehensive public involvement process, the study concluded that roadway capacity improvements are needed at select locations along the US 301 corridor in order to maintain mobility and to accommodate future growth in an organized manner. The following proposed improvement concepts are recommended to improve future traffic conditions:

1. The Preferred Build Alternative consists of widening US 301 to a six-lane roadway facility in Segment A (from south of CR 54 to north of Kossik Road) and a portion of Segment C from south of US 98 to CR 52A. Elsewhere within the study limits, the existing four-lanes on US 301 in Segments B-D (from north of Kossik Road to US 98 Bypass) will remain as is. The traffic analysis prepared for this study indicated that the projected travel demand in the design year 2035 would not support the need to widen US 301 to six-lanes in Segments B and C. In Segment D, the six-lane widening is not planned to be implemented for the following reasons:
 - a. Segment D is a relatively short segment (0.8 miles) with acute ROW constraints (only 100-feet of ROW) thus making required ROW acquisition costs high;
 - b. The proposed six-lane widening was not identified in the 2035 Cost Affordable Roadway Plan of the *Pasco County MPO 2035 Long Range Transportation Plan (LRTP)*¹; and
 - c. There are capacity constrained routes at the northern terminus of the Study limits that are not planned for improvement in any current transportation plans. Therefore, these routes would be unable to accommodate the additional lanes.

In the portion of Segment C from US 98 to CR 52A, the six-lane widening of US 301 was recommended for the purpose of achieving consistency with the 2035 Cost Affordable Roadway Plan of the *Pasco County MPO 2035 LRTP*¹. A planning-level highway capacity analysis using the Generalized Service Volume Tables from the FDOT's 2009 Quality/Level of Service Handbook indicates that the widening of US 301 in this section is warranted prior to the design year 2035.

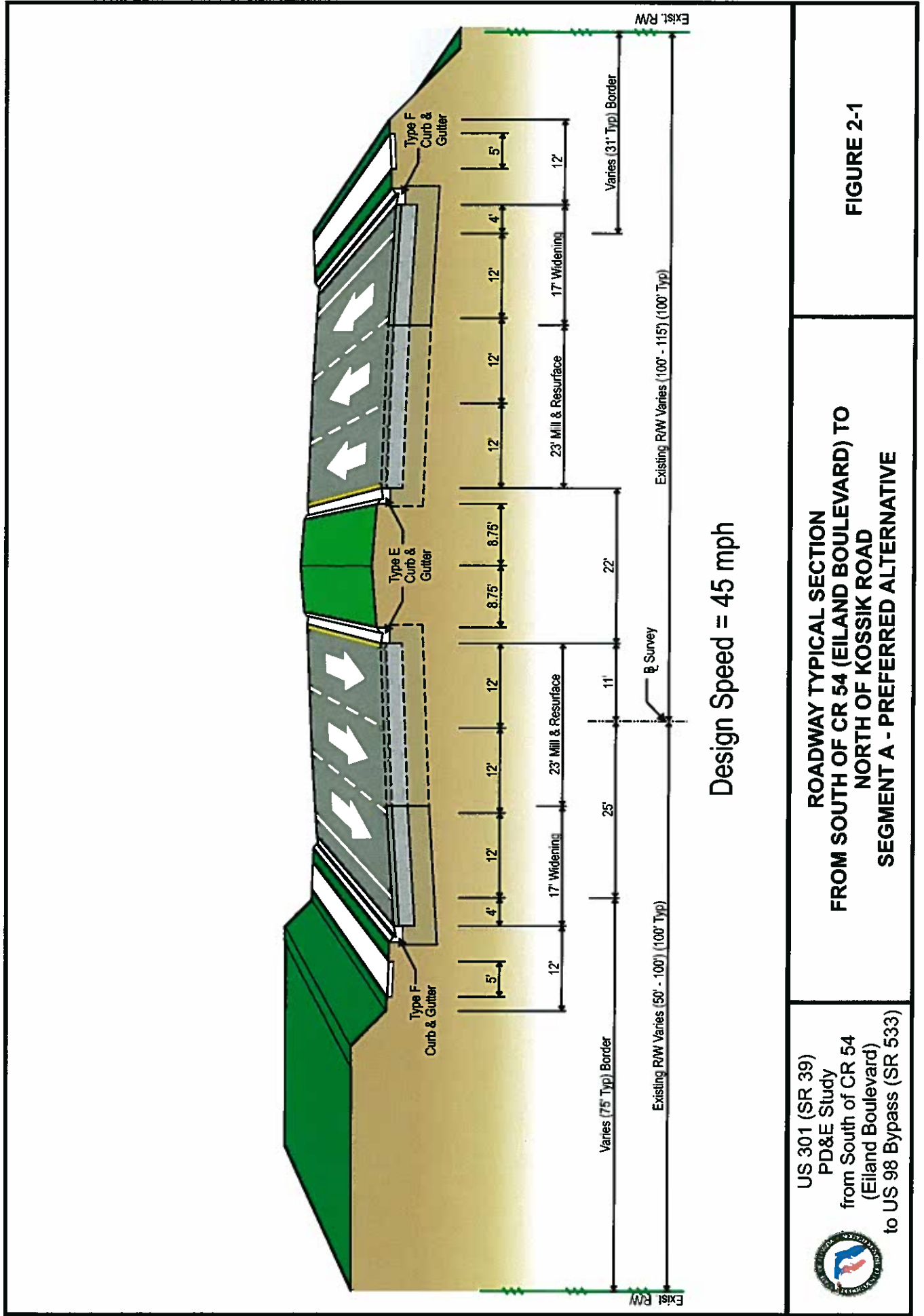
2. The preferred typical section for the six-lane widening is a low-speed urban typical section within Segment A, and a rural typical section within the portion of Segment C between US 98 to and CR 52A. For Segment A, Build Alternative 2 – Low Speed Urban typical section was selected as the Preferred Alternative because it could be constructed within existing US 301 ROW whereas Build Alternative 1 – High Speed Urban typical section could not be. **Figure 2-1** provides an illustration

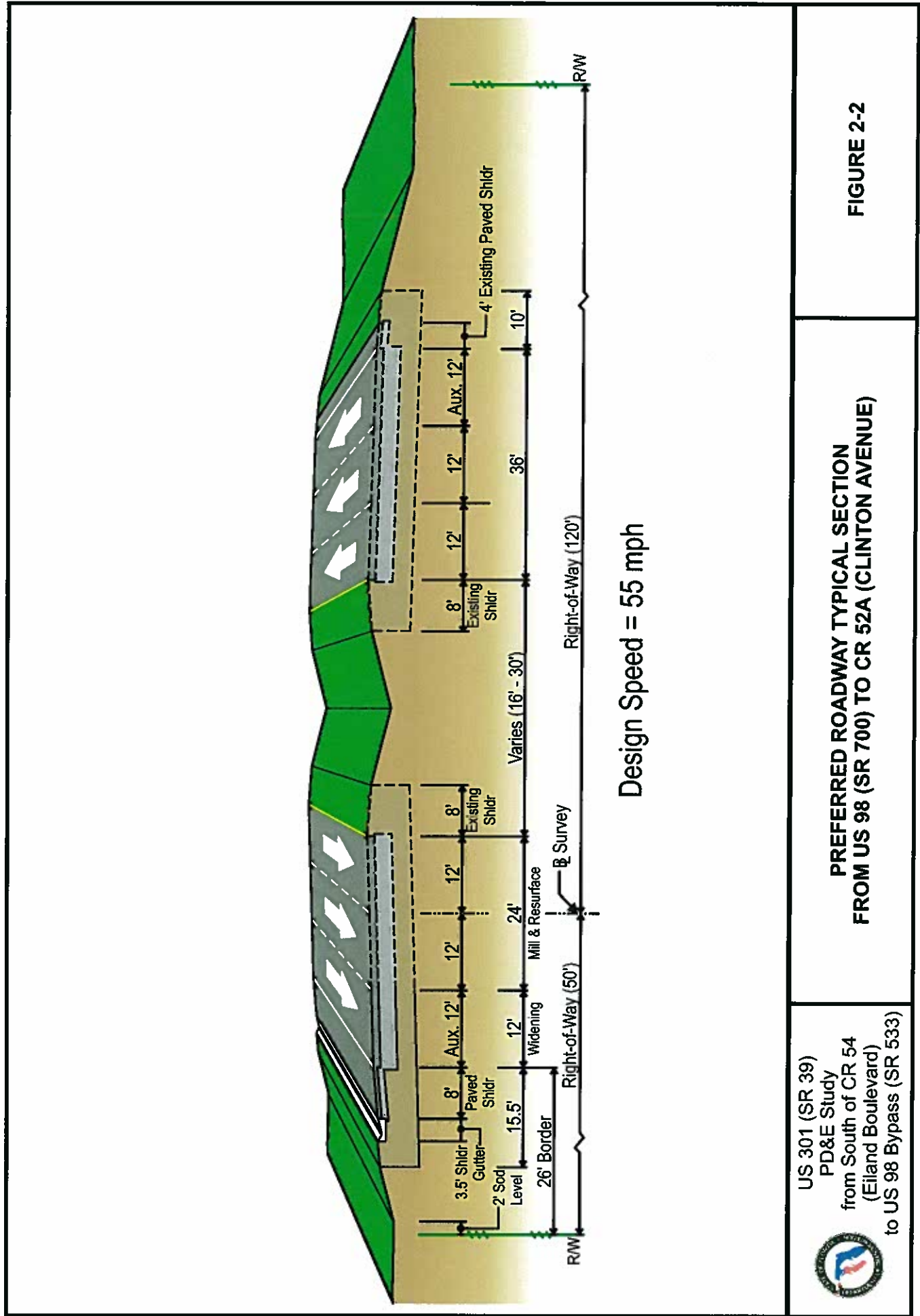
of the preferred typical section for the US 301 mainline from south of CR 54 to north of Kossik Road. The section of US 301 between Kossik Road and Wire Road will be used to transition the proposed six-lanes in Segment A into the existing four-lane roadway.

Figure 2-2 shows the preferred typical section for the six-lane widening within the portion of Segment C from US 98 to CR 52A. This preferred typical section enhances the exiting rural typical on US 301 to include a third southbound through lane at the intersection of US 98. In order to avoid ROW acquisition within the vicinity of Chapel Hills Garden Cemetery, shoulder gutter will be provided to convey stormwater runoff from the proposed third southbound through lane. The section of US 301 from north of Musselman Road to US 98 will be used to transition the proposed six-lanes in Segment C into the existing four-lane roadway. To minimize traffic congestion and improve safety north of Kossik Road, TSM improvements will be provided at three signalized intersections: Centennial Road, Morningside Drive, and US 98 Bypass. TSM improvements at the US 301/CR 52A intersection would be constructed as part of the widening in the portion of Segment C from US 98 to CR 52A.

2.3 REFERENCES

1. *Pasco County Metropolitan Planning Organization (MPO) 2035 Long Range Transportation Plan (LRTP)*; Tindale Oliver & Associates, Inc.; Document A Draft Report December 10, 2009.





SECTION 3

INTRODUCTION

3.1 STUDY PURPOSE AND PD&E STUDY PROCESS

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study to evaluate improvements to US 301 (SR 39) in eastern Pasco County. The project location is illustrated on **Figure 3-1**. The limits of the study corridor are from south of CR 54 to the US 98 Bypass, a project length of 7.6 miles.

The objective of the PD&E Study was to provide documented environmental and engineering analyses, which would assist the FDOT and the Federal Highway Administration (FHWA) in reaching a decision on the type, conceptual design and location of the necessary improvements within the US 301 PD&E study limits to accommodate future transportation needs in a safe and efficient manner. This Project Development Summary Report (PDSR) was prepared as part of the PD&E Study. The PDSR evaluated the social, cultural, environmental, physical, and economic impacts of various improvement alternatives as they relate to the subject transportation facility.

3.2 PROJECT DESCRIPTION

US 301 is a four-lane divided north-south arterial that connects the cities of Zephyrhills and Dade City. The US 301 roadway provides an important connection to the regional and statewide transportation network linking the Tampa Bay region to the remainder of the state and nation. US 301 is identified as a regional roadway by the West Central Florida Metropolitan Planning Organization's (MPO's) Chairs Coordinating Committee (CCC) and is included in the Regional Roadway Network. US 301 is designated as an emergency evacuation route and currently operates as an existing truck route. The 2035 Cost Affordable Roadway Plan of the *Pasco County MPO Long Range Transportation Plan (LRTP)*¹ identifies the need to widen US 301 to six lanes from south of CR 54 to Kossik Road and from US 98 to CR 52A (Clinton Avenue). This PD&E study evaluated the physical, social, cultural, environmental and economic impacts of providing alternative improvements to US 301 that include, but were not limited to, a No-Build alternative, Build alternatives that considered the widening of US 301 to six lanes from south of CR 54 to US 98 Bypass, Transportation System Management (TSM) improvements and median modifications to improve safety and mobility throughout the limits of the PD&E study.

3.3 PROJECT PURPOSE AND NEED

Motorists in Pasco County are faced with increased traffic congestion and delays as demand from the County's growth continues to place pressure on the existing transportation system. To assess the effects of continued growth along US 301, the FDOT initiated a PD&E Study that evaluated the impacts of providing alternative roadway capacity improvements to the facility. The purpose of this PD&E Study was to develop a plan to accommodate future growth in an organized manner and to maintain mobility along a regionally significant transportation corridor. The need for improvements along US 301 within the study limits was developed based on the evaluation of the following criteria:

- Existing and future quality of traffic operations along US 301 assuming the existing roadway conditions.
- traffic safety conditions for the time period between the years 2003 and 2007,
- consistency with local government plans, and
- projected future socioeconomic growth of Pasco County.

3.4 PROJECT SEGMENTATION

The project was divided in segments to effectively assess and compare the impacts of each alternative within the different geographical areas of the study corridor. After considering the existing right-of-way (ROW) along US 301, existing traffic volumes and land use patterns, and the locations of cross streets, the project was divided into four study segments. These segments are illustrated on **Figure 3-1** and can be described as follows:

- Segment A: South of CR 54 to Kossik Road, a distance of 2.0 miles,
- Segment B: Kossik Road to US 98 (SR 700), a distance of 3.5 miles,
- Segment C: US 98 to Morningside Drive, a distance of 1.3 miles, and
- Segment D: Morningside Drive to US 98 Bypass, a distance of 0.8 miles.

The social, cultural, environmental, physical, and economic impacts associated with each of the Build alternatives are summarized based on these study segments.

3.5 NEED FOR IMPROVEMENT

3.5.1 Deficiencies

The quality of existing and future traffic operations, assuming no improvements, was evaluated by completing capacity analyses and determining the deficiencies along the US 301 study corridor. The Level of Service (LOS) standard in the study area is LOS D, as set forth by Pasco County. The following paragraphs provide a brief overview of the quality of traffic conditions along the study corridor without improvements. The detailed traffic analyses effort is documented in the *Traffic Technical Memorandum*² prepared for the PD&E Study.

3.5.2 Existing and Future Traffic Conditions

The existing (2008) annual average daily traffic (AADT) volumes range between 22,500 vehicles per day (vpd) and 31,800 vpd. In 2035, the AADT volumes range between 32,200 vpd and 47,500 vpd. Existing (2008) and design year (2035) traffic volumes are graphically illustrated in Section 5.2 of this report. Results of the existing (2008) capacity analyses shown in Table 3-1 indicate that two of the eight signalized study intersections examined are currently operating deficiently (i.e., LOS E or F) during the AM and/or PM peak hours. Due to the continued growth expected along the corridor, the design year (2035) No-Build operational analyses also shown in Table 3-1 that two additional intersections are expected to operate deficiently. The 2035 results show that four of the eight signalized intersections are expected to operate at worse than the LOS D standard during the AM and/or PM peak hours.

Table 3-1
Existing Year (2008) and Design Year (2035) US 301 Intersection Control Delay Summary

Cross-Street	Overall Intersection Level of Service (LOS) and HCM Control Delay (sec/veh)			
	Existing Year (2008)		Design Year (2035)	
	Control Delay AM / PM	LOS AM / PM	Control Delay AM / PM	LOS AM / PM
CR 54	86.6 / 97.3	F / F	242.4 / > 5 min.	F / F
Daughtery Road	23.2 / 15.4	C / B	76.4 / 63.4	E / E
Spanish Trails Boulevard ¹	0.9 / 1.4	A / A	2.5 / 15.2	A / B
Townview Square Shopping Center Entrance	26.7 / 27.3	C / C	51.6 / 42.5	D / D
Kossik Road	13.4 / 14.1	B / B	38.4 / 36.2	D / D
Wire Road ¹	12.6 / 10.1	B / B	34.5 / 28.3	C / C
Centennial Road	34.0 / 27.4	C / C	170.3 / 129.3	F / F
US 98 ¹	106.3 / 117.1	F / F	87.8 / 104.2	F / F

Cross-Street	Overall Intersection Level of Service (LOS) and HCM Control Delay (sec/veh)			
	Existing Year (2008)		Design Year (2035)	
CR 52A	65.0 / 47.4	E / D	256.9 / 141.5	F / F
Morningside Drive	14.6 / 17.1	B / B	20.0 / 31.2	B / C
US 98 Bypass	18.5 / 23.4	B / C	22.6 / 39.3	C / D

¹ Indicates two-way stop controlled (TWSC) intersection.

² LOS on US 301 is reported for the left-turn movements only; overall LOS is determined using the weighted average delay for all intersection movements.

Bold – Indicates level of service exceeding the minimum acceptable level of service standard D.

The operations of arterial roadway segments on US 301 were also examined under existing year (2008) and design year (2035) traffic loadings for the No-Build condition. Results of the operational analysis of arterial segments for the northbound and southbound directions of US 301 are shown in **Table 3-2** and **Table 3-3**, respectively. The existing (2008) arterial analysis indicates that only one of the eight study segments on US 301 currently operates at an unacceptable LOS. The design year (2035) arterial analysis indicates that five of the eight study segments on US 301 are projected to operate at an unacceptable LOS.

Table 3-2
Existing Year (2008) and Design Year (2035) US 301 Arterial Northbound
Level of Service Summary

US 301 Segment	Segment Length (miles)	Posted Speed (mph)	Overall Intersection Level of Service (LOS) and HCM Control Delay (sec/veh)			
			Existing Year (2008)		Design Year (2035)	
			Arterial Speed AM / PM	Arterial LOS AM / PM	Arterial Speed AM / PM	Arterial LOS AM / PM
US 98 Bypass to Morningside Drive	0.82	45	30.0 / 35.5	C / B	21.0 / 15.6	E / F
Morningside Drive to CR 52A	1.02	50	26.4 / 22.3	D / D	18.0 / 16.8	E / E
CR 52A to Centennial Road	1.76	55	40.4 / 39.5	B / B	24.9 / 25.3	D / D
Centennial Road to Kossik Road	2.01	55	41.9 / 41.8	B / B	24.5 / 22.3	D / D
Kossik Road to Townview Square Shopping Center Entrance	0.65	45	44.6 / 43.8	A / A	44.5 / 32.9	A / C
Townview Square Shopping Center Entrance to Daughtery Road	0.36	45	41.2 / 39.4	B / B	39.5 / 32.2	B / C
Daughtery Road to CR 54	0.51	45	31.2 / 25.4	C / D	32.4 / 18.8	C / E
US 98 Bypass to CR 54 (Entire Southbound Arterial)	7.12	45-55	38.5 / 36.9	B / B	29.4 / 23.9	C / D

Bold – Indicates level of service exceeding the minimum acceptable level of service standard D.

**Table 3-3
Existing Year (2008) and Design Year (2035) US 301 Arterial Southbound
Level of Service Summary**

US 301 Segment	Segment Length (miles)	Posted Speed (mph)	Overall Intersection Level of Service (LOS) and HCM Control Delay (sec/veh)			
			Existing Year (2008)		Design Year (2035)	
			Arterial Speed AM / PM	Arterial LOS AM / PM	Arterial Speed AM / PM	Arterial LOS AM / PM
US 98 Bypass to Morningside Drive	0.82	45	40.5 / 41.2	B / B	38.8 / 39.5	B / B
Morningside Drive to CR 52A	1.02	50	30.6 / 33.9	C / C	26.0 / 25.6	D / D
CR 52A to Centennial Road	1.76	55	44.8 / 47.7	A / A	21.9 / 38.1	D / B
Centennial Road to Kossik Road	2.01	55	49.0 / 48.9	A / A	43.8 / 43.7	A / A
Kossik Road to Townview Square Shopping Center Entrance	0.65	45	32.0 / 33.1	C / C	22.4 / 29.0	D / C
Townview Square Shopping Center Entrance to Daughtery Road	0.36	45	23.9 / 30.0	D / C	12.6 / 17.6	F / E
Daughtery Road to CR 54	0.51	45	17.7 / 23.2	E / D	5.1 / 14.0	F / F
US 98 Bypass to CR 54 (Entire Southbound Arterial)	7.12	45-55	36.0 / 39.2	B / B	20.7 / 30.7	E / C

Bold – Indicates level of service exceeding the minimum acceptable level of service standard D.

3.5.3 Safety

To evaluate the safety of traffic operations in the study area, crash records for the five-year period between the years 2003 and 2007 were obtained, from the FDOT District Seven, for the intersections and roadway segments located within the study area. The crash records revealed that 810 total crashes occurred along the US 301 corridor (an average of 162 crashes per year) over the five-year study period. There were four fatalities and 783 injuries during this same time period. The average crash rate, crashes per million vehicle miles traveled (VMT), for the entire US 301 corridor was 3.313; however, for the US 301 segment between CR 52A and North of Countryside Place the average crash rate was 4.887. The average crash rates for US 301 are currently higher than the statewide average crash rate (2.118) for similar roadway facilities.

The analysis indicates that the highest frequency crashes were rear-end and angle crashes. These prevalent crash types are likely due to excess levels of traffic congestion, median openings, and driveways that do not meet the access management standards. Higher levels of traffic congestion and associated delays increase the propensity for drivers to run red lights. Likewise, increased frequency and reduced spacing of driveways and median openings create speed differential and disrupt traffic flow. To

counter these less than desirable operating conditions, adequate access management and TSM strategies should be evaluated to potentially reduce the number of crashes along the study corridor.

3.5.4 Hurricane Evacuation

The current hurricane evacuation roadway network is reflected in the *Pasco County Comprehensive Plan*³. US 301 is identified as a hurricane evacuation route in this document. This facility is critical to the eastern portion of Pasco County, providing a north/south route for residents to access critical east/west routes (e.g., CR 54, US 98, and CR 52A), serving destinations in eastern Pasco County with higher elevations. The Coastal Element of the *Pasco County Comprehensive Plan*³ states that it is pertinent to “Maintain or reduce hurricane evacuation clearance times of 18 hours for an average response scenario within the hurricane vulnerability area.” The Comprehensive Plan also indicates that the County shall encourage capital improvement expenditures for critical evacuation routes lacking adequate capacity to clear the Hurricane Vulnerability Zone (Evacuation Zones A-C).

3.5.5 Consistency with Transportation Plans

The *Pasco County Comprehensive Plan*³ designates US 301 as a principal arterial. The 2035 Cost Affordable Roadway Plan component of the *Pasco County MPO 2035 LRTP*¹ includes six lanes from south of CR 54 to Kossik Road and from US 98 to CR 52A.

3.5.6 Social and Economic Demands

Pasco County, with 745 square miles (sq mi) in land area is considered medium size when compared to the remainder of the counties in the State of Florida. Presently, Pasco County has more than 570 persons per sq mi, ranking it 11th in the state for population density. According to the 2000 Census of Population, Housing and Employment, the County’s population of 344,768 represents a 22.6% increase over the 1990 population of 281,131. This level of growth is comparable to the State of Florida growth trend of 23.0% over the same period. For 2006, the *Florida Statistical Abstract 2007*⁴ estimated population to be 424,355, an increase of 23.1% over the 2000 population. These growth trends are anticipated to continue with a permanent population of 681,100 projected in the year 2030, representing a 60.5% increase over 2006. Population growth has been fueled by tourism, an active second home market, and retirement community plans. The nature of this growth has resulted in Pasco County having a high percentage of retirement-age persons. Approximately 24.1% of the population is 65 years of age or older. The average purchase price for homes in Pasco County is ranked in the top 20 counties in the State of Florida. This and other socioeconomic information is presented in **Table 3-4**.

**Table 3-4
Pasco County Socioeconomic Information**

Statistic	Value
Population – 1990	281,131
Population – 2000	344,768
Population – 2006 (estimate)	424,355
Projected population – 2030 (median projection)	681,100
% increase in population – 1990-2000	22.6%
% increase in population – 2000-2006	23.1%
% increase in population – 2006-2030	60.5%
Median age – 2006	45.1
% 65 and older – 2006	24.1%
Average Household Size – 2006 (persons/household)	2.3
Average house purchase price – 2005	\$224,427 (15th highest among FL counties)
Per capita income – 2005	\$26,076

Source: 2007 Florida Statistical Abstract⁴

3.6 REFERENCES

1. *Pasco County Metropolitan Planning Organization (MPO) 2035 Long Range Transportation Plan (LRTP)*; Tindale Oliver & Associates, Inc.; Document A Draft Report December 10, 2009.
2. *Traffic Technical Memorandum*; HDR Engineering, Inc.; Tampa, Florida; 2010.
3. *Pasco County Comprehensive Plan*; Pasco County Board of County Commissioners; Adopted June 27, 2006.
4. *Florida Statistical Abstract 2007*; Bureau of Economic and Business Research; University of Florida College of Business Administration, 2007.

SECTION 4

ALTERNATIVES DEVELOPMENT

To develop an improved roadway facility for US 301 that is in the best overall public interest, the engineering, environmental, and economic factors as well as urban development conditions must be taken into consideration. The improved facility should be designed to safely and efficiently accommodate the projected design year vehicular traffic as well as multi-modal traffic. The design and alignment of the improved facility must consider environmental conditions, public recreation areas, as well as sites potentially contaminated with hazardous and/or petroleum materials. The alignment should be placed in a manner that optimizes the possibility for construction staging and traffic control. Access control techniques to promote safe and efficient operations should be used as well. All of these criteria have a direct bearing on the selection of the recommended design concept.

Included in the following sections are descriptions of the alternative improvement concepts developed for this project and the evaluation methods used to compare the alternatives. These descriptions are preceded by a presentation of the advantages and disadvantages of the No-Build Alternative.

4.1 EXISTING CONDITIONS

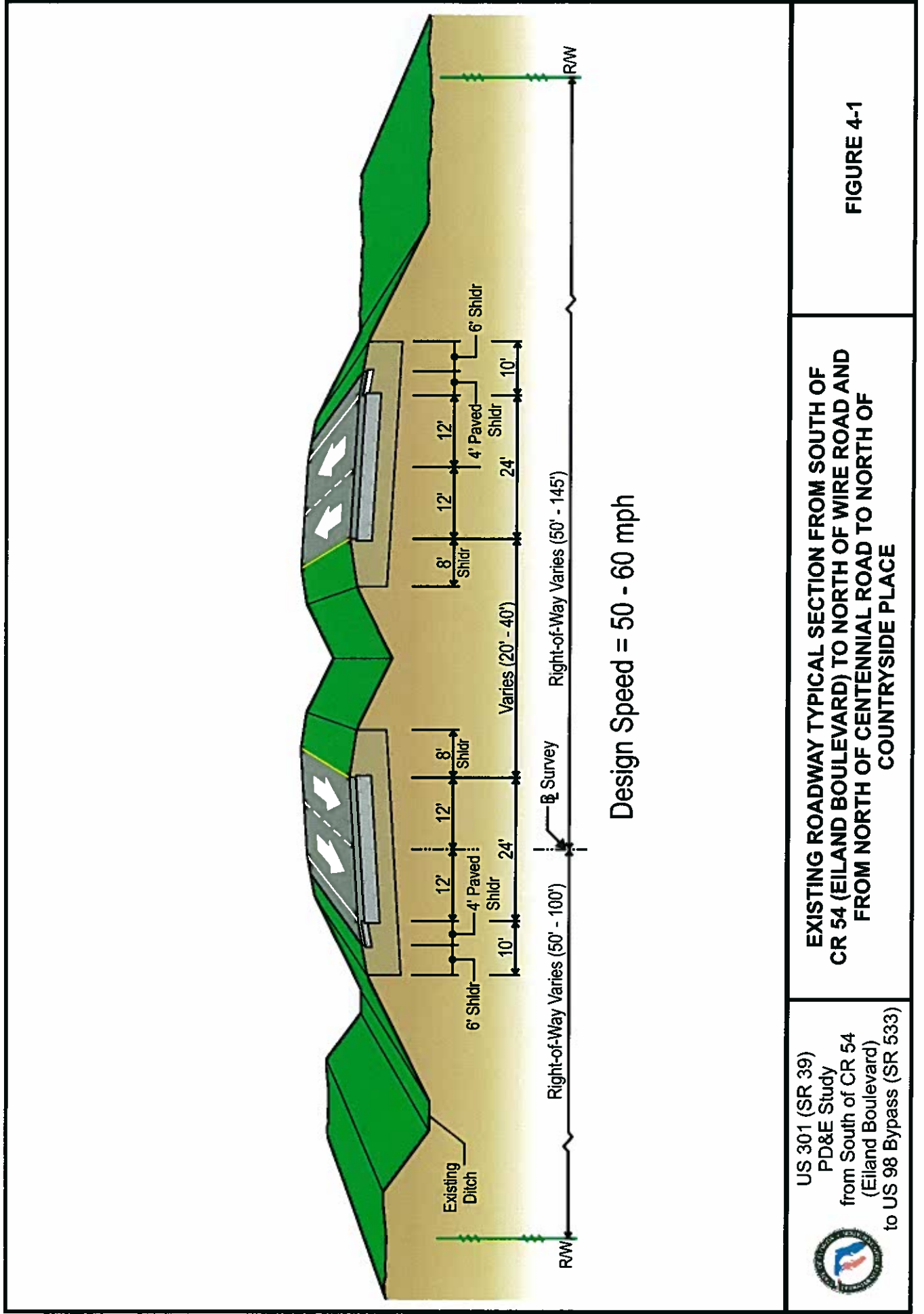
The existing US 301 facility is functionally classified as a principal arterial from south of CR 54 to US 98 Bypass.

4.1.1 Typical Sections

According to the As-Built plans, US 301 throughout the project study limits is characterized by three different existing typical sections.

4.1.1.1 Typical Section 1: Segments A, B [from Kossik Road to North of Wire Road and North of Centennial Road to US 98], C, and D [from Morningside Drive to North of Countryside Place] (Rural)

As shown in **Figure 4-1**, the existing roadway typical section is a divided four-lane roadway with 4-foot (-ft) paved outside shoulders. This section contains two 12-ft travel lanes in each direction. In existing conditions, Segment A has 200-ft of right-of-way (ROW), Segments B and C have 100-ft of ROW left of



US 301 (SR 39)
PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

**EXISTING ROADWAY TYPICAL SECTION FROM SOUTH OF
CR 54 (EILAND BOULEVARD) TO NORTH OF WIRE ROAD AND
FROM NORTH OF CENTENNIAL ROAD TO NORTH OF
COUNTRYSIDE PLACE**

FIGURE 4-1

the baseline and 120-ft of ROW right of the baseline, and Segment D has 200-ft of ROW from Morningside Drive to Countryside Place.

The existing land use in this section is generally a mix between low-density residential, agricultural, and service/commercial. The Annual Average Daily Traffic (AADT) ranges from 22,500 vehicles per day (vpd) to 30,700 vpd (from south of CR 54 to north of Wire Road) and from 24,700 vpd to 28,000 vpd (from north of Centennial Road to north of Countryside Place). The existing posted speed limit is 45 mph from south of CR 54 to north of Kossik Road, 50 mph from north of Kossik Road to north of Wire Road, 55 mph from north of Centennial Road to south of US 98, 50 mph from south of US 98 to south of Morningside Drive, and 45 mph from south of Morningside Drive to north of Countryside Place.

4.1.1.2 Typical Section 2: Segment B from North of Wire Road to North of Centennial Road (Rural with Shoulder Gutter)

As shown in **Figure 4-2**, the existing typical section is a divided four-lane roadway with shoulder gutter on both sides of the roadway. This section contains two 12-ft travel lanes in each direction and a 20-ft median consisting of existing ground. In existing conditions, Segment B has 100-ft of ROW left of the baseline and 120-ft of ROW right of the baseline.

The existing land use in this section is generally residential. The AADT ranges from 24,500 vpd to 24,700 vpd. The existing posted speed limit in this section is 50 mph.

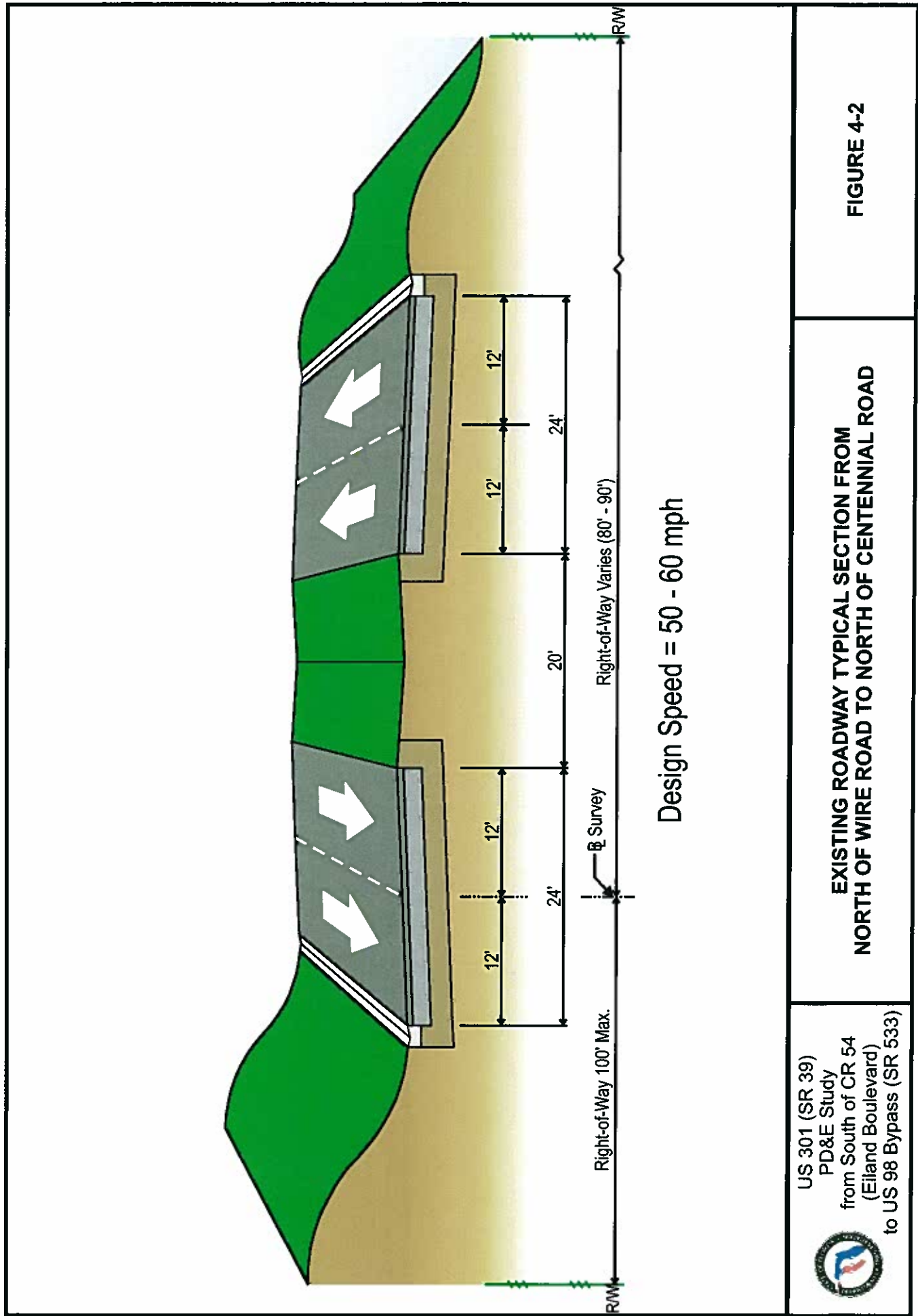
4.1.1.3 Typical Section 3: Segment D from North of Countryside Place to US 98 Bypass (Urban)

As shown in **Figure 4-3**, the existing typical section is a divided four-lane roadway with 6-ft paved outside shoulders. This section contains two 12-ft travel lanes in each direction, Type F curb and gutter along the outsides of the roadway, Type A curb and gutter on either side of the median, and a 0-ft to 19-ft median width. In existing conditions, Segment D has 100-ft of ROW from Countryside Place to the US 98 Bypass.

The existing land use in this section is generally a mix between residential and commercial. The AADT ranges from 27,900 vpd to 31,800 vpd. The existing posted speed limit for this section is 45 mph.

4.1.2 Horizontal Alignment

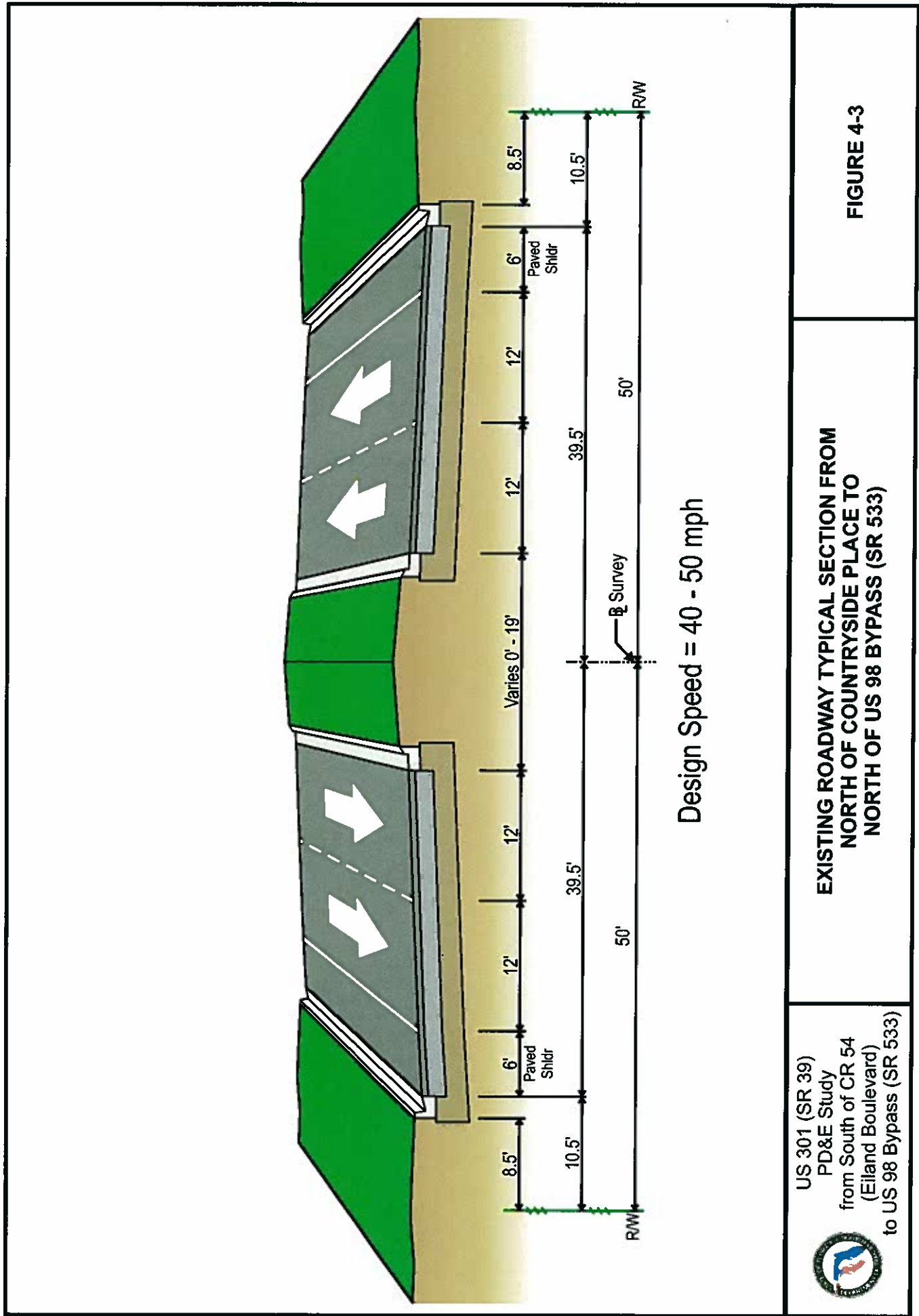
The existing horizontal alignment was obtained from As-Built Plans (State Project Numbers: 14050-3202 and 3203). US 301 contains six (6) curves and **Table 4-1** summarizes the existing horizontal alignment characteristics.



US 301 (SR 39)
PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING ROADWAY TYPICAL SECTION FROM
NORTH OF WIRE ROAD TO NORTH OF CENTENNIAL ROAD

FIGURE 4-2



US 301 (SR 39)
PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING ROADWAY TYPICAL SECTION FROM
NORTH OF COUNTRYSIDE PLACE TO
NORTH OF US 98 BYPASS (SR 533)

FIGURE 4-3

Table 4-1
Existing Horizontal Alignment Characteristics within the Study Limits

Segment	Curve Number	Degree of Deflection	Radius (feet)
A	1	24° 00' (LT)	2,203.68
	2	1° 28' (LT)	57,295.78
A & B	3	2° 53' (RT)	38,197.19
B	4	1° 29' (LT)	114,591.57
	5	0° 08' (RT)	687,549.38
D	6	0° 17' (LT)	343,774.68

4.1.3 Vertical Alignment

The existing vertical alignment was obtained from As-Built Plans (State Project Numbers: 14050-3202 and 3203). The elevations along the roadway centerline range from a low point 78.2 ft above sea level, to a high point of 207.2 ft above sea level. Table 4-2 summarizes the existing vertical alignment characteristics.

Table 4-2
Existing Vertical Alignment Characteristics within the Study Limits

Segment	VPI Number	Type	VPI Station	VPI Elevation	Length (feet)	K-Value
A	1		386+18.17	89.29		
	2		399+00.00	89.29		
	3	Sag	410+00.00	92.69	400	198
	4	Sag	422+00.00	120.69	400	212
	5	Crest	433+50.00	169.19	1,600	189
	6	Sag	445+00.00	120.19	600	122
	7	Crest	461+50.00	131.19	500	208
B	8	Crest	471+00.00	114.69	400	262
	9	Sag	480+50.00	83.69	900	109
	10	Crest	499+00.00	176.19	1,700	191
	11	Crest	512+25.00	124.17	450	139
	12	Crest	518+00.00	120.19	300	288
	13	Sag	529+00.00	101.10	1,000	145
	14	Crest	551+25.00	216.19	1,200	165
	15	Crest	560+25.00	197.19	600	159
	16	Sag	581+25.00	73.63	1,200	146
	17	Sag	600+00.00	117.19	400	325
	18	Crest	609+00.00	149.19	1,400	186
	19	Crest	618+75.00	110.36	400	120
	20	Sag	644+00.00	93.69	800	245
C	21	Crest	660+50.00	136.69	900	190
	22		672+00.00	112.19		177
	23	Sag	687+00.00	78.19	400	
	24		714+00.00	78.19		
	25		718+50.00	78.77		

Table 4-2 (Cont.)
Existing Vertical Alignment Characteristics within the Study Limits

Segment	VPI Number	Type	VPI Station	VPI Elevation	Length (feet)	K-Value
D	26	Sag	734+50.00	79.09	400	125
	27	Sag	741+00.00	100.00	400	201
	28	Sag	749+80.00	110.75	600	154
	29	Sag	756+61.00	92.42	300	300
	30		759+24.73	94.21		

4.1.4 Drainage

Existing drainage structures along the project include cross drains, side drains, and storm sewer. Existing storm sewer and side drains will be replaced with new storm sewer and side drains to new ditches and proposed ponds. Cross drains will be replaced with hydraulically equivalent structures. These structures will have hydraulic analysis performed during the design phase and will be required to not have any increase in base flood elevations in order to receive approval from Southwest Florida Water Management District (SWFWMD).

The size and location of the cross-drains are listed in **Table 4-3**, along with the associated tributary and flood zone designation. Stations refer to the baseline established for the PD&E Study. The Noncontributing basin and Zephyrhills Airport Run basin are both part of the East Zephyrhills basin as identified in Pasco County's Land Development Code Section 605.7 (see Appendix C of the *Location Hydraulics Report*¹).

Table 4-3
Existing Cross Drains

Segment	Station	Size	Tributary	Flood Zone Designation	Disposition
A	400+09.82	34" x 53"	East Zephyrhills Basin	X	Replace
	408+59.53	(2) 30"	East Zephyrhills Basin	X	Replace
	446+08.96	(2) 30"	East Zephyrhills Basin	X	Replace
B	480+09.66	(2) 8' x 4'	East Zephyrhills Basin	X	Extend/Replace*
	529+60.01	(2) 44"	East Zephyrhills Basin	X	Remain
	583+59.49	24"	East Zephyrhills Basin	X	Remain
	599+40.00	42"	East Zephyrhills Basin	X	Remain
	620+89.56	30"	East Zephyrhills Basin	X	Remain
	637+11.14	36"	East Zephyrhills Basin	X	Remain
C	694+10.64	48"	Tank Lake Outfall Basin	AH	Remain
	715+11.95	6' x 4'	Tank Lake Outfall Basin	C	Replace
D	730+83.54	8' x 4'	Tank Lake Outfall Basin	AH	Remain

* The cross drain at station 480+09.66 is located near the end of the recommended transition to existing northbound lanes. The cross drain will need a minor extension to the east to locate the endwall outside of the clear zone.

The Flood Insurance Rate Maps provide the following definitions for the Flood Zone Designations:

Zone AH	Area of 100-year shallow flooding where depths are between one and three-feet; base flood elevations are shown, but no flood hazard factors are determined
Zone C	Areas of minimal flooding (No shading)
Zone X	Areas determined to be outside the 500-year floodplain

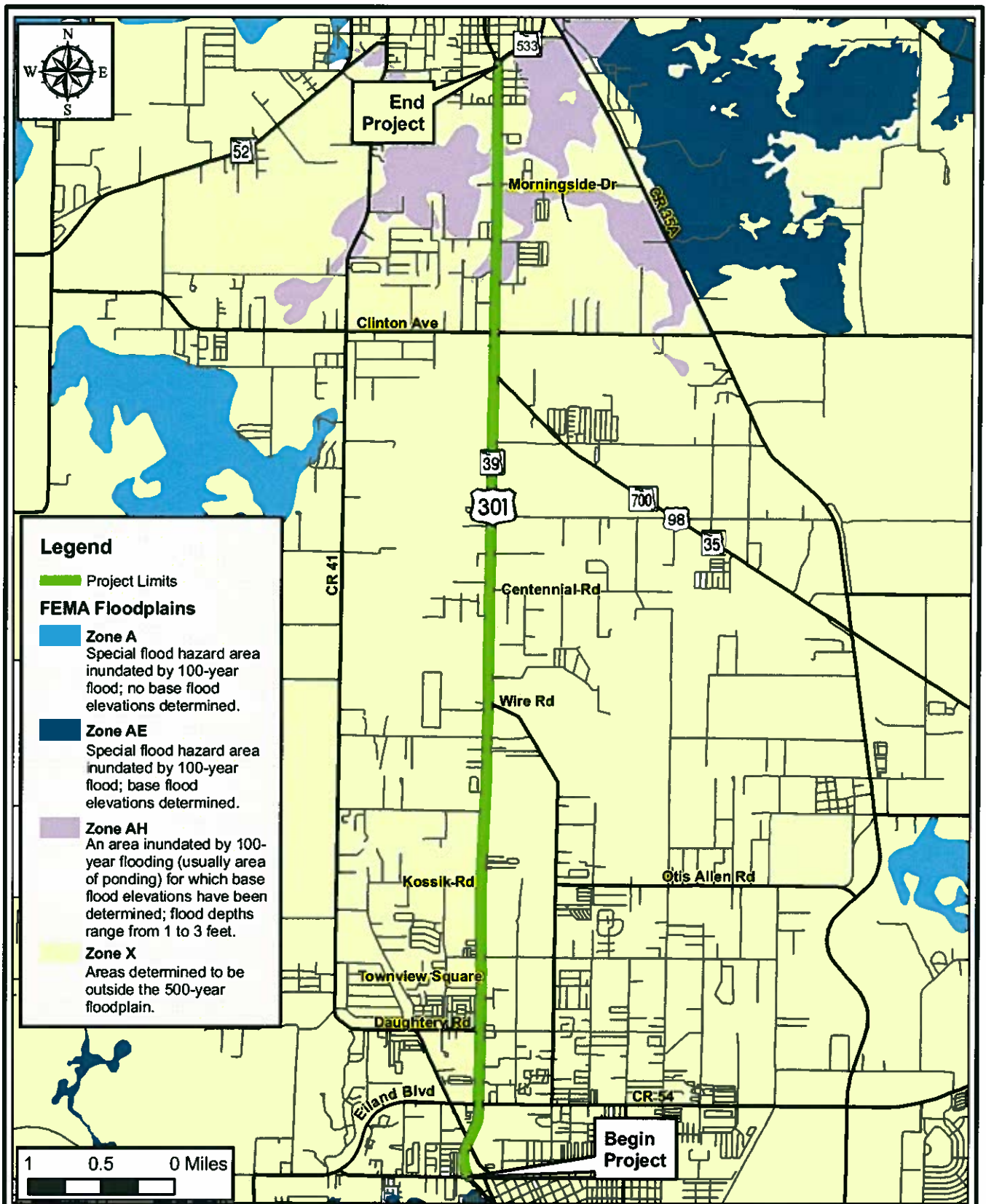
Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps and Firmettes were reviewed for this project (see Section 3 of the *Location Hydraulics Report*¹). This included existing maps only. Pasco County is working together with SWFWMD to update the maps. These updated maps are not currently available. The existing maps were used to determine the amount of floodplain involvement. The existing boundaries and flood zone designations are shown on **Figure 4-4**. The project runs through the following proposed FEMA map numbers:

- 1202300285C Effective March 15, 1984
- 1202300280C Effective March 15, 1984
- 1202300290D Effective September 30, 1992
- 1202300295D Effective September 30, 1992
- 1202310010C Effective August 17, 1981
- 1202310015C Effective August 17, 1981
- 1202350005C Effective December 17, 1991

A *Stormwater Management Facilities Report*² was prepared for this PD&E study. Based on this report, the following information is summarized.

Information on flooding history along the project was obtained from the Florida Department of Transportation – Brooksville Maintenance Department and is documented in Telephone Reports in Appendix C of the *Stormwater Management Facilities Report*². Five locations of flooding were noted.

Major drainage basins along the project were initially determined by comparing SWFWMD basins (the “dbasin” layer from the GIS information on the SWFWMD internet site) with ground contours. There are three major basins, which are (from south to north) the Zephyrhills Airport Run, the Noncontributing Area and the Tank Lake Outlet. The SWFWMD drainage basins are shown in Figure 4-3 of the *Stormwater Management Facilities Report*².



 <p>US 301 (SR 39) PD&E Study from South of CR 54 (Eiland Boulevard) to US 98 Bypass (SR 533)</p>	<p>FEMA FLOODPLAIN MAP</p>	<p>FIGURE 4-4</p>
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The Noncontributing Area and the Zephyrhills Airport Run are within the East Zephyrhills basin as identified by Pasco County. Pasco County has specific criteria for the East Zephyrhills Basin so this basin name is used instead of Zephyrhills Airport Run and Noncontributing Area. The East Zephyrhills Basin is designated as a Closed Drainage Basin of Special Concern in the Pasco County Land Development Code section 605.7.

The Tank Lake Outlet is designated as a Drainage Basin of Special Concern west of the old railroad berm. The old railroad berm is located upstream of this project and the portion of the Tank Lake Outlet basin within these project limits is not a Drainage Basin of Special Concern.

4.2 CORRIDOR ANALYSIS

4.2.1 Evaluation of Alternate Corridors

In an effort to identify potential alternative corridors that could serve the future travel demand of the US 301 corridor, the following options were considered:

- Improvement to other existing parallel roadways within the region;
- Development of a new roadway corridor;
- Enhancement of transit service within the study limits; and
- Roadway improvements within the study limits.

4.2.2 Improvement of Parallel Roadways

A review of the existing roadway network within the study limits revealed the presence of no north/south arterial roadways located within five miles east or west of the study area. The closest available existing parallel roadway, I-75, is located to the west of US 301 at a distance of approximately ten miles. Given that US 301 serves as a north/south arterial roadway connecting the cities of Zephyrhills and Dade City, no other parallel roadway is located close enough to assist with the anticipated capacity needs along the corridor. While I-75 is the nearest parallel facility, it is located nearly ten miles from US 301. Due to its distance from the study corridor, I-75 is not a feasible alternative route for motorists traveling on US 301. Based on this review, it was determined that improvements to any of the existing parallel roadways, in lieu of improving US 301, would not address the projected traffic demand along US 301. Therefore, improvements to existing parallel roadways are not considered to be viable alternative corridor options.

4.2.3 Development of a New Roadway Corridor

Based on the *Pasco County Metropolitan Planning Organization (MPO) 2035 LRTP*³ there are no plans to develop a new roadway corridor in close proximity to US 301. Hence, the development of a new roadway corridor is not considered a feasible alternative to address the future capacity needs of the US 301 corridor.

4.2.4 Enhancement of Transit Service

Pasco County Public Transportation (PCPT) provides existing transit service along the US 301 study corridor. There is one transit route (Route 30) that services residents and businesses along the study corridor. A brief description of the route is provided in Section 5.21.

Aside from increased connectivity with additional local and express service routes, there were no recommendations contained in the *Pasco County Transit Development Plan*⁴ that would affect the transit operations along the US 301 corridor.

4.2.5 Improvement of the Existing Corridor

The existing US 301 facility consists of a four-lane divided roadway. According to the *Pasco County MPO 2035 LRTP*³ Cost Affordable Roadway Plan, US 301 from CR 54 to Kossik Road and from US 98 to CR 52A is to be widened to a six-lane roadway. In addition, CR 54 from US 301 to the west is planned to be widened to a four-lane roadway. Also in this plan, a four-lane roadway connection from I-75 to Kossik Road, as well as, the CR 539 Extension that connects Otis Allen Road to US 301 is shown. Additionally, west of US 301 a section of CR 52A is to be widened to a four-lane roadway. Therefore, roadway improvements to the existing corridor are a viable corridor alternative.

4.2.6 Corridor Selection

In conclusion, the existing corridor is the recommended corridor for further consideration, and a more detailed development and evaluation of alternative corridors, such as with an impacts evaluation matrix, appear to be unnecessary. Therefore, the most feasible corridor alternative identified in this PD&E study is improving the existing US 301 corridor.

4.3 NO-BUILD ALTERNATIVE

The No-Build scenario assumes that traffic volumes continue to increase in the future while no capacity, turn-lane, or operational improvements are made to US 301. Only routine maintenance would continue along the roadway. While the No-Build alternative does not achieve the goal of accommodating increasing traffic volumes on US 301, it requires no capital outlay for construction, causes no substantial increase in operation and maintenance of the existing roadway, and results in no environmental impacts due to the construction of the proposed roadway improvements. However, with no future improvements to US 301, costs to society will increase in terms of traffic congestion and associated increases in traffic accidents, travel times, and other related issues.

Analysis of the No-Build alternative helps identify the capacity, safety, and operational deficiencies along US 301 in future years, including excessive cross-street delays and deteriorating LOS along the corridor if no capacity and operational improvements are made. The No-Build analysis helps determine the improvements needed to be addressed by the Build alternative. The No-Build alternative will be carried forward for further comparative analysis throughout the course of this PD&E study.

The No-Build analysis assumes that traffic volumes continue to increase (to Design Year 2035) and no capacity, turn-lane, or operational improvements are made to US 301. **Tables 4-4 through 4-7** show the level of service (LOS) and control delay resulting from this analysis.

Table 4-4
Design Year (2035) No-Build US 301 Intersection Level of Service Summary

Cross-Street	Level of Service (LOS)				
	US 301 NB Mainline AM / PM	US 301 SB Mainline AM / PM	EB AM / PM	WB AM / PM	Overall AM / PM
CR 54	F / F	F / F	F / F	F / F	F / F
Daughtery Road	D / E	E / D	E / E	F / E	E / E
Spanish Trails Boulevard ¹	D ² / C ²	C ² / E ²	F / F	F / F	A / B
Townview Square Shopping Center Entrance	D / D	D / C	E / E	E / E	D / D
Kossik Road	D / D	C / C	D / D	D / D	D / D
Wire Road ¹	A / A	C ² / F ²		F / F	C / C
Centennial Road	F / F	F / E	C / C	F / F	F / F
US 98 ¹	A / A	F ² / F ²		F / F	F / F
CR 52A	F / F	E / E	F / F	F / E	F / F
Morningside Drive	C / D	B / A	D / E	D / D	B / C
US 98 Bypass	B / E	B / B		D / C	C / D

¹ Indicates two-way stop controlled (TWSC) intersection.

² LOS on US 301 is reported for the left-turn movements only; overall LOS is determined using the weighted average delay for all intersection movements.

Bold – Indicates level of service exceeding the minimum acceptable level of service standard D.

Table 4-5
Design Year (2035) No-Build US 301 Intersection Control Delay Summary

Cross-Street	HCM Average Control Delay (sec/veh)				
	US 301 NB Mainline AM / PM	US 301 SB Mainline AM / PM	EB AM / PM	WB AM / PM	Overall AM / PM
CR 54	> 5 min. / > 5 min.	260.6 / 81.6	182.6 / 249.3	137.9 / 229.8	242.4 / > 5 min.
Daughtery Road	40.0 / 79.8	67.3 / 37.5	78.6 / 71.3	> 5 min. / 78.9	76.4 / 63.4
Spanish Trails Boulevard ¹	33.6 ² / 17.1 ²	19.9 ² / 49.1 ²	182.5 / > 5 min.	55.3 / > 5 min.	2.5 / 15.2
Townview Square Shopping Center Entrance	46.2 / 42.9	49.8 / 30.5	63.9 / 73.5	75.8 / 63.0	51.6 / 42.5
Kossik Road	36.8 / 37.6	32.9 / 29.3	50.2 / 42.5	49.1 / 43.1	38.4 / 36.2
Wire Road ¹	0.0 / 0.0	23.4 ² / 55.1 ²		> 5 min. / > 5 min.	34.5 / 28.3
Centennial Road	141.1 / 164.4	191.4 / 66.8	27.4 / 32.9	209.1 / 198.6	170.3 / 129.3
US 98 ¹	0.0 / 0.0	76.5 ² / 190.1 ²		> 5 min. / > 5 min.	87.8 / 104.2
CR 52A	150.4 / 202.4	59.0 / 64.0	> 5 min. / 143.7	> 5 min. / 68.3	256.9 / 141.5
Morningside Drive	20.1 / 39.4	10.5 / 9.7	50.4 / 71.2	41.7 / 43.7	20.0 / 31.2
US 98 Bypass	17.1 / 56.2	19.8 / 14.5		36.6 / 23.7	22.6 / 39.3

¹ Indicates two-way stop controlled (TWSC) intersection.

² Delay is reported for the left-turn movements only; overall delay is the weighted average delay for all intersection movements.

Table 4-6
Design Year (2035) No-Build US 301 Arterial Northbound Level of Service Summary

US 301 Segment	Segment Length (miles)	Posted Speed (mph)	Arterial Speed (mph)		Arterial LOS	
			AM	PM	AM	PM
CR 54 to Daughtery Road	0.51	45	21.0	15.6	E	F
Daughtery Road to Townview Square Shopping Center Entrance	0.36	45	18.0	16.8	E	E
Townview Square Shopping Center Entrance to Kossik Road	0.65	45	24.9	25.3	D	D
Kossik Road to Centennial Road	2.01	55	24.5	22.3	D	D
Centennial Road to CR 52A	1.76	50	44.5	32.9	A	C
CR 52A to Morningside Drive	1.02	50	39.5	32.2	B	C
Morningside Drive to US 98 Bypass	0.82	45	32.4	18.8	C	E
CR 54 to US 98 Bypass (Entire Northbound Arterial)	7.12	45-55	29.4	23.9	C	D

Table 4-7
Design Year (2035) No-Build US 301 Arterial
Southbound Level of Service Summary

US 301 Segment	Segment Length (miles)	Posted Speed (mph)	Arterial Speed (mph)		Arterial LOS	
			AM	PM	AM	PM
US 98 Bypass to Morningside Drive	0.82	45	38.8	39.5	B	B
Morningside Drive to CR 52A	1.02	50	26.0	25.6	D	D
CR 52A to Centennial Road	1.76	50	21.9	38.1	D	B
Centennial Road to Kossik Road	2.01	55	43.8	43.7	A	A
Kossik Road to Townview Square Shopping Center Entrance	0.65	45	22.4	29.0	D	C
Townview Square Shopping Center Entrance to Daughtery Road	0.36	45	12.6	17.6	F	E
Daughtery Road to CR 54	0.51	45	5.1	14.0	F	F
US 98 Bypass to CR 54 (Entire Southbound Arterial)	7.12	45-55	20.7	30.7	E	C

The advantages of the No-Build Alternative include:

- No new construction costs.
- No disruption of traffic or to the existing land uses along the corridor due to construction activities.
- No environmental degradation or disruption of natural resources.

The disadvantages of the No-Build Alternative include:

- Substandard Level of Service (LOS) for the existing roadway network.
- Increased traffic congestion causing increased road user cost due to travel delay.
- Deterioration of air quality caused by traffic congestion and delays.
- Increased safety deficiencies due to the increase in traffic and the lack of any offsetting improvements.
- Potential deterioration in the emergency service response time.
- Increased roadway maintenance costs.

The No-Build Alternative was considered throughout the study process.

4.4 TRANSPORTATION SYSTEM MANAGEMENT MULTI-MODAL IMPROVEMENTS

The objective of the Transportation System Management (TSM) multi-modal improvements is to identify strategies that reduce existing traffic congestion and prevent its occurrence in areas that are currently not congested. These strategies are designed to modify travel behavior and increase system efficiency without costly infrastructure improvements. TSM strategies are implemented when one or more of the following occurs:

- Insufficient funds available to meet system improvement needs,
- Increased construction costs for new roadways and transit facilities,
- Increased need to improve operational efficiency, and
- Changes in travel patterns.

TSM options generally include traffic signal and intersection improvements, access management, and transit improvements. The additional capacity required to meet the projected traffic volumes along US 301 in the Design Year 2035 cannot be provided solely through the implementation of TSM improvements.

4.5 BUILD ALTERNATIVES

4.5.1 Design Criteria

In order for the proposed roadway improvements to fulfill their objective of accommodating motorized vehicles, and where appropriate, pedestrians and bicyclists in a safe and efficient manner, the proposed typical sections must adhere to specific design standards. The Florida Department of Transportation's (FDOT) *Plans Preparation Manual (PPM)*⁵ and *AASHTO – A Policy on Geometric Design of Highways and Streets*⁶ were used as the references for development of proposed typical section design criteria for this project. **Table 4-8** presents the pertinent criteria used for this effort and their respective values or designations.

**Table 4-8
Typical Section Design Criteria**

Design Element	Rural Section	Low-Speed Urban Section	High-Speed Urban Section	High-Speed Suburban Section	Sources	Comment
Functional Classification	Urban Arterial	Urban Arterial	Urban Arterial	Urban Arterial	Pasco MPO, FDOT	
Basic No. of Lanes	6 (3 in each direction)	6 (3 in each direction)	6 (3 in each direction)	6 (3 in each direction)	FDOT	
Design Vehicle	WB-62FL	WB-62FL	WB-62FL	WB-62FL	Section 1.12 P.P.M. Volume I	January 2009 edition of FDOT Plan Preparation Manual (P.P.M.) is referenced herein.
Design Year	2035	2035	2035	2035		
Design Speed (mph)	55	45	50	50	Sec. 2.16.1, Table 1.9.1 P.P.M. Volume I	
Proposed Posted Speed (mph)	50 - 55	40 - 45	45 - 50	45 - 50		
Lane Widths (ft)	12	12	12	12	Table 2.1.1 P.P.M. Volume I	
Typical Roadway Cross Slopes (ft / ft)	0.02 and 0.03	0.02 and 0.03	0.02 and 0.03	0.02 and 0.03	Figure 2.1.1 P.P.M. Volume I	
Bicycle Lane Width (ft)	5	4	4	5	Table 2.1.2, Section 8.4 P.P.M. Volume I	
Median Width (ft)	40	22 ¹	30	30	Table 2.2.1, Section 2.16.4 P.P.M. Volume I	
Shoulder Width (ft) - Median	8 with 0 paved	N/A	6.5 paved	6.5 paved	Table 2.3.2, Section 2.16.5 P.P.M. Volume I	For high speed urban & suburban section, 8' usable shoulders are provided
Shoulder Width (ft) - Outside	8 with 5 paved	N/A	6.5 paved	8 with 5 paved	Table 2.3.2, Section 2.16.5 P.P.M. Volume I	For high speed urban section, 8' usable shoulders are provided

**Table 4-8 (Cont.)
Typical Section Design Criteria**

Design Element	Rural Section		Low-Speed Urban Section		High-Speed Urban Section		High-Speed Suburban Section		Sources	Comment
Shoulder Width With Shoulder Gutter	1:3.5 with 6 paved		N/A		N/A		N/A		Table 2.3.2 P.P.M. Volume I	
Cross Slope: Maximum algebraic difference between edge of pavement and shoulder in (%)	7		N/A		N/A		7		Figure 2.3.1 P.P.M. Volume I	
Roadside Slopes: - Front Slopes	Height of Fill:	Rate:	Height of Fill:	Rate:	Height of Fill:	Rate:	Height of Fill:	Rate:	Table 2.4.1 P.P.M. Volume I	Urban arterial criteria shown
	0.0 – 5.0	1:6 Where R/W is insufficient, 1:6 to edge of CZ, then 1:3	All	1:2 or to suit property owner, not flatter than 1:6. R/W cost must be considered for high fill sections in urban areas.	All	1:6 Where R/W is insufficient, 1:6 to edge of CZ, then 1:3	0.0 – 5.0	1:6 Where R/W is insufficient, 1:6 to edge of CZ, then 1:3		
Roadside Slopes: - Back Slopes	Height of Fill:	Rate:	Height of Fill:	Rate:	Height of Fill:	Rate:	Height of Fill:	Rate:	Table 2.4.1 P.P.M. Volume I	Urban arterial shown
	All	1:4 when R/W permits or 1:3	All	1:2 or to suit property owner. Not flatter than 1:6	All	1:4 when R/W permits or 1:3	All	1:4 when R/W permits or 1:3		
Roadside Slopes: - Transverse Slopes	Height of Fill:	Rate:	Height of Fill:	Rate:	Height of Fill:	Rate:	Height of Fill:	Rate:	Table 2.4.1 P.P.M. Volume I	Urban arterial shown
	All	1:4	All	1:4	All	1:4	All	1:4		

**Table 4-8 (Cont.)
Typical Section Design Criteria**

Design Element	Rural Section	Low-Speed Urban Section	High-Speed Urban Section	High-Speed Suburban Section	Sources	Comment
Minimum Border Width (ft)	40	12	29	29	Table 2.5.1, 2.5.2, Section 2.16.7 P.P.M. Volume I	
Sidewalk	Width (ft)	5	5	5		
	Max. Cross Slope (%)	2	2	2		
	Max. Profile Grade (%)	5	5	5	Section 8.3.1 P.P.M. Volume I	Maximum grade applies when not adjacent to a travel way per Section 8.3.1
Maximum Profile Grade (%)	5.5	6	6	6	Table 2.6.1, Section 2.16.8 P.P.M. Volume I	
Maximum change in grade without vertical curve (%)	0.5	0.7	0.6	0.6	Table 2.6.2 P.P.M. Volume I	
Minimum Profile Grade for Curb & Gutter Sections (%)	N/A	0.3	0.3	N/A	Table 2.6.4 P.P.M. Volume I	
Minimum Distance between VPIs (ft)	N/A	250	250	250	Table 2.6.4 P.P.M. Volume I	
Minimum Stopping Sight Distance (ft) (grade \leq 2%)	495	360	425	425	Table 2.7.1 P.P.M. Volume I	
Maximum Deflection without Horizontal Curve	0° 45'00"	1° 00'00"	0° 45'00"	0° 45'00"	Table 2.8.1a, Sec. 2.16.9 P.P.M. Volume I	
Length of Horizontal Curve (ft)	15 V = 825 400 min.	15 V = 675 400 min.	15 V = 750 400 min.	15 V = 750 400 min.	Table 2.8.2a P.P.M. Volume I	
Maximum Curvature of Horizontal Curve	6° 30'	8° 15'	6° 30'	6° 30'	Table 2.8.3, P.P.M. Volume I	
Maximum Horizontal curvature using normal cross slope (ft)	0° 30'	2° 45'	2° 00'	2° 00'	Table 2.8.4, P.P.M. Volume I	

**Table 4-8 (Cont.)
Typical Section Design Criteria**

Design Element	Rural Section	Low-Speed Urban Section	High-Speed Urban Section	High-Speed Suburban Section	Sources	Comment
K Values for Crest Vertical Curves	185	98	136	136	Table 2.8.5 P.P.M. Volume I	
Minimum Length of Crest Vertical Curves (ft)	350	3V = 135	300	300	Table 2.8.5 P.P.M. Volume I	
Required Base Clearance above the base clearance water elevation (ft)	3'	1	1	1	Table 2.6.3 P.P.M. Volume I	
K Values for Sag Vertical Curves	115	79	96	96	Table 2.8.6 P.P.M. Volume I	
Minimum Length of Sag Vertical Curves (ft)	250	3V = 135	200	200	Table 2.8.6 P.P.M. Volume I	
Desirable Superelevation Transition Split In Tangent In Curve	0.8L 0.2L	0.8L 0.2L	0.8L 0.2L	0.8L 0.2L	FDOT Index No. 510 FDOT Index No. 511 Section 2.9 P.P.M. Volume I	
Maximum e (ft/ft)	0.10	0.05	0.05	0.05	FDOT Index No. 510 FDOT Index No. 511 Also reference to Table 2.9.1, Section 2.17.10, P.P.M. Volume I	
Superelevation Transition Slope Rates	1:180	1:150	1:160	1:160	Table 2.9.3, Table 2.9.4, Section 2.16.10 P.P.M. Volume I	
Clear Zone Width (ft)	30	N/A	24	24	Table 2.11.11, Section 2.16.11 P.P.M. Volume I	

**Table 4-8 (Cont.)
Typical Section Design Criteria**

Design Element	Rural Section	Low-Speed Urban Section	High-Speed Urban Section	High-Speed Suburban Section	Sources	Comment
Horizontal Clearance: For Traffic Control Signs (Placement)	In accordance with the Design Standards.	In accordance with the Design Standards.	In accordance with the Design Standards.	In accordance with the Design Standards.	Table 2.11.1 P.P.M. Volume I FDOT Index No. 700	
Horizontal Clearance: For Traffic Control Signs (Supports)	> 30'	4' back of face of curb	> 24'	> 24'	Table 2.11.1 P.P.M. Volume I FDOT Index No. 700	
Horizontal Clearance: For Light Poles	20' from travel lane, 14' from auxiliary lane	4' back of face of curb	20' from travel lane, 14' from auxiliary lane	20' from travel lane, 14' from auxiliary lane	Table 2.11.2 P.P.M. Volume I FDOT Index No. 700	Criteria for Conventional Lighting
Horizontal Clearance: For Utility Installations (Above Ground Fixed Objects)	> 30'	4' back of face of curb	> 24'	> 24'	Table 2.11.3 P.P.M. Volume I FDOT Index No. 700	
Horizontal Clearance: For Utility Installations (Fragile and Breakaway Objects)	As close to the right of way as practical	No less than 1.5' back of face of curb	As close to the right of way as practical	As close to the right of way as practical	Table 2.11.3 P.P.M. Volume I FDOT Index No. 700	
Horizontal Clearance: Signal Poles and Controller Cabinets for Signals	> 30'	4' back from face of outside curbs and outside the sidewalk	> 24'	> 24'	Table 2.11.4 P.P.M. Volume I FDOT Index No. 700	

**Table 4-8 (Cont.)
Typical Section Design Criteria**

Design Element	Rural Section	Low-Speed Urban Section	High-Speed Urban Section	High-Speed Suburban Section	Sources	Comment
Horizontal Clearance: Trees	> 30'	4' back of face of curb, 6' from edge of inside traffic lane	> 24'	> 24'	Table 2.11.5 P.P.M. Volume I FDOT Index No. 700	
Horizontal Clearance: Canal Hazards	60' from the travel lane	40' from the edge of the travel lane.	60' from the travel lane.	60' from the travel lane.	Table 2.11.8 P.P.M. Volume I FDOT Index No. 700	
Horizontal Clearance: Drop-offs	See Design Standards, Index 700.	22' from traveled way to the point that is 6' below the hinge point.	See Design Standards, Index 700.	See Design Standards, Index 700.	Table 2.11.8 P.P.M. Volume I FDOT Index No. 700	
Horizontal Clearance: Other Roadside Obstacles	> 30'	4' back of face of curb. May be 2.5' back of face of curb when all other alternatives are deemed impractical.	> 24'	> 24'	Table 2.11.9 P.P.M. Volume I FDOT Index No. 700	

* On reconstruction projects where existing curb locations are fixed due to severe right of way constraints, the minimum width may be reduced to 19.5 ft. for design speeds = 45 mph, and to 15.5 ft. for design speeds ≤ 40 mph.

4.5.2 Typical Sections

A Build Alternative that considered the widening of US 301 to six lanes was evaluated for this study. The Build Alternative included two alternative typical sections for the six-lane widening. The two alternatives, as well as the proposed typical sections by segment, are described in greater detail below:

- **Alternative 1**

Alternative 1 is the development of a high-speed urban roadway facility for all four segments. This alternative would require approximately 160-ft of ROW.

- **Alternative 2**

Alternative 2 is the development of a low-speed urban roadway facility for segments A and D and a rural facility for segments B and C. This alternative would require approximately 136-ft of ROW for the low-speed urban design and 226-ft of ROW for the rural design.

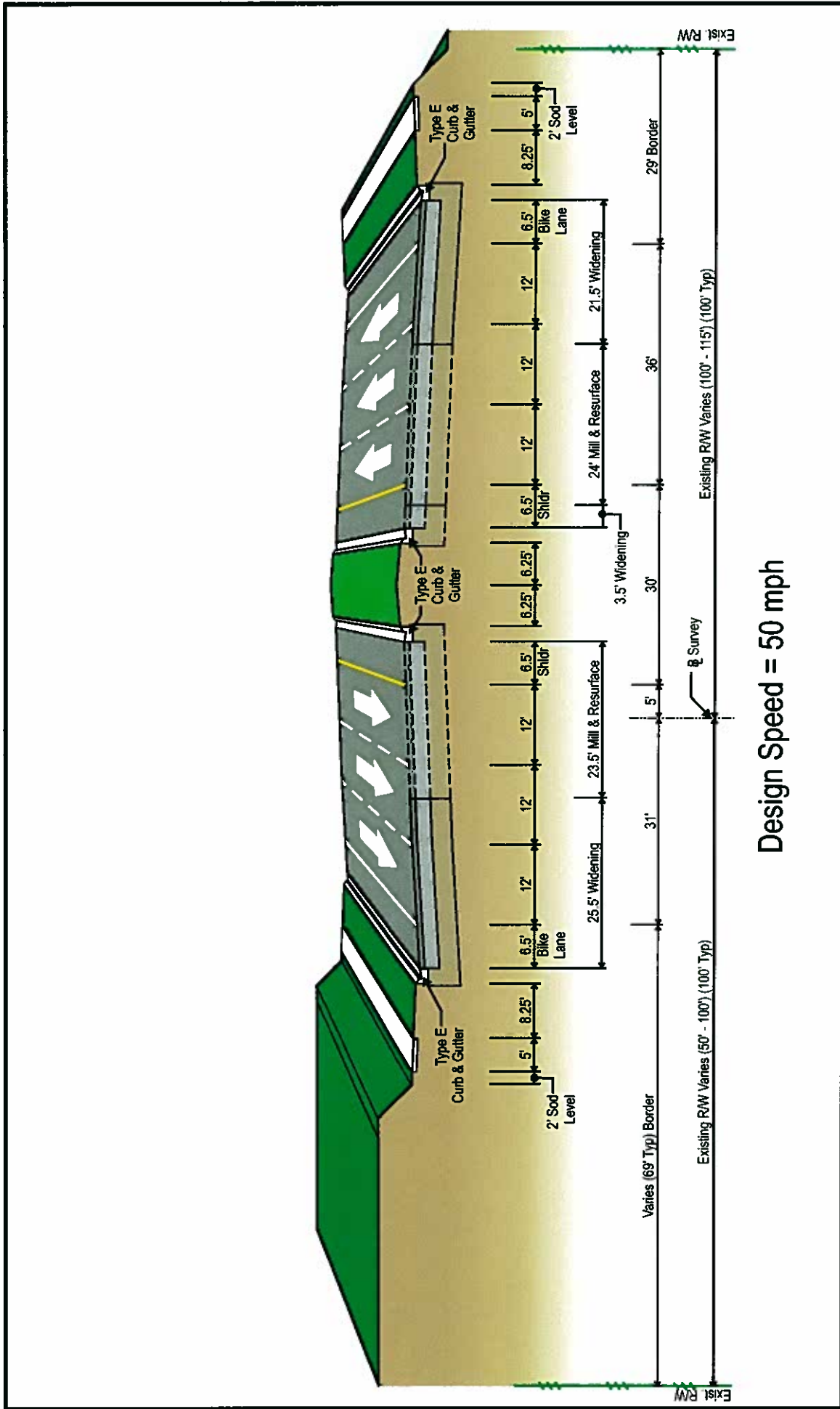
Segment A

The existing typical section along US 301 from South of CR 54 to Kossik Road is a divided four-lane roadway. In existing conditions, Segment A has 200-ft of ROW. The existing land use in this section is generally a mix between residential and commercial.

Alternative 1 (**Figure 4-5**), the high-speed urban alternative, is a six-lane divided section with a 30-ft raised median. This typical section contains three 12-ft travel lanes in each direction. The typical section also includes Type E curb and gutter on the outside and inside of the roadway, 6.5-ft bike lanes, and 5-ft sidewalks. The proposed design speed for this typical section is 50 mph. Alternative 2 (**Figure 4-6**), the low-speed urban alternative, is a six-lane divided section. The proposed features for this typical section include six 12-ft travel lanes (three in each direction) with 4-ft bike lanes and Type F curb and gutter on the outside, a 22-ft raised median with Type E curb and gutter, and 5-ft sidewalks. The proposed design speed for this typical section is 45 mph.

Segment B

The existing typical section along US 301 from Kossik Road to US 98 is a divided four-lane roadway. In existing conditions, Segment B has 100-ft of ROW left of the baseline and 120-ft of ROW right of the baseline. The existing land use in this section is mostly residential.



US 301 (SR 39)
PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

**PROPOSED ROADWAY TYPICAL SECTION FROM SOUTH OF
CR 54 (EILAND BOULEVARD) TO NORTH OF KOSSIK ROAD
SEGMENT A - ALTERNATIVE 1
(HIGH-SPEED URBAN ALTERNATIVE)**

FIGURE 4-5

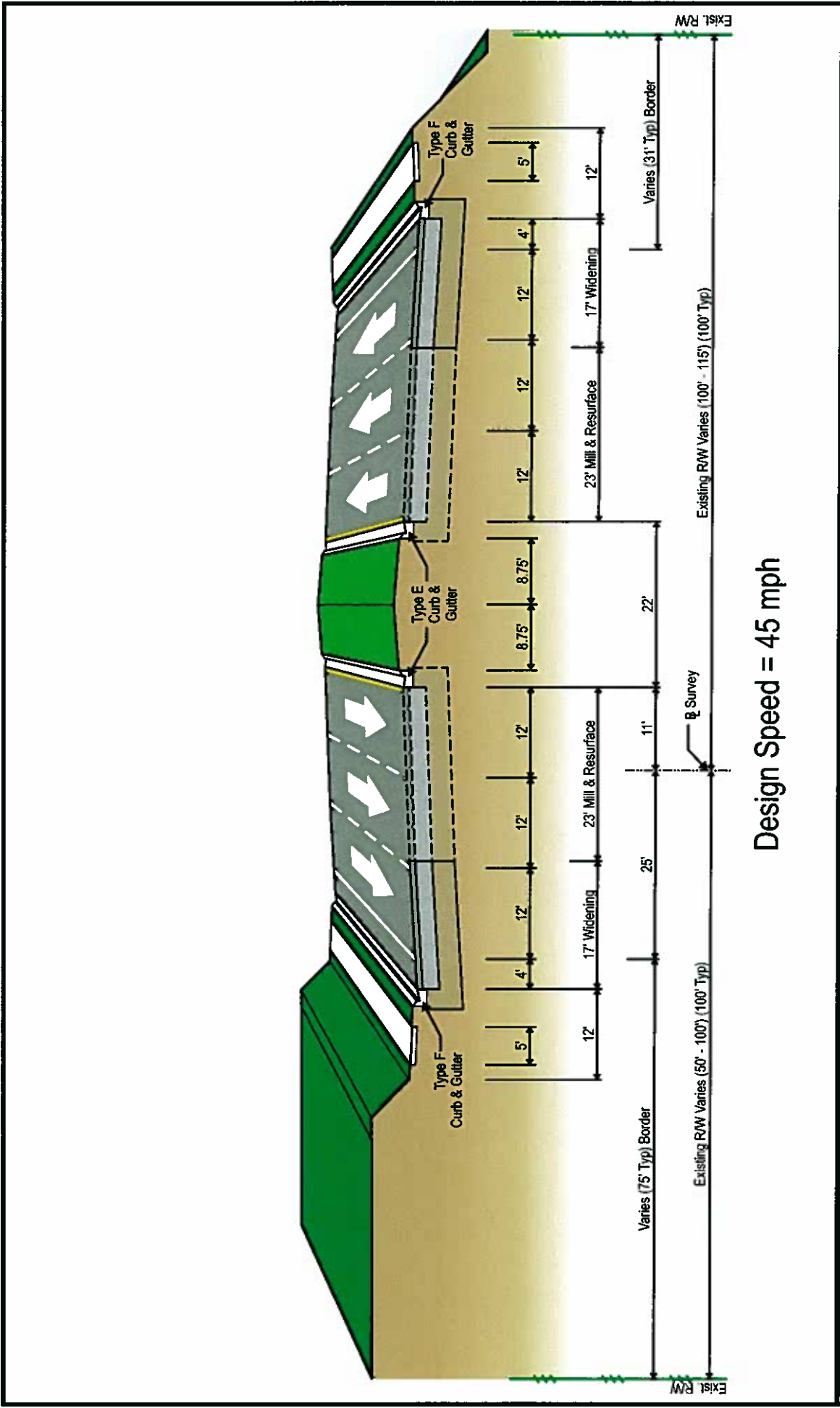


FIGURE 4-6

PROPOSED ROADWAY TYPICAL SECTION FROM SOUTH OF CR 54 (EILAND BOULEVARD) TO NORTH OF KOSSIK ROAD

SEGMENT A - ALTERNATIVE 2

(LOW-SPEED URBAN ALTERNATIVE)

US 301 (SR 39)
PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

Alternative 1 (**Figure 4-7**), the high-speed urban alternative, is a six-lane divided section with a 30-ft raised median. This typical section contains three 12-ft travel lanes in each direction. The typical section also includes Type E curb and gutter on the outside and inside of the roadway, 6.5-ft bike lanes, and 5-ft sidewalks. The proposed design speed for this typical section is 50 mph. Alternative 2 (**Figure 4-8**), the rural alternative, is a six-lane divided section. The proposed features for this typical section include six 12-ft travel lanes (three in each direction), a 40-ft median, 5-ft paved shoulders on the outside of the roadway, and 5-ft sidewalks. The proposed design speed for this typical section is 55 mph. Alternative 2A (**Figure 4-9**), the rural alternative (shoulder gutter section), is a six-lane divided section. The proposed features for this typical section include six 12-ft travel lanes (three in each direction), a 40-ft median, shoulder gutter on the outside of the roadway, and 5-ft sidewalks. The proposed design speed for this typical section is 55 mph.

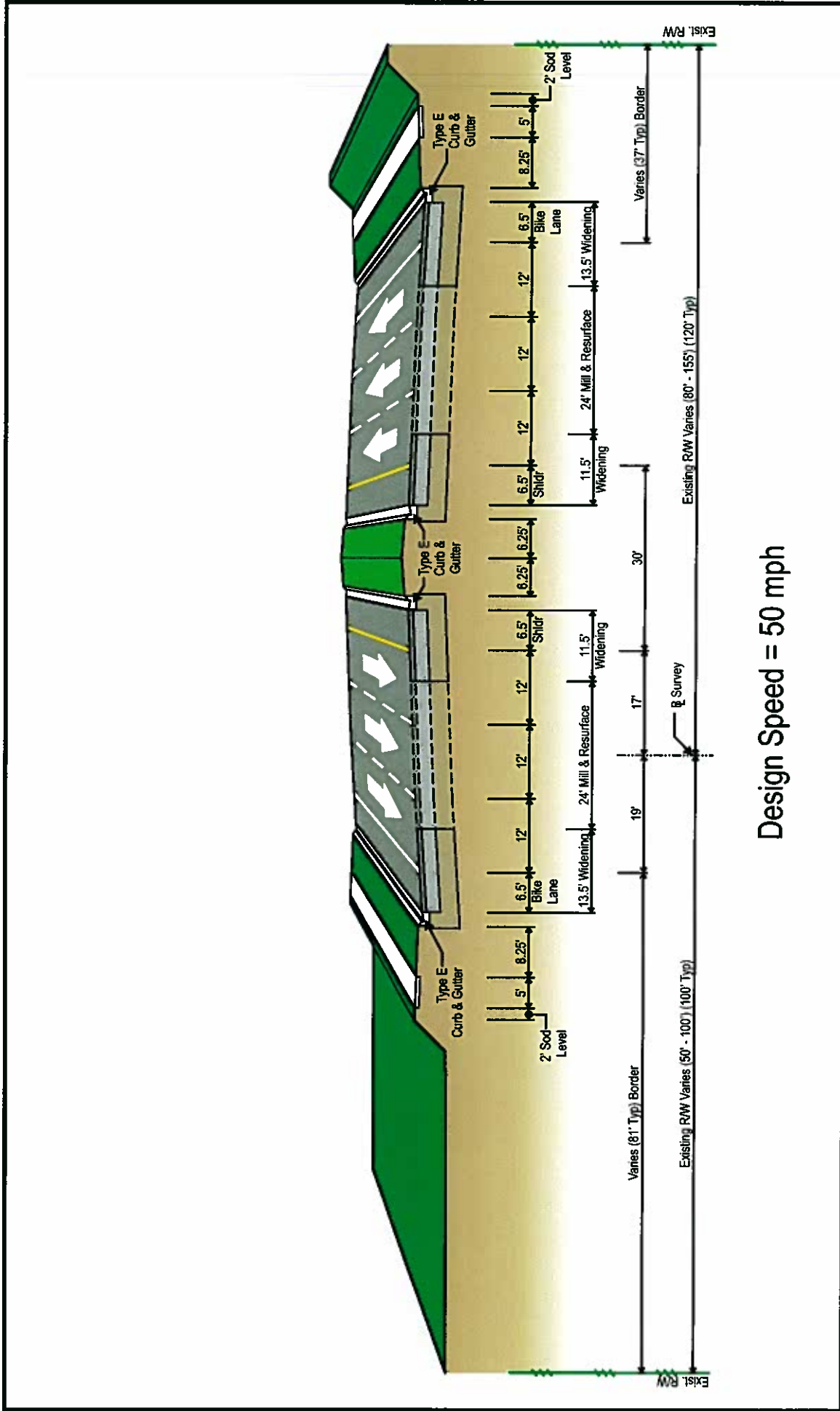
Segment C

The existing typical section along US 301 from US 98 to Morningside Drive is a divided four-lane roadway. In existing conditions, Segment C has 100-ft of ROW left of the baseline and 120-ft of ROW right of the baseline. The existing land use in this section is mostly residential.

Alternative 1 (**Figure 4-7**), the high-speed urban alternative, is a six-lane divided section with a 30-ft raised median. This typical section contains three 12-ft travel lanes in each direction. The typical section also includes Type E curb and gutter on the outside and inside of the roadway, 6.5-ft bike lanes, and 5-ft sidewalks. The proposed design speed for this typical section is 50 mph. Alternative 2 (**Figure 4-8**), the rural alternative, is a six-lane divided section. The proposed features for this typical section include six 12-ft travel lanes (three in each direction), a 40-ft median, 5-ft paved shoulders on the outside of the roadway, and 5-ft sidewalks. The proposed design speed for this typical section is 55 mph.

Segment D

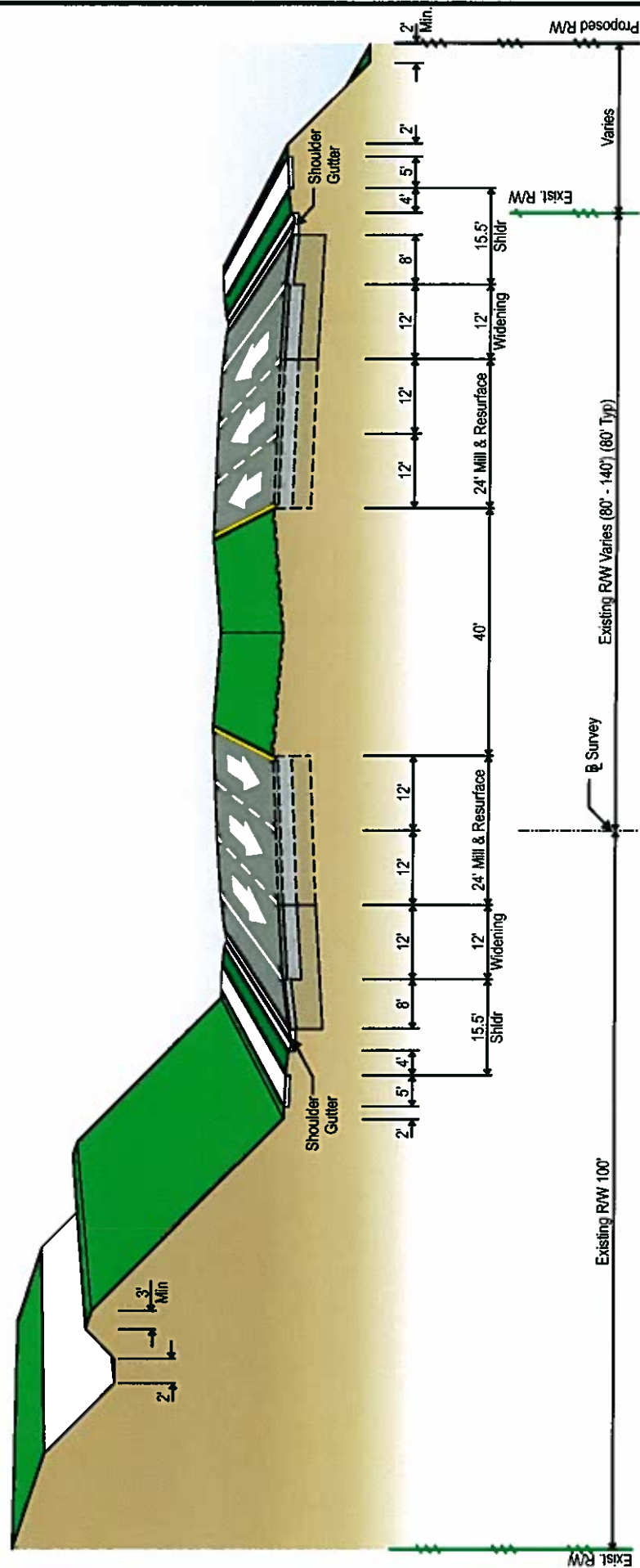
The existing typical section along US 301 from Morningside Drive to US 98 Bypass is a divided four-lane roadway. The existing ROW width is 100-ft. The existing land use in this section is a mix of commercial and residential use. Alternative 1 (**Figure 4-10**), the high-speed urban alternative, is a six-lane divided section with a 30-ft raised median. This typical section contains three 12-ft travel lanes in each direction. The typical section also includes Type E curb and gutter on the outside and inside of the roadway, 6.5-ft bike lanes, and 5-ft sidewalks. The proposed design speed for this typical section is 50 mph. Alternative 2 (**Figure 4-11**), the low-speed urban alternative, is a six-lane divided section. The proposed features for this typical section include six 12-ft travel lanes (three in each direction) with 4-ft



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from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

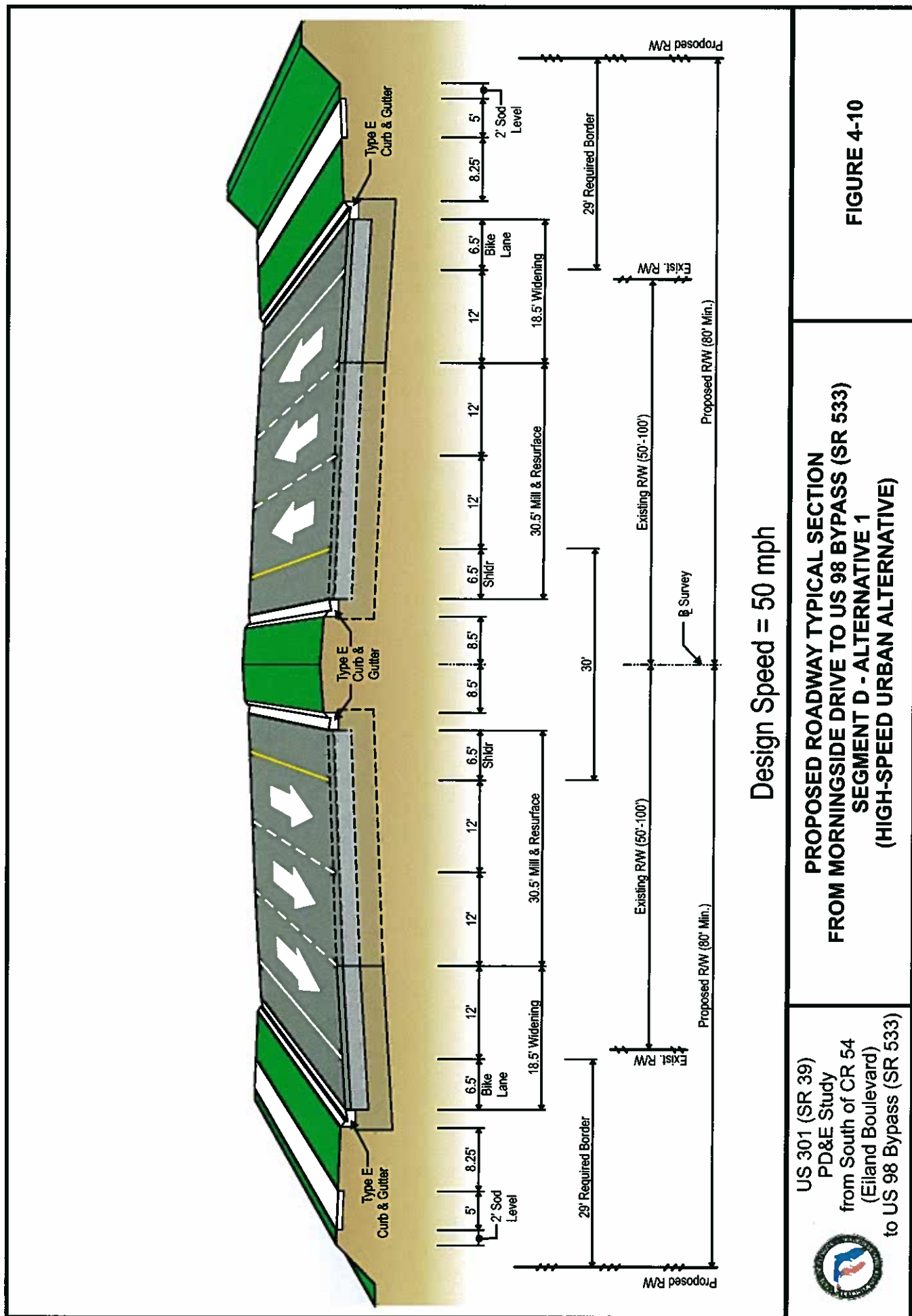
**PROPOSED ROADWAY TYPICAL SECTION FROM
NORTH OF KOSSIK ROAD TO MORNINGSIDE DRIVE
SEGMENTS B & C - ALTERNATIVE 1
(HIGH-SPEED URBAN ALTERNATIVE)**

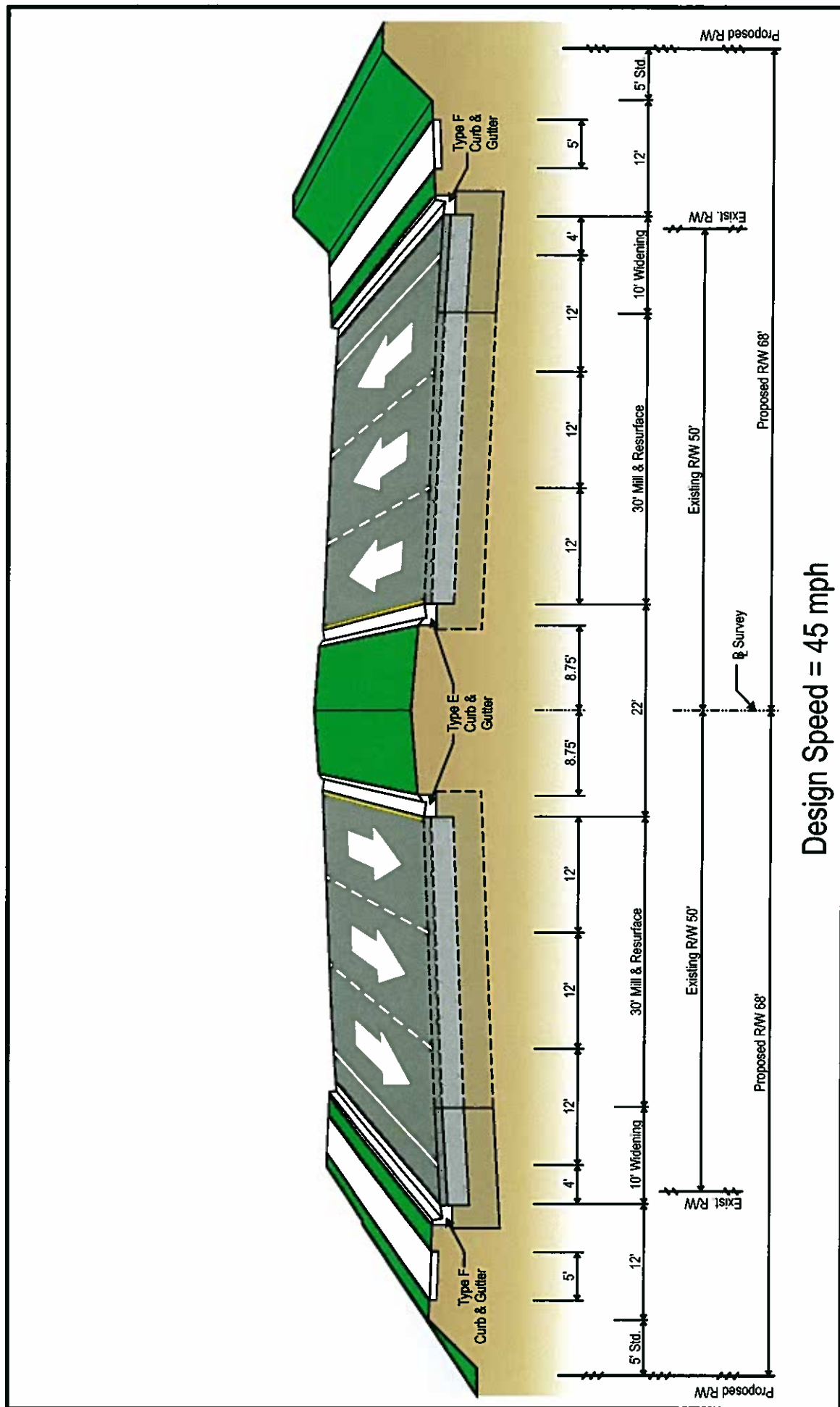
FIGURE 4-7




**PROPOSED ROADWAY TYPICAL SECTION
FROM NORTH OF WIRE ROAD TO NORTH OF CENTENNIAL ROAD
SEGMENT B - ALTERNATIVE 2A
(RURAL ALTERNATIVE - SHOULDER GUTTER SECTION)**

US 301 (SR 39)
PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)





 <p>US 301 (SR 39) PD&E Study from South of CR 54 (Eiland Boulevard) to US 98 Bypass (SR 533)</p>	<p>PROPOSED ROADWAY TYPICAL SECTION FROM MORNINGSIDE DRIVE TO US 98 BYPASS (SR 533) SEGMENT D - ALTERNATIVE 2 (LOW-SPEED URBAN ALTERNATIVE)</p>	<p>FIGURE 4-11</p>
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bike lanes and Type F curb and gutter on the outside, a 22-ft raised median with Type E curb and gutter, and 5-ft sidewalks. The proposed design speed for this typical section is 45 mph.

For each of the two typical section alternatives, three alternate roadway alignments (west, center, and east roadway alignments) were evaluated only for Segment D. Separate roadway alignments were evaluated for only Segment D due to significant ROW constraints (100-ft, 50-ft on each side of roadway centerline) between Countryside Place and the US 98 Bypass. For the west, center, and east roadway alignments of the high-speed urban alternative typical section (Alternative 1), 60-ft of ROW acquisition would be needed on the west side of the roadway, 30-ft on both sides of the roadway, and 60-ft on the east side of the roadway, respectively.

For the west, center, and east roadway alignments of the low-speed alternative typical section (Alternative 2), 36-ft of ROW acquisition would be needed on the west side of the roadway, 18-ft on both sides of the roadway, and 36-ft on the east side of the roadway, respectively. Based on the quantifiable values provided in the evaluation matrix shown in **Table 4-12**, the western roadway alignment was the proposed alignment that was presented at the Alternatives Public Workshop on June 3, 2009. The cost to widen US 301 on the west side is less than the centered alignment for both Alternatives 1 and 2 typical sections and is approximately equal to the cost of the eastern widening. Since the west widening has a fewer number of overall relocations (two versus nine for Alternative 1 and two versus seven for Alternative 2) than the east widening, the western alignment was proposed instead of the eastern alignment.

4.5.3 Selection of Preferred Alternative

In order to evaluate the study alternatives, the evaluation matrices shown in **Tables 4-9** through **4-13** were prepared using quantifiable criteria from a multitude of categories including socioeconomic, environmental, cultural, potential hazardous material/petroleum contamination, and costs (engineering, ROW and construction). The matrix data was developed utilizing raster-based aerial photography and depicts the proposed ROW needs for each alternative.

Table 4-9
Evaluation Matrix – Segment A

Evaluation Factors		Alternatives*		
		No-Build	Alternative 1	Alternative 2
Business and Residential Relocations				
Number of Businesses Estimated to be Relocated		0	0	0
Number of Residencies Estimated to be Relocated		0	0	0
Right-of-Way Involvement				
Total Number of Parcels Involved		0	12	10
Area of ROW to be Acquired in Acres**		0.00	1.34	0.78
Community Facility Involvement				
Community Facilities Adjacent to the Proposed ROW		9	9	9
Noise Sensitive Sites				
Number of Noise Sensitive Sites Within the 66dBA Isopleth		1	48	46
Cultural Resources and Public Parks Involvement				
Number of NRHP Listed or Eligible for Listing Historic Sites/Structures Within or Adjacent to ROW		0	0	0
Number of Public Parks Adjacent to ROW		1	1	1
Natural Environment Involvement				
Estimated Total Wetland Involvement Area in Acres		0.00	0.00	0.00
Floodplain and Floodway Encroachment				
Area of Base Floodplain and Floodway Encroachment in Acres		0.0	0.0	0.0
Potential Petroleum Pollutant and Hazardous Material Contaminated Sites				
Number of Potential Contaminated or Hazardous Materials Sites (Medium and High Rank)		0	0	0
Estimated Project Costs (Present value in million \$)				
Design Cost		0.00	2.31	2.00
ROW Acquisition Cost	Roadway	0.00	14.86	9.86
	Ponds	0.00	6.78	6.78
Construction Cost		0.00	15.40	13.35
Construction Engineering and Inspection Cost		0.00	2.31	2.00
Total Cost		0.00	41.66	33.99

*Alternatives include side street improvements

**Does not include ponds

Table 4-10
Evaluation Matrix – Segment B

Evaluation Factors		Alternatives*		
		No-Build	Alternative 1	Alternative 2
Business and Residential Relocations				
Number of Businesses Estimated to be Relocated		0	0	9
Number of Residencies Estimated to be Relocated		0	1	7
Right-of-Way Involvement				
Total Number of Parcels Involved		0	28	69
Area of ROW to be Acquired in Acres**		0.00	2.33	16.62
Community Facility Involvement				
Community Facilities Adjacent to the Proposed ROW		2	2	2
Noise Sensitive Sites				
Number of Noise Sensitive Sites Within the 66dBA Isopleth		30	45	51
Cultural Resources and Public Parks Involvement				
Number of NRHP Listed or Eligible for Listing Historic Sites/Structures Within or Adjacent to ROW		0	0	0
Number of Public Parks Adjacent to ROW		0	0	0
Natural Environment Involvement				
Estimated Total Wetland Involvement Area in Acres		0.00	0.43	0.26
Floodplain and Floodway Encroachment				
Area of Base Floodplain and Floodway Encroachment in Acres		0.0	0.0	0.0
Potential Petroleum Pollutant and Hazardous Material Contaminated Sites				
Number of Potential Contaminated or Hazardous Materials Sites (Medium and High Rank)		0	0	0
Estimated Project Costs (Present value in million \$)				
Design Cost		0.00	3.48	3.82
ROW Acquisition Cost	Roadway	0.00	4.79	35.25
	Ponds	0.00	15.35	15.35
Construction Cost		0.00	23.23	25.44
Construction Engineering and Inspection Cost		0.00	3.48	3.82
Total Cost		0.00	50.33	83.68

*Alternatives include side street improvements

**Does not include ponds

Table 4-11
Evaluation Matrix – Segment C

Evaluation Factors		Alternatives*		
		No-Build	Alternative 1	Alternative 2
Business and Residential Relocations				
Number of Businesses Estimated to be Relocated		0	1	20
Number of Residencies Estimated to be Relocated		0	1	1
Right-of-Way Involvement				
Total Number of Parcels Involved		0	12	47
Area of ROW to be Acquired in Acres**		0.00	0.37	6.62
Community Facility Involvement				
Community Facilities Adjacent to the Proposed ROW		3	3	3
Noise Sensitive Sites				
Number of Noise Sensitive Sites Within the 66dBA Isopleth		9	11	11
Cultural Resources and Public Parks Involvement				
Number of NRHP Listed or Eligible for Listing Historic Sites/Structures Within or Adjacent to ROW		0	0	0
Number of Public Parks Adjacent to ROW		0	0	0
Natural Environment Involvement				
Estimated Total Wetland Involvement Area in Acres		0.00	0.18	0.36
Floodplain and Floodway Encroachment				
Area of Base Floodplain and Floodway Encroachment in Acres		0.0	6.3	6.3
Potential Petroleum Pollutant and Hazardous Material Contaminated Sites				
Number of Potential Contaminated or Hazardous Materials Sites (Medium and High Rank)		3	3	3
Estimated Project Costs (Present value in million \$)				
Design Cost		0.00	1.75	1.59
ROW Acquisition Cost	Roadway	0.00	4.60	43.25
	Ponds	0.00	4.68	4.68
Construction Cost		0.00	11.64	10.60
Construction Engineering and Inspection Cost		0.00	1.75	1.59
Total Cost		0.00	24.42	61.71

*Alternatives include side street improvements

**Does not include ponds

Table 4-12
Evaluation Matrix – Segment D

Evaluation Factors		Alternatives/Alignments						
		No-Build	Alternative 1			Alternative 2		
			West	Center	East	West	Center	East
Business and Residential Relocations								
Number of Businesses Estimated to be Relocated		0	2	4	3	2	2	2
Number of Residencies Estimated to be Relocated		0	0	3	6	0	3	5
Right-of-Way Involvement								
Total Number of Parcels Involved		0	19	27	17	17	26	12
Area of ROW to be Acquired in Acres		0.00	2.73	2.33	2.70	1.61	1.38	1.55
Community Facility Involvement								
Community Facilities Adjacent to the Proposed ROW		3	3	3	3	3	3	3
Noise Sensitive Sites								
Number of Noise Sensitive Sites Within the 66dBA Isopleth		4	4	4	5	4	4	5
Cultural Resources and Public Parks Involvement								
Number of NRHP Listed or Eligible for listing Historic Sites/Structures Within or Adjacent to ROW		0	0	0	0	0	0	0
Number of Public Parks Adjacent to ROW		0	0	0	0	0	0	0
Natural Environment Involvement								
Estimated Total Wetland Involvement Area in Acres		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Floodplain and Floodway Encroachment								
Area of Base Floodplain and Floodway Encroachment in Acres		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Potential Petroleum Pollutant and Hazardous Material Contaminated Sites								
Number of Potential Contaminated or Hazardous Materials Sites (Medium and High Rank)		2	2	2	2	2	2	2
Estimated Project Costs (Present value in million \$)								
Design Cost		0.00	0.80	0.80	0.80	0.76	0.76	0.76
ROW Acquisition Cost	Roadway	0.00	15.28	18.81	15.27	11.55	12.24	8.23
	Ponds	0.00	2.29	2.29	2.29	2.29	2.29	2.29
Construction Cost		0.00	5.36	5.36	5.36	5.06	5.06	5.06
Construction Engineering and Inspection Cost		0.00	0.80	0.80	0.80	0.76	0.76	0.76
Total Cost		0.00	24.53	28.06	24.52	20.42	21.11	17.10

*Alternatives include side street improvements

**Does not include ponds

Table 4-13
Evaluation Matrix – Complete Corridor Summary

Evaluation Factors	Build Alternative*										Total Corridor (Segments A-D)		
	Segment A		Segment B		Segment C		Segment D		Segment E		No-Build	Build	
	Low	High	Low	High	Low	High	Low	High	Low	High		Low	High
Business and Residential Relocations													
Number of Businesses Estimated to be Relocated	0	0	0	9	1	20	2	4			0	3	33
Number of Residences Estimated to be Relocated	0	0	1	7	1	1	0	6			0	2	14
Right-of-Way Involvement													
Total Number of Parcels Involved	10	12	28	69	12	47	12	27			0	62	155
Area of ROW to be Acquired in Acres**	0.78	1.34	2.33	16.62	0.37	6.62	1.38	2.73			0.00	4.86	27.31
Community Facility Involvement													
Community Facilities Adjacent to the Proposed ROW	9	9	2	2	3	3	3	3			14	17	17
Noise Sensitive Sites													
Number of Noise Sensitive Sites Within the 66dBA Isopleth	46	48	45	51	11	11	4	5			40	106	115
Cultural Resources and Public Parks Involvement													
Number of NRHP Listed or Eligible for listing Historic Sites/Structures Within or Adjacent to ROW	0	0	0	0	0	0	0	0			0	0	0
Number of Public Parks Adjacent to ROW	1	1	0	0	0	0	0	0			1	1	1
Natural Environment Involvement													
Estimated Total Wetland Involvement Area in Acres	0.00	0.00	0.26	0.43	0.18	0.36	0.00	0.00			0.00	0.44	0.79
Floodplain and Floodway Encroachment													
Area of Base Floodplain and Floodway Encroachment in Acres	0.0	0.0	0.0	0.0	6.3	6.3	0.0	0.0			0.0	6.3	6.3
Potential Petroleum Pollutant and Hazardous Material Contaminated Sites													
Number of Potential Contaminated or Hazardous Materials Sites (Medium and High Rank)	0	0	0	0	3	3	2	2			5	6	7
Estimated Project Costs (Present value in million \$)													
Design Cost	2.00	2.31	3.48	3.82	1.59	1.75	0.76	0.80			0.00	7.83	8.68
ROW Acquisition Cost	9.86	14.86	4.79	35.25	4.60	43.25	8.23	18.81			0.00	27.48	112.17
Ponds	6.78	6.78	15.35	15.35	4.68	4.68	2.29	2.29			0.00	29.10	29.10
Construction Cost	13.35	15.40	23.23	25.44	10.60	11.64	5.06	5.36			0.00	52.24	57.84
Construction Engineering and Inspection Cost	2.00	2.31	3.48	3.82	1.59	1.75	0.76	0.80			0.00	7.83	8.68
Total Cost	33.99	41.66	50.33	83.68	23.06	63.07	17.10	28.06			0.00	124.48	216.47

*Alternatives include side street improvements

**Does not include ponds

4.6 REFERENCES

1. *Location Hydraulics Report*; HDR Engineering, Inc.; Tampa, Florida; 2010.
2. *Stormwater Management Facilities Report*; HDR Engineering, Inc.; Tampa, Florida; 2010.
3. *Pasco County Metropolitan Planning Organization (MPO) 2035 Long Range Transportation Plan (LRTP)*; Tindale Oliver & Associates, Inc.; Document A Draft Report December 10, 2009.
4. *Pasco County Transit Development Plan, Major Update (2006-2010)*; Tindale Oliver & Associates, Inc.; June 2005.
5. *Plans Preparation Manual (English)*; Florida Department of Transportation, Tallahassee, Florida; January 2006, Revised – January 1, 2009.
6. *AASHTO-A Policy on Geometric Design of Highways and Streets*; American Association of State Highway and Transportation Officials; 2004.

SECTION 5

PREFERRED ALTERNATIVE

The final step in the study process was to define/refine the design parameters associated with the Preferred Alternative, including intersection design, drainage design, and maintenance of traffic during construction. Defining these parameters allowed for a more comprehensive and accurate evaluation of project impacts and costs. In this section of the report, project impacts and costs are presented only for the Preferred Build Alternative.

5.1 DESCRIPTION OF PREFERRED ALTERNATIVE

The purpose of the Alternatives Public Workshop was to solicit public input regarding the proposed Build Alternatives and the No-Build Alternative for the proposed project. On July 16, 2009 the FDOT determined a Recommended Build Alternative would be presented at the Study's future Public Hearing in addition to the No-Build Alternative. The Recommended Build Alternative determination was based on the results of the Build Alternative's impact evaluation, public feedback received during the public involvement process, and consistency with current transportation plans. As a result of this determination, the proposed six-lane widening of US 301 was identified for implementation in Segment A only (south of CR 54 to north of Kossik Road). This determination was principally based on the design year (2035) traffic analysis results.

The analysis indicated that the projected volumes do not support the need to widen US 301 to six lanes in Segments B and C. In Segment D, the six-lane widening is not planned to be implemented for the following reasons: 1) Segment D is a relatively short segment (0.8 miles) with acute right-of-way (ROW) constraints (only 100-feet of ROW) thus making required ROW acquisition costs high; 2) the proposed six-lane widening is not identified in the 2035 Cost Affordable Roadway Plan of the *Pasco County MPO 2035 LRTP*¹, 3) and there are capacity constrained routes at the northern terminus of the Study limits that are not planned for improvement in any current transportation plans. Therefore, these routes would be unable to accommodate the additional lanes. For example, the US 98 Bypass proposed multi-laning project is currently unfunded and it is not identified as a cost affordable project in the *Pasco County MPO 2035 LRTP*¹.

The typical section that was recommended for Segment A of the project corridor is described as a low speed urban typical section. This typical section was selected as the recommended Build Alternative because it would minimize the overall ROW acquisition cost associated with implementing the project.

The Recommended Build Alternative presented at the Public Hearing on November 3, 2009 consisted of the six-lane widening of US 301 in Segment A only (south of CR 54 to north of Kossik Road) and maintaining the existing four-lanes on US 301 in Segments B through D (from north of Kossik Road to US 98 Bypass). Notably, the section of US 301 between Kossik Road and Wire Road would be used to transition the recommended six-lanes into the existing four-lane roadway. Further, to minimize traffic congestion and improve safety north of Kossik Road, Transportation System Management (TSM) improvements were also recommended. The TSM improvements could include, but not be limited to, median modifications on US 301 from north of Kossik Road to US 98 Bypass and turn lane improvements at four signalized intersections: Centennial Road, CR 52A, Morningside Drive and US 98 Bypass.

The Preferred Build Alternative developed for the US 301 PD&E Study is required to be consistent with the Pasco County MPO Cost Affordable Roadway LRTP. The Recommended Build Alternative presented at the Study's Public Hearing on November 4, 2009 was consistent with the Pasco MPO 2025 Cost Affordable LRTP. Subsequent to the Public Hearing, the Pasco County MPO adopted their 2035 LRTP on December 10, 2009. The adopted 2035 Cost Affordable Roadway Plan contains an additional roadway segment on US 301 between US 98 and CR 52A where six-lanes are proposed in addition to the six-lane roadway section on US 301 from south of CR 54 to Kossik Road.

Therefore, the Preferred Build Alternative consists of widening US 301 to a six-lane roadway facility in Segment A (from south of CR 54 to north of Kossik Road) and a portion of Segment C from south of US 98 to CR 52A. The section of US 301 between Kossik Road and Wire Road will be used to transition the proposed six-lanes in Segment A into the existing four-lane roadway. Within the portion of Segment C from south of US 98 to CR 52A, the section of US 301 from north of Musselman Road to US 98 will be used to transition the proposed six-lanes in Segment C into the existing four-lane roadway. Elsewhere within the study limits, the existing four-lanes on US 301 in Segments B-D (from north of Kossik Road to US 98 Bypass) will remain as is. The preferred typical section for the six-lane widening is a low-speed urban typical section within Segment A, and a rural typical section within

the portion of Segment C between US 98 to and CR 52A. To minimize traffic congestion and improve safety north of Kossik Road, TSM improvements will be provided at three signalized intersections: Centennial Road, Morningside Drive, and US 98 Bypass. The previously recommended TSM improvements at CR 52A would be constructed as part of the widening in the portion of Segment C.

5.2 DESIGN TRAFFIC VOLUMES

5.2.1 Development of Design Hour Traffic Volumes

The existing year (2008) directional design hour volumes (DDHV) were obtained by multiplying AADT volumes by the recommended K_{30} - and D_{30} -factors of 9.4% and 56.0% respectively. A K_{30} -factor of 20.06% (derived from the field data) was used for the east leg of the US 301/Centennial Road intersection to account for higher traffic volumes occurring during the commencement and dismissal of students at several nearby schools: Centennial Middle School, Centennial Elementary and East Pasco Adventist Academy. The developed existing year (2008), AM and PM design peak hour turning movement volumes are shown on **Figures 5-1 (A through E)**.

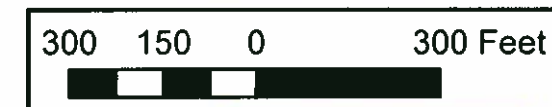
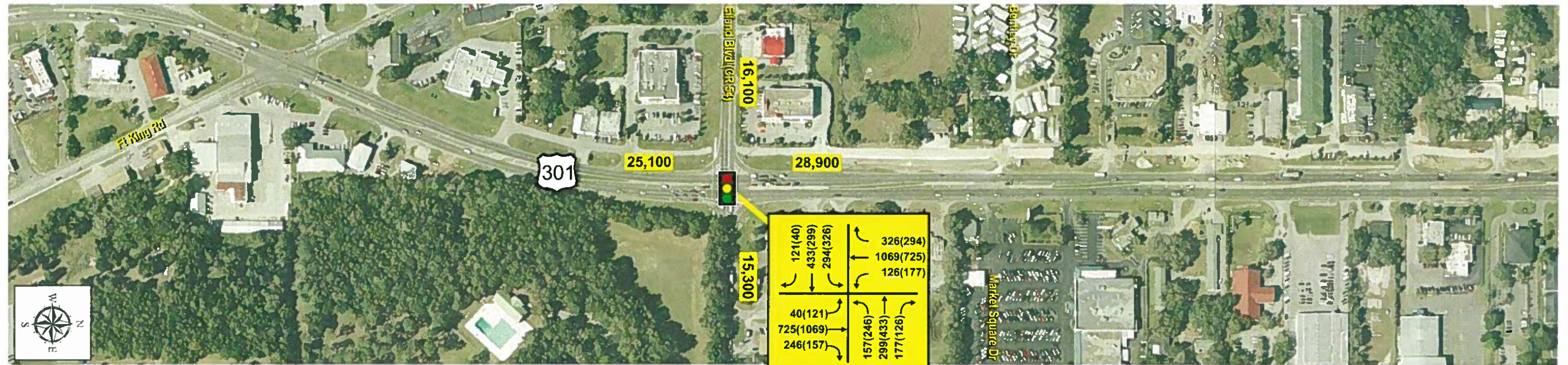
5.2.2 Traffic Characteristics

The factors displayed in **Table 5-1** describe the peak hour traffic flow characteristics along the US 301 study corridor. The assumptions used to determine the factors are documented in the *Traffic Technical Memorandum*². These characteristics were used for both the existing and future traffic analyses.

**Table 5-1
Traffic Characteristics**

Traffic Characteristics	Value
Design Hour (K_{30}) Factor	9.4%
Directional (D_{30}) Factor	56.0%
Design Hour Truck (DHT) Factor for US 301	3.0%
Design Hour Truck (DHT) Factor for US 98 Bypass	4.0%
Design Hour Truck (DHT) Factor for US 98	7.0%

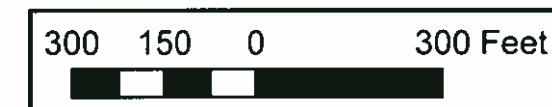
In this study, southbound US 301 has been selected as the peak direction for the AM period and northbound US 301 as the peak direction for the PM period.



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING YEAR (2008) AADT AND TURNING MOVEMENT VOLUMES

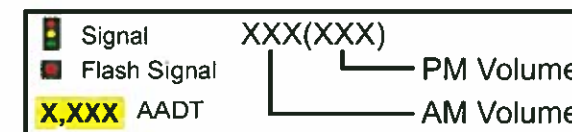
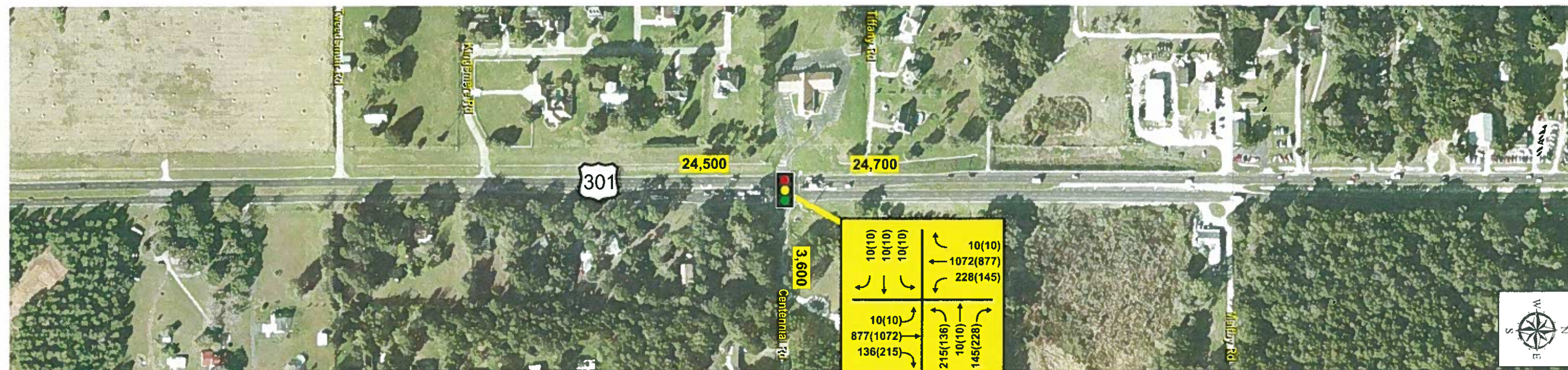
FIGURE 5-1A



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING YEAR (2008) AADT AND TURNING MOVEMENT VOLUMES

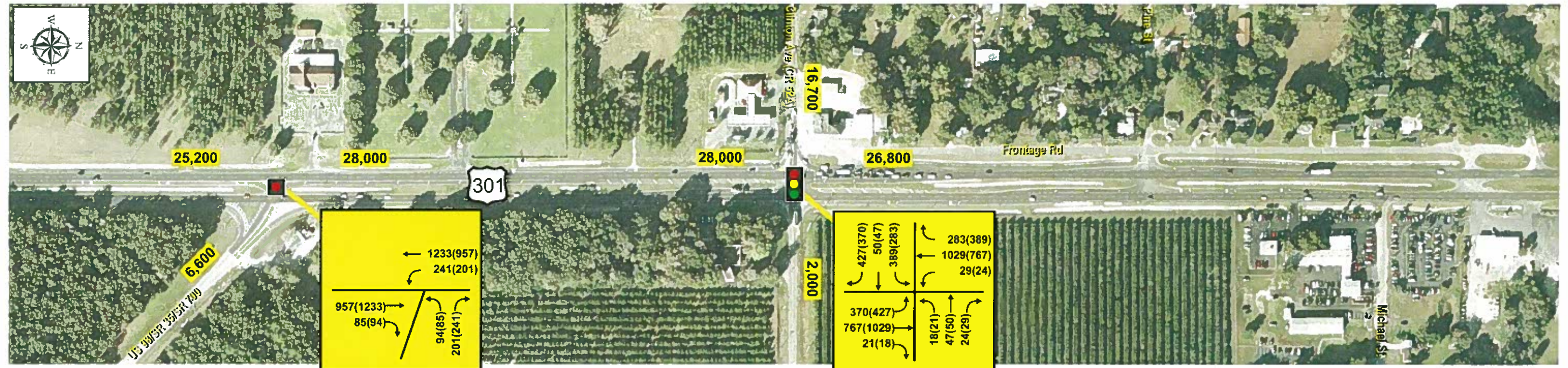
FIGURE 5-1B



US 301 (SR 39) PD&E Study
 from South of CR 54
 (Eiland Boulevard)
 to US 98 Bypass (SR 533)

EXISTING YEAR (2008) AADT AND TURNING MOVEMENT VOLUMES

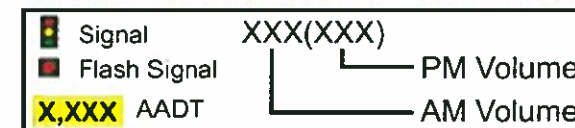
FIGURE 5-1C



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING YEAR (2008) AADT AND TURNING MOVEMENT VOLUMES

FIGURE 5-1D



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING YEAR (2008) AADT AND TURNING MOVEMENT VOLUMES

FIGURE 5-1E

5.2.3 Existing Roadway Characteristics

US 301 is a four-lane divided roadway within the study limits. Eight signalized intersections were evaluated as part of the traffic study. The signalized intersections include the following (listed from south to north):

Signalized Intersections
CR 54
Daughtery Road
Townview Square Shopping Center Entrance
Kossik Road
Centennial Road
CR 52A
Morningside Drive
US 98 Bypass

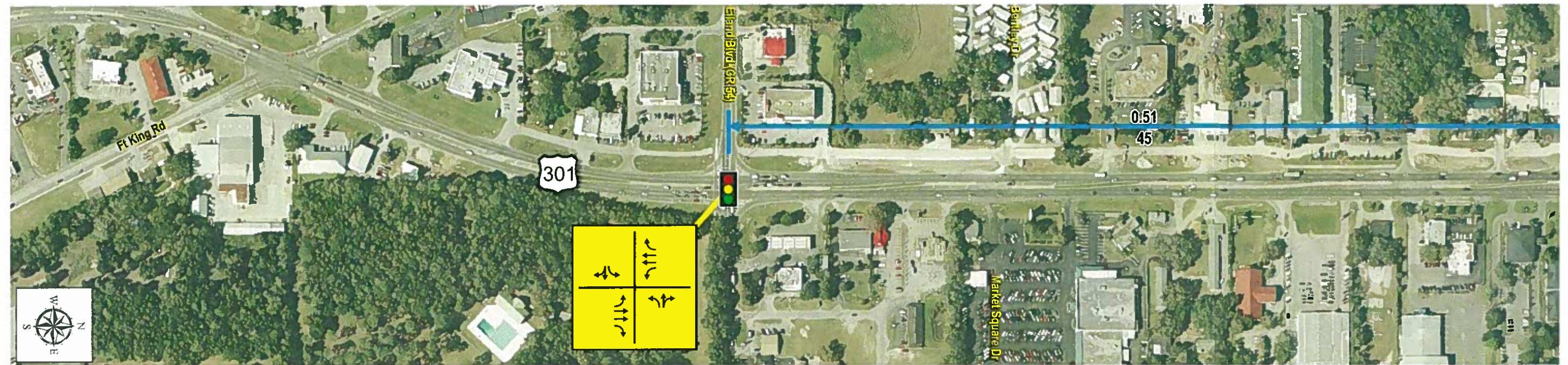
The existing lane geometry of these eight intersections is displayed in **Figures 5-2 (A through E)**.

5.2.4 Traffic Volume Projections

The design year for this study is 2035, the opening year is 2015, and the interim year is 2025. The travel demand model that was used to derive the future year traffic projections for the US 301 PD&E Study is the Tampa Bay Regional Planning Model (TBRPM) Version 6.1. The TBRPM is based on the Florida Standard Urban Transportation Modeling Structure (FSUTMS) and is recognized by the Florida Department of Transportation (FDOT), as well as the five Metropolitan Planning Organizations (MPOs) located within FDOT District 7, as the accepted travel demand forecasting model for the Tampa Bay Region. The TBRPM includes Hillsborough, Pinellas, Pasco, Hernando, and Citrus Counties and the Port Manatee area, located in Manatee County.

The TBRPM was validated in the year 2000 by the FDOT and met or exceeded the required validation criteria. The previously adopted 2025 Financially Feasible LRTP roadway networks for Pasco County (as represented in the Year 2025 TBRPM) was used to develop the forecast volumes.

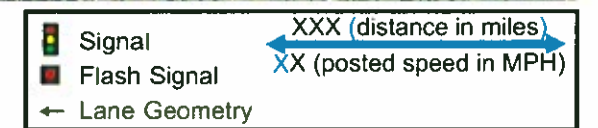
The design year (2035) AADT volumes were estimated by extrapolating the growth in traffic volume between year 2008 traffic counts and the year 2025 model projected AADT volumes. The design year (2035) Directional Design Hour Volumes (DDHV) were obtained by multiplying the AADT volumes



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING YEAR (2008) CORRIDOR LANE GEOMETRY

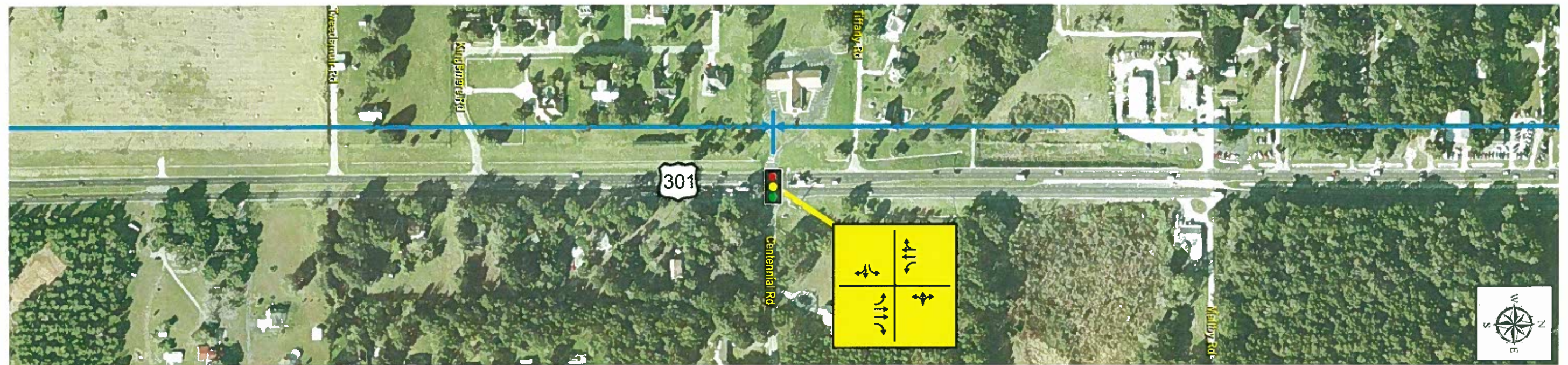
FIGURE 5-2A



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING YEAR (2008) CORRIDOR LANE GEOMETRY

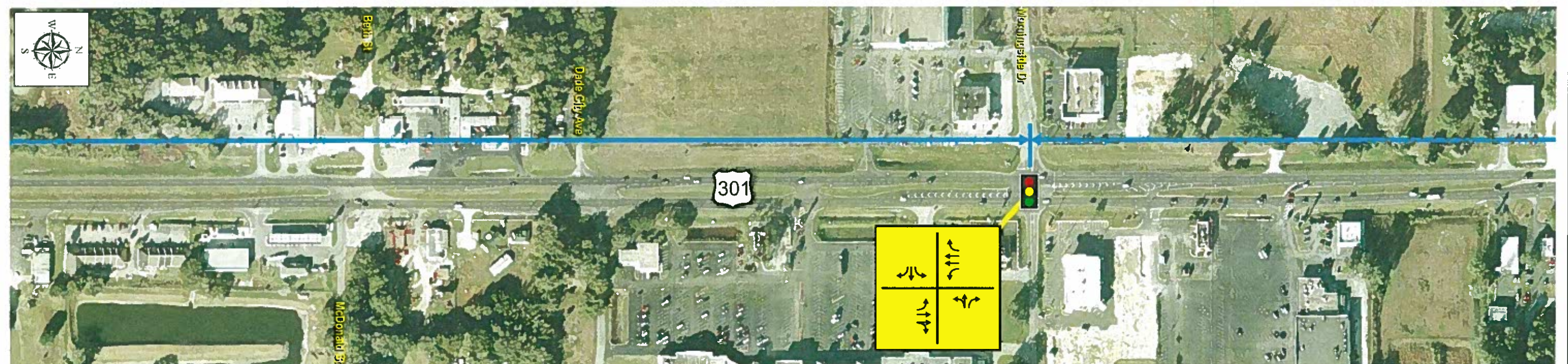
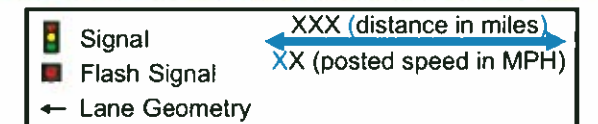
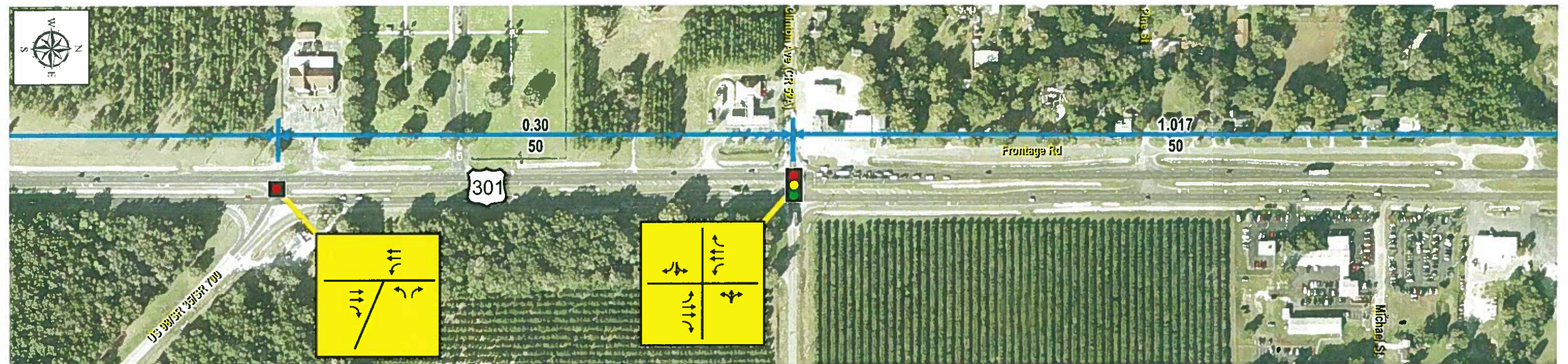
FIGURE 5-2B



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING YEAR (2008) CORRIDOR
LANE GEOMETRY

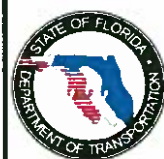
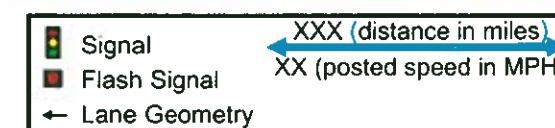
FIGURE 5-2C



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING YEAR (2008) CORRIDOR
LANE GEOMETRY

FIGURE 5-2D



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

EXISTING YEAR (2008) CORRIDOR LANE GEOMETRY

FIGURE 5-2E

DDHV by field collected manual turning movement percentages for the afternoon peak period. A manual smoothing process was performed in order to satisfy the K_{30} - and D_{30} -factors. The design year volumes that were developed for the PM peak period were used to estimate the AM design year volumes by using the volumes of the reciprocal traffic movements. The resulting AM and PM turning movement traffic volumes are shown on **Figure 5-3 (A through E)**.

5.2.5 Future Conditions Traffic Analysis

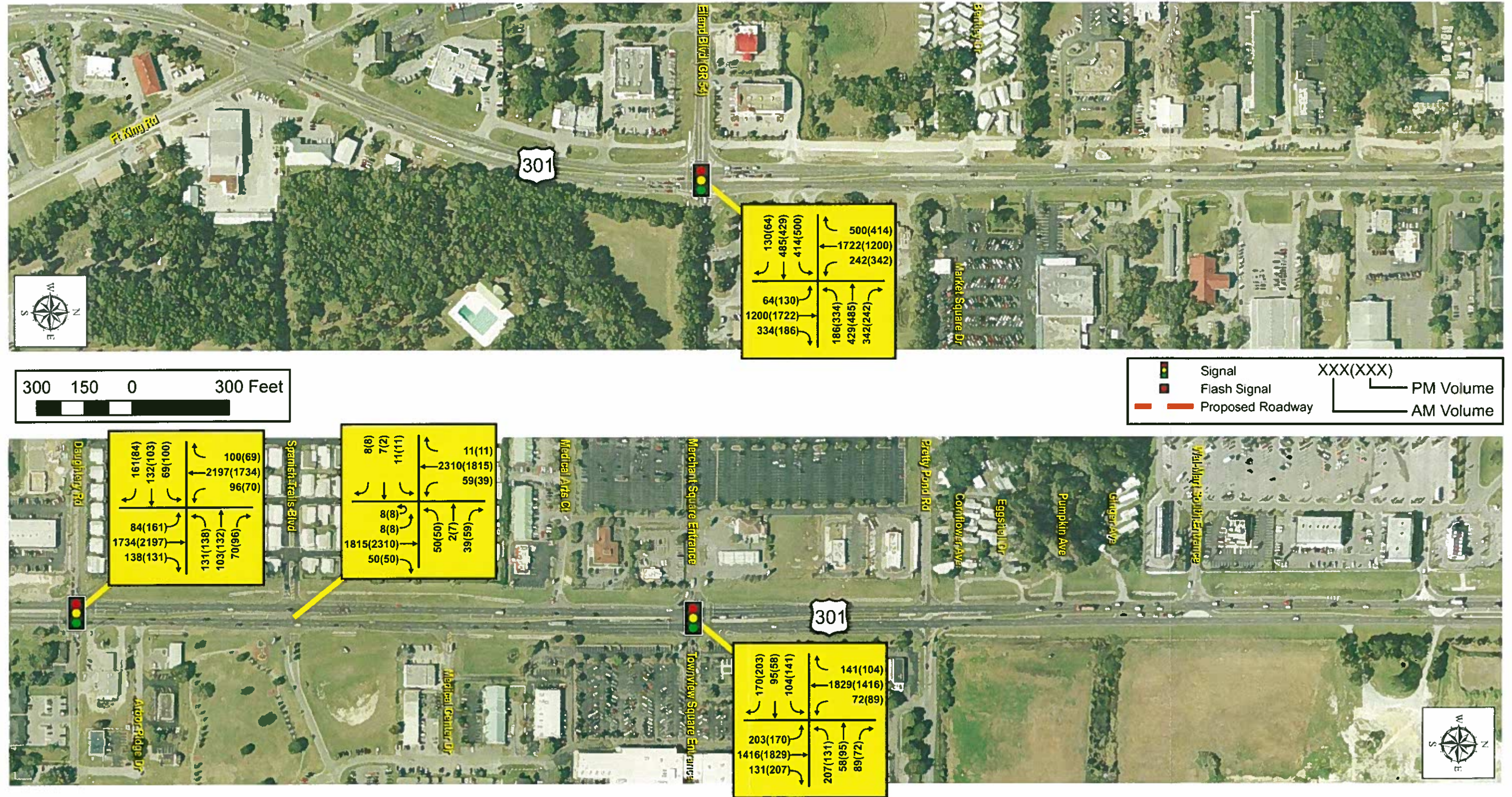
5.2.5.1 Interim Year (2025)

The interim year (2025) AM and PM design peak hour intersection turning movement volumes, shown on **Figure 5-4 (A through E)**, were estimated by interpolating the existing year (2008) and the design year (2035) traffic volumes. Signalized LOS was estimated using the HCM methodology module of Synchro software. Signal timing was optimized to accommodate traffic volumes with the Build alternative lane geometry. The analysis results for the eleven study intersections are summarized in **Table 5-2** and **Table 5-3**.

The interim year (2025) arterial LOS analyses for the US 301 roadway segments within the study area were conducted using the estimated interim year (2025) DDHV. The arterial segment LOS analysis was conducted using the Synchro 7.0 Version (Build 761) software. For the arterial analysis, the free flow speed was assumed to be the posted speed limit. The US 301 arterial functional and design categories were determined to be Principal Arterial and High-Speed (posted speed limit 45-55 mph), respectively, based on Exhibit 10-4 of the HCM 2000. The urban street class of the US 301 arterial was established as Class I using Exhibit 10-3 of the HCM 2000. The US 301 northbound and southbound arterial segment LOS results for the interim year (2025) conditions are summarized in **Table 5-4** and **Table 5-5**, respectively.

5.2.5.2 Design Year (2035)

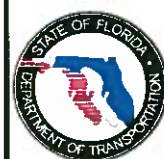
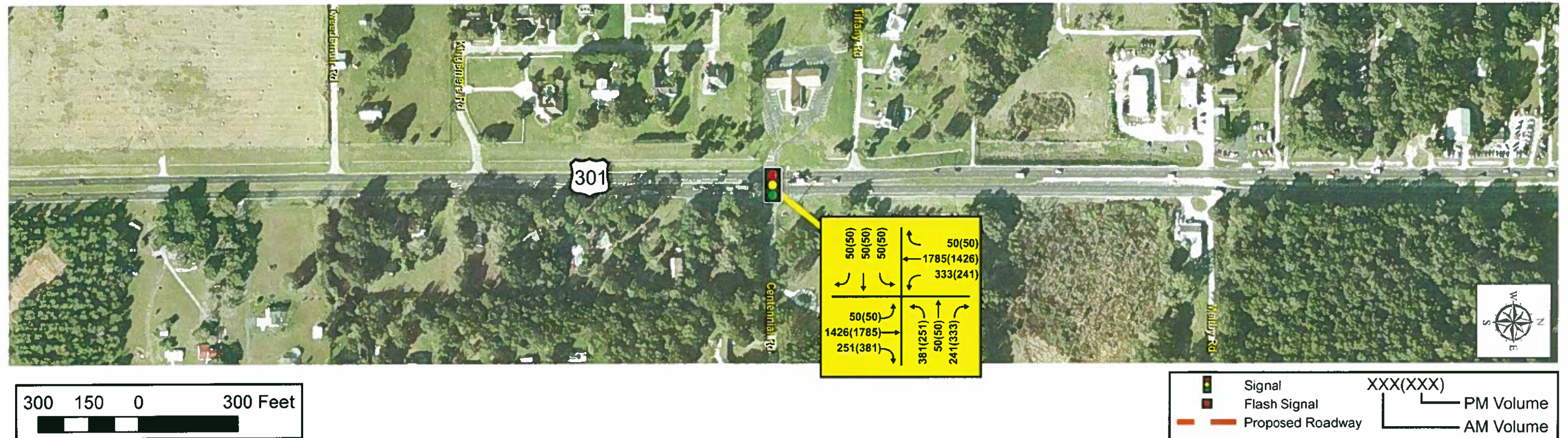
The Preferred Alternative consists of widening US 301 to a six-lane roadway facility in Segment A (from south of CR 54 to north of Kossik Road) and a portion of Segment C from US 98 to SR 52A. Elsewhere within the study limits, the existing four-lanes on US 301 in Segments B-D (from north of Kossik Road to US 98 Bypass) will remain as is. To minimize traffic congestion and improve safety north of Kossik Road, TSM improvements will be provided at three signalized intersections: Centennial Road, Morningside Drive, and US 98 Bypass. At the request of FDOT Traffic Operations the existing traffic signal at Townview Square Shopping Center Entrance will be relocated to Pretty Pond Road.



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

DESIGN YEAR (2035) TURNING MOVEMENT VOLUMES

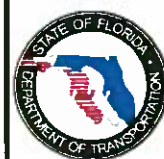
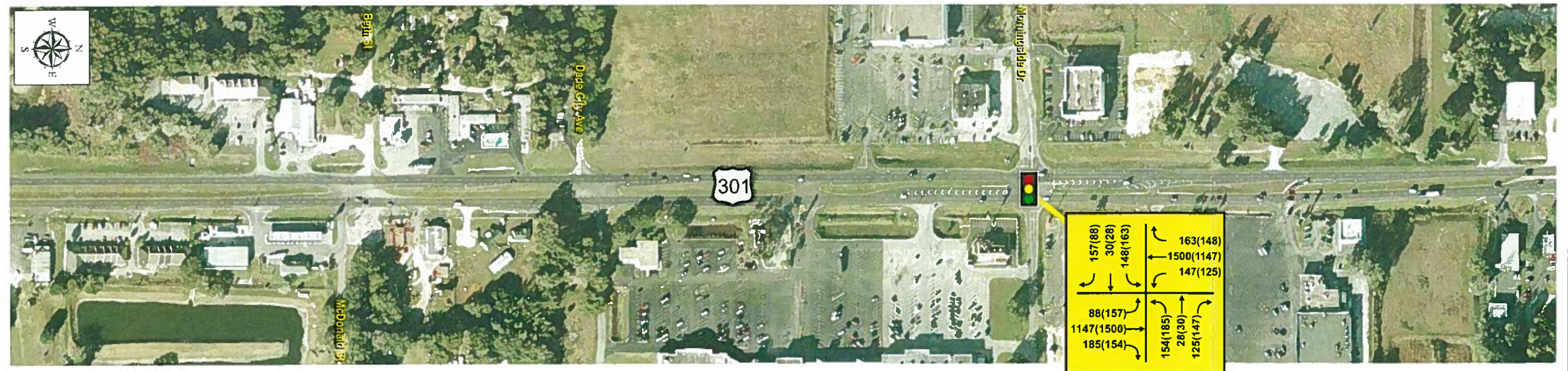
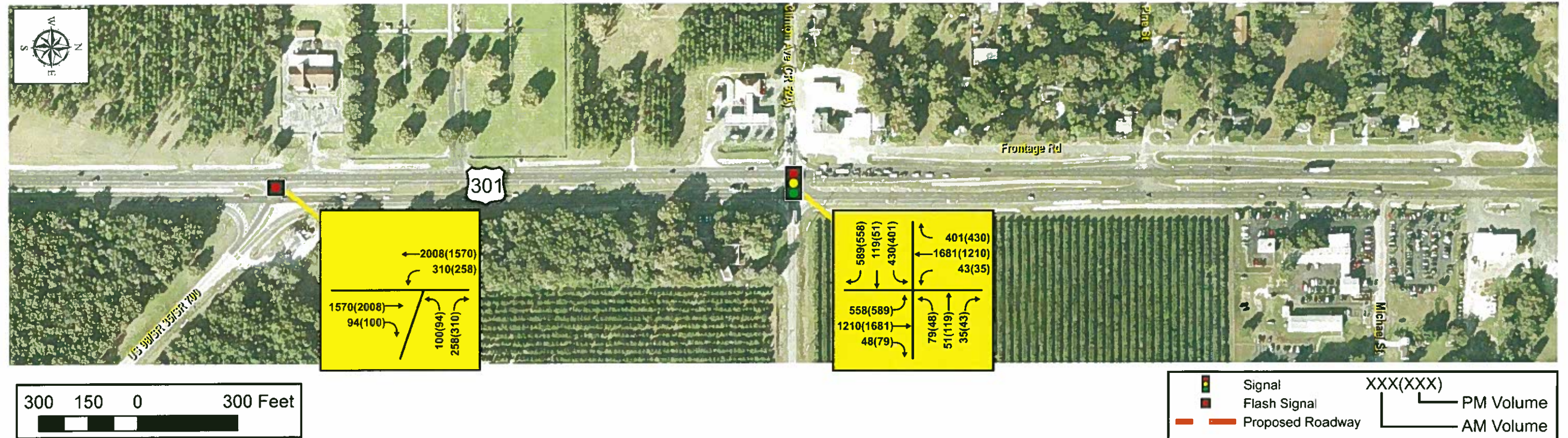
FIGURE 5-3A



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

DESIGN YEAR (2035) TURNING MOVEMENT VOLUMES

FIGURE 5-3C



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

DESIGN YEAR (2035) TURNING MOVEMENT VOLUMES

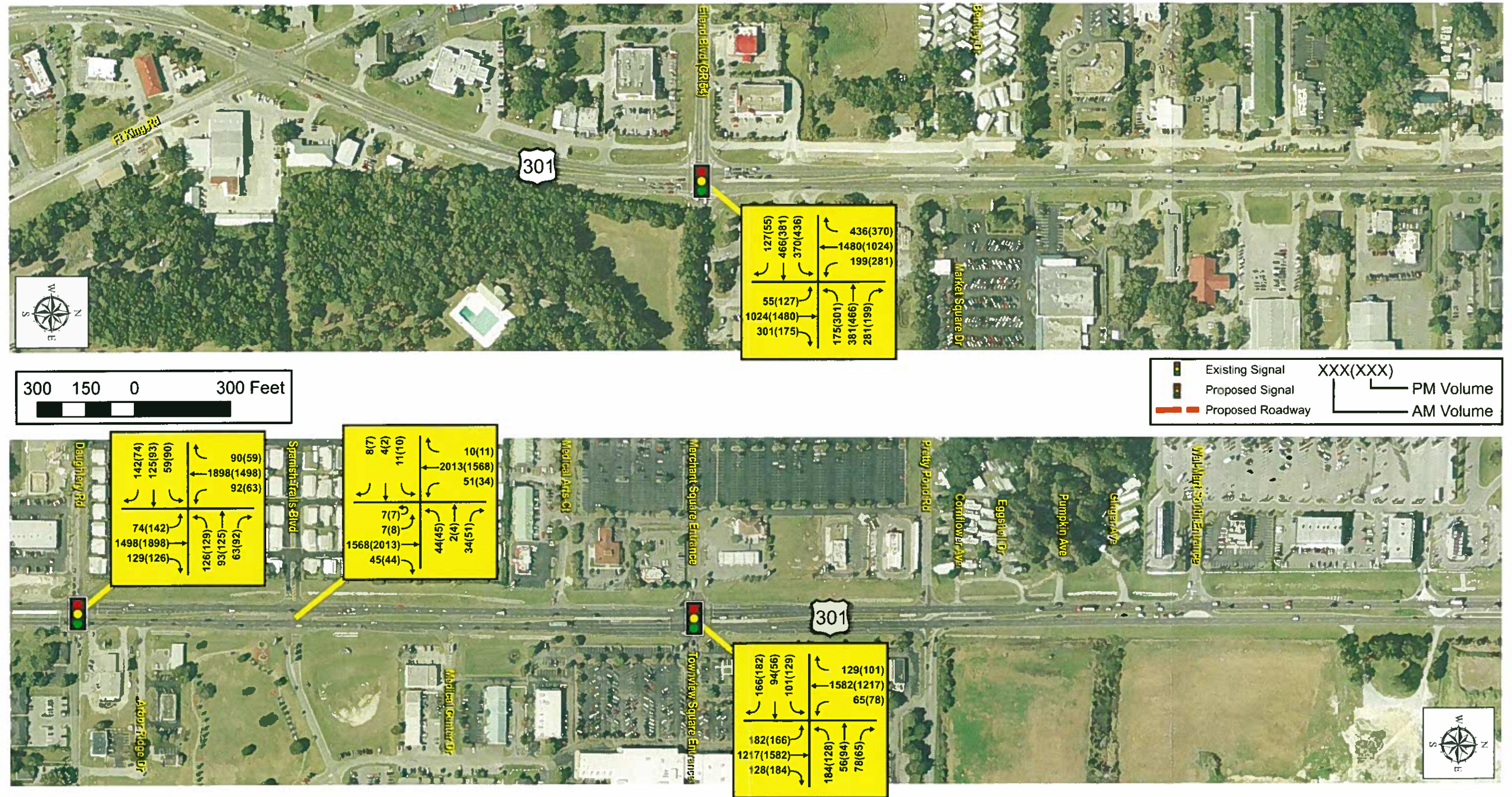
FIGURE 5-3D



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

DESIGN YEAR (2035) TURNING MOVEMENT VOLUMES

FIGURE 5-3E



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

INTERIM YEAR (2025) TURNING MOVEMENT VOLUMES

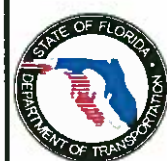
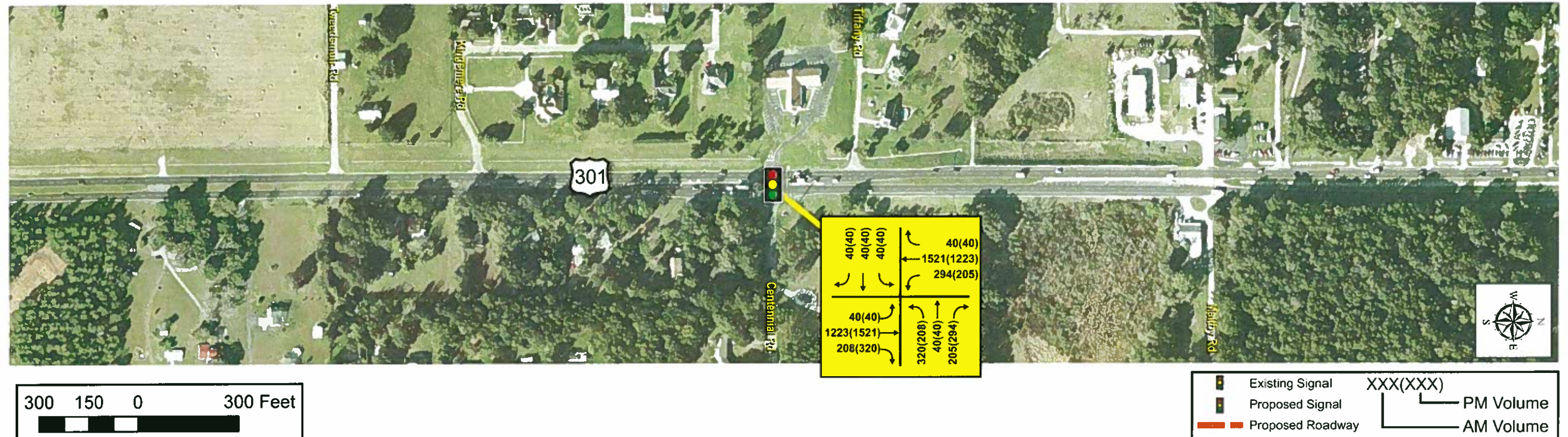
FIGURE 5-4A



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

INTERIM YEAR (2025) TURNING MOVEMENT VOLUMES

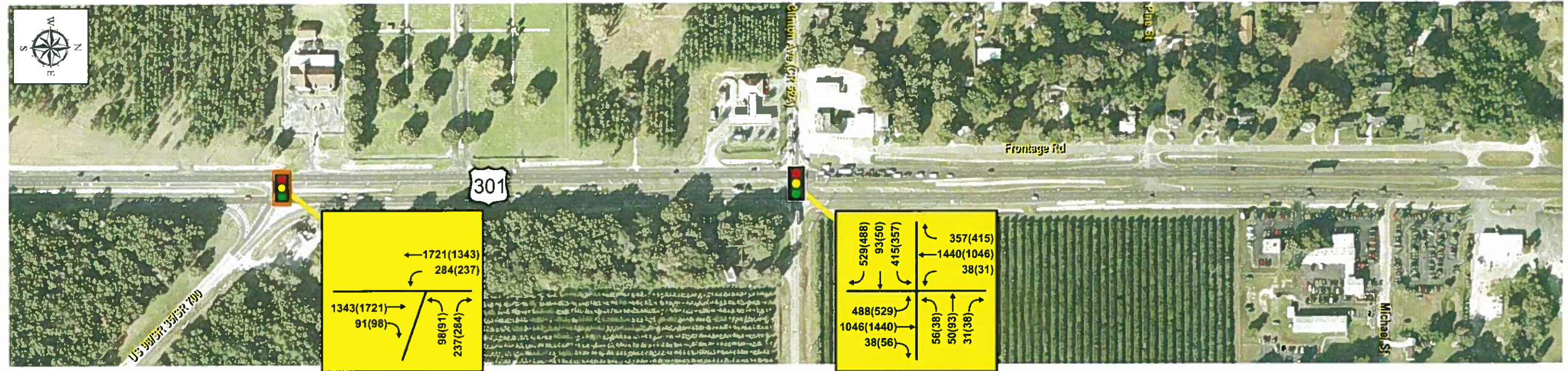
FIGURE 5-4B



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

INTERIM YEAR (2025) TURNING MOVEMENT VOLUMES

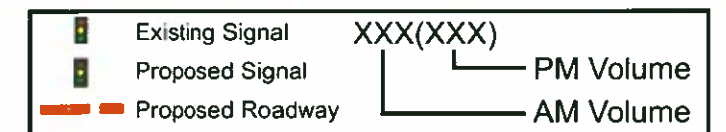
FIGURE 5-4C



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

INTERIM YEAR (2025) TURNING MOVEMENT VOLUMES

FIGURE 5-4D



US 301 (SR 39) PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

INTERIM YEAR (2025) TURNING MOVEMENT VOLUMES

FIGURE 5-4E

Table 5-2
Interim Year (2025) Build US 301
Intersection Level of Service Summary

Cross-Street	Level of Service (LOS)				
	US 301 NB Mainline AM / PM	US 301 SB Mainline AM / PM	EB AM / PM	WB AM / PM	Overall AM / PM
CR 54	C / D	B / C	D / D	D / E	C / D
Daughtery Road	C / B	B / A	D / D	D / D	C / B
Spanish Trails Boulevard ¹	B ² / B ²	B ² / C ²	C / E	B / D	A / A
Kossik Road	B / B	C / C	D / D	D / D	C / C
Wire Road ¹	A / A	C ² / D ²		F / F	C / C
Centennial Road	D / C	C / C	C / C	D / C	C / C
US 98	B / C	B / A		C / D	B / B
CR 52A	C / B	D / D	E / D	D / E	D / C
Morningside Drive	B / B	B / B	C / C	C / C	B / B
US 98 Bypass	C / C	A / A		C / C	C / C

¹ Indicates two-way stop controlled (TWSC) intersection.

² LOS on US 301 is reported for the left-turn movements only; overall LOS is determined using the weighted average delay for all intersection movements.

Bold – Indicates level of service exceeding the minimum acceptable level of service standard D.

Table 5-3
Interim Year (2025) Build US 301
Intersection Control Delay Summary

Cross-Street	HCM Average Control Delay (sec/veh)				
	US 301 NB Mainline AM / PM	US 301 SB Mainline AM / PM	EB AM / PM	WB AM / PM	Overall AM / PM
CR 54	33.2 / 45.2	17.2 / 34.3	40.7 / 45.4	53.5 / 73.0	31.4 / 46.9
Daughtery Road	25.6 / 17.2	10.2 / 9.5	36.0 / 39.6	43.4 / 45.5	20.2 / 17.9
Spanish Trails Boulevard ¹	14.5 ² / 13.5 ²	11.6 ² / 15.5 ²	21.8 / 38.7	11.7 / 34.7	0.6 / 1.3
Kossik Road	10.1 / 15.7	24.2 / 25.3	51.6 / 54.4	50.5 / 53.0	25.2 / 27.7
Wire Road ¹	0.0 / 0.0	16.9 ² / 26.2 ²		> 5 min. / > 5 min.	31.2 / 24.0
Centennial Road	38.6 / 25.8	25.0 / 20.5	23.7 / 25.0	44.2 / 30.4	32.7 / 24.5
US 98	13.7 / 21.4	14.6 / 7.1		25.3 / 53.7	15.2 / 18.6
CR 52A	30.0 / 13.3	40.7 / 40.0	58.5 / 46.9	51.9 / 58.0	41.4 / 30.2
Morningside Drive	16.0 / 19.2	15.0 / 17.7	27.3 / 26.2	26.3 / 27.0	17.4 / 19.9
US 98 Bypass	20.8 / 22.0	0.0 / 0.0		23.6 / 31.2	22.2 / 25.4

¹ Indicates two-way stop controlled (TWSC) intersection.

² Delay is reported for the left-turn movements only; overall delay is the weighted average delay for all intersection movements

**Table 5-4
Interim Year (2025) US 301 Arterial
Northbound Level of Service Summary**

US 301 Segment	Segment Length (miles)	Posted Speed (mph)	Arterial Speed (mph)		Arterial LOS	
			AM	PM	AM	PM
CR 54 to Daughtery Road	0.51	45	27.3	31.2	C	C
Daughtery Road to Townview Square Shopping Center Entrance	0.36	45	25.7	29.3	D	C
Townview Square Shopping Center Entrance to Kossik Road	0.65	45	39.4	38.9	B	B
Kossik Road to Centennial Road	2.01	55	42.2	43.9	A	A
Centennial Road to US 98	1.46	55	47.6	44.5	A	A
US 98 to CR 52A	0.29	55	22.8	30.1	D	C
CR 52A to Morningside Drive	1.02	50	41.2	40.4	B	B
Morningside Drive to US 98 Bypass	0.82	45	32.6	32.4	C	C
CR 54 to US 98 Bypass (Entire Northbound Arterial)	7.12	45-55	37.5	38.7	B	B

**Table 5-5
Interim Year (2025) US 301 Arterial
Southbound Level of Service Summary**

US 301 Segment	Segment Length (miles)	Posted Speed (mph)	Arterial Speed (mph)		Arterial LOS	
			AM	PM	AM	PM
US 98 Bypass to Morningside Drive	0.82	45	37.1	36.9	B	B
Morningside Drive to CR 52A	1.02	50	32.1	32.5	C	C
CR 52A to US 98	0.29	55	34.5	36.4	B	B
US 98 to Centennial Road	1.46	55	44.7	46.2	A	A
Centennial Road to Kossik Road	2.01	55	47.6	46.6	A	A
Kossik Road to Townview Square Shopping Center Entrance	0.65	45	26.7	35.4	D	B
Townview Square Shopping Center Entrance to Daughtery Road	0.36	45	29.4	29.8	C	C
Daughtery Road to CR 54	0.51	45	30.3	27.5	C	C
US 98 Bypass to CR 54 (Entire Southbound Arterial)	7.12	45-55	37.4	38.4	B	B

Signalized intersection LOS for the Preferred Alternative was estimated using the HCM methodology module of Synchro software and the geometry required to achieve acceptable LOS. Signal timing was optimized to reflect the addition of the proposed lane geometry in the future. The analysis results for the ten study intersections are summarized in **Table 5-6** and **Table 5-7**. For the three intersections that will receive TSM improvements the tables reflect an analysis of these improvements.

The design year (2035) Build arterial LOS analyses for the US 301 roadway segments within the study area were conducted using the estimated design year (2035) DDHV. The arterial segment LOS analysis was conducted using the Synchro 7.0 Version (Build 761) software. For the arterial analysis, the free flow speed was assumed to be the posted speed limit. The US 301 arterial functional and design categories were determined to be Principal Arterial and High-Speed (posted speed limit 45-55 mph), respectively, based on Exhibit 10-4 of the HCM 2000. The urban street class of the US 301 arterial was established as Class I using Exhibit 10-3 of the HCM 2000. The US 301 northbound and southbound arterial segment LOS results for the design year (2035) conditions are summarized in **Table 5-8** and **Table 5-9**, respectively.

Table 5-6
Design Year (2035) Build US 301
Intersection Level of Service Summary

Cross-Street	Level of Service (LOS)				
	US 301 NB Mainline AM / PM	US 301 SB Mainline AM / PM	EB AM / PM	WB AM / PM	Overall AM / PM
CR 54	D / E	C / D	D / E	E / E	D / E
Daughtery Road	D / C	B / B	D / D	D / D	C / C
Spanish Trails Boulevard ¹	C ² / B ²	B ² / B ²	D / D	B / E	A / A
Kossik Road	B / C	C / D	D / E	D / E	C / D
Wire Road ¹	A / A	C ² / F ²		F / F	C / C
Centennial Road	D / D	D / C	F / F	E / D	D / D
US 98 ¹	A / A	F ² / F ²		F / F	F / F
CR 52A	C / C	E / D	D / C	F / F	D / D
Morningside Drive	B / C	B / B	D / D	D / D	C / C
US 98 Bypass	B / B	B / A		D / D	C / B

¹ Indicates two-way stop controlled (TWSC) intersection.

² LOS on US 301 is reported for the left-turn movements only; overall LOS is determined using the weighted average delay for all intersection movements.

Bold – Indicates level of service exceeding the minimum acceptable level of service standard D.

Table 5-7
Design Year (2035) Build US 301
Intersection Control Delay Summary

Cross-Street	HCM Average Control Delay (sec/veh)				
	US 301 NB Mainline AM / PM	US 301 SB Mainline AM / PM	EB AM / PM	WB AM / PM	Overall AM / PM
CR 54	43.8 / 71.1	28.4 / 38.6	41.9 / 63.4	61.3 / 76.7	40.0 / 60.3
Daughtery Road	37.9 / 31.0	12.5 / 19.4	37.8 / 49.0	51.6 / 51.6	26.6 / 29.2
Spanish Trails Boulevard ¹	18.4 ² / 14.9 ²	11.3 ² / 14.5 ²	25.5 / 34.2	12.0 / 37.5	0.6 / 1.3
Kossik Road	15.0 / 30.9	34.2 / 43.3	51.6 / 55.9	50.8 / 79.7	32.4 / 45.5
Wire Road ¹	0.0 / 0.0	23.4 ² / 55.1 ²		> 5 min. / > 5 min.	34.5 / 28.3
Centennial Road	36.8 / 36.8	46.7 / 34.8	129.3 / 131.7	64.6 / 41.1	48.2 / 39.6
US 98	0.0 / 0.0	76.5 ² / 190.1 ²		> 5 min. / > 5 min.	87.8 / 104.2
CR 52A	29.0 / 23.8	60.5 / 47.4	51.4 / 32.7	218.9 / 101.7	52.6 / 36.2
Morningside Drive	17.0 / 22.1	18.2 / 19.0	42.1 / 43.6	43.8 / 46.8	21.8 / 24.8
US 98 Bypass	19.0 / 13.6	11.7 / 7.9		41.5 / 41.1	22.0 / 17.1

¹ Indicates two-way stop controlled (TWSC) intersection.

² Delay is reported for the left-turn movements only; overall delay is the weighted average delay for all intersection movements.

Table 5-8
Design Year (2035) Build US 301 Arterial
Northbound Level of Service Summary

US 301 Segment	Segment Length (miles)	Posted Speed (mph)	Arterial Speed (mph)		Arterial LOS	
			AM	PM	AM	PM
CR 54 to Daughtery Road	0.51	45	22.8	25.4	D	D
Daughtery Road to Townview Square Shopping Center Entrance	0.36	45	25.2	27.2	D	C
Townview Square Shopping Center Entrance to Kossik Road	0.65	45	37.0	29.4	B	C
Kossik Road to Centennial Road	2.01	55	39.0	39.7	B	B
Centennial Road to US 98	1.46	55	42.1	43.2	A	A
US 98 to CR 52A	0.29	55	21.4	27.7	D	C
CR 52A to Morningside Drive	1.02	50	40.1	40.3	B	B
Morningside Drive to US 98 Bypass	0.82	45	32.3	31.6	C	C
CR 54 to US 98 Bypass (Entire Northbound Arterial)	7.12	45-55	34.8	35.3	B	B

Table 5-9
Design Year (2035) Build US 301 Arterial
Southbound Level of Service Summary

US 301 Segment	Segment Length (miles)	Posted Speed (mph)	Arterial Speed (mph)		Arterial LOS	
			AM	PM	AM	PM
US 98 Bypass to Morningside Drive	0.82	45	35.1	36.4	B	B
Morningside Drive to CR 52A	1.02	50	29.9	32.1	C	C
CR 52A to US 98	0.29	55	31.3	36.2	C	B
US 98 to Centennial Road	1.46	55	41.0	45.8	B	A
Centennial Road to Kossik Road	2.01	55	46.7	41.2	A	B
Kossik Road to Townview Square Shopping Center Entrance	0.65	45	23.7	32.4	D	C
Townview Square Shopping Center Entrance to Daughtery Road	0.36	45	27.1	24.2	C	D
Daughtery Road to CR 54	0.51	45	24.2	22.2	D	D
US 98 Bypass to CR 54 (Entire Southbound Arterial)	7.12	45-55	34.4	35.5	B	B

5.3 TYPICAL SECTION

Therefore, the Preferred Build Alternative consists of widening US 301 to a six-lane roadway facility in Segment A (from south of CR 54 to north of Kossik Road) and a portion of Segment C from south of US 98 to CR 52A. The section of US 301 between Kossik Road and Wire Road will be used to transition the proposed six-lanes in Segment A into the existing four-lane roadway. Within the portion of Segment C from south of US 98 to CR 52A, the section of US 301 from north of Musselman Road to US 98 will be used to transition the proposed six-lanes in Segment C into the existing four-lane roadway. Elsewhere within the study limits, the existing four-lanes on US 301 in Segments B-D (from north of Kossik Road to US 98 Bypass) will remain as is. The preferred typical section for the six-lane widening is a low-speed urban typical section within Segment A (as shown on **Figure 5-5**), and a rural typical section within the portion of Segment C between US 98 to and CR 52A. **Figure 5-6** illustrates the preferred typical section for the portion of Segment C from US 98 to CR 52A. This typical section enhances the exiting rural typical on US 301 to include a third southbound through lane at the intersection of US 98. In order to avoid ROW acquisition within the vicinity of Chapel Hills Garden Cemetery, shoulder gutter will be provided to convey stormwater runoff from the proposed third southbound through lane. The section of US 301 from north of Musselman Road to US 98 will be used to

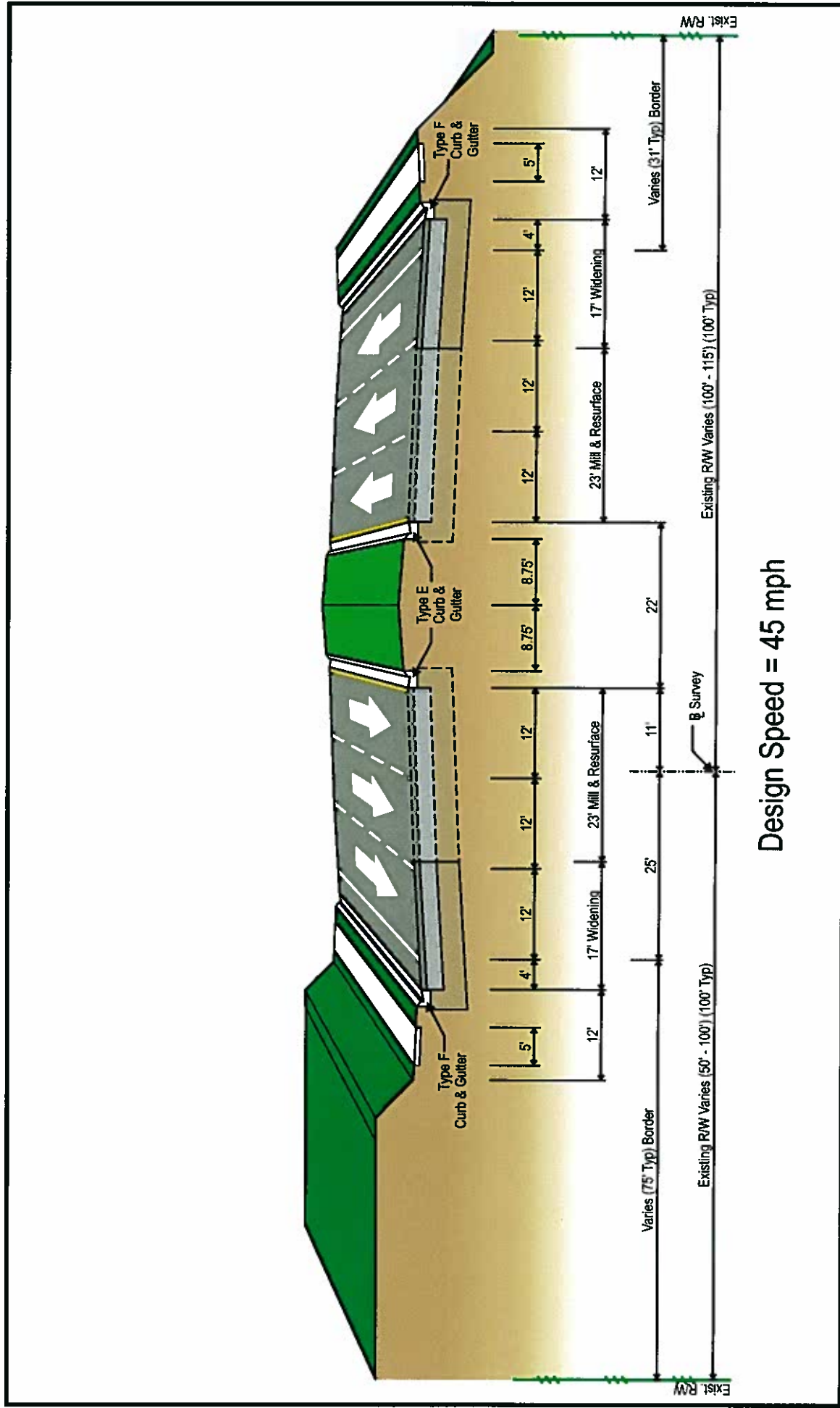
transition the proposed six-lanes in Segment C into the existing four-lane roadway. To minimize traffic congestion and improve safety north of Kossik Road, TSM improvements will be provided at three signalized intersections: Centennial Road, Morningside Drive, and US 98 Bypass. The previously recommended TSM improvements at CR 52A would be constructed as part of the widening in the portion of Segment C.

5.4 INTERSECTION CONCEPTS AND SIGNAL ANALYSIS

In addition to the proposed six-lane widening from south of CR 54 to north of Kossik Road, the following three intersections will receive TSM improvements. The specific improvements are described below.

- Centennial Road: second southbound to eastbound left-turn lane; second westbound to southbound left-turn lane; exclusive westbound to northbound right-turn lane
- Morningside Drive: remove striping northbound and southbound approaches to provide dual left-turn lane; exclusive westbound to northbound right-turn lane
- US 98 Bypass: provide two through lanes to the US 98 Bypass

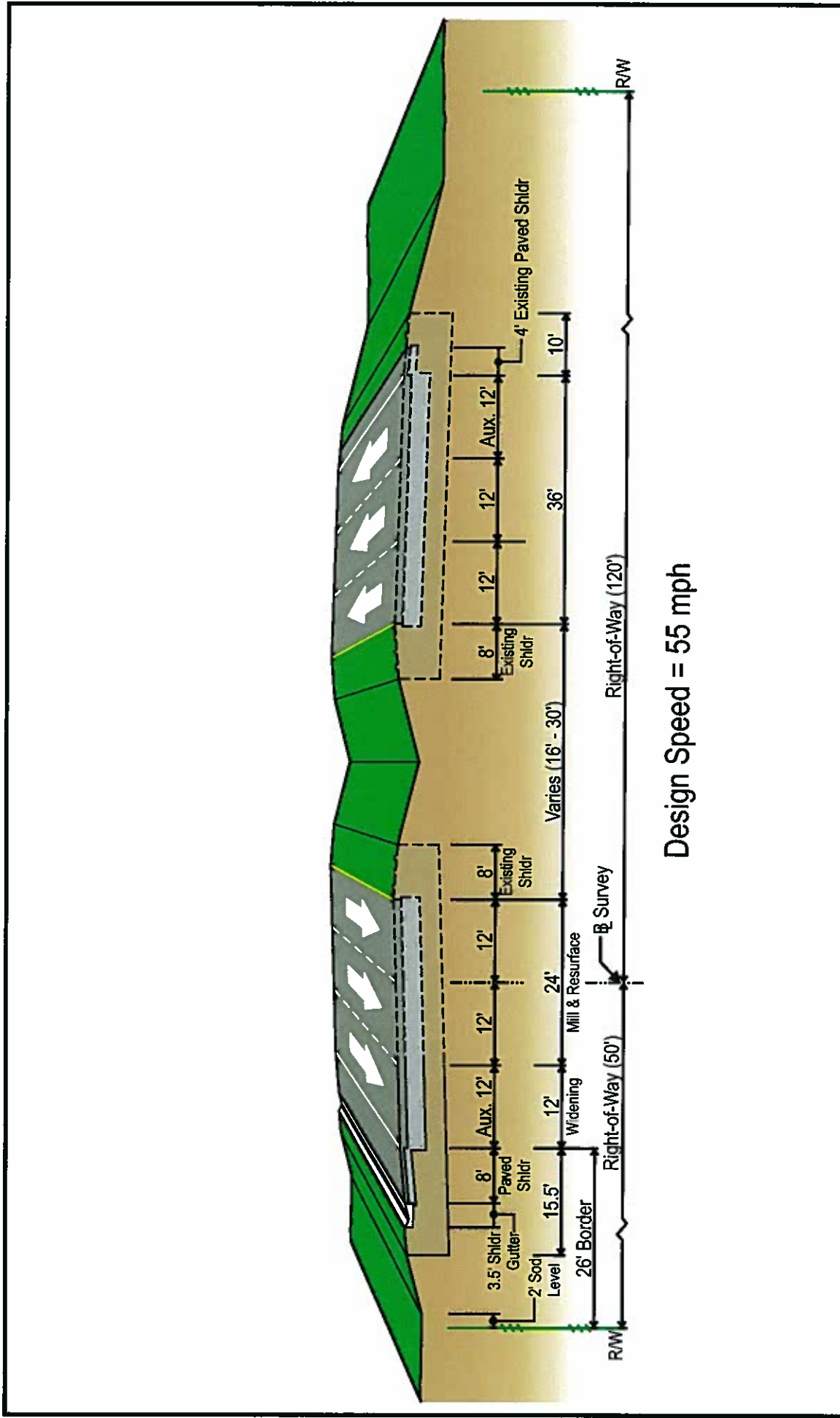
The analysis results of the TSM improvements are summarized in **Table 5-10** and **Table 5-11**. The analysis results indicate that the preferred TSM improvements result in LOS D or better for the design year (2035).



US 301 (SR 39)
PD&E Study
from South of CR 54
(Eiland Boulevard)
to US 98 Bypass (SR 533)

**ROADWAY TYPICAL SECTION
FROM SOUTH OF CR 54 (EILAND BOULEVARD) TO
NORTH OF KOSSIK ROAD
SEGMENT A - PREFERRED ALTERNATIVE**

FIGURE 5-5



US 301 (SR 39)
 PD&E Study
 from South of CR 54
 (Eiland Boulevard)
 to US 98 Bypass (SR 533)

**PREFERRED ROADWAY TYPICAL SECTION
 FROM US 98 (SR 700) TO CR 52A (CLINTON AVENUE)**

FIGURE 5-6

Table 5-10
TSM 2035 US 301 Intersection Level of Service Summary

Cross-Street	Level of Service (LOS)				
	US 301 NB Mainline AM / PM	US 301 SB Mainline AM / PM	EB AM / PM	WB AM / PM	Overall AM / PM
Centennial Road	D / D	D / C	F / F	E / D	D / D
Morningside Drive	B / C	B / B	D / D	D / D	C / C
US 98 Bypass	B / B	B / A		D / D	C / B

Table 5-11
TSM 2035 US 301 Intersection Control Delay Summary

Cross-Street	HCM Average Control Delay (sec/veh)				
	US 301 NB Mainline AM / PM	US 301 SB Mainline AM / PM	EB AM / PM	WB AM / PM	Overall AM / PM
Centennial Road	36.8 / 36.8	46.7 / 34.8	129.3 / 131.7	64.6 / 41.1	48.2 / 39.6
CR 52A	29.0 / 23.8	60.5 / 47.4	51.4 / 32.7	218.9 / 101.7	52.6 / 36.2
Morningside Drive	17.0 / 22.1	18.2 / 19.0	42.1 / 43.6	43.8 / 46.8	21.8 / 24.8
US 98 Bypass	19.0 / 13.6	11.7 / 7.9		41.5 / 41.1	22.0 / 17.1

5.5 ALIGNMENT AND RIGHT-OF-WAY NEEDS

Appendix A includes concept plan sheets illustrating the Preferred Alternative. The proposed six-lane widening from south of CR 54 to north of Kossik Road will be constructed within the existing ROW along US 301. However, ROW will be needed for future ponds. Centennial Road, Morningside Drive, and US 98 Bypass will also have minimal associated ROW impacts. The improvements will follow the existing horizontal and vertical alignment.

5.6 RELOCATIONS

Implementing the Preferred Build Alternative will cause no business or residential relocations.

5.7 RIGHT-OF-WAY COSTS

The estimated ROW costs for the Preferred Alternative are presented in **Table 5-12**. In **Table 5-13** the ROW costs for off system improvements in support of the preferred alternative are shown.

Table 5-12
Summary of Right-of-Way Costs for Preferred Alternative

US 301 Improvement	Roadway ROW Costs (Present Value in Million \$)	Pond ROW Costs (Present Value in Million \$)	Total ROW Costs (Present Value in Million \$)
Six-Lane Widening			
South of CR 54 to north of Kossik Road (Segment A)	0.00	9.73	9.73
US 98 to CR 52A (portion of Segment C)	0.00	0.00	0.00
Corridor Total	0.00	9.73	9.73

Table 5-13
**Summary of Right-of-Way Costs for Off System Improvements
in Support of the Preferred Alternative**

US 301 Improvement	Roadway ROW Costs (Present Value in Million \$)	Pond ROW Costs (Present Value in Million \$)	Total ROW Costs (Present Value in Million \$)
Six-Lane Widening			
CR 52A	3.05	0.00	3.05
TSM Intersection Improvements			
Centennial Road	0.39	0.00	0.39
Morningside Drive	4.97	0.00	4.97
US 98 Bypass	1.04	0.00	1.04
Corridor Total	9.45	0.00	9.45

The costs to acquire ROW for these improvements are to be borne by others.

5.8 CONSTRUCTION COSTS

Table 5-14 includes the estimated construction cost of implementing the Preferred Alternative. These costs were calculated using the FDOT's Long Range Estimates (LRE) computer program. The present day (2009) dollars to construct all roadway and bridge improvements along the US 301 study corridor is estimated to be \$25.62 million.

Table 5-14
Summary of Construction Cost for Preferred Alternative and Supporting Improvements

Segment/Type of Improvement	Construction Cost (Present Value in Million \$)
Segment A (Urban)	18.31
Six-Lane Widening	16.24
Six-Lane Reconstruction	2.07
Segment C (US 98 to CR 52A)	1.82
Six-Lane Widening	0.67
CR 52A*	1.15
Segments B, C & D (Median Modifications)	1.78
Intersection Improvements*	3.71
Centennial Boulevard	1.90
Morningside Drive	1.00
US 98 Bypass	0.81
Corridor Total	25.62

*Intersection Improvements are for the mainline only

5.9 PRELIMINARY ENGINEERING AND CONSTRUCTION ENGINEERING COSTS

The cost of engineering (final design) and the cost of Construction Engineering Inspection (CEI) were estimated as 15 percent each of the estimated \$25.62 million cost of construction for the Preferred Alternative. Therefore, these efforts are expected to cost approximately \$3.84 million each, for a total project cost of \$33.30 million.

5.10 RECYCLING OF SALVAGEABLE MATERIALS

Recycling of reusable materials will occur to the greatest extent possible during construction of the project. Removal and recycling of the existing pavement for use in the new pavement will be considered. This will aid in reducing the volume of materials hauled and disposed, as well as reducing the cost of purchasing materials suitable for pavement construction. Other materials such as signs, drainage concrete pipes, etc. will also be salvaged and reused for regular maintenance operations if they are deemed to be in good condition.

5.11 USER BENEFITS

The public will encounter numerous benefits upon completion of the Preferred Alternative. Savings in travel time, reduced vehicle operating costs, improved vehicular safety, and increased emergency response times are the primary benefits of the proposed improvements. Access to schools and community

facilities, as well as to numerous commercial and residential developments will be enhanced by a reduction in congestion the Preferred Alternative is projected to provide. The creation of a motor-friendly facility will contribute to the economic growth of the area adjacent to the project.

5.12 PEDESTRIAN AND BICYCLE FACILITIES

The preferred typical section on Segment A (from south of CR 54 to north of Kossik Road) will provide 6-ft wide sidewalks on both sides of the roadway adjacent to the ROW to accommodate pedestrians. Paved shoulders will be present to accommodate bicycle needs. Other pedestrian accommodations, such as crosswalks and public sidewalk curb ramps, will be located at ramp terminal intersections and designed to meet specific design requirements as set forth in the American Disabilities Act (ADA).

5.13 SAFETY

The Preferred Alternative will enhance safety on Segment A (from south of CR 54 to north of Kossik Road) and a portion of Segment C from south of US 98 to CR 52A by adding capacity. Roadway congestion and traffic friction would be reduced, thereby decreasing potential vehicular conflicts.

5.14 ECONOMIC AND COMMUNITY DEVELOPMENT

The *Pasco County MPO 2035 LRTP*¹ reflects a need for six lanes from south of CR 54 to Kossik Road and from US 98 to CR 52A. This plan was developed by the MPO after a thorough evaluation of the future population and development growth within the MPO's jurisdiction. The proposed US 301 improvements respond to and fully accommodate the projected need to maintain the desired level of service.

5.15 UTILITY IMPACTS

Several utility organizations were contacted via letter to request they identify the type and location of any existing or proposed utilities within the project corridor. After receiving responses from the utility organizations, the identified utilities located within the project corridor were evaluated based on the possibility of being impacted by the construction of the Preferred Alternative. The results of this evaluation indicate that there are no utility easements impacted.

5.16 TRAFFIC CONTROL PLAN

US 301 is a major north-south arterial located in eastern Pasco County. It is an important connection to the regional and statewide transportation network that links the Tampa Bay region to the remainder of the state and nation. Due to its importance, US 301 must remain functional throughout the duration of the construction activities. The existing number of travel lanes should be maintained to the maximum extent possible. Lane closures, if necessary, should occur during off-peak hours. The following conceptual construction sequence will help to maintain traffic operations during construction of the Preferred Alternative:

- Construct stormwater ponds.
- Construct temporary pavement as necessary to maintain two-way traffic.
- Shift and maintain traffic on the newly completed northbound or southbound lanes while constructing the remaining lanes.
- Shift northbound and southbound traffic to their respective, completed roadways.

5.17 VALUE ENGINEERING

This project was selected for a Value Engineering (VE) Study by the FDOT. The VE Study was conducted in September, 2009 and the VE Team consisted of FDOT District Seven representatives from various departments. The team reviewed the information contained within the documentation for this PD&E Study along the US 301 corridor from south of CR 54 to US 98 Bypass in Pasco County, Florida.

During the review with the VE Team discussion was held as to why Segment D was not proposed for six-laning when the traffic shows a need prior to the design year. In Segment D, the six-lane widening is not recommended for the following reasons: 1) Segment D is a relatively short segment (0.8 miles) with acute right-of-way (ROW) constraints (100 feet of ROW) thus making it a very costly project to implement; 2) the proposed six-lane widening is not identified in the 2035 Cost Affordable Roadway Plan of the *Pasco County MPO 2035 LRTP*¹, 3) and there are a capacity constrained roadways north of the project that are unable to receive the proposed additional lanes. The US 98 Bypass is currently unfunded and it is not identified as a cost affordable project in the *Pasco County MPO 2035 LRTP*¹.

As a result of the value engineering study, which was completed October 15, 2009, four recommendations were made that would result in a maximum total potential savings of \$2.4 million. In an internal

Memorandum from Intermodal Systems Development to the Value Engineering Team, dated November 13, 2009, no action was recommended on the team's suggestions.

5.18 DRAINAGE

Pond sites were identified for the proposed six-lane widening in Segment A. Key results from the selection and evaluation of potential pond sites in Segment A are shown in **Table 5-15**.

Table 5-15
Potential Pond Site Evaluation

Basin/ Pond No.	ROW area (ac)	Wetland Impacts (ac)	Threatened and Endangered Species Potential Occurrence	Contamination	Archaeological	Historical	Estimated Acquisition Costs
100	4.51	0.00	Low	Low	Low	None	\$2,818,800
200	1.87	0.00	Low	Low	Low	None	\$3,963,400
300	3.01	0.01	Low	None	Moderate	None	\$2,946,700

The pond sites in segments B through D (north of the first drainage basin) were sized based on six lane improvements. The preferred TSM improvements and six-lane widening in a portion of Segment C (from US 98 to CR 52A) are generally less than 0.25 miles in length which meets the exemption criteria in Chapter 40D-4.051(13)(b). It is anticipated that these basins will not require pond sites. The TSM improvements also include closing some medians openings and removing the median pavement. Purchasing pond sites for the ultimate design to cover the TSM improvements could also be considered.

5.19 STRUCTURES

There are no existing bridge structures located within the project limits.

5.20 ACCESS MANAGEMENT

The current access management classification for US 301 is Access Class 5 from south of CR 54 to Pretty Pond Road and Access Class 3 from Pretty Pond Road to US 98 Bypass. **Table 5-16** describes the minimum spacing standards.

Table 5-16
Access Classification and Standards for Controlled Access Facilities

Access Class	Facility Design Features (Median Treatment and Access Roads)	Minimum Connection Spacing (ft) (>45mph / ≤45mph)	Minimum Median Opening Spacing (ft) (>45mph / ≤45mph)		Minimum Signal Spacing (mi) (>45mph / ≤45mph)
			Bi-Directional	Full	
2	Restrictive w/ Service Roads	1,320 / 660	1,320	2,640	0.5
3	Restrictive	660 / 440	1,320	2,640	0.5
4	Non-Restrictive	660 / 440	N/A	N/A	0.5
5	Restrictive	440 / 245	660	2,640 / 1,320	0.5 / 0.25
6	Non-Restrictive	440 / 245	N/A	N/A	0.25
7	Both	125	330	660	0.25

Source: State Highway System Access Management Classification System and Standards, Florida Administrative Chapter 14-97.

The location and type of proposed median openings along the US 301 study corridor are summarized in **Table 5-17**. The median spacing takes into account the spacing to the north and south of the median and records the lower of the two values. This method was used in order to be more conservative when evaluating percent compliance with FDOT access class standards. The median spacing for median openings with full access is calculated the same way; however, instead of using the first median opening north and south of the desired median opening, the spacing is measured from the nearest full median opening to the north and south. The smaller of the two values is then recorded in the appropriate table. In order to be consistent with the Zephyr Commons development site plan, which has been approved by FDOT, the proposed median openings from Pretty Pond Road to Kossik Road were adopted in this study. The proposed access management plan presented in **Table 5-17** was approved by the Access Management Review Committee (AMRC) on May 27, 2009.

**Table 5-17
US 301 Corridor Proposed Median Openings**

Cross-Street	Mile Post	Type of Access	Type of Traffic Control	FDOT Access Classification	Maximum Posted Speed (mph)	Proposed Spacing (ft)		Percent Compliant with FDOT Access Class	
						Signal	Median	Signal	Median
Geiger Road/North Avenue	5.834	Full	Signalized	5	35	1,350	1,350	100	100
Unnamed (Hess, Bealls Outlet and McDonalds Driveway)	5.910	Closed							
Unnamed (McDonalds Driveway)	5.950	Closed							
Fort King Road	6.090	Full	Signalized	5	35	1,350	1,350	100	100
Unnamed (Kaufman Eye Institute Driveway)	6.224	Bi-Directional	Unsignalized	5	45	-	690	-	100
CR 54	6.354	Full	Signalized	5	45	1,390	1,390	100	100
Market Square Drive/Bentley Drive	6.509	Bi-Directional	Unsignalized	5	45	-	570	-	43
Pierre Lane	6.616	Bi-Directional	Unsignalized	5	45	-	570	-	43
Unnamed (Golden Coral and Eye Glass World Driveways)	6.740	Bi-Directional	Unsignalized	5	45	-	640	-	49
Daughtery Road	6.862	Full	Signalized	5	45	2,640	2,640	100	100
Spanish Trails Boulevard/East Pasco Medical Center	6.992	Bi-Directional	Unsignalized	5	45	-	470	-	35
Medical Center Drive	7.080	SB-Directional	Unsignalized	5	45	-	470	-	35
Townview Square Shopping Center Entrance/ Merchant Square Entrance	7.220	Bi-Directional	Unsignalized	5	45	-	750	-	100
Pretty Pond Road	7.362	Full	Signalized	5	45	2,640	2,640	100	100
Wal-Mart South Driveway	7.520	Bi-Directional	Unsignalized	3	45	-	780	-	59
Wal-Mart North Driveway	7.668	Bi-Directional	Unsignalized	3	45	-	780	-	59
Kossik Road	7.867	Full	Signalized	3	45	2,670	2,670	100	100
Unnamed (Vacant Driveway)	7.938	Closed							
Unnamed (south of Phelps Road)	8.239	Closed							
Poncan Circle	8.490	Full	Unsignalized	3	55	-	2,000	-	76

**Table 5-17 (Cont.)
US 301 Corridor Proposed Median Openings**

Cross-Street	Mile Post	Type of Access	Type of Traffic Control	FDOT Access Classification	Maximum Posted Speed (mph)	Proposed Spacing (ft)		Percent Compliant with FDOT Access Class	
						Signal	Median	Signal	Median
Avoca Avenue	8.704	Closed							
Bailey Hill Road/Roberts Road	8.868	Full	Unsignalized	3	55	-	1,260	-	48
Wire Road/TLC Lane	9.106	Full	Unsignalized	3	55	-	1,260	-	48
Unnamed (north of Callaway Boulevard)	9.332	Closed							
Unnamed (south of Tweedsmuir Road)	9.527	Closed							
Kingsmere Road	9.716	Closed							
Centennial Road	9.879	Full	Signalized	3	55	9,280	2,650	100	100
Maltby Road	10.129	NB-Directional	Unsignalized	3	55	-	1,320	-	100
Townsend Road	10.381	Full	Unsignalized	3	55	-	2,650	-	100
Unnamed (Aarons, Fastonal, Whirlpool, Masters-Hill, etc.)	10.550	Closed							
Unnamed (south of Musselman Road)	10.809	Closed							
Musselman Road	10.889	Full	Unsignalized	3	55	-	2,390	-	91
Unnamed (south of US 98)	11.120	Closed							
US 98	11.342	Full	Unsignalized	3	50	-	1,560	-	59
CR 52A	11.637	Full	Signalized	3	50	5,370	1,560	100	59
Pine Street	11.843	Closed							
Unnamed (Citrus Dodge Driveway and Frontage Road Access)	12.024	Bi-Directional	Unsignalized	3	50	-	1,980	-	100
Beth Street/McDonald Street	12.255	Closed							
Unnamed	12.278	Closed							
Rene Street	12.399	Full	Unsignalized	3	50	-	1,350	-	51

**Table 5-17 (Cont.)
US 301 Corridor Proposed Median Openings**

Cross-Street	Mile Post	Type of Access	Type of Traffic Control	FDOT Access Classification	Maximum Posted Speed (mph)	Proposed Spacing (ft)		Percent Compliant with FDOT Access Class	
						Signal	Median	Signal	Median
Morningside Plaza N. Entrance	12.523	Closed							
Morningside Drive	12.654	Full	Signalized	3	45	4,340	1,350	100	51
Unnamed	12.724	Closed							
Dade Village Entrance	12.799	Closed							
Countryside Place	12.993	Bi-Directional	Unsignalized	3	45	-	1,090	-	82
Multiple Driveways Between MP 12.993 and MP 13.199	12.993 to 13.199	Closed							
Willingham Avenue	13.199	Full	Unsignalized	3	45	-	1,460	-	55
Lake Drive/Heather Plaza	13.257	Closed							
E. Shadow Avenue	13.314	Closed							
E. Sunset Avenue/Hillside Lane	13.363	Closed							
E. Dixie Avenue	13.413	Closed							
US 98 Bypass	13.476	Full	Signalized	3	40	2,970	410	100	15

Bold – indicates signalized intersection

5.21 REGIONAL TRANSIT LOCATIONS

Pasco County Public Transportation (PCPT) currently provides fixed route transit buses servicing the US 301 study corridor. PCPT Route 30 provides one-hour headways, beginning at 7:15 AM and ending at 5:00 PM, Monday through Friday. The only transit improvement proposed within the study corridor is the installation of bus shelters at needed locations. Other transit enhancements that are expected over the next decade include expanded hours/days of service and increased connectivity with additional local and express service routes.

5.22 AESTHETICS AND LANDSCAPING

There are no provisions or commitments that have been made regarding the application of special aesthetic features for the US 301 Preferred Build Alternative.

5.23 EVALUATION SUMMARY

The project impacts and cost of the No-Build and Preferred Build Alternative were evaluated using the matrix shown in **Table 5-18**. As previously discussed in Section 4.5.3, the matrix was prepared using quantifiable criteria from a multitude of categories including socioeconomic, environmental, cultural, potential hazardous material/petroleum contamination, and costs (engineering, ROW and construction). The matrix data depicts the proposed ROW needs for the Preferred Build Alternative.

Table 5-18
Evaluation Matrix – No-Build and Preferred Build Alternative

Evaluation Factors	No-Build Alternative	Preferred Build Alternative*
Business and Residential Relocations		
Number of Businesses Estimated to be Relocated	0	0
Number of Residences Estimated to be Relocated	0	0
Right-of-Way Involvement		
Total Number of Parcels Involved	0	3
Area of ROW to be Acquired in Acres**	0	9.67
Community Facility Involvement		
Community Facilities Adjacent to the Proposed ROW	14	14
Noise Sensitive Sites		
Number of Noise Sensitive Sites Within the 66dBA Isopleth	1	46
Cultural Resources and Public Parks Involvement		
Number of NRHP Listed or Eligible for listing Historic Sites/Structures Within or Adjacent to ROW	0	0
Number of Public Parks Adjacent to ROW	1	1
Natural Environment Involvement		
Estimated Total Wetland Involvement Area in Acres	0.00	0.00
Floodplain and Floodway Encroachment		
Area of Base Floodplain and Floodway Encroachment in Acres	0.00	0.00
Potential Petroleum Pollutant and Hazardous Material Contaminated Sites		
Number of Potential Contaminated or Hazardous Materials Sites (Medium and High Rank)	0	0
Estimated Project Costs (Present value in million \$)		
Design Cost	0.00	3.84
ROW Acquisition Cost	Roadway	0.00
	Ponds	9.73
Construction Cost	0.00	25.62
Construction Engineering and Inspection Cost	0.00	3.84
Total Cost	0.00	43.03

*Preferred Build Alternative does not include side street improvements

**Includes TSM improvements and anticipated pond ROW needs

5.24 REFERENCES

1. *Pasco County Metropolitan Planning Organization (MPO) 2035 Long Range Transportation Plan (LRTP)*; Tindale Oliver & Associates, Inc.; Document A Draft Report December 10, 2009.
2. *Traffic Technical Memorandum*; HDR Engineering, Inc.; Tampa, Florida; 2010.

SECTION 6

ENVIRONMENTAL IMPACTS SUMMARY

This section documents the environmental effects if the Preferred Build Alternative would be implemented. The project was initially evaluated through the Efficient Transportation Decision Making (ETDM) process. **Table 6-1** provides the evaluation Degree of Effect and corresponding definitions used to evaluate the environmental impacts. As part of the screening process, FDOT initiated the Advance Notification to the Florida Clearinghouse using the Environmental Screening Tool (EST). A starting

Table 6-1
Degree of Effect Programming Screen

Color Code	Degree of Effect	Definition	
		Natural and Cultural Resources	Community Resources
N/A	N/A / No Involvement	There is no presence of the issue in relationship to the project, or the issue is irrelevant in relationship to the proposed transportation action.	
0	None	The issue is present, but the project will have no impact on the issue. Project has no adverse effect on Environmental Technical Advisory Team (ETAT) resources. Permit issuance or consultation involves routine interaction with the agency.	No community opposition to the planned project. No adverse effect on the community.
1	Enhanced	Project has a positive effect on the ETAT resource or can reverse a previous adverse effect leading to environmental improvement.	Project has positive effect on community. Affected community supports the proposed project.
2	Minimal	Project has little adverse effect on ETAT resources. Permit issuance or consultation involves routine interaction with the agency. Low-cost options are available to address concerns.	Project has minimum adverse effect on elements of the affected community. Minimum community concern about the planned project. Little or no mitigation is needed.
3	Moderate	Agency resources are affected by the proposed project, but avoidance and minimization options are available and can be addressed during Project Development with a moderate amount of agency involvement and moderate cost impact.	Project has adverse effect on elements of the affected community. Public Involvement is needed to seek alternatives more acceptable to the community. Moderate community involvement is required during Project Development.
4	Substantial	The project has substantial adverse effects, but ETAT understands the project need and will seek avoidance and minimization or mitigation options during Project Development. Substantial interaction is required during Project Development and permitting.	Project has substantial adverse effects on the community and faces substantial community opposition. Intensive community interaction with focused Public Involvement is required during Project Development to address community concerns.
5	Dispute Resolution	Project is contrary to a state or federal resource agency's program/plan/initiative, appears non permissible, has significant environmental issues, or purpose and need is disputable.	Community strongly opposes the project. Project is not in compliance with approved local comprehensive plan and/or affects Title VI compliance and will result in severe negative impacts on the affected community.

Degree of Effect was provided in the ETDM Program Screen published on October 14, 2008. The Final Degree of Effect shown for each natural, cultural and social impact was determined based on various environmental evaluations prepared in support of this PD&E Study.

6.1 NATURAL ENVIRONMENT

6.1.1 Air Quality Impacts

Agency	Degree of Effect
USEPA	Minimal
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	None

An *Air Quality Memorandum*¹ was prepared for this PD&E study. A summary of the findings contained in the memorandum is presented in this section.

Pasco County, Florida is an area currently designated by the U.S. Environmental Protection Agency (EPA) as being in attainment for all of the criteria air pollutants. The project Build and No-Build alternatives were subjected to the Florida Department of Transportation's (FDOT's) air quality screening model, CO Florida 2004 (released September 7, 2004). The intersection forecasted to have the highest total approach traffic volume is the CR 54 (Eiland Boulevard)/US 301 intersection. Both the opening year (2015) and the design year (2035) were evaluated.

Estimates of CO were predicted at default receptor locations that the screening model assumes are located 10-feet from the edge of the near travel lane and distances 50- and 150-feet (ft) from the intersection cross street. Based on the results from the screening model shown in **Table 6-2**, the highest predicted CO one- and eight-hour concentrations would not exceed the National Ambient Air Quality Standards (NAAQS) for this pollutant regardless of alternative or year of analysis. Therefore, the project "passes" the screening test. Notably, because the US 301 project is in an area that is designated attainment for all the NAAQS, the conformity requirements of the Clean Air Act do not apply. Therefore, the Final Degree of Effect is None.

Table 6-2
CR 54 (Eiland Boulevard)/US 301 Intersection CO Screening Results

Year	Scenario	Maximum CO Levels (ppm)		Passes Screening Test?
		NAAQS 1-hr / Project 1-hr	NAAQS 8-hour / Project 8-hr	
2015	No-Build	35 / 7.6	9 / 4.6	Yes
	Build	35 / 7.4	9 / 4.5	Yes
2035	No-Build	35 / 7.7	9 / 4.6	Yes
	Build	35 / 7.4	9 / 4.5	Yes

6.1.2 Coastal and Marine

Agency	Degree of Effect
SWFWMD	N/A / No Involvement
NMFS	N/A / No Involvement
Summary Degree of Effect	
Starting Degree of Effect	N/A / No Involvement
Final Degree of Effect	N/A / No Involvement

The National Marine Fisheries Service (NMFS) conducted a site inspection of the project area on May 26, 2006 to assess potential concerns to living marine resources. As a result of the NMFS inspection, it was concluded that there would be no potential impacts to coastal and marine resources. Therefore, the Final Degree of Effect is Not Applicable / No Involvement. Contaminated Sites

Agency	Degree of Effect
SWFWMD	Substantial
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	None

The Southwest Florida Water Management District (SWFWMD) provided a starting Degree of Effect of Substantial citing a high risk of encountering contaminated soil and water as result of 25 sources of contamination within 500 ft of the US 301 study corridor from south of CR 54 to the US 98 Bypass (SR 533). SWFWMD further indicated that the Floridan Aquifer has a moderately high Pollution Vulnerability Index, and the limerock of the Upper Floridan can be exposed to contamination from downward leakage of polluted water in areas in which the clay confining layer is thin. To address agency concerns, a *Contamination Screening Evaluation Report (CSER)*² was prepared for this PD&E study. A summary of the findings contained in that report are presented in this section.

Several field reviews of the project corridor were conducted to verify information obtained from the regulatory file and historical aerial photographs reviews; as well as to identify other potential environmental conditions in the corridor. A regulatory review (records search) of federal and state environmental records was conducted in March 2009. The records reviewed include information compiled by the United States Environmental Protection Agency (USEPA) and the Florida Department of Environmental Protection (FDEP). Environmental Data Management Inc. (EDM) of Largo, Florida conducted a database search of potential hazardous and petroleum sites within the project study limits. Some of the USEPA and FDEP data bases that were reviewed include: The Underground/Aboveground Storage Tanks List (TANKS), The Leaking Underground Storage Tanks List (LUST), and The State Designated Brownfields List (BRWNFLDS). Based on a review of available documents and site visits, six sites ranked as LOW potential for contamination issues are located adjacent to the limits of construction for the proposed six-lane widening of US 301 in Segment A and a portion of Segment C. Of these six sites, the first four are within Segment A. Sites 5 and 6 are located at the intersection of CR 52A and US 301, which is adjacent to the proposed six lane widening of US 301 from south of US 98 to CR 52A in Segment C. However, since the proposed six-lane widening in Segment A and in a portion of Segment C will be constructed within the existing right-of-way (ROW), there is no anticipated impacts to potential contamination sites. During the project's design phase, an update to this report should be performed to further evaluate possible contamination issues associated with these sites. Therefore, the Final Degree of Effect is None.

6.1.3 Farmlands

Agency	Degree of Effect
No Agency Comments	
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	N/A / No Involvement

There are no prime or unique farmlands located adjacent to the proposed six-lane widening of US 301 in Segment A and a portion of Segment C. Outside the limits of the proposed action, most of the farmlands are for sale or have approved plans to be developed. Therefore, the Final Degree of Effect is Not Applicable / No Involvement.

6.1.4 Floodplains

Agency	Degree of Effect
SWFWMD	Moderate

Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	Minimal

The SWFWMD assigned a Moderate rating of Degree of Effect anticipating that the construction of new travel lanes and the surface water management systems serving the project would result in encroachment into the 100-year floodplain. The assumed encroachment would likely have its greatest impact at the Tank Lake inlet and at the two wetland areas south of the Tank Lake inlet. The floodplains in the area provide for storage and conveyance of runoff that originates both onsite and offsite; therefore, modifications to the existing system may have an impact upstream or downstream.

A *Location Hydraulics Report*³ was prepared for this PD&E study. A summary of the findings contained in that report is presented in this section. Within the project limits, the existing roadway represents a transverse encroachment upon the base 100-year floodplain (Flood Zone AH) in a few locations. There are no regulated floodways within the project limits. Since flooding conditions in the project area are inherent in the topography or are a result of other outside contributing sources, and there is no practical alternative to totally eradicate flood impacts or even reduce them in any significant amount, existing flooding will continue, but not be increased. The proposed drainage structures will be hydraulically equivalent to or greater than the existing drainage structures, and backwater surface elevations are not expected to increase. As a result, the project will not affect existing flood heights or floodplain limits. This project will not result in any new or increased adverse environmental impacts. There will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes as a result of flooding. Therefore, it has been determined that this encroachment is not significant. The Final Degree of Effect assigned is Minimal.

6.1.5 Infrastructure

Agency	Degree of Effect
SWFWMD	N/A / No Involvement
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	Minimal

Implementing the Preferred Build Alternative will have a minimal effect on infrastructure. A review of existing conditions indicated that one tower is located within the 500-ft- project buffer area. This is the only infrastructure that was identified. The effect on utilities is also minimal. Therefore, the Final Degree of Effect assigned is Minimal.

6.1.6 Navigation

Agency	Degree of Effect
SWFWMD	N/A / No Involvement
USACOE	N/A / No Involvement
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	N/A / No Involvement

There are no navigational waterways, crossing, or structures within the proposed project area. Therefore, the Final Degree of Effect is Not Applicable / No Involvement.

6.1.7 Special Designations

Agency	Degree of Effect
SWFWMD	Minimal
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	None

There are no resources within 500 ft of the proposed project that have any special designation such as Outstanding Florida Waters (OFW), Wild and Scenic Rivers, and Aquatic Preserves. Portions of the project are located within Special Flood Hazard Areas and Pasco County's Basin of Special Concern. The East Zephyrhills Basin is designated as a Closed Drainage Basin of Special Concern in the Pasco County Land Development Code section 605.7. As a Closed Drainage Basin of Special Concern there are special requirements including that the runoff volume shall be limited to pre-development conditions such that there shall be no increase in the volume of runoff resulting from development activity for a 100-year return frequency, 10-day (19.5") duration storm event. The Tank Lake Outlet is designated as a Drainage Basin of Special Concern west of the old railroad berm. The old railroad berm is located upstream of this project and the portion of the Tank Lake Outlet basin within these project limits is not a Drainage Basin of Special Concern. Therefore, the Final Degree of Effect is None.

6.1.8 Water Quality and Quantity

Agency	Degree of Effect
SWFWMD	Substantial
Summary Degree of Effect	
Starting Degree of Effect	Moderate
Final Degree of Effect	Minimal

The SWFWMD assigned a starting Degree of Effect of Substantial due to the potential of the proposed project to increase pollutant loading to Tank Lake, the potential for contamination of the Upper Floridan Aquifer, and the potential to intercept the Pasco County well head protection zone within 1,000 ft of the US 301/CR 54 intersection. Since this initial determination was made by SWFWMD staff in June 2006, the limits of the proposed six-lane widening of US 301 from south of CR 54 to the US 98 Bypass has been scaled back to include only the widening of Segment A (from south of CR 54 to north of Kossik Road) and a portion of Segment C (from south of US 98 to CR 52A). Both of these areas where improvements are recommended are located far south of the Tank Lake Basin. Contamination impacts to the Upper Floridan and Pasco County well head are minimal since the Preferred Alternative can be implemented within the existing ROW. Therefore, the Final Degree of Effect assigned is Minimal. Water Quality Requirements

Water quality will be required to meet the requirements of the SWFWMD. A meeting was conducted with the SWFWMD on March 10, 2009 to discuss the requirements for this project. A copy of the minutes from this meeting is included in Appendix C of the *Stormwater Management Facilities Report*⁴. It was indicated during this meeting that the project will probably need to address Total Maximum Daily Loading (TMDL) rules that have not been approved at this time. The TMDL methodology is presented in the report "Evaluation of Current Stormwater Design Criteria within the State of Florida" by Harvey H. Harper, Ph.D., P.E. and David M. Baker, P.E. dated June 2007 and shall be referred to as the 2007 TMDL methods through the remainder of this report.

The 2007 TMDL methods can be designed to meet two different requirements. The first requirement is to provide an 80% reduction in pollutant loading. The second requirement is to provide no increase in pollutant loading over the undeveloped (natural) conditions at the site. The SWFWMD indicated at the March 10, 2009 meeting that they will probably require the more stringent requirement for meeting TMDL undeveloped (natural) conditions. The calculations were performed for meeting both the undeveloped conditions and the 80% reduction in pollutant loading.

The design to meet undeveloped conditions could not be determined for three of the five sites analyzed due to numerical limitations in the procedures. The 2007 TMDL methodology has an upper limit of treating four inches of run-off over the entire basin area based on tables in the report. The amount of treatment required (in inches of run-off) is based on the CN of the Non-Directly Connected Impervious Area (NDCIA) and the percentage of DCIA in the post developed conditions. A CN of 39 is common for the pervious areas along this project and reaches four inches of run-off to meet undeveloped ruderal/upland pine conditions when the post-developed DCIA is 67.16%. The DCIA is greater than

67.16% for three of the sites evaluated and therefore the treatment volume can not be determined using these procedures. Providing water quality treatment to match undeveloped conditions also does not appear to be supported by any laws at this time.

6.1.8.1 Water Quantity Requirements

Water quantity will need to meet the following requirements:

- Chapter 14-86 F.A.C., Rules of the Florida Department of Transportation.
- Chapter 40D-4 F.A.C. for the Southwest Florida Water Management District, and
- Drainage Basins of Special Concern as identified in Pasco County's Land Development Code Section 605.7 (for the East Zephyrhills Basin).

6.1.9 Wetlands/Surface Waters

Agency	Degree of Effect
SWFWMD	Minimal
NMFS	N/A / No Involvement
USFWS	Minimal
USACOE	Minimal
FDEP	Minimal
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	None

A starting Degree of Effect of Minimal was assigned to the project based on the review of the National Wetland Inventory Geographical Information System (GIS) Database for a project buffer of 500 ft. A Wetlands and Biological Assessment Report (WEBAR)⁵ was prepared as part of this PD&E Study. The WEBAR concluded that there would be no potential wetland impacts or impacts to Other-Surface-Waters (OSW) associated with implementing the Preferred Build Alternative. Therefore, the Final Degree of Effect is None.

It is anticipated that the following permits will be required for this project:

- National Pollutant Discharge Elimination System Permit (NPDES) from USEPA
- Environmental Resource Permit (ERP) would be required from the SWFWMD

6.1.10 Wildlife and Habitat

Agency	Degree of Effect
USFWS	Minimal
FFWCC	Moderate
SWFWMD	Moderate
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	None

A starting Degree of Effect of Moderate was assigned by both the Florida Fish and Wildlife Conservation Commission (FFWCC) and the SWFWMD based on the presence of habitat that support the following species: Gopher Tortoise, Eastern Indigo Snake, Florida Pine Snake, Short-tailed Snake, Sherman's Fox Squirrel, Florida Mouse, Little Blue Heron, Tricolored Heron, White Ibis, Wood Stork, Bald Eagle, Southeastern Kestrel, Limpkin, Florida Sandhill Crane and Florida Grasshopper Sparrow. A Wetlands and Biological Assessment Report (WEBAR)⁵ was prepared as part of this PD&E Study to document potential impacts that may occur to protected species as a result of implementing the Preferred Alternative. Although habitat in the vicinity of this project may support protected species, construction of the proposed action predominantly within or adjacent to existing ROW is unlikely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1513 et. seq.). Future siting of necessary stormwater facilities may necessitate further review.

Although the gopher tortoise and several state-protected commensal species (burrowing owl, gopher frog, Florida mouse, Florida pine snake, and short-tail snake) have a moderate potential for occurrence within the project corridor, this potential lies primarily within the more xeric no-build segments to the north, particularly within the associated Candler fine sand and Lake fine sand soils. The project will be constructed primarily within maintained existing ROW, and there is only moderate potential within the maintained ROW for the occurrence of gopher tortoise or burrowing owl burrows. Permits will be acquired for gopher tortoise burrow excavation and tortoise/commensal relocation if necessary. On December 1, 2009 the US Fish and Wildlife Service concurred with the FHWA's recommendation that the proposed project would not impact any federally listed species (See **Appendix B**). Therefore, the Final Degree of Effect is None.

6.2 CULTURAL ENVIRONMENT

6.2.1 Historic and Archaeological Sites

Agency	Degree of Effect
Florida Department of State	Moderate
Miccosukee Tribe	Minimal
SWFWMD	Minimal
Summary Degree of Effect	
Starting Degree of Effect	Moderate
Final Degree of Effect	None

A starting Degree of Effect of Moderate was assigned by staff from the Florida Department of State. Their review of several past surveys revealed the recording of numerous historic resources as well as two archaeological sites. Specifically, one cemetery (PA995), one potentially eligible building (PA386), two National Register of Historic Places (NRHP) listed buildings (PA415 and PA1238), and one NRHP-listed historic district (PA593) were identified within the one-mile buffer zone. The cemetery and all NRHP-listed properties are located outside of the 1,320-ft buffer zone and would not be directly impacted by the project.

6.2.1.1 Cultural Resources Assessment Survey

As part of the PD&E study, a *Cultural Resource Assessment Survey (CRAS)*⁶ was prepared. The purpose of the *CRAS*⁶ is to locate, identify, and delimit any archaeological sites and historic resources (structures, buildings, bridges, and cemeteries) located within the project area of potential effect (APE), and to assess their significance in terms of the criteria of eligibility for listing in the NNRHP or in the Pasco County Register of Historic Places (PCRHP). The specific findings of the *CRAS*⁶ are incorporated by reference into this Project Development Summary Report (PDSR).

No archeological sites were discovered. Background research and field survey indicated that 58 extant historic resources are located within the US 301 PD&E project APE. None of these historic resources are considered potentially eligible for listing in the NRHP. On December 16, 2009 the State Historic Preservation Officer concurred with the FDOT's recommendation that the proposed project would not have any involvement with any resources protected by the National Historic Preservation Act (See **Appendix B**). Therefore, the Final Degree of Effect is None.

6.2.2 Recreation Areas

Agency	Degree of Effect
No Agency Comments	
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	None

The proposed widening of US 301 to six lanes in Segment A and a portion of Segment C should result in minimal impacts to recreational resources. There are two recreation areas within the study limits; Hibiscus Park located at the northern terminus close to the US 98 Bypass and Hercules Aquatic Center located in the southeast quadrant of the US 301/CR 54 intersection. A Final Degree of Effect of None is assigned because there is no ROW impacts associated with implementing the Preferred Alternative.

6.2.2.1 Community Facilities

Community facilities provide a focal point for adjacent neighborhoods and communities, as well as serve the needs of surrounding areas. The roadway improvements to US 301 will have minimal to no impacts on social and community services located along the project corridor. According to GIS data from the Florida Geographic Data Library (FGDL) and review of the Efficient Transportation Decision Making (ETDM) Summary Report, there are many social/community services located within Segment A and none in the portion of Segment C from US 98 to CR 52A. The majority of which fall into one of eight categories: Hospitals/Healthcare Facility, Church, Community Center, Park, School, Fire Station, Law Enforcement, or Conservation/Recreation Area.

6.2.3 Section 4(f) Properties

Agency	Degree of Effect
SWFWMD	N/A / No Involvement
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	N/A / No Involvement

In accordance with Section 4(f) of the DOT Act of 1966 (Title 49, U.S.C., Section 1653 (f), amended and recodified in Title 49, U.S.C., Section 303, in 1983), the project has been examined for possible Section 4(f) properties. No Section 4(f) resources are anticipated to be involved with the proposed project. Therefore, the Final Degree of Effect is Not Applicable / No Involvement.

6.3 SOCIAL ENVIRONMENT

6.3.1 Aesthetics

Agency	Degree of Effect
No Agency Comments	
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	None

Within the project limits, the majority of land use is low-density residential, commercial/services, and cropland/pastureland. Implementation of the Preferred Build Alternative is not anticipated to create any adverse aesthetic affects. Therefore, the Final Degree of Effect is None.

6.3.2 Economic

Agency	Degree of Effect
No Agency Comments	
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	None

Pasco County is considered medium size when compared to the remainder of the counties in the State of Florida. Presently, Pasco County has more than 570 persons per square mile, ranking it 11th in the state for population density. For 2006, the *Florida Statistical Abstract 2007*⁷ estimated population to be 424,355, an increase of 23.1% over the 2000 population. These growth trends are anticipated to continue with a permanent population of 681,100 projected in the year 2030, representing a 60.5% increase over 2006. Population growth has been fueled by tourism, an active second home market, and retirement community plans. The nature of this growth has resulted in Pasco County having a high percentage of retirement-age persons. Approximately 24.1% of the population is 65 years of age or older. The \$224,427 average purchase price for homes in Pasco County is ranked in the top 20 counties in the State of Florida. The per capita income is \$26,076.

The roadway improvements proposed would not result in any businesses being bypassed. Business impacts due to ROW are expected to be insignificant since no ROW is required to construct the Preferred Alternative. The bicycle, pedestrian, transit enhancements and improvements proposed along US 301 would increase safety, pedestrian mobility, connectivity between residential and non-residential areas, and would provide access for transportation disadvantaged populations. As a result of the proposed improvements, property values of commercial uses within the project area are likely to increase along

with the Pasco County tax base. A Final Degree of Effect of None is assigned as a result of the Preferred Alternative not negatively impacting economics in the City of Zephyrhills and Pasco County.

6.3.3 Land Use

Agency	Degree of Effect
FHWA	Moderate
FDCA	Minimal
Summary Degree of Effect	
Starting Degree of Effect	Moderate
Final Degree of Effect	None

A starting Degree of Effect of Moderate was assigned by the Federal Highway Administration (FHWA) citing that the project description highlighted the need to enhance coordination between public agencies in an initial effort to preserve the functionality of US 301. Specifically, the local governments involved were encouraged to closely monitor development within the study area and establish one consistent set of guidelines and objectives for US 301 that could progress into standards/ordinances to be implemented in the future.

Local government comprehensive plans are developed to provide guidance in planning for the future. The adopted future land uses for the project corridor are shown in **Figure 6-1**. The future land use map is consistent with the existing land use patterns that are present today. These future land uses are described in greater detail, for Segment A and a portion of Segment C from US 98 to CR 52A, below.

Segment A: The majority of land uses in this segment fall into one of five categories: Mixed Use, Residential Suburban, Residential Urban, Residential (6 du/ga), Public/Semi-Public, and Mobile Home/RV. Of these land uses, the most common along the study corridor is Mixed Use.

A portion of Segment C: The majority of land uses in the section from US 98 to CR 52A is either: Retail/Office/Commercial or General Commercial.

Since the future land use is consistent with the existing land use patterns that are present today, it can be inferred that the Preferred Alternative would not significantly changes future land use patterns. Therefore, the Final Degree of Effect is None.

6.3.4 Mobility

Agency	Degree of Effect
No Agency Comments	
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	None

Pasco County Public Transportation (PCPT) currently provides fixed route transit buses servicing the US 301 study corridor. PCPT Route 30 provides one-hour headways, beginning at 7:15 AM and ending at 5:00 PM, Monday through Friday. The only transit improvement proposed within the study corridor is the installation of bus shelters at needed locations. Other transit enhancements that are expected over the next decade include expanded hours/days of service and increased connectivity with additional local and express service routes. No railroad tracks were identified within the project limits. The proposed improvements to US 301 should enhance mobility in the area due to the improved safety and level of service. Enhancements and improvements proposed along US 301 would increase safety, pedestrian mobility, connectivity between residential and non-residential areas, and would provide access for transportation disadvantaged populations.

US 301 presently operates as an existing truck route. Improvements to US 301 will also enhance access to activity centers in the area, and movement of freight in eastern Pasco County. Therefore, the Final Degree of Effect assigned is None.

6.3.5 Relocation

Agency	Degree of Effect
No Agency Comments	
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	None

Implementing the Preferred Build Alternative will cause no business or residential relocations. Therefore, the Final Degree of Effect is None.

6.3.6 Social

Agency	Degree of Effect
FDCA	Minimal
Summary Degree of Effect	

Starting Degree of Effect	Moderate
Final Degree of Effect	None

A starting Degree of Effect of Moderate was assigned because depending upon the project alignment and alternative to be selected there could be the potential for displacement of residences in some of the mobile home parks and historic residences at the northern terminus of the study corridor near the US 98 Bypass. Many of the residents in the mobile home parks are elderly. The Final Degree of Effect is None because the Preferred Alternative would not require relocations and the bicycle, pedestrian, and transit enhancements and improvements proposed along US 301 would increase safety, pedestrian mobility, connectivity between residential and non-residential areas, and would provide access for transportation disadvantaged populations. Community centers would be more accessible because of these pedestrian improvements. For these reasons and the decrease in travel time for motorists the quality of life in the area should be enhanced.

6.3.6.1 Community Cohesion

The proposed project will provide improvements along an existing transportation facility where surrounding land use patterns have already been established. It will not divide neighborhoods, cause social isolation, inhibit future development, decrease neighborhood size, or separate residences from community facilities. In addition, elderly persons, handicapped individuals, non-drivers, minorities, and low-income individuals/households will not be adversely affected. Therefore, no impacts to community cohesion are anticipated.

6.4 OTHER

6.4.1 Traffic Noise

Agency	Degree of Effect
No Agency Comments	
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	Minimal

A *Noise Study Report*² was prepared for this PD&E study. A summary of the findings contained in the report is presented in this section. The traffic noise analysis was performed following FDOT procedures (PD&E Manual, Chapter 17-Noise, April 18, 2007). These procedures provide the means for projects to comply with Part 772 of Title 23 of the Code of Federal Regulations (23 CFR 772)--Procedures for Abatement of Highway Traffic Noise and Construction Noise. The traffic noise levels were predicted

using the FHWA's computer model for the prediction and analysis of highway traffic noise using the Traffic Noise Model (TNM - Version 2.5). The FHWA requires that noise abatement measures be considered when predicted traffic noise levels approach, meet or exceed the FHWA's Noise Abatement Criteria (NAC) or, when predicted noise levels increase substantially when compared to existing levels. **Table 6-2** presents the FHWA's NAC. As shown, the NAC vary based on the activities that occur at/on a property.

Table 6-3
Federal Highway Administration's Noise Abatement Criteria

Activity Category	Description	Noise Abatement Criteria (L_{Aeq1h})
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.	57 (Exterior)
B	Picnic area, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.	67 (Exterior)
C	Developed lands, properties or activities not included in Categories A or B above.	72 (Exterior)
D	Undeveloped lands.	N/A
E	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.	52 (Interior)

Source: Code of Federal Regulations, Title 23, Part 772

L_{Aeq1h} - values that contain the same amount of acoustic energy as a time-varying A-weighted sound level over a period of one hour.

6.4.1.1 Noise Sensitive Sites within Segment A and a portion of Segment C

A total of 97 noise sensitive sites were evaluated (single-family residences) within Segment A. There are no noise sensitive sites in the portion of Segment C from south of US 98 to CR 52A.

6.4.1.2 Traffic Noise Levels within Segment A

When compared to existing levels, traffic noise levels with the proposed improvements to US 301 are predicted to increase from 2.7 to 3.6 decibels on the "A"-weighted scale (dBA). Therefore, based on the results of the analysis, traffic noise would not substantially exceed existing levels with the proposed improvements. However, the results also indicate that traffic noise would approach or exceed the NAC at 41 of the evaluated residences. Nine of the residences are located in Pinecrest Mobile Home Park (MHP), 4 are located in Parkview Acres, 4 are located in Wood Dale, 20 of the residences are located in Spanish Trails Village, and 4 are located in Brightside MHP.

6.4.1.3 Noise Abatement Measures within Segment A

Noise barriers reduce sound levels by blocking the path of the sound between the source (roadway) and the receiver (listener). In order to effectively reduce traffic noise, a noise barrier must be relatively long, continuous (without intermittent openings), and of sufficient height to break the line-of-sight between the source and the receiver. Following procedures outlined in FDOT's PD&E Manual, the minimum requirements for a noise barrier to be considered feasible and economically reasonable are:

- The barrier must provide at least a five dBA reduction in traffic noise with a design goal of 10 dBA or more desired and
- the barrier should cost no more than \$42,000 per benefited noise sensitive site. For a receiver to be considered benefited, the barrier must provide at least a five dBA reduction in noise. The current estimated cost to construct a noise barrier (materials and labor) is \$30.00 per square foot (ft²).

Additional factors to be considered when evaluating noise barriers as a potential noise abatement measure include the feasibility of constructing a barrier at the desired location, driver/pedestrian sight distance (safety), ingress and egress requirements to and from affected properties, right-of-way requirements including access rights/easements for construction and/or maintenance, drainage, land use stability (are the noise sensitive sites likely to remain for an indefinite period of time), antiquity (the amount of development that occurred before the date of public knowledge for a project), the desires of the affected property owners to have a barrier adjacent to their property, and aesthetics.

The noise abatement measures considered for the 41 affected residences were traffic management, alternative roadway alignment, property acquisition, and noise barriers. Based on the results of the analysis, noise barriers are considered a potentially feasible and reasonable measure to reduce predicted future traffic noise levels at least the minimum required 5 dBA for 12 of the 13 affected residences within Pinecrest MHP and Parkview Acres and 16 of the affected residences in Spanish Trails Village. There do not appear to be any measures that would be both feasible and reasonable to reduce predicted future traffic noise levels at the remaining affected residences within the project limits.

The FDOT will perform an update to this Noise Study Report during the final design phase for the project. The Noise Study Report Update will be undertaken to confirm that the potential noise barrier locations would remain a reasonable and feasible method of reducing the predicted increase in traffic noise levels for the Pinecrest MHP, Parkview Acres, and Spanish Trails due to the proposed widening of

US 301. The FDOT will construct the noise barriers as part of the US 301 project contingent on the following:

- The property owners of the Pinecrest MHP, Parkview Acres, and Spanish Trails Village indicate a positive desire for the barriers (including type, height, length, and location).
- All safety and engineering aspects of the barriers, as they relate to the roadway user and to the adjacent property owners, have been reviewed and approved.

A Final Degree of Effect of Minimal is assigned.

6.4.1.4 Construction Noise

Construction of the US 301 improvements would result in a temporary noise increase within the project area. The noise would be generated primarily from the heavy equipment used to haul materials and construct the improvements.

6.4.1.5 Noise Contours

To reduce the potential for additional noise-sensitive sites to be located within an area incompatible with traffic noise, noise contours were developed to illustrate a level of 66 dBA. A level of 66 dB approaches the FHWA's NAC for Activity Category B land uses which includes residences. The results of the analysis indicate that the noise contour would extend 130 feet from the edge of the near travel lane with the proposed improvements in Segment A (south of CR 54 (Eiland Boulevard) to north of Kossik Road). Notably, local officials should not approve construction of any noise-sensitive sites (e.g., residences, parks, churches, etc.) within this area.

6.4.2 Construction

Agency	Degree of Effect
No Agency Comments	
Summary Degree of Effect	
Starting Degree of Effect	Minimal
Final Degree of Effect	Minimal

Project construction activities could have temporary air, noise, water quality, traffic flow, and visual impacts for residents, visitors, and travelers. Access to all businesses and residences is expected to be maintained to the extent possible through controlled construction scheduling. Traffic delays will also be controlled to the extent possible where many construction operations are in progress at the same time. Therefore, the Final Degree of Effect assigned is Minimal.

6.5 REFERENCES

1. *Air Quality Memorandum (AQM)*; KB Environmental Services, Inc.; 2010.
2. *Contamination Screening Evaluation Report (CSER)*; HDR Engineering, Inc.; Tampa, Florida; 2010.
3. *Location Hydraulics Report (LHR)*; HDR Engineering, Inc.; Tampa, Florida: 2010
4. *Stormwater Management Facilities Report*; HDR Engineering, Inc.; Tampa, Florida; 2010.
5. *Wetlands Evaluation and Biological Assessment Report (WEBAR)*; HDR Engineering, Inc., Tampa, Florida; 2010.
6. *Cultural Resource Assessment Survey (CRAS)*; ACI; 2009.
7. *Florida Statistical Abstract 2007*; Bureau of Economic and Business Research; University of Florida College of Business Administration, 2007.
8. *Noise Study Report (NSR)*;); KB Environmental Services, Inc.; 2010.

SECTION 7

PERMITS AND MITIGATION SUMMARY

7.1 PERMITS

The U.S. Army Corps of Engineers (USACE) and SWFWMD regulate wetlands within the project limits. A Pre-Application permit coordination meeting was held at SWFWMD's Brooksville office on March 10, 2009 to discuss project issues including drainage, pond siting, and environmental concerns (Appendix E of the *Wetlands Evaluation and Biological Assessment Report (WEBAR)*¹). Other agencies including USFWS, the U.S. Environmental Protection Agency (USEPA), and Florida Fish and Wildlife Conservation Commission (FFWCC) review and comment on wetland permitting. Additional coordination will be conducted during final design. It is anticipated that the following permits will be required:

- SWFWMD — Environmental Resource Permit (General)
- USACE — Section 404 Dredge and Fill Permit (Nationwide)
- FDEP — National Pollutant Discharge Elimination System Permit (NPDES)

An Environmental Resource Permit (ERP) will be required for this project. However, the actual permit type will be determined when project limits, stormwater management facility (SMF) and floodplain compensation siting, and limits of construction are finalized. If wetland impacts exceed threshold limits, requiring an individual ERP, the FDOT may consider applying for an Incidental Site Activities Permit (40D- 40.302(6)(a) F.A.C.), particularly if the project is a design-build or fast-tracked project.

7.2 AVOIDANCE/MINIMIZATION/MITIGATION

No wetland impacts are anticipated if the Preferred Build Alternative is implemented. However, if the final design of the proposed improvements results in unavoidable wetland impacts, impacts will be mitigated through the FDOT Mitigation Program (Chapter 373.4137 F.S.). Mitigation should be in-kind and within the same watershed basin as the proposed impact. For ERP purposes of mitigating any adverse wetland impacts within the same drainage basin, the project is located within the East Zephyrhills Basin to the south and the Tank Lake Outlet Basin to the north.

7.3 REFERENCES

1. *Wetlands Evaluation and Biological Assessment Report*; HDR Engineering, Inc.; Tampa, Florida; 2010.

SECTION 8

PUBLIC INVOLVEMENT SUMMARY

8.1 PUBLIC INVOLVEMENT

A Public Involvement Plan was prepared for the project. The plan was carried out in compliance with the FDOT Project Development and Environment (PD&E) Manual, FS 339.155, Executive Orders 11990 and 11988, Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the Natural Environmental Policy Act, and Federal Highway Administration (FHWA) Order 5610.1C. A brief summary of the Public Involvement Plan follows.

8.2 ADVANCE NOTIFICATION

Through the Efficient Transportation Decision Making (ETDM)/ Advance Notification process, the Florida Department of Transportation (FDOT) informed federal, state, regional, and local agencies of this project and its scope of anticipated activities. The project's Advance Notification package was distributed to the Florida State Clearinghouse on October 30, 2008.

8.3 NEWSLETTERS

8.3.1 Public Kickoff

A project kick-off newsletter was prepared and mailed in February 2009 to federal, state, and local agencies, elected officials, interested parties, and property owners within 300-feet of the project centerline. The purpose of the newsletter was to introduce the project and the study objectives. The newsletter announced the start of the project study, provided an overview of the proposed improvements, provided information on how to submit comments, and included the name and contact information for the District's Project Manager.

8.3.2 Alternatives Public Workshop

In May 2009, prior to the Alternatives Public Workshop that was held on June 3, 2009, an Alternatives Public Workshop newsletter was mailed. The purpose of the newsletter was to invite interested citizens, business owners and property owners to attend and participate in an Alternatives Public Workshop regarding the PD&E Study. The newsletter gave an overview of the proposed improvements and provided

information on how to submit comments. It also included the name and contact information for the District's Project Manager.

8.4 ALTERNATIVES PUBLIC WORKSHOP

A Public Workshop was held on June 3, 2009 to inform the public of the project's status, present alternatives under consideration, and receive comments. The following techniques were used to notify the public in advance about the meeting: 1) newsletter to property owners within 300-ft of centerline of the proposed project, 2) electronic e-mails and newsletters to elected and appointed officials, 3) newsletters to agencies, interested parties and those individuals and groups who asked to be placed on the mailing list, and 4) display advertisements in *St. Petersburg Times Pasco Edition* and a press release to *The Laker* (a local newspaper). The meeting was conducted in an informal open-house format which provided the public an opportunity to view project graphics, watch a Power Point presentation, and discuss the proposed project on a one-on-one basis with representatives from the FDOT and consultant teams.

In general, the majority of the written comments from the Alternatives Public Workshop were concerned about Segments B and/or C. One of the attendees expressed the opinion that the proposed improvements were unnecessary due to a lack of congestion. Four written comments were received and are summarized below:

1. Alternative 1 was preferred because only Stormwater Management Facilities (SMF) would have to be acquired thus making the project less costly.
2. Alternative 1 for Segment C was preferred because it would require less ROW. There is not enough traffic along Segment C to justify widening US 301 to six-lanes.
3. A request for conceptual plans for Segment C Alternatives 1 and 2.
4. Opposed to Alternative 2 Segments B and C.

8.5 PUBLIC HEARING

A Public Hearing was held on November 4, 2009, to present the Recommended Build Alternative. The following techniques were used to notify the public in advance about the meeting: 1) newsletter to property owners within 300-ft of centerline of the proposed project, 2) electronic e-mails and newsletters to elected and appointed officials, 3) newsletters to agencies, interested parties and those individuals and groups who asked to be placed on the mailing list, 4) display advertisements in *St. Petersburg Times Pasco Edition* and a press release to *The Laker* (a local newspaper), and 5) one advertisement in the *Florida Administrative Weekly*.

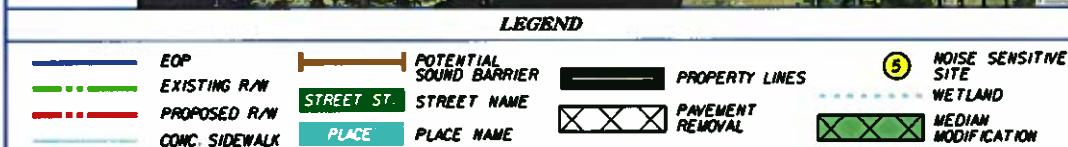
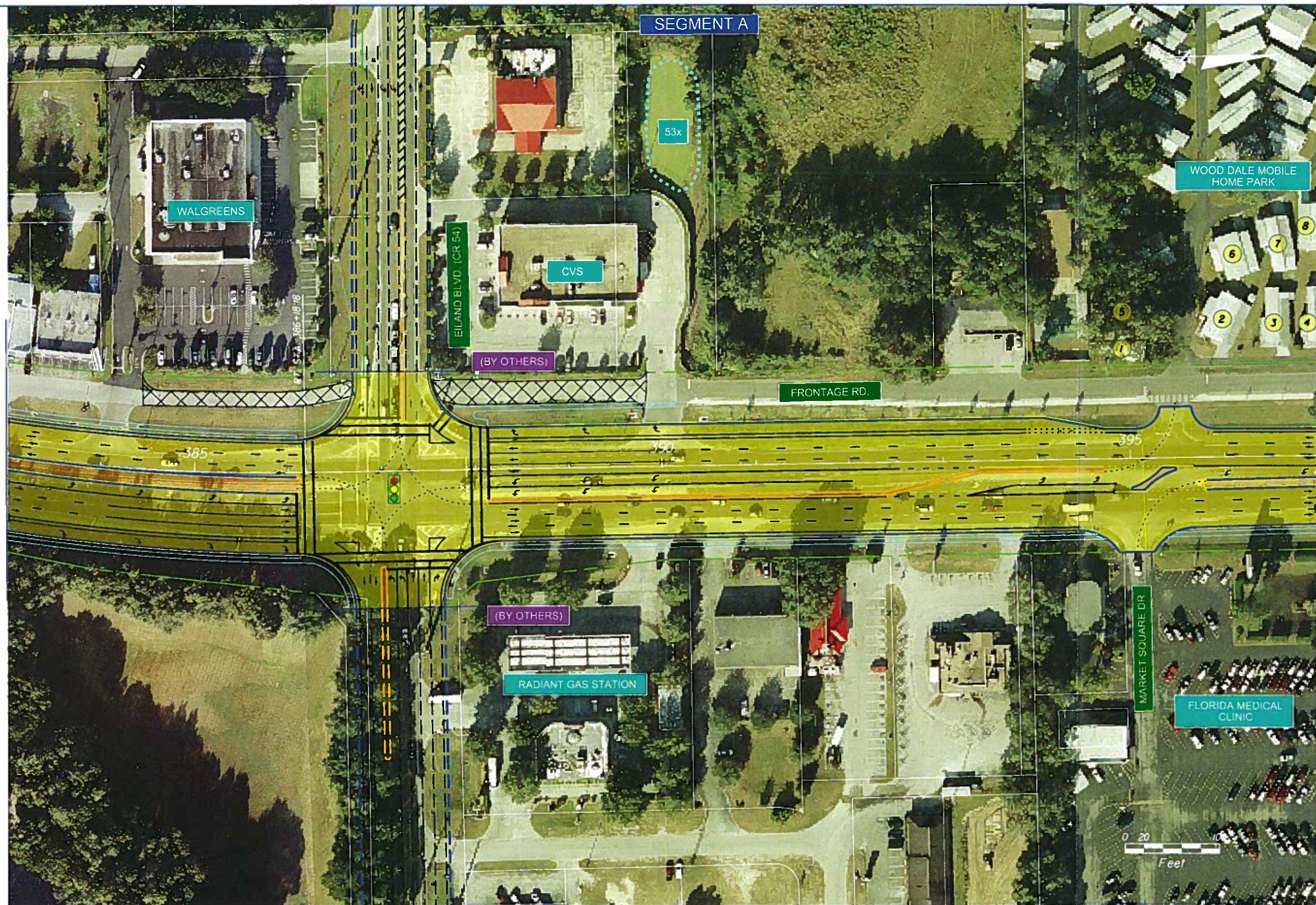
For one hour, from 5:00 pm to 6:00 pm, the public viewed displays, were given an opportunity to view an audiovisual presentation and spoke to FDOT and consultant team representatives in an informal, open house setting. At 6:00 pm the formal portion of the hearing began. Opening remarks were made by the FDOT hearing moderator, Ming Gao, P.E., Intermodal Systems Development Manager. An opportunity for the public to offer comments was made available, and their comments were transcribed by a court reporter. Written comments were collected at the hearing as well as for an 11-day period following the hearing. The *Comments and Coordination Report*¹ contains a summary of the Public Hearing proceedings and public comments. A total of 45 persons signed-in at the Public Hearing, of which 31 were citizens and 14 were FDOT staff and their consultants.

8.6 REFERENCES

1. *Comments and Coordination Report*; HDR Engineering, Inc.; Tampa, Florida; 2010.

APPENDICES

APPENDIX A
CONCEPTUAL DESIGN PLANS
(PREFERRED ALTERNATIVE)



H&R

HDR Engineering, Inc.
5426 Bay Center Dr., Suite 400
Tampa, FL 33609-3444

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
39 (US 301)	PASCO	408075-1-22-01

**PREFERRED ALTERNATIVE
LOW SPEED URBAN
SEGMENT A**

SHEET NO.

3

A scale bar with alternating black and white segments, labeled '0' at the start and '20' at the end, with the word 'Feet' centered below it.



LEGEND

EOP	POTENTIAL SOUND BARRIER	PROPERTY LINES
EXISTING R/W	STREET ST.	PAVEMENT REMOVAL
PROPOSED R/W	PLACE	MEDIAN MODIFICATION
CONC. SIDEWALK	PLACE NAME	

HDR
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Tampa, FL 33609-3444
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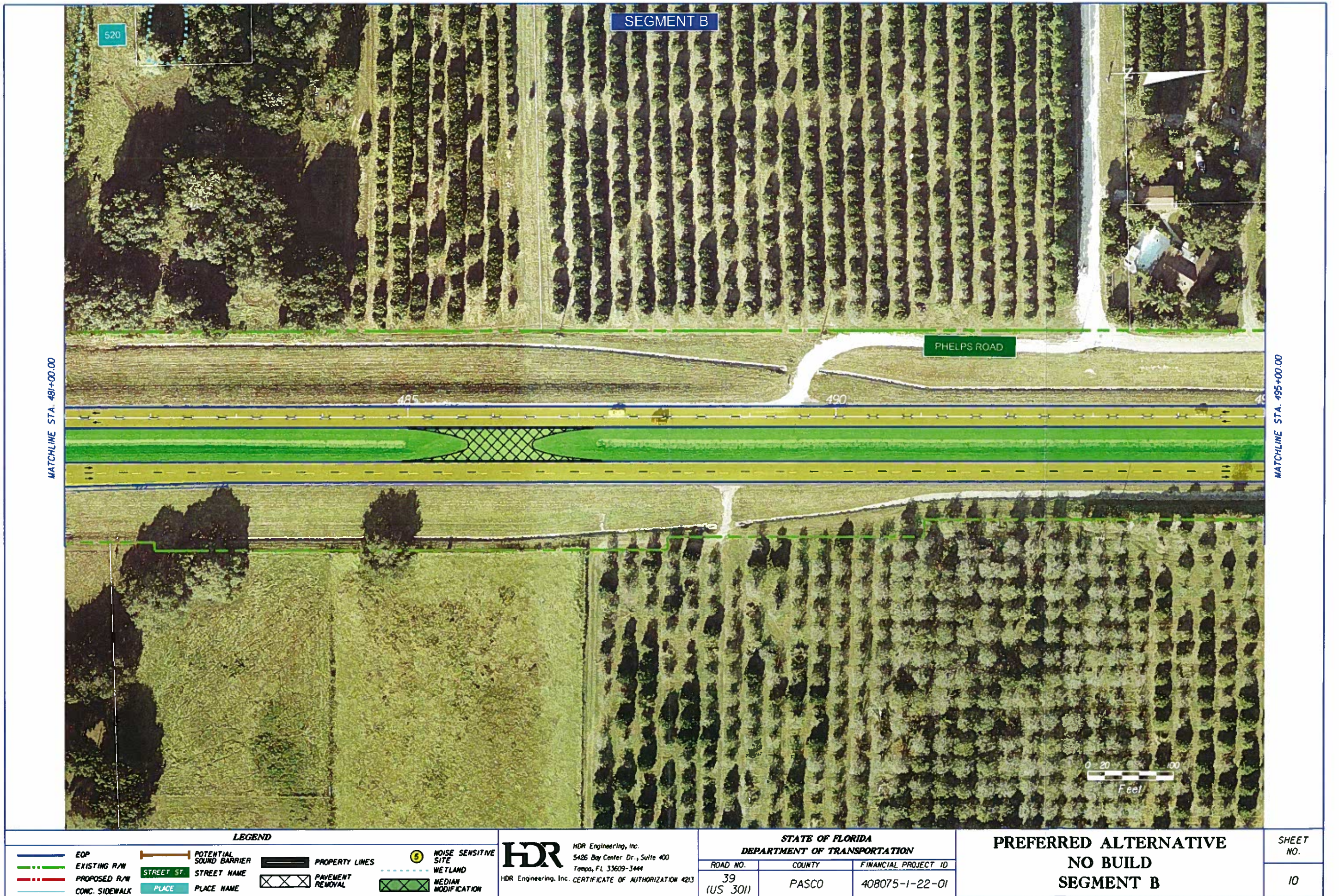
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

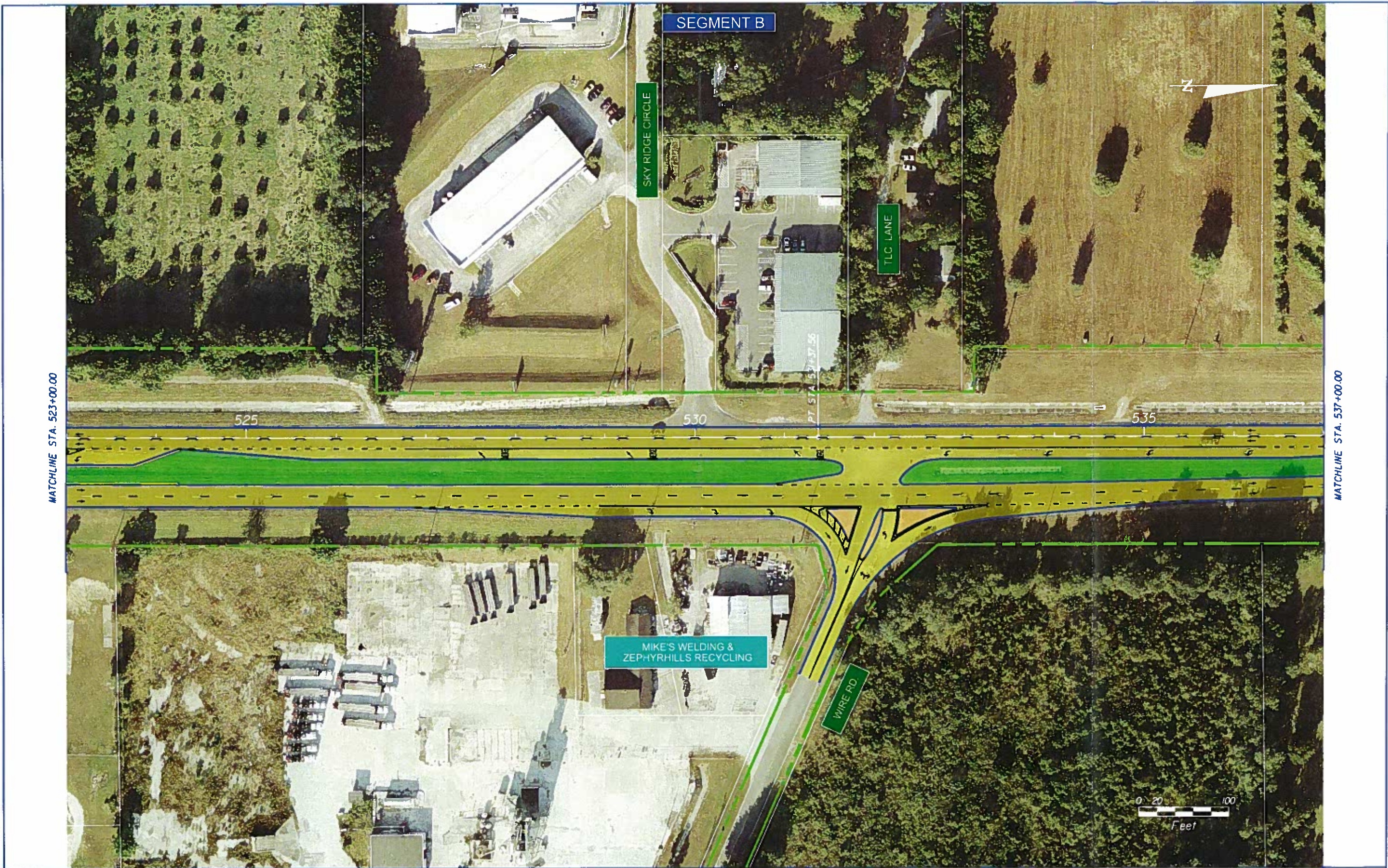
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39 (US 301)	PASCO	408075-1-22-01













PREFERRED ALTERNATIVE
LOW SPEED URBAN
SEGMENT A

SHEET NO.
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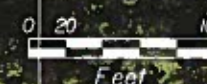
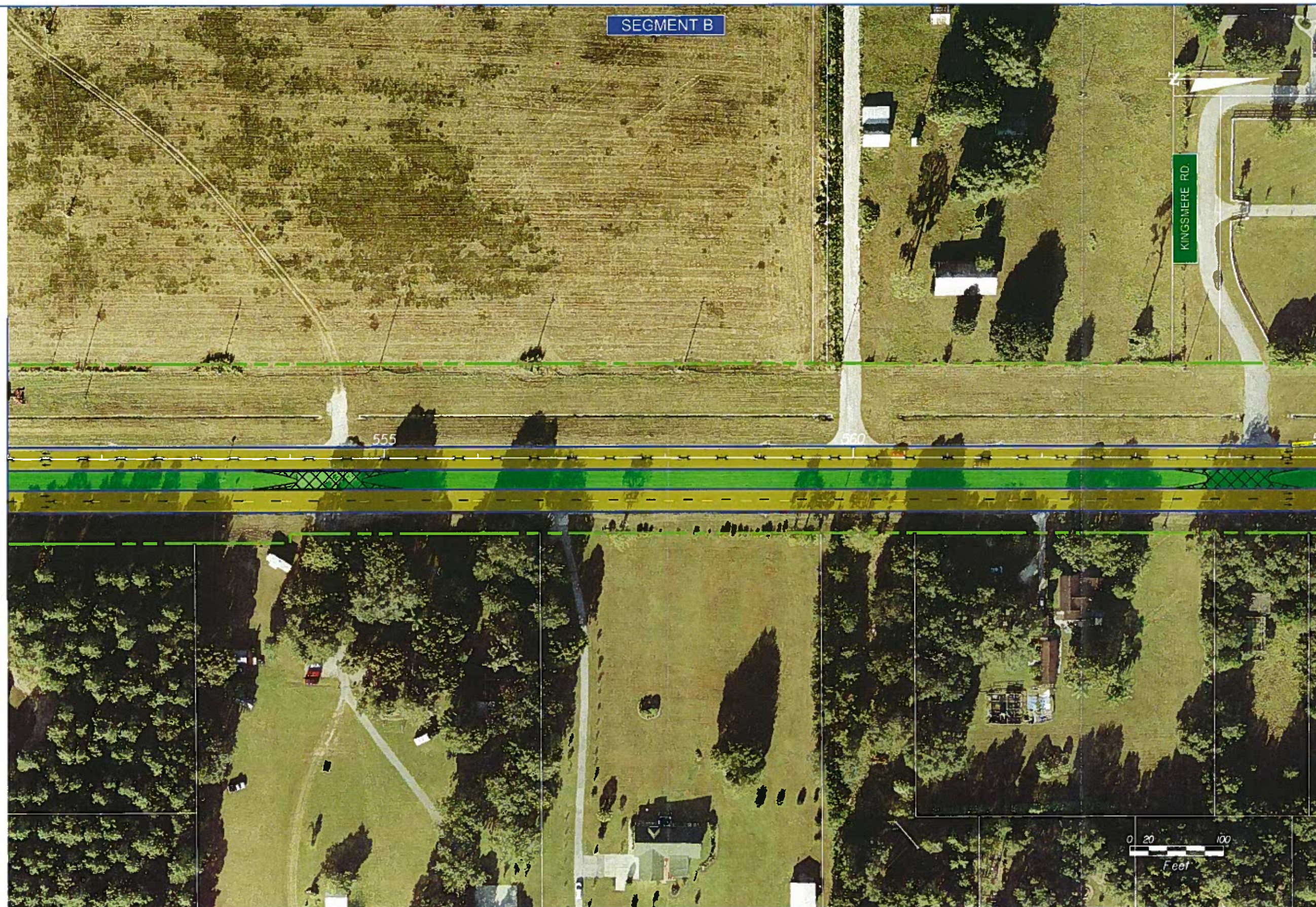




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 EOP	 POTENTIAL SOUND BARRIER	 PROPERTY LINES	 NOISE SENSITIVE SITE		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		13
 EXISTING R/W	 STREET ST. STREET NAME	 PAVEMENT REMOVAL	 WETLAND		39 (US 301)	PASCO	408075-1-22-01		
PROPOSED R/W	 PLACE PLACE NAME	 MEDIAN MODIFICATION							
 CONC. SIDEWALK									

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LEGEND

-  EOP
 EXISTING R/W
 PROPOSED R/W
 CONC. SIDEWALK
 POTENTIAL SOUND BARRIER
 STREET ST. STREET NAME
 PLACE PLACE NAME
 PROPERTY LINES
 PAVEMENT REMOVAL
 NOISE SENSITIVE SITE
 WETLAND
 MEDIAN MODIFICATION



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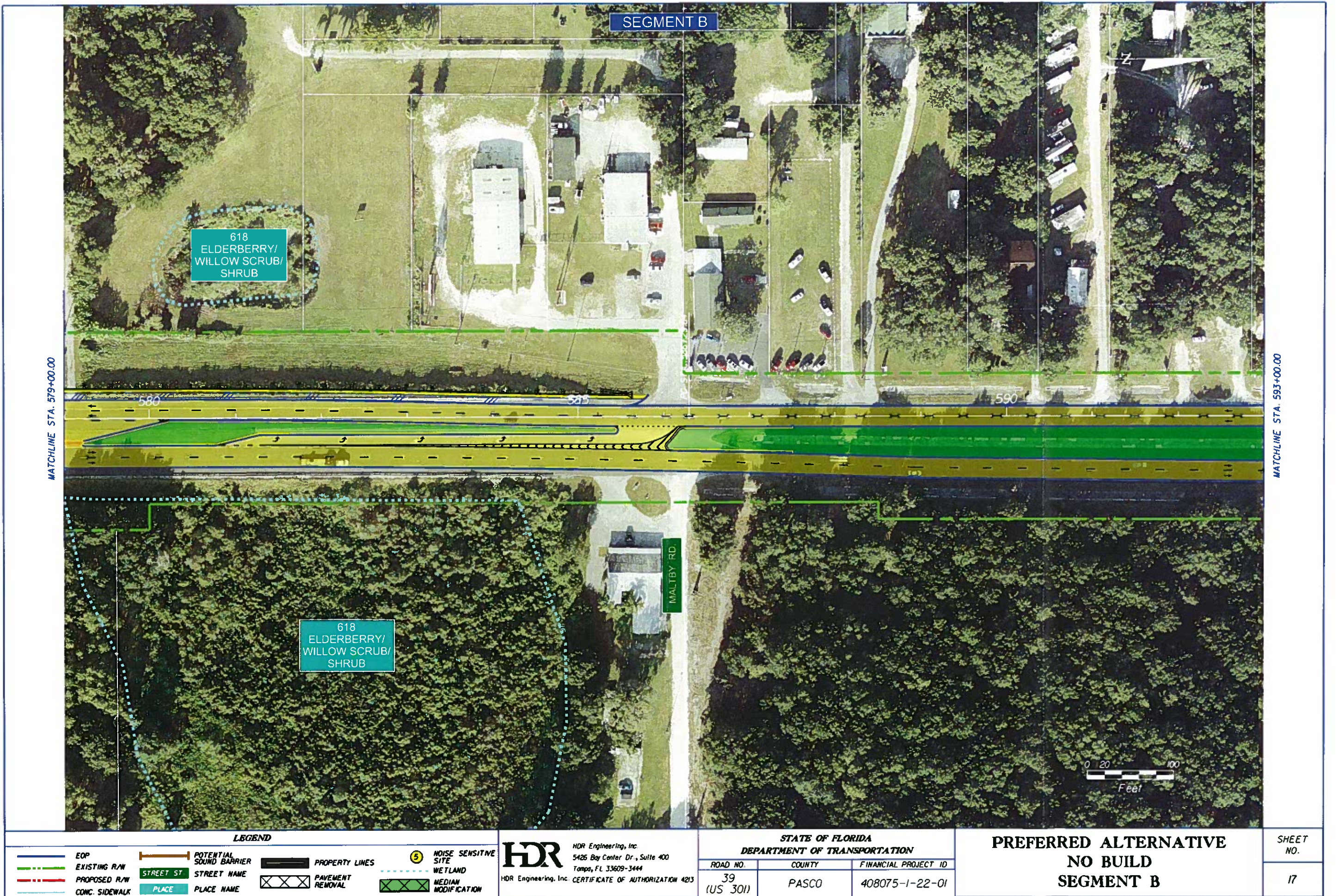
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

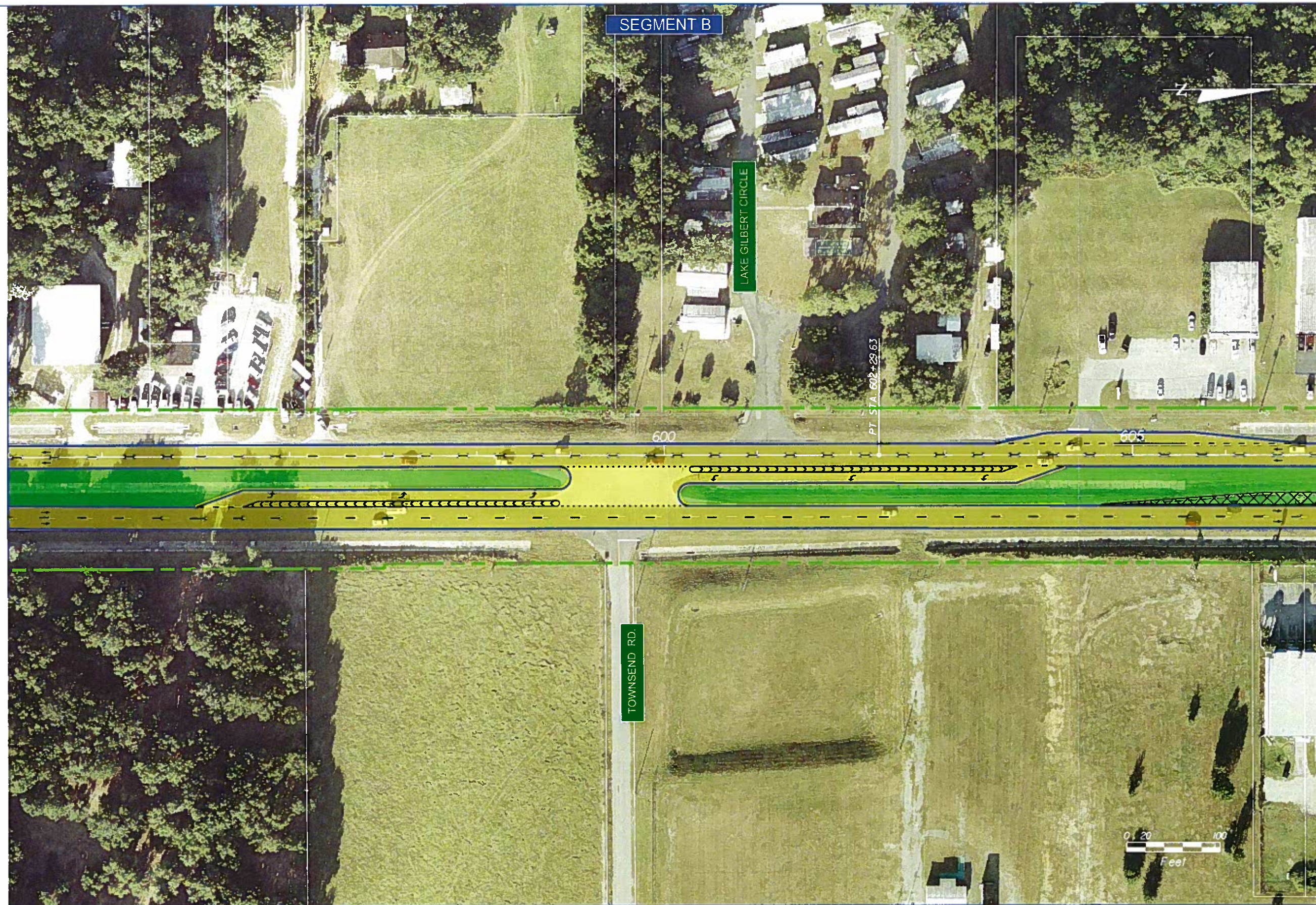
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
39 (US 301)	PASCO	408075-1-22-01

**PREFERRED ALTERNATIVE
NO BUILD
SEGMENT B**

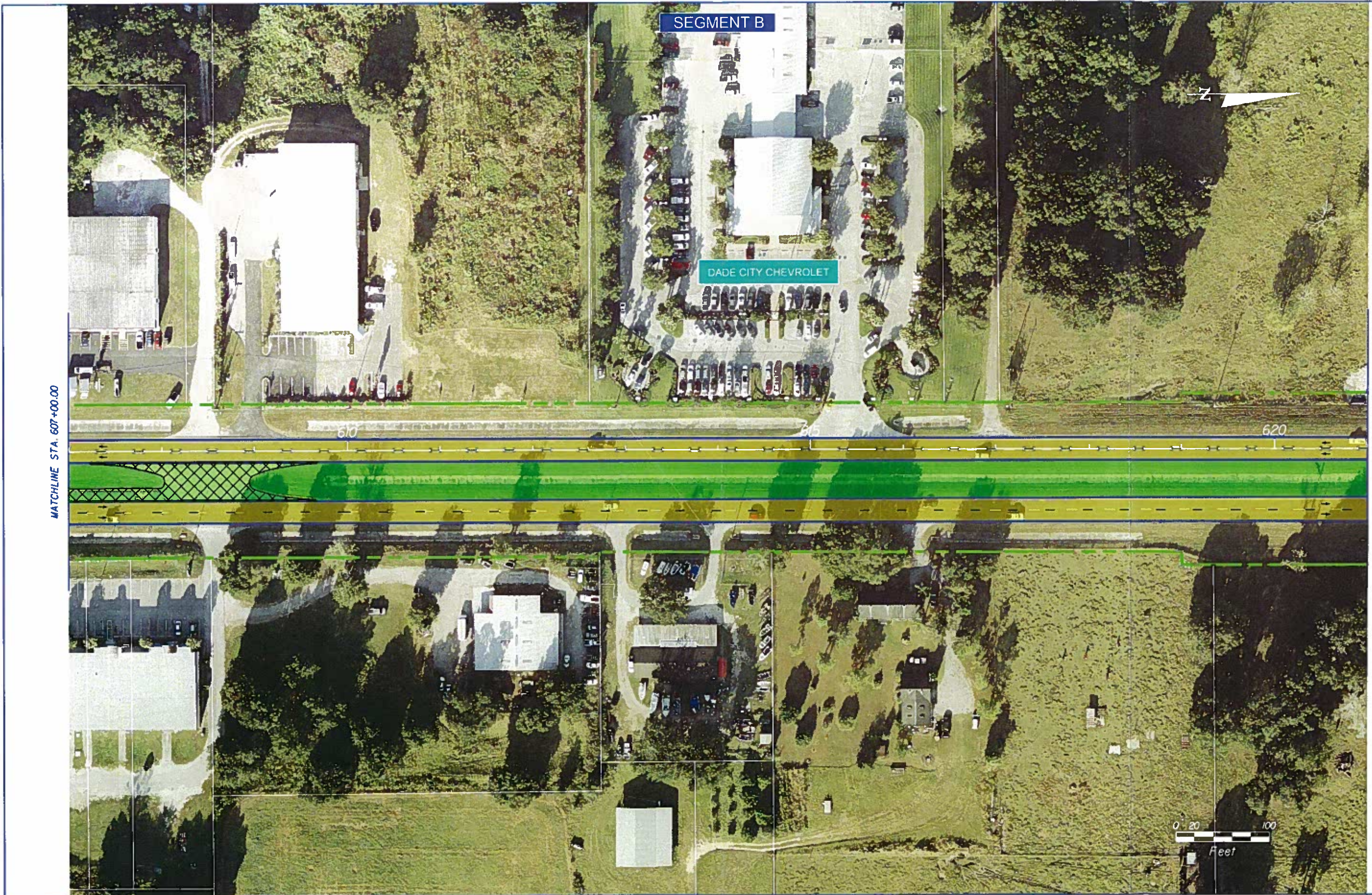
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LEGEND

EOP	POTENTIAL SOUND BARRIER	PROPERTY LINES
EXISTING R/W	STREET ST	PAVEMENT REMOVAL
PROPOSED R/W	PLACE	WETLAND
CONC. SIDEWALK	PLACE NAME	MEDIAN MODIFICATION

HDR HDR Engineering, Inc.
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NO BUILD
SEGMENT B

SHEET NO.
19

SEGMENT B



MATCHLINE STA. 621+00.00

MATCHLINE STA. 635+00.00



LEGEND

	EOP		POTENTIAL SOUND BARRIER		PROPERTY LINES		NOISE SENSITIVE SITE
	EXISTING R/W		STREET ST		PAVEMENT REMOVAL		WETLAND
	PROPOSED R/W		STREET NAME				MEDIAN MODIFICATION
	CONC. SIDEWALK		PLACE				
			PLACE NAME				

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**PREFERRED ALTERNATIVE
NO BUILD
SEGMENT B**

SHEET NO.
20



