FINAL
PRELIMINARY ENGINEERING REPORT

I-75 (S.R. 93)
FROM SOUTH OF S.R. 56 TO NORTH OF S.R. 52
PASCO COUNTY

Work Program Item Segment No. 258736 1
Federal Aid Program No. NH-75-1(91)275

Prepared for:

Florida Department of Transportation
District Seven
11201 North McKinley Drive
Tampa, Florida 33612-6456

December 2000

PBS&J
5300 West Cypress Street, Suite 300
Tampa, Florida 33607
(Prepared by)

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

Ming Gao, P.E., Project Manager
(Name and Title of Responsible FDOT Officer)

50586
(Project Engineer P.E. Number)

FINAL
PRELIMINARY ENGINEERING REPORT

I-75 (S.R. 93)
FROM SOUTH OF S.R. 56 TO NORTH OF S.R. 52
PASCO COUNTY

Work Program Item Segment No. 258736 1
Federal Aid Program No. NH-75-1(91)275

Prepared for:

Florida Department of Transportation
District Seven
11201 North McKinley Drive
Tampa, Florida 33612-6456

Prepared by:

PBS&J
5300 West Cypress Street
Suite 300
Tampa, Florida 33607

December 2000

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

LIST OF TABLES

LIST OF TABLES (cont.)

LIST OF FIGURES

LIST OF FIGURES (cont.)

SECTION 1
SUMMARY

1.1 RECOMMENDATIONS

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study for improvement alternatives along I-75 (S.R. 93) from south of S.R. 56 to north of S.R. 52 in Pasco County, Florida.

The project was divided into four segments. Project segmentation is used in this type of study in order to effectively assess and compare the impacts of each alternative in different geographical areas within the project. After considering the interchange locations and type and age of existing structures along I-75 the project was divided into four study segments as follows:

- Segment A: South of Cypress Creek to north of the proposed S.R. 56 interchange
- Segment B: North of the proposed S.R. 56 interchange to north of the S.R. 54 interchange
- Segment C: North of the S.R. 54 interchange to north of Overpass Road
- Segment D: North of Overpass Road to north of the S.R. 52 interchange

The Preferred Alternative is summarized below:

1.1.1 Segment A

Segment A is defined as between south of Cypress Creek to north of the proposed S.R. 56 interchange. The recommended preferred typical sections 3 and 6 for the project will be discussed in Section 8.6 and shown in Figures 8-3 and 8-6.

Roadway Typical Section 3

Roadway Typical Section 3 (Figure 8-3) depicts the widening into the border of the I-75 mainline. The resulting section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). A reduced border width of 21.567 m (70 ft) is proposed in order to avoid the need for additional right of way acquisition. Since the resultant border width is less than the required 25.0 m (82 ft), a design variation will be required to pursue this typical section.

Bridge Typical Section 6

Bridge Typical Section 6 (Figure 8-2) depicts widening of the existing three-lane southbound I-75 bridge over Cypress Creek by adding one lane to the outside of the existing structure. The resulting bridge typical section will feature four 3.6 m (12 ft) lanes, 3.0 m (10 ft) shoulders and a 0.46 m (1.5 ft) outside barrier, while retaining the existing inside 0.419 m (1.38 ft) barrier constructed in 1983. There is a 12.573 m (41.24 ft) separation from the northbound bridge. A total of 3.372 m (12.12 ft) of deck widening is proposed. Widening to the outside of the southbound Cypress Creek bridge is geometrically compatible with the introduction of the proposed two-lane southbound entrance ramp from S.R. 56, as well as the ongoing final design project to widen southbound I-275 south of Cypress Creek one lane to the outside.

1.1.2 Segment B

Segment B is defined as north of the proposed S.R. 56 interchange to north of the S.R. 54 interchange. The recommended preferred typical sections 3 and 4 for the project will be discussed in Section 8.6 and shown in Figures 8-3 and 8-4.

In order to avoid affecting the North Tampa Aeropark runway glide slope, the I-75 mainline alignment was shifted to the east in this segment.

Roadway Typical Section 3

Roadway Typical Section 3 (Figure 8-3) depicts the widening into the border of the I-75 mainline. The resulting section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). A reduced border width of 21.567 m (70 ft) is proposed in order to avoid the need for additional right of way acquisition. Since the resultant border width is less than the required 25.0 m (82 ft), a design variation will be required to pursue this typical section.

Interchange Bridge Typical Section 4

Bridge Typical Section 4 (Figure 8-4) depicts the proposed twin I-75 bridges over either S.R. 54 or over S.R. 52. Each resulting twin bridge will feature three 3.6 m (12 ft) lanes, 3.0 m (10 ft) shoulders and 0.46 m (1.5 ft) barriers. The resulting separation between each pair of structures will be 12.587 m (41 ft) and the effective median width will be 19.507 m (64 ft). Typical Section 5 can occur either with the widening of the existing twin structures at S.R. 54 or replacement of the existing structure at S.R. 52.

1.1.3 Segment C

Segment C is defined as North of the S.R. 54 interchange to north of Overpass Road. The recommended preferred typical sections 3 and 8 for the project will be discussed in Section 8.6 and shown in Figures 8-3 and 8-8.

Roadway Typical Section 3

Roadway Typical Section 3 (Figure 8-3) depicts the widening into the border of the I-75 mainline. The resulting section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). A reduced border width of 21.567 m (70 ft) is proposed in order to avoid the need for additional right of way acquisition. Since the

resultant border width is less than the required 25.0 m (82 ft), a design variation will be required to pursue this typical section.

Bridge Typical Section 8 (Figure 8-8) depicts the replacement of the existing Overpass Road Bridge over I-75. The new undivided two-way bridge features two 3.6 m (12 ft) lanes, 2.4 m (8 ft) shoulders and 0.475 m (1.54 ft) barriers with handrail.

Bridge replacement is necessary in conjunction with only the border widening option for the I-75 mainline as previously shown in Figure 8-1 and 8-3 (Roadway Typical Section 1 and 3). This condition occurs because the existing horizontal clearance distance between the outside edge of I-75 travel lanes and the inside face of the side bridge piers is only 3.467 m (11.38 ft), which is less than a lane width. Outward relocation of the bridge piers to accommodate an additional I-75 lane each way requires complete replacement of the bridge.

1.1.4 Segment D

Segment D is defined as north of the S.R. 54 interchange to north of the S.R. 52 interchange. The recommended preferred typical sections 3 and 13 for the project will be discussed in Section 8.6 and shown in Figures 8-3 and 8-13.

Roadway Typical Section 3

Roadway Typical Section 3 (Figure 8-3) depicts the widening into the border of the I-75 mainline. The resulting section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). A reduced border width of 21.567 m (70 ft) is proposed in order to avoid the need for additional right of way acquisition. Since the resultant border width is less than the required 25.0 m (82 ft), a design variation will be required to pursue this typical section.

Interchange Bridge Typical Section 13

Consideration of a loop-type entrance ramp in the northwest quadrant of a re-configured I-75 interchange with S.R. 52 (for the west-bound to south-bound movement) necessitates an additional ramp lane on the southbound bridge over S.R. 52 to accommodate the proper merge distance. This additional ramp lane will be provided using an adjacent bridge structure to the west of the proposed twin replacement bridge. Interchange Bridge Typical Section 13 (Figure 8-13) depicts the proposed twin replacement bridges in conjunction with a widening within the border area shown in Roadway Typical Section 3 (Figure 8-3). The mainline bridges each feature 3.6 m (12 ft) lanes (four southbound / three northbound), 3.0 m (10 ft) shoulders and 0.46 m (1.5 ft) barriers. The ramp bridge features a 4.5 m (15 ft) lane, a 1.8 m (6 ft) outside shoulder, 0.6 m (2 ft) inside shoulder and a 0.46 (1.5 ft) barrier.

The estimated cost in 1999 Present Value dollars of the Preferred Alternative roadway improvements are summarized in Table 1-1 below.

The conceptual maps of the Preferred Alternative roadway improvements can be found in Appendix B.

Table 1-1
Preferred Alternative Cost

COST COMPONENT	SEGMENTS				TOTAL
	A	B	C	D	
ROW acquisition cost (does not include ponds)	$0.184	$3.387	$1.483	$30.492	$35.546
Engineering cost 15%	$0.180	$0.744	$0.639	$1.716	$3.279
Construction cost	$1.202	$4.961	$4.259	$11.439	$21.861
Construction engineering and inspection 15%	$0.180	$0.744	$0.639	$1.716	$3.279
TOTAL	**$1.747**	**$9.836**	**$7.020**	**$45.363**	**$63.965**

1.2 COMMITMENTS

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

- Impacts to wetlands will be mitigated using Florida Statutes 373.4137.

- The number and location of residential properties in the Tampa Bay Golf and Tennis Club development that acquire building permits prior to the date of public knowledge will be established. During subsequent reevaluations for this project, the effect of traffic noise on those residences will be determined and abatement considerations evaluated, where warranted.

- A total of 11 sites were classified as potential contamination sites. Three sites were assigned a risk rating of "low", eight sites were assigned a risk rating of "medium" and no sites were assigned a "high" risk rating. The eight sites that were assigned a risk rating of "medium" are recommended for further evaluation in the form of soil and groundwater sampling and testing for the presence of petroleum products during the design phase of this project.

- Archeological field testing will be conducted for the preferred pond and floodplain compensation areas during the design phase of this project for review and concurrence by FHWA and the State Historic Preservation Officer (SHPO).

SECTION 2
INTRODUCTION

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study for improvement alternatives along I-75 (S.R. 93) from south of S.R. 56 to north of S.R. 52 in Pasco County, Florida. The project location map in Figure 2-1 illustrates the location and limits of the study.

2.1 PURPOSE

The objective of the PD&E Study is to provide documented environmental and engineering analyses to assist the FDOT in reaching a decision on the type, location and conceptual design of the necessary improvements, in order to accommodate future traffic demand in a safe and efficient manner. The PD&E Study also satisfies the requirements of the National Environmental Policy Act (NEPA) and the Federal Highway Administration (FHWA) in order to qualify the project for Federal-aid funding of future development phases of the project.

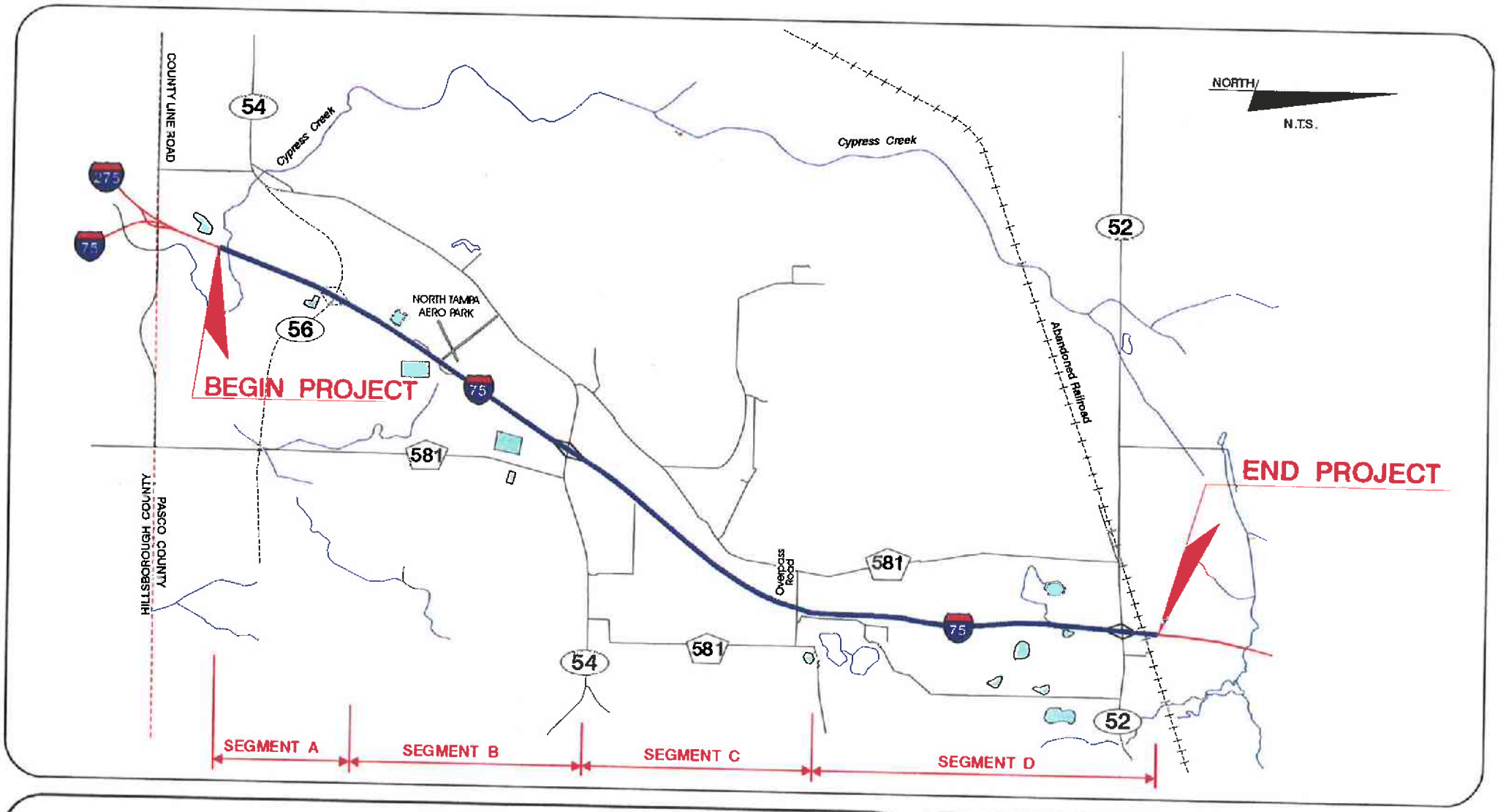
This report documents the need for the improvements, and develops and evaluates improvement alternatives as they relate to the transportation facility. Information relating to the engineering and environmental characteristics essential for alternatives and analytical decisions was collected. Once sufficient data were available, design criteria were established and "build" alternatives were developed. The comparison of these alternatives to the "No Build" alternative was based on a variety of parameters with the goal being to identify the alternative having the least impact, while providing the necessary improvements. The design year for analysis is Year 2020.

2.2 PROJECT DESCRIPTION

The I-75 corridor is primarily a north/south facility which, in its entirety, extends from a southern terminus at Miami, Florida to a northern terminus at Sault Saint Marie, Michigan. The PD&E Study corridor encompasses the portion of I-75 from south of the proposed interchange with S.R. 56 to north of the existing interchange with S.R. 52, in Pasco County, Florida, a distance of approximately

19.15 kilometers (km) [11.902 miles (mi)]. I-75's functional classification is "rural interstate." The facility is also a part of the Federal Aid Interstate System, the Florida Intrastate Highway System (FIHS) and State Highway System.

Please note, the new S.R. 56 interchange is currently under construction and has a scheduled opening year of August 2001. This interchange will therefore be considered an existing condition for the PD&E Study.



LEGEND

- Project Limits
- River / Water
- Railroad
- (54) State Road Numbers
- (581) County Road Numbers
- Proposed Roadway

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROJECT LOCATION MAP

WPI Seg No. 258736 1
FAP No. NH-75-1(91)275

FIGURE 2-1

SECTION 3
NEED FOR IMPROVEMENT

The I-75 corridor from south of S.R. 56 to north of S.R. 52 is proposed to be improved from a four-lane to a six-lane freeway. The need for this improvement was established based on the evaluation of the following:

- The existing and expected future quality of traffic operations along the I-75 study corridor under the No-Project alternative,
- Traffic safety statistics for the period between 1991 and 1995,
- Local governments' long-range transportation plans designated need, and
- Social and economic demands.

3.1 DEFICIENCIES

Capacity analyses were conducted to identify the freeway segments and intersections that currently operate or are projected to operate at deficient levels of service (LOS) if no improvements are constructed. The FDOT LOS standard for the I-75 freeway segments and freeway ramp junctions is LOS C or better. In addition, operational analyses were conducted at the I-75 ramp termini intersections with S.R. 54 and S.R. 52. The analyses were conducted to determine if the intersections were operating at or above the FDOT LOS D standard required for state freeways and arterials located within an urbanized area. This effort is documented in the Revised Draft Traffic Report[1] prepared for this PD&E Study.

3.1.1 Existing Deficiencies

Evaluation of the existing (1997) traffic data revealed three deficient conditions along the I-75 study corridor. The following are identified as currently operating below the acceptable LOS standards:

- I-75 southbound segment south of S.R. 54, currently operates at LOS D during the A.M. peak hour.

- S.R. 52 and the I-75 unsignalized ramp termini currently have movements which operate at LOS E and LOS F during the peak hours.

- There appears to be a sight distance problem at the northbound and southbound I-75 exit ramp termini at S.R. 52. Field observations revealed that both the I-75 northbound and southbound exit ramp traffic traveled beyond the stop bar to view the S.R. 52 oncoming traffic prior to making a left- or right-turn onto S.R. 52.

3.1.2 Future Deficiencies

The capacity analyses conducted for the No-Project alternative [existing lane configurations with design year (2020) traffic volumes] revealed the majority of the corridor is expected to operate below the FDOT LOS standards. A list of deficient I-75 segments, ramp junctions, and ramp termini intersections with state roads are provided below.

Segments

- The northbound I-75 segment between S.R. 56 and S.R. 54 is expected to operate at LOS D during the A.M. peak hour and LOS F during the P.M. peak hour.

- The northbound I-75 segment between S.R. 54 and S.R. 52 is expected to operate at LOS D during the A.M. peak hour and LOS E during the P.M. peak hour.

- The southbound I-75 segment south of S.R. 56 is expected to operate at LOS E during the A.M. peak hour and LOS D during the P.M. peak hour.

- The southbound I-75 segment between S.R. 56 and S.R. 54 is expected to operate at LOS F during the A.M. peak hour and LOS D during the P.M. peak hour.

- The southbound I-75 segment between S.R. 54 and S.R. 52 is expected to operate at LOS E during the A.M. peak hour and LOS D during the P.M. peak hour.

Ramps

- The northbound I-75 exit ramp at S.R. 54 is expected to operate at LOS D during the A.M. peak hour and LOS F during the P.M. peak hour.

- The northbound I-75 entrance ramp at S.R. 54 is expected to operate at LOS D during the P.M. peak hour.

- The northbound I-75 exit ramp at S.R. 52 is expected to operate at LOS D during the A.M. peak hour and LOS E during the P.M. peak hour.

- The southbound I-75 entrance ramp at S.R. 52 is expected to operate at LOS D during the A.M. peak hour and LOS D during the P.M. peak hour.

- The southbound I-75 exit ramp at S.R. 54 is expected to operate at LOS D during the A.M. peak hour and LOS D during the P.M. peak hour.

- The southbound I-75 entrance ramp at S.R. 54 is expected to operate at LOS F during the A.M. peak hour and LOS D during the P.M. peak hour.

Intersections at I-75 Ramp Termini

- At the S.R. 52 and I-75 unsignalized ramp termini, the majority of the movements are expected to operate at LOS F during the A.M. and P.M. peak hours.

3.2 SAFETY

To evaluate traffic safety in the study corridor, traffic crash records for the five-year period between 1991 and 1995 were obtained from the FDOT Safety Records. The crash data were collected for spot (intersections) and segment locations. The data was analyzed to determine the characteristics of the crashes occurring along the corridor.

As part of the analysis of crash data, safety ratios were also calculated for spot and segment locations within the study corridor. The safety ratio calculations are based on the methodology outlined in the FDOT Highway Safety Improvement Program Guideline[2] (Guideline). Safety ratios above 1.000 indicate that the segment or spot locations experience vehicle collisions above the statewide average and, therefore, traffic safety at these locations may need to be improved. The following subsections describe the results from the crash data analyses for the study corridor.

3.2.1 Spot Locations

The majority of the crashes occurred on S.R. 54 at the I-75 interchange location during the five-year period. Forty (40) crashes were reported at this location between 1991 and 1995. Of the total crashes, the majority were classified as rear end type crashes. The data also revealed that the major cause of crashes was due to careless driving. Most of the crashes reported occurred during dry conditions and during the daylight off-peak hours. However, since this data was collected, the S.R. 54 interchange at I-75 has been improved. These improvements removed the left-turn movements that were traveling to the northbound and southbound I-75 entrance ramps from the through lanes. The implementation of these improvements is expected to reduce the number crashes at the S.R. 54 location.

Twenty-five (25) crashes were reported on S.R. 52 at the I-75 interchange location between 1991 and 1995. Of the total crashes, the major type of accident was classified as angle, and the major cause was due to failing to yield ROW. The majority of the crashes reported occurred during daylight off-peak hours and during dry conditions.

Interchange Locations with Safety Ratios Greater than 1.0

- S.R. 54 interchange at I-75 (1991, 1992, 1993, 1994 and 1995)
  (This interchange location should be monitored to determine the impact the improvements have had on the safety conditions at this interchange.)

- S.R. 52 interchange at I-75 (1991, 1992, 1993, 1994 and 1995)

3.2.2 Segment Locations

As described in section 8.3.1, the I-75 study corridor was divided into four segments. The limits for the segments are described as follows:

- Segment A: South of Cypress Creek to north of the proposed S.R. 56 interchange
- Segment B: North of the proposed S.R. 56 interchange to north of the S.R. 54 interchange
- Segment C: North of the S.R. 54 interchange to north of Overpass Road
- Segment D: North of Overpass Road to north of the S.R. 52 interchange

A total of 231 crashes that occurred along the I-75 study corridor with the majority (97 crashes, 42 percent) occurring within Segments C and D. The most common type of crash was rear-end collision followed by overturned vehicles. Most crashes along the I-75 corridor were caused by careless driving followed by improper maneuver. The majority of the accidents occurred on dry pavement during the daylight and off-peak hours. A total of 11 fatalities and 317 injuries occurred along the corridor between 1991 and 1995.

I-75 Segments with Safety Ratios Greater than 1.0

- Segment B at S.R. 54 interchange (1995)
- Segment D at S.R. 52 interchange (1994, 1995)

3.3 CONSISTENCY WITH TRANSPORTATION PLAN

According to the Pasco County Comprehensive Plan[3], Transportation, Mass Transit and Traffic Circulation Elements and the Pasco County Metropolitan Planning Organizations Adopted 2020 Long Range Transportation Plan[4] the existing I-75 corridor is functionally classified as a freeway and as a future six-lane facility from the Hillsborough County line to S.R. 54. The I-75 corridor is currently designated as a four-lane facility from S.R. 54 through the remainder of Pasco County to the Hernando County line. However, the improvements under consideration for the I-75 corridor north of S.R. 54 are consistent with the anticipated future approval of the Pasco County Metropolitan Planning Organizations Adopted 2020 Long Range Transportation Plan[4].

3.4 SOCIAL AND ECONOMIC DEMANDS

The population in Pasco County has increased by approximately 45 percent to 281,131 residents during the ten-year period between 1980 and 1990 as presented in Table 3-1. Based on population projections for the future, Pasco County's population is expected to increase by 19% between 1990 and 2000 and 17% between 2000 and 2010.

Table 3-1
Summary of Pasco County Population Statistics

1980 Census Population	193,661
1990 Census Population	281,131
Estimated 1995 Population	305,576
Estimated 2000 Population	334,800
Estimated 2010 Population	391,002
1980-1990 Growth Rate	45.2%
1990-2000 Estimated Growth Rate	19%
2000-2010 Estimated Growth Rate	17%

The communities along the 1-75 corridor from south of Cypress Creek to north of S.R. 52 are located within census tracts 320.02, 321.01 and 321.02. The following statistical information was identified from the 1990 census data:

- Median Household Income
- Per Capita Income
- Race
- Female Headed Households
- Below poverty level
- Place of work (in or out of county)
- Time to work
- Owner occupied housing units
- Renter occupied housing units
- Median value of owner occupied housing units

The 1990 median household income in Pasco County was $21,480 and the per capita income was $11,732; however, the median income in the I-75 study area was somewhat higher at $13,005. Approximately 9 percent of the households were at or below poverty level, and 25 percent of those families were female-headed households with children. Census tract data shows that 97 percent of

the neighborhood population was white including 3 percent Hispanic. The remaining 3 percent was 2 percent black and 1 percent other races including Asian or American Indian.

Approximately 98,384 housing units were owner occupied, which was 35 percent of the population, and 8 percent were renter occupied. The median value of owner occupied housing units in the County was $58,000, but the approximate average cost for housing within the I-75 study area was greater at $90,000.

Average travel time from home to place of employment ranges from fifteen to forty-five minutes and 62 percent of residents work outside Pasco County.

3.5 REFERENCES

1. Revised Draft Traffic Report; Post, Buckley, Schuh & Jernigan, Inc. prepared for Florida Department of Transportation, District Seven; Tampa, FL; October 1997.

2. Highway Safety Improvement Program Guideline, Topic No. 500-000-100-c; Florida Department of Transportation, Safety Office; Tallahassee, FL; Effective Date November 4, 1991.

3. Pasco County Comprehensive Plan; Pasco County Planning Department; Pasco, Florida; December 1995.

4. Pasco County Metropolitan Planning Organization Adopted 2020 Cost Affordable Transportation Plan; Pasco County Metropolitan Planning Organization; New Port Richey, Florida; December 18, 1995.

SECTION 4
EXISTING CONDITIONS

4.1 EXISTING ROADWAY CHARACTERISTICS

4.1.1 Functional Classification

Based on the Pasco County Comprehensive Plan[1], Transportation, Mass Transit and Traffic Circulation Elements and the Pasco County Metropolitan Planning Organizations Adopted Cost Affordable 2020 Long Range Transportation Plan[2] the existing I-75 corridor is functionally classified as a freeway.

4.1.2 Typical Sections

Within the project limits, the I-75 corridor has one predominant existing mainline roadway typical section. As shown in Figure 4-1, within the study corridor, the existing I-75 roadway typical section primarily features two 3.658 meters (m) [12 feet (ft)] lanes each way, a 19.507 m (64 ft) depressed median, 3.658 m (12 ft) graded outside shoulders [of which 3.048 m (10 ft) is paved], 2.438 m (8 ft) graded inside shoulders [of which 1.219 m (4 ft) is paved], intermittent open roadside ditches on both sides and a minimum limited access ROW width of 91.44 m (300 ft). One area of exception is the northbound roadway from south of Cypress Creek to just north of the creek which currently features four lanes then tapers to three lanes and finally to two lanes near the location of the proposed S.R. 56 northbound exit ramp. The proposed S.R. 56 interchange project will widen the northbound I-75 roadway, in order to maintain four lanes to the new exit ramp, and thereafter provide three lanes to the new entrance ramp terminal. In addition, the southbound roadway currently expands from two lanes to three lanes just north of the bridge over Cypress Creek.

Existing I-75 has several bridge typical sections. As shown in Figure 4-2, the existing I-75 bridges over Cypress Creek each feature 3.048 m (10 ft) shoulders and 0.419 m (1.38 ft) barriers. The

southbound bridge features three 3.658 m (12 ft) lanes, while the northbound bridge has four 3.658 m (12 ft) lanes. These bridges are separated by 12.573 m (41.24 ft).

As shown in Figure 4-3, the existing twin I-75 bridges over S.R. 54 each feature two 3.658 m (12 ft) lanes, a 3.048 m (10 ft) outside shoulder, a 1.219 m (4 ft) inside shoulder which is currently substandard and 0.953 m (3.13 ft) outdated curb and railing. These bridges are separated by 15.163 m (49.74 ft).

As shown in Figure 4-4, the existing Overpass Road bridge over I-75 features a 4.267 m (14 ft) travel lane each way (centerline-to-curb) and a 0.940 m (3.08 ft) wide outdated curb and railing on both sides.

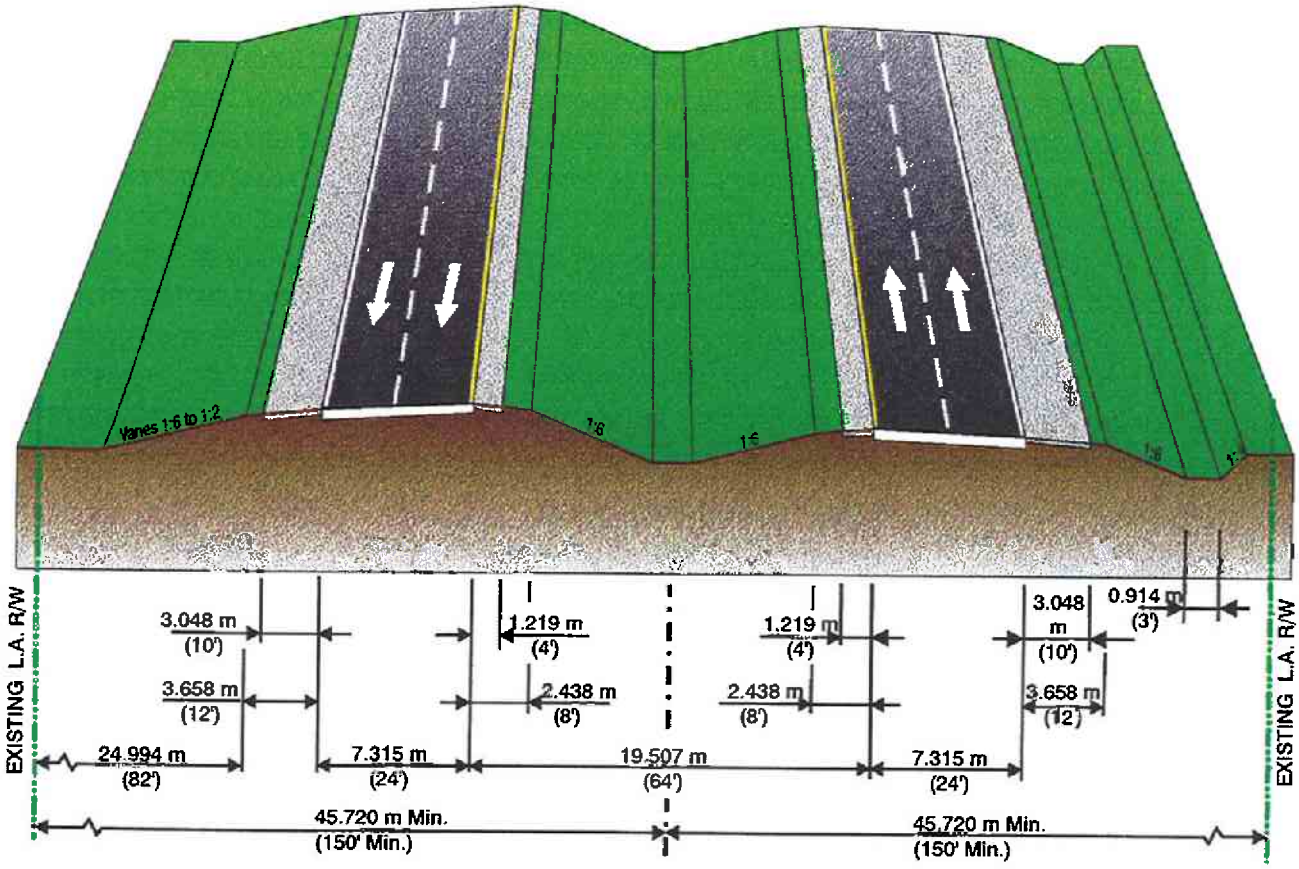
As shown in Figure 4-5, the existing twin I-75 bridges over S.R. 52 each feature two 3.658 m (12 ft) lanes, a 3.048 m (10 ft) outside shoulder, a 1.219 m (4 ft) inside shoulder which is currently substandard and 0.953 m (3.13 ft) outdated curb and railing. These bridges are separated by 15.163 m (49.74 ft).

As shown in Figure 4-6, the existing ramps at the I-75 interchanges with S.R. 54 and S.R. 52 primarily feature one 4.267 m (14 ft) lane and 1.829 m (6 ft) graded shoulders, including a 1.219 m (4 ft) outside paved shoulder.

The existing S.R. 52 roadway through the I-75 interchange area exhibits highly variable features, which precludes depiction of a typical section. However, excluding provisions for various auxiliary lanes and intermittent painted medians, the roadway is undivided and features one 3.658 m (12 ft) lane each way, with grassed outside shoulders and open drainage.

Typical sections for the following corridor-related facilities are not addressed in this report, since they will not require modification to implement the conceptual objectives of the PD&E Study.

- The proposed S.R. 56 approach roadway and bridge over I-75 which comply with current design standards.



POSTED SPEED: 110 km/h (70 mph)

FLORIDA DEPARTMENT OF TRANSPORTATION

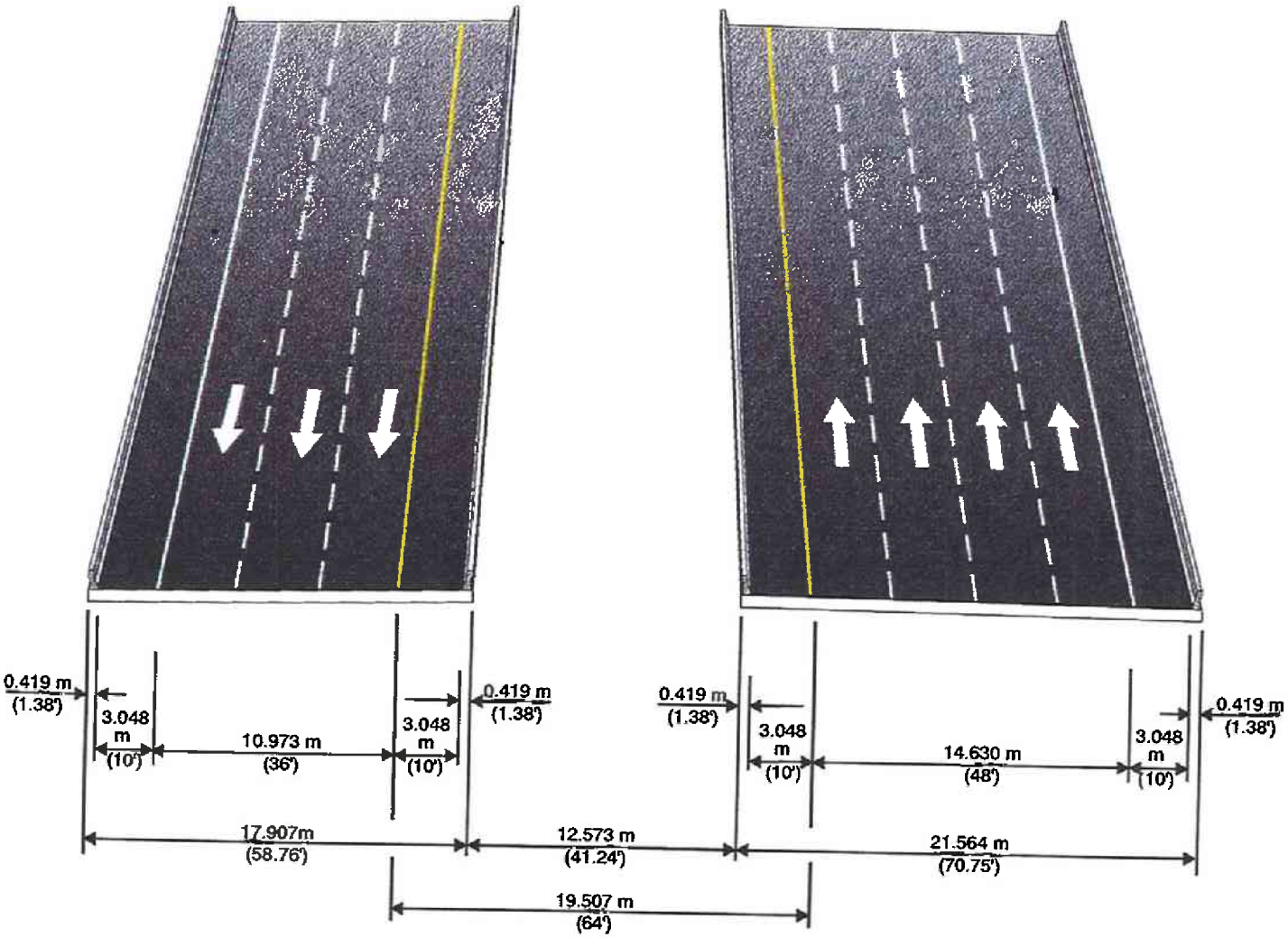
I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING I-75 ROADWAY TYPICAL SECTION

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-1

C:\CORELI~1\I-75PASCO\REPORT\PER\SECT 4\FIG 4-1.CDR 11-6-07



POSTED SPEED: 110 km/h (70 mph)

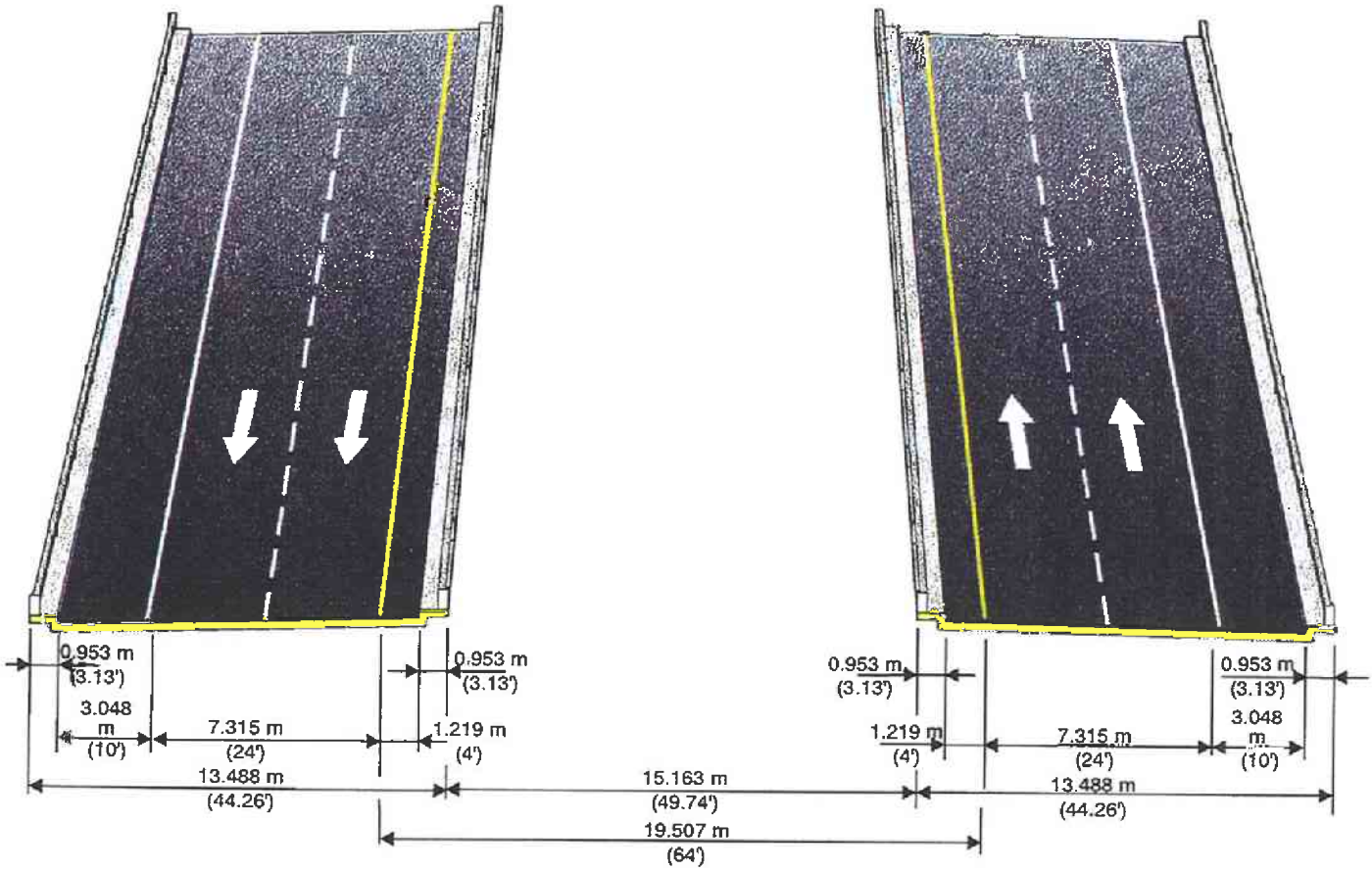
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING I-75 BRIDGES OVER CYPRESS CREEK

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-2



POSTED SPEED: 110 km/h (70 mph)

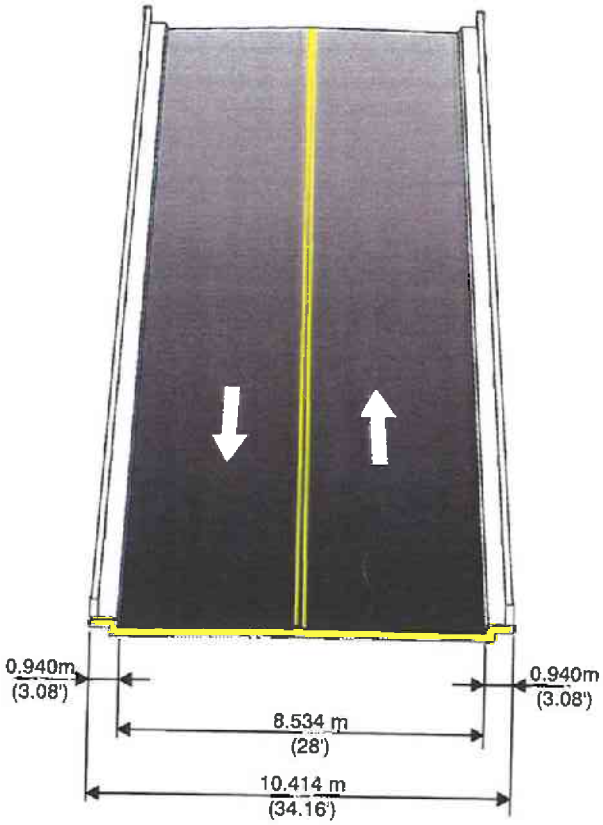
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING I-75 BRIDGES OVER S.R. 54

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-3



POSTED SPEED: 50 km/h (30 mph)

FLORIDA DEPARTMENT OF TRANSPORTATION

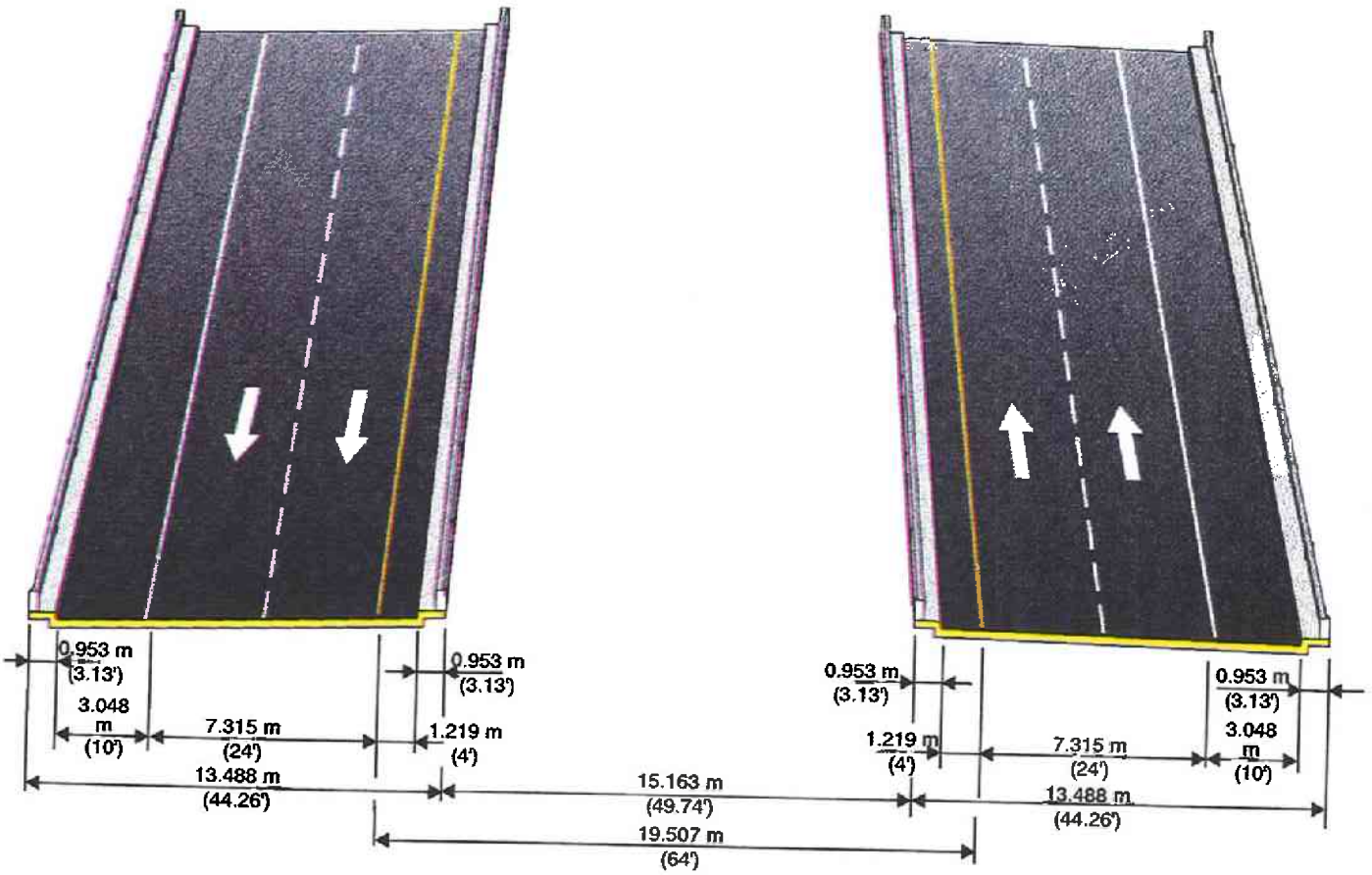
I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING OVERPASS RD. BRIDGE OVER I-75

WPI Seg No. 258736 1
FAP No. NH-75-1(91)275

FIGURE 4-4

COREL \ I-75 \ REPORT \ PER \ SECT_4 \ FIG_4-4.CDR \ 2-7-99



POSTED SPEED: 110 km/h (70 mph)

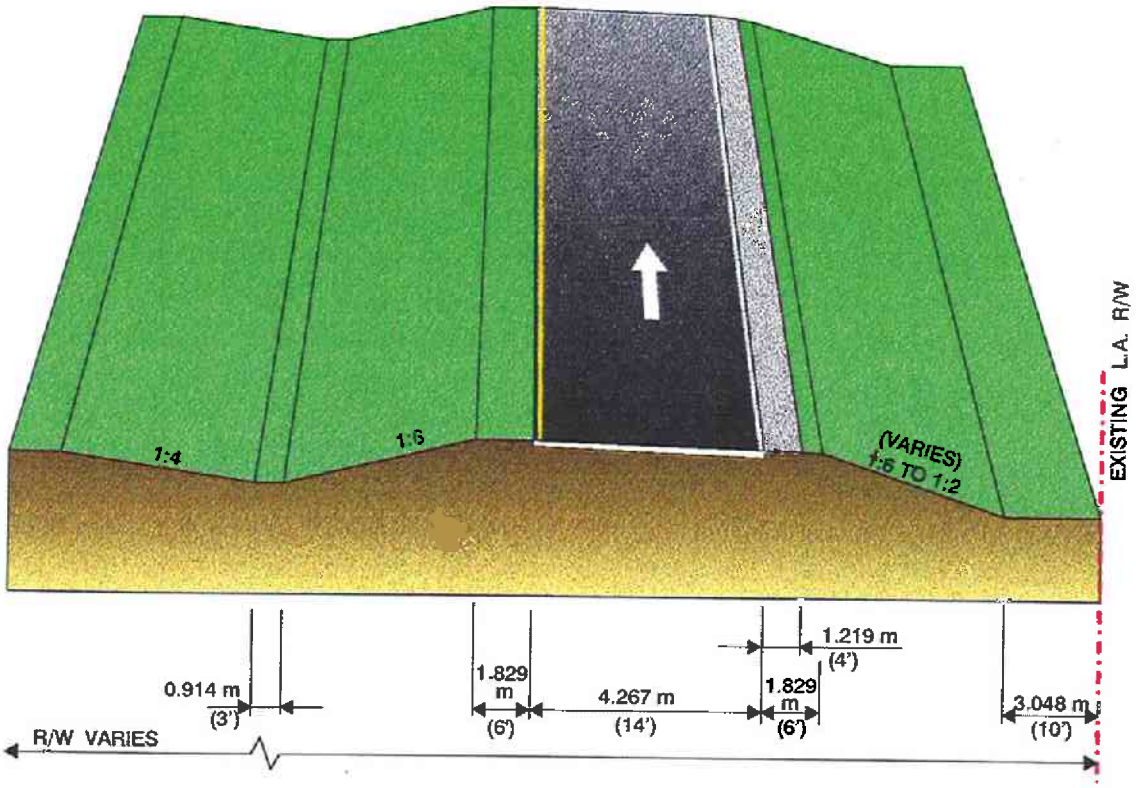
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING I-75 BRIDGES OVER S.R. 52

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-5



FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)

PD&E STUDY

From South of S.R. 56 to North of S.R. 52

Pasco County, Florida

EXISTING INTERCHANGE RAMP TYPICAL SECTION

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-6

:\COREL\I-75\REPORT\PER\SECT_4\FIG_4-6.CDR\11-7-97

- The Overpass Road roadway approaching the bridge over I-75 (non-interchange grade separation).

- The twin I-75 bridges over the former railroad corridor just north of S.R. 52. This corridor has been sold by CSX to different private owners on either side of the I-75 ROW. The FDOT is currently pursuing purchase of the portion between the existing I-75 ROW lines, which is still owned by CSX. These bridges will be recommended for removal and non-replacement, in order to provide increased opportunities for vertical sight distance improvements as part of this PD&E Study.

In addition, the existing S.R. 54 roadway typical section through the interchange area is not addressed, since the recently-constructed "interim" interchange improvements widened the S.R. 54 pavement enough to accommodate four future signalized through lanes (as required by the Year 2020 Pasco County Comprehensive Plan[1]) with minor roadway reconstruction.

4.1.3 Pedestrian and Bicycle Facilities

The identification of existing and proposed pedestrian and bicycle facilities and standards has been conducted to determine their applicability to the roads crossing or interchanging with I-75. Currently, no such roads within Pasco County have been designated with specific bicycle lanes. The nearest such facility is a separate bicycle, equestrian and pedestrian trail, the Withlacoochee Trail, located along the abandoned railroad ROW in the northeast area of Pasco County, starting 21 km (14 mi) east of I-75.

S.R. 52 does not have paved shoulders within the immediate interchange area. However, S.R. 54 currently has paved shoulders within the immediate interchange area which may be used by bicycles.

4.1.4 Right of Way

The existing ROW width for I-75 from south of Cypress Creek to north of S.R. 52 ranges from 91.44 m (300 ft) to 517.49 m (1697.80 ft). The existing corridor ROW width information was obtained

from field surveys and the FDOT ROW Department. Table 4-1 summarizes the existing ROW widths along the project, using metric stationing shown in the Appendix drawings.

4.1.5 Horizontal Alignment

As indicated by field surveys and FDOT ROW maps, the existing horizontal alignment of the roadway centerline features nine curves and one point of intersection without a curve. Table 4-2 summarizes the existing horizontal alignment of the centerline.

4.1.6 Vertical Alignment

As indicated by as-built plans, elevations of the roadway centerline range from high points of 37.58 m (123.30 ft) (above sea level, National Geodetic Vertical Datum) over the abandoned railroad corridor just north of the S.R. 52 interchange, to a low point of 17.56 m (57.60 ft) over Cypress Creek. The profile grade primarily consist of tangents, with sag and crest vertical curves. Along various segments of the corridor the northbound and southbound roadways have independent profile grade lines. The greatest amount of vertical difference between profiles is 0.49 m (1.607 ft) which occurs in the vicinity of the rest areas. Table 4-3A and 4-3B summarizes the existing vertical alignment of both the southbound and northbound roadways.

Table 4-1
Existing Right of Way Data

West Side of Baseline Survey			East Side of Baseline Survey		
Station to	**Station**	**Width (m)**	**Station to**	**Station**	**Width (m)**
Begin	196+00	45.72	Begin	193+00	45.72
196+00	202+83.34	53.17	193+67.39	194+88.42	60.96
202+83.34	205+98.94	53.17 to 74.82	194+88.42	198+79.63	45.72
205+98.94	208+06.93	74.82 to 120.22	198+79.63	202+91.16	45.72 to 53.04
	210+68.73	135.11	202+91.16	204+62.19	53.04 to 65.00
210+68.73	212+03.76	135.11 to 109.68	204+62.19	207+01.94	65.00 to 107.11
212+03.76	212+32.70	109.68 to 99.31	207+01.94	208+04.46	107.11 to 139.11
212+32.70	213+37.60	99.31 to 83.02		210+76.68	158.45
213+37.60	215+64.71	83.02 to 59.40	210+76.68	213+17.07	87.52
215+64.71	217+48.88	59.40 to 45.72	213+17.07	215+42.78	87.52 to 55.48
217+48.88	235+88.09	45.72	215+42.78	215+60.75	55.48 to 53.30
238+88.09	238+49.81	45.72 to 464.19	215+60.75	217+22.26	53.30 to 45.72
238+49.81	241+37.92	464.19 to 274.34	217+22.26	230+40.53	45.72
241+37.92	261+79.62	45.72	230+40.53	233+34.48	355.37
261+79.62	263+02.31	45.72 to 72.95	233+34.48	235+50.56	355.37 to 45.72
263+02.31	265+00.00	72.95	235+50.56	261+78.58	45.72
265+00.00	265+25.08	72.95 to 100.31	261+78.58	263+47.51	45.72 to 71.62
265+62.00	265+76.13	85.86 to 76.19	263+47.51	264+38.95	71.62
265+76.13	266+82.79	76.19	264+38.95	264+55.74	71.62 to 85.30
266+82.79	268+04.71	76.19 to 45.72	264+89.78	265+22.76	98.62 to 70.10
268+04.71	308+27.97	45.72	265+22.76	266+37.07	70.10
308+27.97	314+28.68	50.29	266+37.07	267+58.99	70.10 to 45.72
314+28.68	369+07.47	45.72	267+58.99	369+06.91	45.72
369+07.47	370+60.31	45.72 to 67.05	369+06.91	370+60.32	45.72 to 71.56
370+60.31	371+51.75	67.05	370+60.32	371+36.52	71.56
371+51.75	371+89.47	67.05 to 130.33	371+36.52	371+46.62	71.56 to 125.23
372+19.53	372+20.33	125.29 to 71.63	371+76.68	372+12.71	130.27 to 73.15
372+20.33	373+04.15	71.63	372+12.71	373+80.35	73.15
373+04.15	375+13.75	71.63 to 45.72	373+80.35	375+17.51	73.15 to 45.72
375+13.75	End Project	45.72	375+17.51	End Project	45.72

Table 4-2
Existing Horizontal Alignment Characteristics Along I-75

Curve Number	Degree of Deflection	Radius
1	11° 34' 18" LT	3492.758 m
2	6° 30' 30" RT	5239.137 m
3	6° 36' 50" RT	5239.137 m
P.I.	0° 00' 47" LT	
4	10° 27' 30" RT	3492.759 m
5	26° 14' 00" LT	1746.3795 m
6	18° 14' 30" LT	1746.3795 m
7	10° 40' 00" RT	3492.759 m
8	15° 00' 00" LT	3492.759 m
9	8° 22' 22" RT	3492.759 m

Table 4-3A
Existing Profile Northbound

P.V.I. Station*	P.V.I. Metric Station**	P.V.I. Elevation (ft)	P.V.I. Elevation (m)	Vertical Curve Length (ft)	Vertical Curve Length (m)
625+00.00	190+47.54	57.60	17.56		
637+00.00	194+15.76	59.60	18.17	400.00	121.92
641+50.00	195+52.92	31.20	18.65	500.00	152.40
646+00.00	196+90.08	57.60	17.56	400.00	121.92
732+00.00	223+11.36	57.60	17.56	400.00	121.92
742+00.00	226+16.16	65.40	19.93	500.00	152.40
754+00.00	229+81.92	64.40	19.93		
771+00.00	235+00.08	68.80	20.97		
783+00.00	238+65.84	70.60	21.52		
804+00.00	245+05.92	70.60	21.52		
814+00.00	248+10.72	73.60	22.43	500.00	152.40
828+00.00	252+37.44	73.60	22.43	400.00	121.92
843+00.00	256+94.64	78.10	23.80	500.00	152.40
852+50.00	259+84.20	78.10	23.80		
860+00.00	262+12.80	79.60	24.26	400.00	121.92
868+50.00	264+71.88	105.10	32.03	1300.00	396.24
878+00.00	267+61.44	86.40	26.24	600.00	182.88
885+00.00	269+74.80	84.70	25.82		
899+00.00	274+01.52	84.70	25.82		
906+00.00	276+14.88	85.40	26.03	400.00	121.92
918+00.00	279+80.64	89.40	27.25	500.00	152.40
930+00.00	283+46.40	86.40	26.33	400.00	121.92
959+50.00	292+45.56	86.40	26.33	500.00	152.40
971+00.00	295+96.08	97.00	29.57	500.00	152.40
978+50.00	298+24.68	97.00	29.57	500.00	152.40
996+00.00	303+58.08	120.25	36.65	1200.00	365.76
1012+50.00	308+61.00	96.10	29.29	500.00	152.40
1040+00.00	316+99.20	97.30	29.66		

Table 4-3A (cont.)
Existing Profile Northbound

P.V.I. Station*	P.V.I. Metric Station**	P.V.I. Elevation (ft)	P.V.I. Elevation (m)	Vertical Curve Length (ft)	Vertical Curve Length (m)
1043+00.00	317+90.64	97.30	29.66		
1050+50.00	320+19.24	113.80	34.69	1000.00	304.80
1065+50.00	324+76.44	101.20	30.85	400.00	121.92
1084+50.00	330+55.56	92.60	28.22		
1090+00.00	332+23.20	92.60	28.22		
1125+00.00	342+90.00	96.90	28.62		
1139+00.00	347+16.72	93.50	28.50		
1169+00.00	356+31.12	93.50	28.50		
1190+00.00	362+71.20	97.60	29.75		
1206+50.00	367+74.12	101.55	30.95	400.00	121.92
1233+50.00	375+97.08	123.30	37.58	1050.00	320.04
1242+00.00	378+56.16	100.30	30.57	500.00	152.40
1251+00.00	381+30.48	98.50	30.02		
1263+00.00	384+96.24	98.10	29.90		
1279+50.00	389+99.16	98.10	29.90		
1298+50.00	395+78.28	90.50	27.58	600.00	182.88
1321+50.00	402+79.32	99.60	30.36	500.00	152.40

* Stationing from As-Built Plans.
** Stationing shown on Appendix B drawings.

Table 4-3B
Existing Profile Southbound

P.V.I. Station*	P.V.I. Metric Station**	P.V.I. Elevation (ft)	P.V.I. Elevation (m)	Vertical Curve Length (ft)	Vertical Curve Length (m)
625+00.00	190+47.54	57.60	17.56		
637+00.00	194+13.30	59.60	18.17	400.00	121.92
614+50.00	187+27.50	61.20	18.65	500.00	152.40
646+00.00	19+687.62	57.60	17.56	400.00	121.92
732+00.00	223+08.90	57.60	17.56	400.00	121.92
742+00.00	226+13.70	65.40	19.93	500.00	152.40
759+00.00	231+31.86	65.40	19.93		
769+00.00	234+36.66	67.40	20.54		
779+00.00	237+41.46	70.40	21.46		
789+00.00	240+46.26	71.50	21.79		
797+00.00	242+90.10	70.60	21.52		
804+00.00	245+03.46	70.60	21.52		
814+00.00	248+08.26	73.60	22.43	500.00	152.40
828+00.00	252+34.98	73.60	22.43	400.00	121.92
843+00.00	256+92.18	78.10	23.80	500.00	152.40
852+50.00	259+81.74	78.10	23.80		
860+00.00	262+10.34	79.60	24.26	400.00	121.92
868+50.00	264+69.42	105.10	32.03	1300.00	396.24
878+00.00	267+58.98	86.10	26.24	600.00	182.88
885+00.00	269+72.34	84.70	25.82		
899+00.00	273+99.06	84.70	25.82		
906+00.00	276+12.42	85.40	26.03	400.00	121.92
918+00.00	279+78.18	89.40	27.25	500.00	152.40
930+00.00	283+43.94	86.40	26.33	400.00	121.92
959+50.00	292+43.10	86.40	26.33	500.00	152.40
971+00.00	295+93.62	97.00	29.57	500.00	152.40
978+50.00	298+22.22	96.00	29.26	500.00	152.40
996+00.00	303+55.62	119.25	36.35	1200.00	365.76

Table 4-3B (cont.)
Existing Profile Southbound

P.V.I. Station*	P.V.I. Metric Station**	P.V.I. Elevation (ft)	P.V.I. Elevation (m)	Vertical Curve Length (ft)	Vertical Curve Length (m)
1012+00.00	308+43.30	96.10	29.29	500.00	152.40
1040+00.00	316+96.74	98.30	29.96		
1043+00.0	317+88.18	98.30	29.96		
1050+50.00	320+16.78	114.80	34.99	1000.00	304.80
1065+50.00	324+73.98	102.80	31.33	400.00	121.92
1085+50.00	330+83.58	92.60	28.22		
1090+00.00	332+20.74	92.60	28.22		
1125+00.00	342+87.54	93.90	28.62		
1139+00.00	347+14.26	93.50	28.50		
1169+00.00	356+28.66	93.50	28.50		
1190+00.00	362+68.74	97.60	29.75		
1206+50.00	367+71.66	101.55	30.95	400.00	121.92
1233+50.00	375+94.62	123.30	37.58	1050.00	320.04
1242+00.00	378+53.70	100.30	30.57	500.00	152.40
1251+00.00	381+28.02	98.50	30.02		
1263+00.00	384+93.78	98.10	29.90		
1279+50.00	389+96.70	98.10	29.90		
1298+50.00	395+75.82	90.50	27.58	600.00	182.88
1321+25.00	402+69.24	99.60	30.36	500.00	152.40

* Stationing from As-Built Plans.
** Stationing shown on Appendix B drawings.

4.1.7 Drainage

A Final Location Hydraulic Report[3] has been prepared for this PD&E Study. This section presents a summary of findings of that report.

4.1.7.1 Hydraulic Adequacy of Existing Structures

Twenty-three (23) existing cross drains were evaluated for hydraulic adequacy and are identified in Table 4-4. These cross drains were analyzed using the procedures set forth in the FDOT Drainage Handbook-Cross Drains August 1996[3], applying the HEC-5 nomograph and the culvert capacity worksheet. This evaluation proposes to lengthen each cross drain and a worse case analysis was performed. The analysis utilized the widest proposed typical section with the highest design speed, in order to yield the longest extension.

All existing drainage structures would require extension to meet clear zone requirements. Extending these structures is recommended based on their current condition. A field review was conducted and no scour or mastic etching was observed.

The simplified hydrologic analysis results indicate that several of the structures will increase the 100-year backwater elevation by more than 0.03 m (0.098 ft) when they are lengthened to meet current standards as identified in Table 4-5. A more detailed modeling effort will be required to account for the attenuation effects of backwater induced storage. Such effort will be part of the design phase. It is anticipated that some of these structures will consequently be found to be adequately sized. However, due to unacceptable increases in headwaters it is recommended to replace with larger structures, those highlighted in Table 4-5. These structures serve as a demonstration of the magnitude expected for changes in backwater elevations for a worse case analysis.

Table 4-4
Existing Cross Drain Information

STR	STA (metric)	Description	Flow Direction	Size		Length		Invert Elevation		Invert Elevation	
				(mm)	(ft or in)	(m)	(ft)	West (m)	East (m)	West (ft)	East (ft)
1	199+02	EW - CBC - MEDIAN INLET - CBC - EW	RELIEF	3050 x 3050	10' x 10'	47.244	155.0	12.954	12.954	42.5	42.5
2	208+25	EW - CBC - MEDIAN INLET - CBC - EW	W-E	1220 x 1220	4' x 4'	50.900	167.0	14.935	14.874	49.0	48.8
3	217+00	EW - CBC - MEDIAN INLET - CBC - EW	W-E	(3) - 3660 x 1525	(3) - 12' x 5'	46.025	151.0	14.630	14.569	48.0	47.8
4	221+27	EW - RCP - MEDIAN INLET - RCP - EW	RELIEF	(2) - 750	(2) - 30"	46.512	152.6	15.392	15.392	50.5	50.5
5	229+50	EW - RCP - MEDIAN INLET - RCP - EW	W-E	900	36"	49.225	161.5	17.496	17.374	57.4	57.0
6	243+07	EW - CBC - MEDIAN INLET - CBC - EW	W-E	(2) - 1830 x 915	(2) - 6' x 3'	49.073	161.0	19.202	19.141	63.0	62.8
7	248+78	EW - RCP - MEDIAN INLET - RCP - EW	E-W	(2) - 900	(2) - 36"	52.578	172.5	20.056	20.117	65.8	66.0
8	259+68	EW - RCP - MEDIAN INLET - RCP - EW	E-W	(2) - 900	(2) - 36"	52.791	173.2	21.488	21.488	70.5	70.5
9	269+75	EW - CBC - MEDIAN INLET - CBC - EW	W-E	1525 x 915	5' x 3'	51.206	168.0	23.622	23.500	77.5	77.1
10	274+90	EW - RCP - MEDIAN INLET - RCP - EW	W-E	900	36"	51.816	170.0	23.622	23.561	77.5	77.3
11	289+25	EW - CBC - MEDIAN INLET - CBC - EW	E-W	(2) - 2745 x 2135	(2) - 9' x 7'	55.778	183.0	22.647	22.708	74.3	74.5
12	298+08	EW - RCP - MEDIAN INLET - RCP - EW	W-E	(2) - 750	(2) - 30"	54.712	179.5	26.914	26.853	88.3	88.1
13	309+05	EW - CBC - MEDIAN INLET - CBC - EW	W-E	1220 x 1220	4' x 4'	49.073	161.0	26.700	26.640	87.6	87.4
14	313+65	EW - CBC - EW	E-W	1220 x 1220	4' x 4'	60.350	198.0	26.335	26.396	86.4	86.6
15	317+30	EW - RCP - MEDIAN INLET - RCP - EW	E-W	900	36"	67.970	223.0	25.847	27.859	84.8	91.4
16	324+40	EW - RCP - MEDIAN INLET - RCP - EW	E-W	750	30"	65.837	216.0	29.352	29.474	96.3	96.7
17	333+30	EW - CBC - MEDIAN INLET - CBC - EW	E-W	(3) - 2440 x 915	(3) - 8' x 3'	63.398	208.0	25.756	25.908	84.5	85.0
18	341+15	EW - RCP - EW	E-W	750	30"	59.619	195.6	26.243	26.304	86.1	86.3
19	345+80	EW - CBC - MEDIAN INLET - CBC - EW	E-W	2440 x 1220	8' x 4'	54.864	180.0	25.359	25.451	83.2	83.5
20	356+60	EW - CBC - EW	E-W	2440 x 1220	8' x 4'	54.864	180.0	26.091	26.152	85.6	85.8
21	360+10	EW - RCP - MEDIAN INLET - RCP - EW	E-W	(2) - 750	(2) - 30'	61.570	202.0	26.548	26.670	87.1	87.5
22	373+43	EW - CBC - EW	E-W	2745 x 915	9' x 3'	121.006	397.0	26.548	26.670	87.1	87.5
23	376+61	EW - RCP - MEDIAN INLET - RCP - EW	E-W	900	36"	65.197	213.9	27.981	28.103	91.8	92.2

EW: Endwall
CBC: Concrete Box Culvert
RCP: Reinforced Concrete Pipe
W: West
E: East

Table 4-5
100-Year Headwaters

STR	STA (metric)	Size		Existing 100-year Headwater Elevation	Proposed 100-year Headwater Elevation	Change in Headwater El.
		(mm)	(ft or in)	(m)	(m)	(m)
1	199+02	3050 x 3050	10' x 10'	16.47	16.49	0.02
2	208+25	1220 x 1220	4' x 4'	16.74	16.78	**0.04***
3	217+00	(3) - 3660 x 1525	(3) - 12' x 5'	16.67	16.67	0.00
4	221+27	(2) - 750	(2) - 30"	16.95	17.10	**0.05***
5	229+50	900	36"	19.02	19.11	**0.09***
6	243+07	(2) - 1830 x 915	(2) - 6' x 3'	20.76	20.76	0.00
7	248+78	(2) - 900	(2) - 36"	21.72	21.80	**0.08***
8	259+68	(2) - 900	(2) - 36"	23.16	23.23	**0.07***
9	269+75	1525 x 915	5' x 3'	25.13	25.13	0.00
10	274+90	900	36"	25.22	25.30	**0.08***
11	289+25	(2) - 2745 x 2135	(2) - 9' x 7'	25.33	25.37	**0.04***
12	298+08	(2) - 750	(2) - 30"	28.48	28.56	**0.08***
13	309+05	1220 x 1220	4' x 4'	28.50	28.55	**0.05***
14	313+65	1220 x 1220	4' x 4'	28.23	28.25	0.02
15	317+30	900	36"	29.14	29.14	0.00
16	324+40	750	30"	31.08	31.22	**0.14***
17	333+30	(3) - 2440 x 915	(3) - 8' x 3'	27.46	27.46	0.00
18	341+15	750	30"	27.92	28.00	**0.08***
19	345+80	2440 x 1220	8' x 4'	27.18	27.18	0.00
20	356+60	2440 x 1220	8' x 4'	27.88	27.94	**0.06***
21	360+10	(2) - 750	(2) - 30'	28.24	28.33	**0.09***
22	373+43	2745 x 915	9' x 3'	28.34	28.34	0.00
23	376+61	900	36"	29.73	29.75	0.02

* Changes in headwater that exceed 0.03 m violate Southwest Florida Water Management District (SWFWMD) criteria.

4.1.7.2 Drainage Patterns

The existing drainage patterns were determined using the United States Geological Survey (USGS) quadrangle maps, SWFWMD contour aerials, and FDOT drainage maps for I-75. The existing drainage features in the area are characterized by gently to moderately sloping poorly drained and well vegetated terrain. The drainage patterns starting from the beginning of the project and continuing to the end of the project are shown in Figure 4-7.

The stormwater runoff from the travel lanes and outside shoulders sheet flows to roadside ditches. The runoff from the inside shoulder drains to median inlets that discharge via cross drains to the roadside ditches. These ditches outfall to adjacent wetland areas. All stormwater runoff in the study corridor drains to Cypress Creek, which is an Outstanding Florida Water (OFW). Cypress Creek outfalls into the Hillsborough River and eventually discharges into Hillsborough Bay.

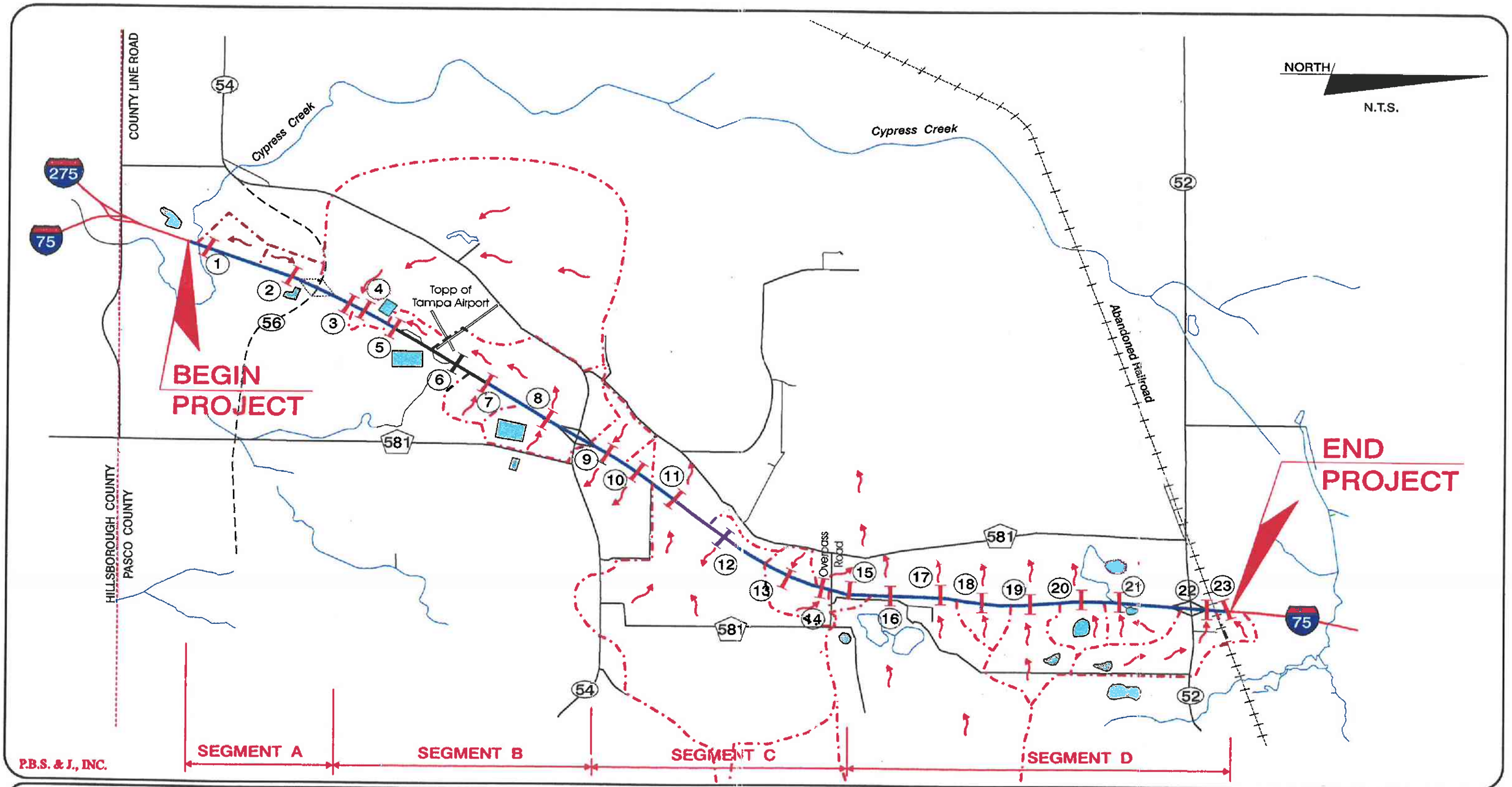
4.1.7.3 Drainage Related Problems

According to the FDOT's maintenance records there are no existing flooding problems within the project limits of I-75 from south of S.R. 56 to north of S.R. 52. A copy of this memorandum has been included in Appendix A.

4.1.7.4 Encroachments on 100-year Floodplain

The Federal Emergency Management Agency (FEMA) (Flood Insurance Rate Maps) has completed a Flood Insurance Study (FIS) for Pasco County dated February 17, 1989, and there were no floodways indicated within the project corridor. Although Cypress Creek and Trout Creek are not considered floodways, FEMA has performed a hydraulic and hydrologic analysis for both streams.

Portions of the study area for the proposed I-75 widening are located within the floodplain limits shown on the FIRM Community Panels[4] (see Figures 4-8, 4-9, 4-10). The area from Cypress Creek to approximately 300 m (1000 ft) north of Trout Creek lies within the 100-year flood boundary Zone A4. Zone A4 is an area of 100-year flood, in which the base flood elevation [elevation 16.45 m (54



LEGEND

- Project Limits
- River / Water
- Railroad
- (54) State Road Numbers
- (587) County Road Numbers
- Proposed Roadway
- (2) Structure Numbers
- Basin Boundary
- Flow Direction

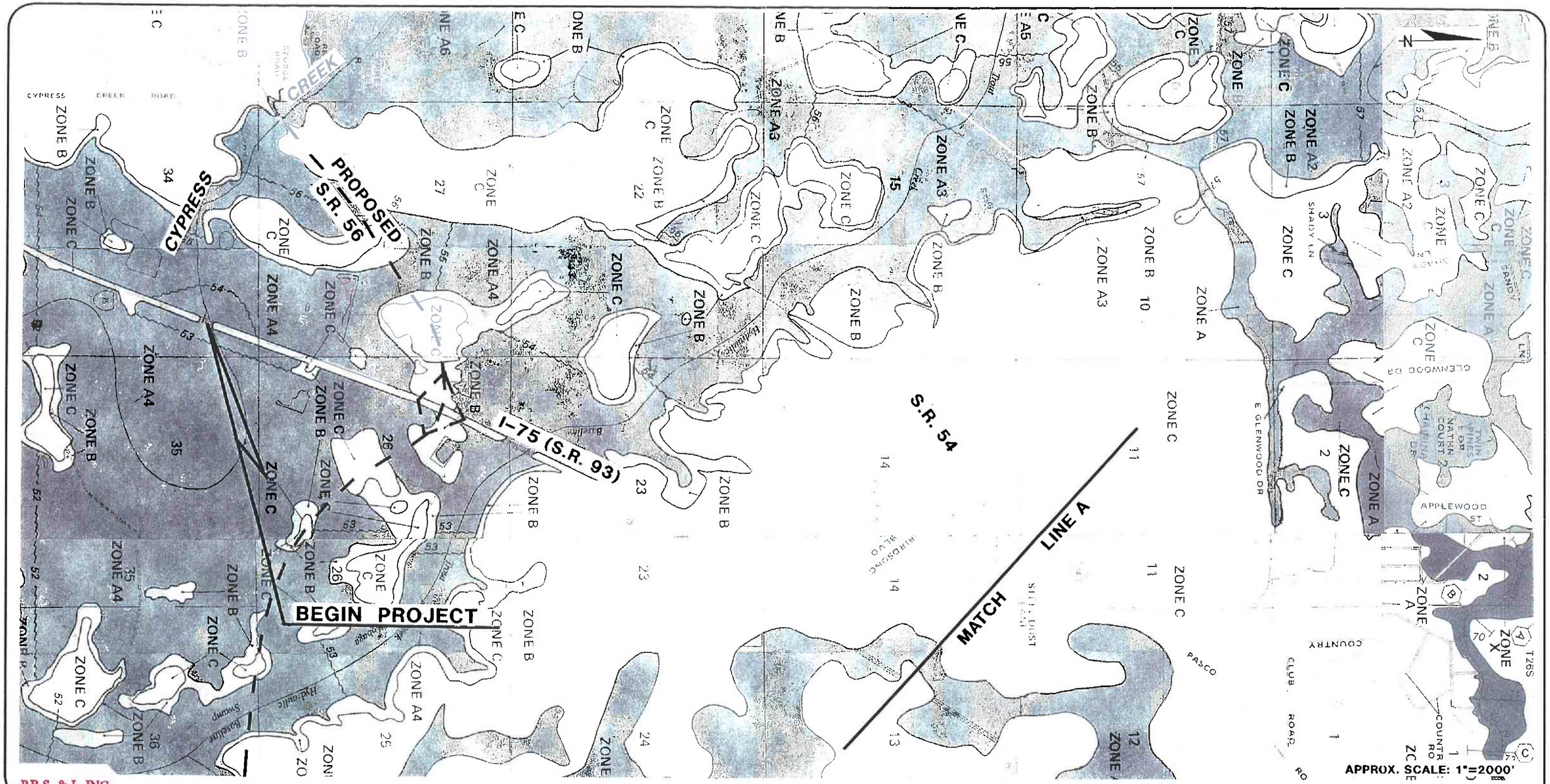
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING DRAINAGE PATTERNS

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-7



P.B.S. & J., INC.

Source: F.E.M.A. Maps Community - Panel Numbers: 120230 0250 D, 0275 D, 0425 D & 0450 D

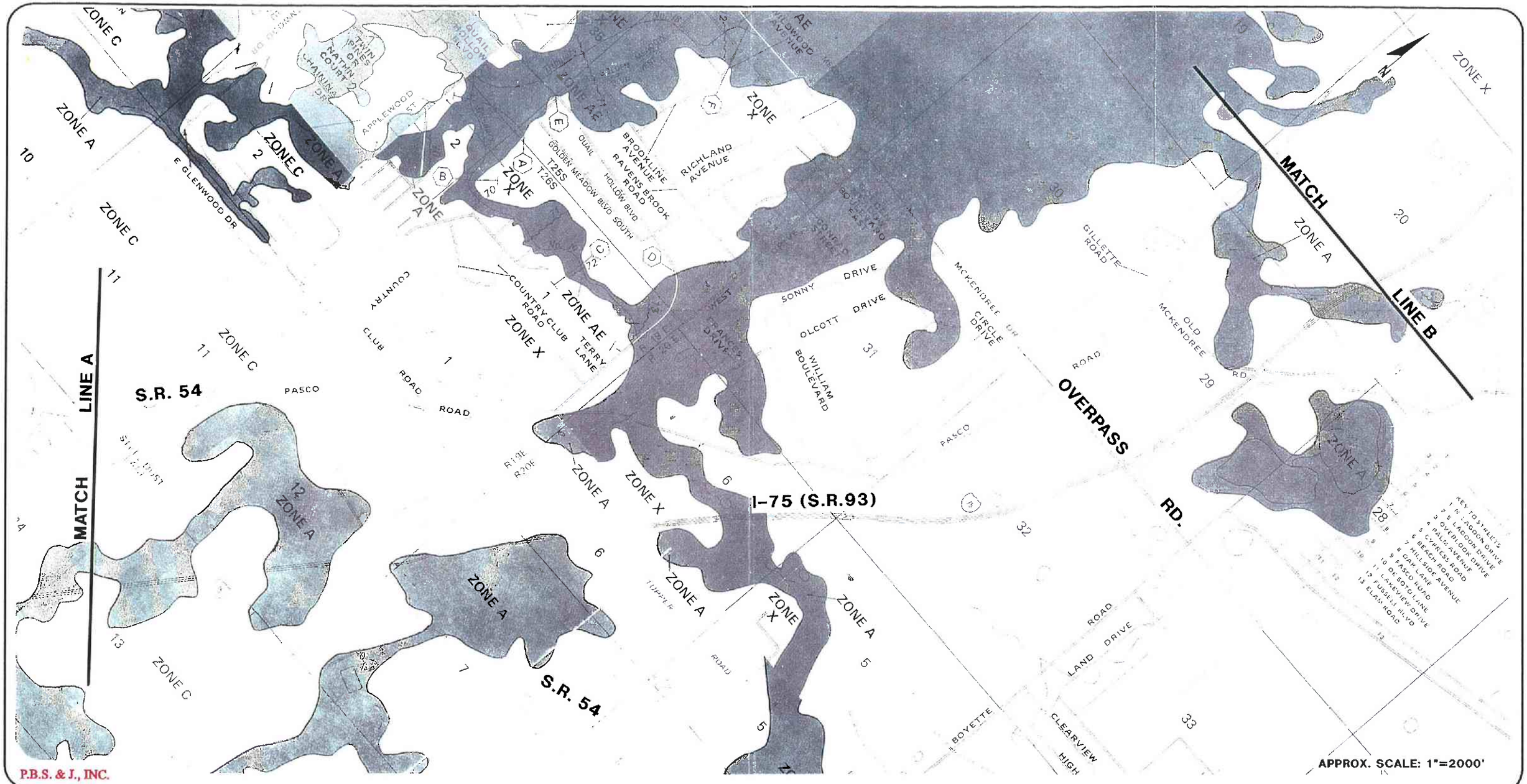
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) MAP

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-8



P.B.S. & J., INC.

Source: F.E.M.A. Maps Community - Panel Numbers: 120230 0250 D, 0275 D, 0425 D & 0450 D

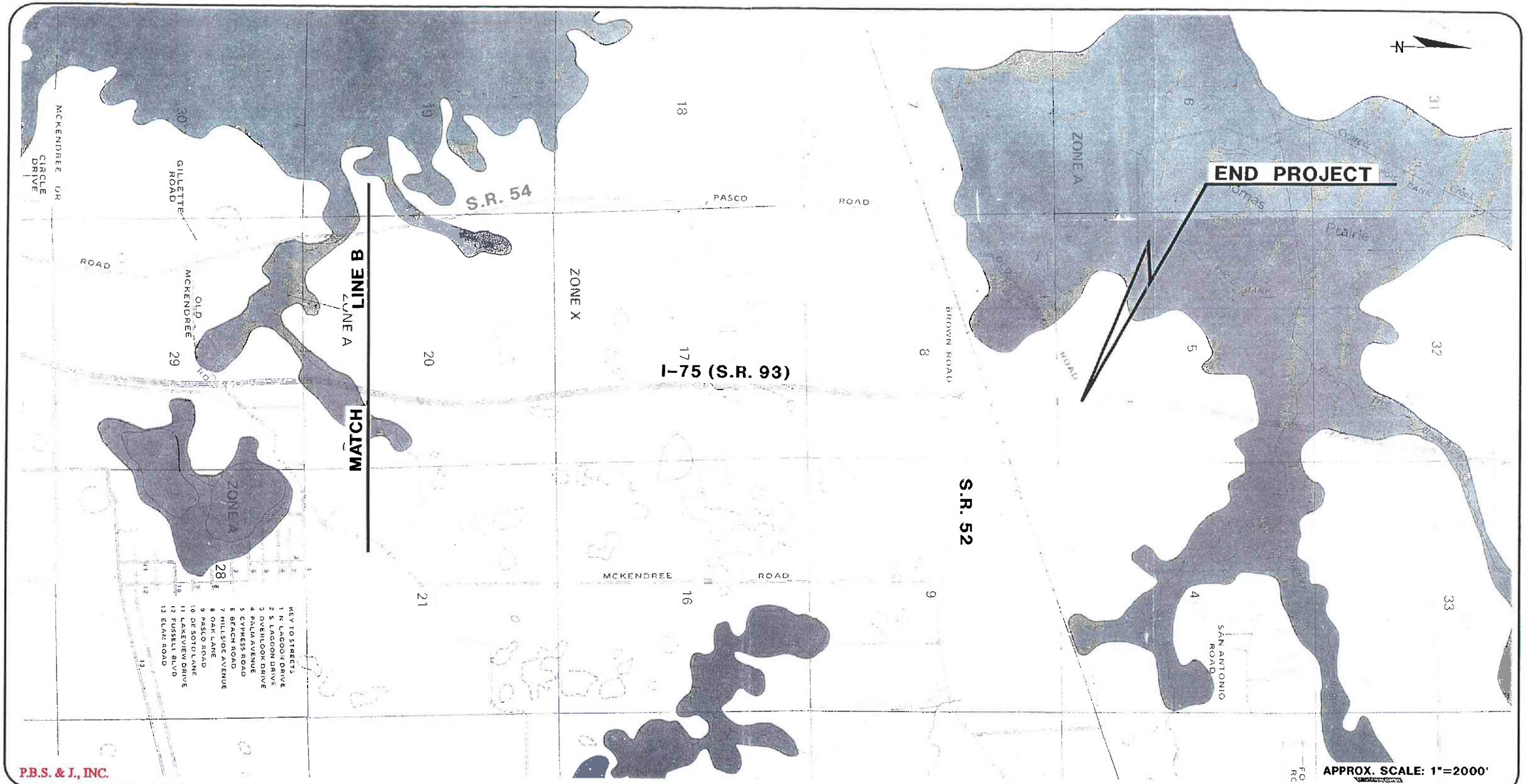
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) MAP

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-9



P.B.S. & J., INC.

Source: F.E.M.A. Maps Community - Panel Numbers: 120230 0275 D

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) MAP

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-10

ft) NVGD to the west and elevation 16.15 m (53 ft) NVGD to the east] and flood hazard factors have been determined by FEMA.

The following areas intermittently lie within the 100-year flood boundary Zone A: from the northbound rest area extending north approximately 1340 m (4400 ft); from approximately 700 m (2300 ft) south of S.R. 54 to approximately 305 m (1000 ft) south of S.R. 54; from S.R. 54 extending north approximately 1220 m (4000 ft); from approximately 305 m (1000 ft) north of Tupper Road extending north approximately 305 m (1000 ft); from 488 m (1600 ft) north of Old McKendree Road extending north approximately 305 m (1000 ft). Zone A is an area of 100-year flood, in which the base flood elevation and flood hazard factors have not been determined by FEMA.

The remaining corridor of the project limits either lies in Zone C (areas of minimal flooding) or Zone X (areas determined to be outside the 500-year floodplain).

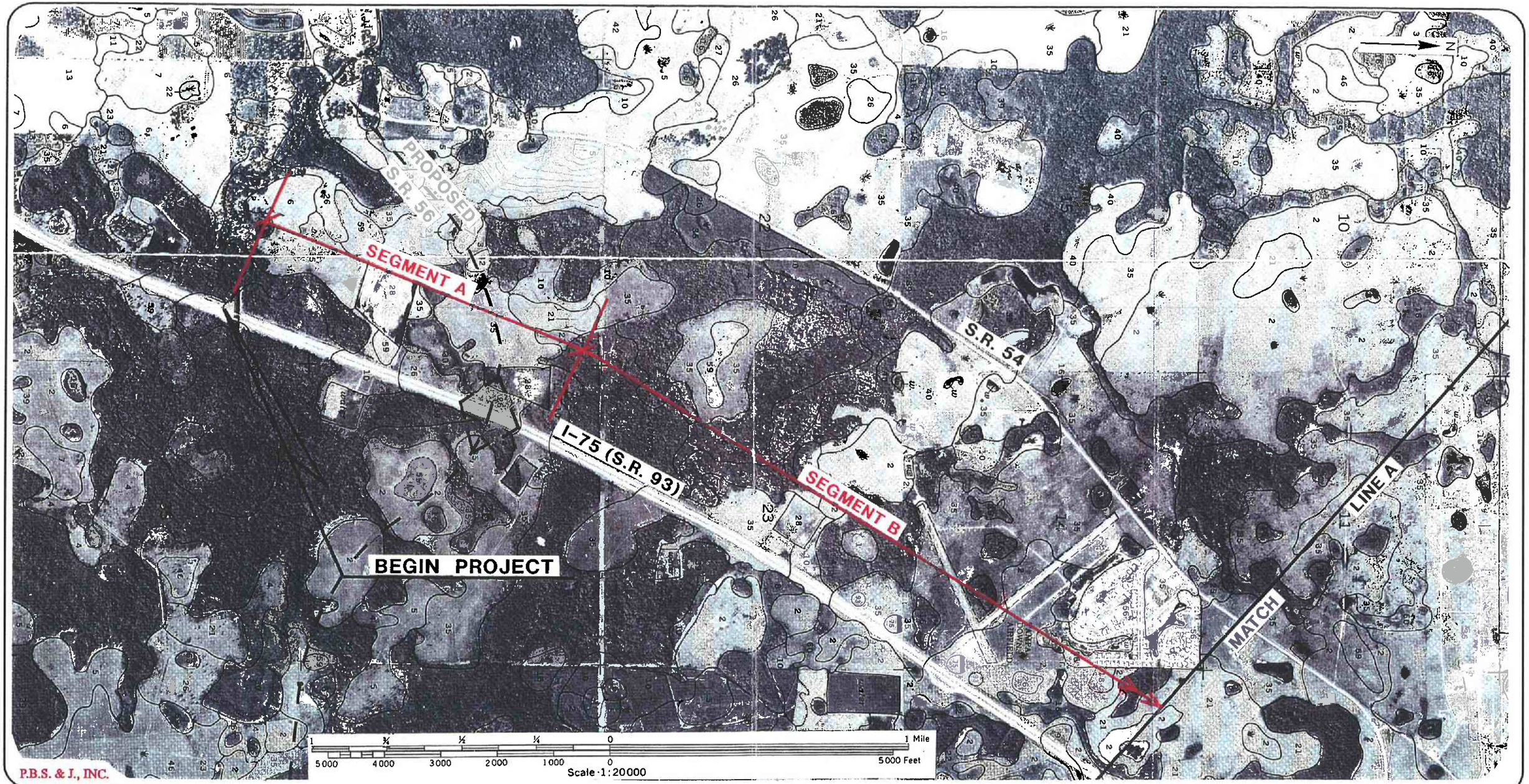
4.1.8 Geotechnical Data

The soils associated within the limits of the project can be categorized according to the U.S. Department of Agriculture Soil Conservation Services (SCS) Soil Survey of Pasco County[5]. The predominant soil categories located within the project limits are identified in Table 4-6. The soil categories located within the project limits are illustrated in Figures 4-11 through 4-13.

In general, the surficial soils consist on poorly graded fine sands and silty sands, sand-silt-clay mixtures. Seasonal high water generally exists at a depth of 0-1.8 m (0-5.90 ft) below the natural ground surface.

Table 4-6
Soil Classification Summary

Soil Index	Soil Name
1	Wauchula fine sand
2	Pomona fine sand
3	Pineda fine sand
4	Felda fine sand
6	Tavares sand
7	Sparr fine sand
8	Sellers mucky loamy fine sand
9	Ona fine sand
10	Vero fine sand
16	Zephyr muck
21	Smyrna fine sand
22	Basinger fine sand
26	Narcoossee fine sand
27	Anclote fine sand
35	EauGallie fine sand
39	Chobee soils
59	Newnan fine sand
60	Palmetto (Palmetto-Zephyr-Sellers Complex)
63	Delray mucky fine sand
64	Nobleton fine sand
69	Millhopper fine sand
73	Zolfo fine sand



Source: Soil Survey of Pasco County 1989 Sheets 56 & 66

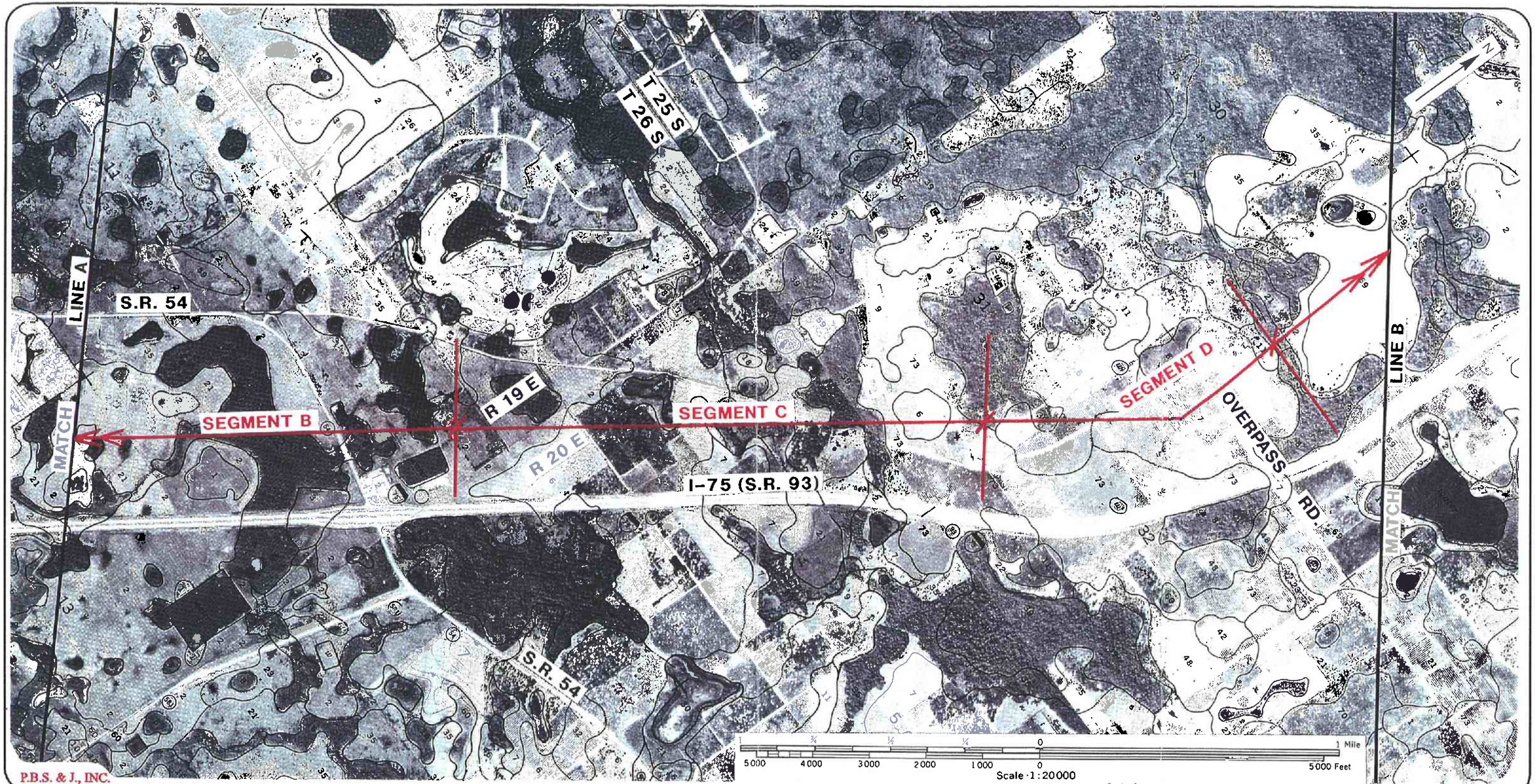
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

SOILS SURVEY MAP

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-11



Source: Soil Survey of Pasco County 1989 Sheets 36, 37, 46 & 47

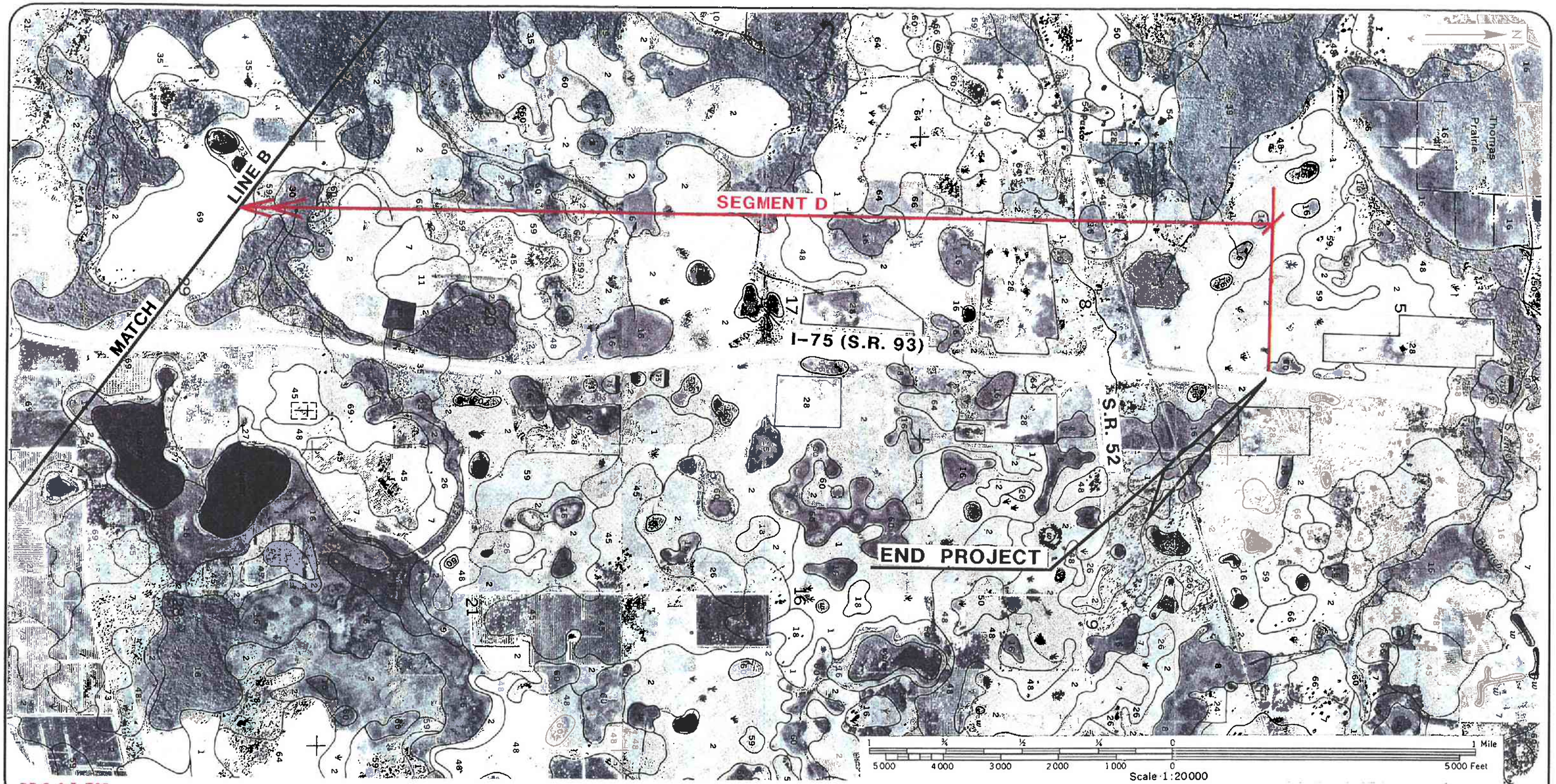
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

SOILS SURVEY MAP

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-12



P.B.S. & J., INC.

Source: Soil Survey of Pasco County 1989 Sheets 27 & 37

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

SOILS SURVEY MAP

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-13

- Wauchula fine sand (1) -- This nearly level to gently sloping, poorly drained soil is in broad, low areas in the flatwoods and on wet seepage hillsides in the uplands. Slopes are smooth to concave. Typically, the surface layer is fine sand about 203 203 mm (8 in) thick. It is black in the upper 127 mm (5 in) and dark grayish brown in the lower 76 mm (3 in). The subsurface layer is fine sand about 279 mm (11 in) thick. It is gray in the upper 102 mm (4 in) and light brownish gray in the lower 178 mm (7 in). The upper part of the subsoil consists of very dark gray fine sand and, below that, dark reddish brown and dark brown fine sand. A layer of pale brown fine sand 76 mm (3 in) thick separates the lower and upper parts of the subsoil. The lower part of the subsoil is light gray and light olive gray sandy clay loam.

- Pomona fine sand (2) -- This nearly level, poorly drained soil is in large areas on low ridges in the flatwoods. Slopes are smooth to concave and range from 0 to 2 percent. Typically, the surface layer is black fine sand about 152 mm (6 in) thick. The subsurface layer consists of gray fine sand 102 mm (4 in) thick and, below that, light gray fine sand 229 mm (9 in) thick. The upper part of the subsoil is fine sand. It is grayish brown in the first 102 mm (4 in), brown in the next 152 mm (6 in), and dark brown in the last 102 mm (4 in). A layer of pale brown fine sand 406 mm (16 in) thick is between the upper and lower parts of the subsoil. The lower part of the subsoil is light olive gray fine sandy loam 203 mm (8 in) thick. Below this, to a depth of about 2032 mm (80 in) or more, is gray loamy fine sand.

- Pineda fine sand (3) -- This poorly drained, nearly level soil is in the flatwoods. Individual areas are irregular in shape. Slopes range from 0 to 2 percent. Typically, the surface layer is fine sand about 178 mm (7 in) thick. It is very dark gray in the upper 102 mm (4 in) and grayish brown in the lower 76 mm (3 in). The subsurface layer is gray fine sand about 356 mm (14 in) thick. The upper part of the subsoil is yellowish brown fine sand to a depth of 787 mm (31 in) and strong brown fine sand to a depth of about 914 mm (36 in). Below this is a layer of dark grayish brown fine sand 76 mm (3 in) thick that separates the upper and lower parts of the subsoil. The lower part of the subsoil, which consists of grayish brown sandy clay loam, extends

to a depth of 1448 mm (57 in). Below this is a layer of greenish gray sandy clay loam 381 mm (15 in) thick. Light gray sandy loam is below this layer.

- Felda fine sand (4) -- This poorly drained, nearly level soil is on low-lying, broad areas in the flatwoods. Slopes range from 0 to 2 percent. Typically, the surface layer is black fine sand about 102 mm (4 in) thick. The subsurface layer is fine sand about 483 mm (19 in) thick. It is light brownish gray in the upper 152 mm (6 in) and light gray in the lower 330 mm (13 in). The subsoil extends to a depth of about 1194 mm (47 in). It is gray sandy clay loam in the upper 102 mm (4 in) and gray fine sandy loam with brownish yellow mottles in the next 203 mm (8 in). In the next 152 mm (6 in) is gray loamy fine sand that has calcareous nodules and yellowish brown mottles. In the lower 152 mm (6 in) of the subsoil is light gray loamy fine sand. Below this is white fine sand 838 mm (33 in) thick.

- Tavares sand (6) -- This nearly level to gently sloping, moderately well drained soil is on low ridges and knolls throughout the county. Areas are irregular in shape. The soil is sand to a depth of 2032 mm (80 in) or more. Typically, the surface layer is very dark gray sand about 76 mm (3 in) thick. Below this, layers of yellowish brown and light yellowish brown sand extend to a depth of 1422 mm (56 in). Below this is a layer of very pale brown sand 508 mm (20 in) thick, and below this, white sand extends to a depth of 2032 (80 in) or more.

- Sparr fine sand (7) -- This nearly level to gently sloping, somewhat poorly drained soil is on seasonally wet uplands. Slopes are smooth to concave. Areas are irregular in shape. Typically, the surface layer is dark gray fine sand about 152 mm (6 in) thick. The subsurface layer is about 940 mm (37 in) thick. It is grayish brown fine sand in the upper 127 mm (5 in), pale brown fine sand in the next 610 mm (24 in), and light yellowish brown fine sand in the lower 203 mm (8 in). The subsoil is light yellowish brown sandy clay loam to a depth of about 2032 (80 in).

- Sellers mucky loamy fine sand (8) -- This nearly level, very poorly drained soil is in depressions. Slopes are generally concave and less than 2 percent. Areas are circular

to oblong. Typically, a layer of black muck about 51 mm (2 in) thick is on the surface. The surface mineral layer is black mucky loamy fine sand in the upper 229 mm (9 in), black fine sand in the next 279 mm (11 in), and very dark gray fine sand in the lower 102 mm (4 in). Below this, to a depth of 2032 (80 in) or more, is fine sand that is dark brown in the upper 229 mm (9 in), dark yellowish brown in the next 356 mm (14 in), and pale brown below.

- On a fine sand (9) -- This nearly level, poorly drained soil is in broad areas in the flatwoods. Areas are irregular in shape. Slopes are smooth to concave and range from 0 to 2 percent. Typically, the surface layer is black fine sand to a depth of 127 mm (5 in) and very dark gray fine sand to a depth of 178 mm (7 in). The subsoil is fine sand about 406 mm (16 in) thick. It is dark brown in the upper 152 mm (6 in), dark reddish brown in the next 127 mm (5 in), and brown in the lower 127 mm (5 in). The substratum to a depth of about 1143 mm (45 in) is pale brown fine sand; and below that, to a depth of 2032 (80 in) or more, it is light gray fine sand.

- Vero fine sand (10) -- This nearly level, poorly drained soil is in broad areas in the flatwoods. Individual areas are irregular in shape. Slopes are less than 2 percent. Typically, the surface layer is black fine sand about 152 mm (6 in) thick. The subsurface layer is fine sand 432 mm (17 in) thick. It is gray in the upper 127 mm (5 in) and light brownish gray in the lower 305 mm (12 in). The subsoil to a depth of about 762 mm (30 in) is fine sand that is very dark grayish brown in the upper 102 mm (4 in) and dark reddish brown below. The rest of the subsoil is sandy clay loam and extends to a depth of about 1295 mm (51 in). It is light brownish gray in the upper 356 mm (14 in) and light gray in the lower 178 mm (7 in). Light gray fine sandy loam is between depths of 1295 and 1676 mm (51 and 66 in). Below that, to a depth of 2032 (80 in) or more, is light gray sandy clay loam.

- Zephyr muck (16) -- This nearly level, very poorly drained soil is in depressions. Slopes are smooth to concave and are less than 2 percent. Typically, the surface layer is black muck about 330 mm (13 in) thick. The subsurface layer in the upper 254 229 mm (9 in) is light brownish gray fine sand that has very dark gray streaks,

and in the lower 203 mm (8 in) it is dark grayish brown fine sand. The subsoil begins about 457 mm (18 in) below the top of the mineral surface and is about 762 mm (30 in) thick. It is grayish brown sandy clay loam in the upper 533 mm (21 in) and gray sandy clay loam in the lower 229 mm (9 in). Below this is the substratum, which is grayish brown fine sandy loam in the first 229 mm (9 in). Below this, and extending to a depth of 1702 mm (67 in) below the top of the mineral surface layer, is dark grayish brown loamy fine sand.

- Smyrna fine sand (21): This nearly level, poorly drained soil is in broad flatwood areas. Individual areas are irregular in shape. Slopes are smooth to concave and range from 0 to 2 percent. Typically, the surface layer is fine sand about 127 mm (5 in) thick. It is black in the upper 76 mm (3 in) and very dark gray in the lower 51 mm (2 in). The subsurface layer is gray fine sand about 127 mm (5 in) thick. The subsoil is fine sand about 635 mm (25 in) thick. It is dark grayish brown in the upper 76 mm (3 in), dark brown in the next 76 mm (3 in), and dark reddish brown in the next 229 mm (9 in), and brown in the lower 229 mm (9 in). The substratum to a depth of 2032 (80 in) or more is very pale brown and light brownish gray fine sand.

- Basinger fine sand (22) -- This poorly drained, nearly level soil is in poorly defined drainage ways and sloughs in the flatwoods. Individual areas are irregular in shape. Slopes are less than 2 percent. Typically, the surface layer is dark gray fine sand about 76 mm (3 in) thick. The subsurface layer is light gray fine sand and extends to a depth of about 229 mm (9 in). The subsoil is mixed pale brown and dark brown fine sand about 229 mm (9 in) thick. The next layer, extending to a depth of about 762 mm (30 in), is pale brown fine sand. Below this, to a depth of 1067 mm (42 in), is light gray fine sand; and below this, to a depth of 2032 (80 in) or more, is white fine sand.

- Narcoossee fine sand (26) -- This somewhat poorly drained soil is on low knolls and ridges in the flatwoods. Individual areas are irregular in shape. Slopes are less than 2 percent. Typically, the surface layer is very dark gray fine sand about 76 mm (3

in) thick. The subsurface layer is grayish brown fine sand about 152 mm (6 in) thick. The subsoil is fine sand about 229 mm (9 in) thick. It is dark brown in the upper 76 mm (3 in) and dark gray in the lower 152 mm (6 in). Below the subsoil is a layer of light brownish gray fine sand 229 mm (9 in) thick. Below this are a layer of very pale brown fine sand 229 mm (9 in) thick and a layer of light yellowish brown fine sand, which extends to a depth of 1575 mm (62 in). From 1575 to 1905 mm (62 to 75 in) is pale brown fine sand.

- Anclote fine sand (27) -- This nearly level, very poorly drained soil is in depressions along drainage ways and low areas surrounding some inland bodies of water. Individual areas range from somewhat oblong to nearly circular. Slopes commonly are concave and are less than 2 percent. Typically, the surface layer is fine sand about 356 mm (14 in) thick. The upper half is black and the lower half is very dark gray. Below the surface layer is fine sand, which extends to a depth of more than 2032 (80 in). It is grayish brown in the upper 203 mm (8 in), light brownish gray in the next 330 mm (13 in), and gray fine sand to a depth of 2032 (80 in) or more.

- EauGallie fine sand (35) -- This nearly level, poorly drained soil is on low ridges in the flatwoods. Slopes are smooth to concave and range from 0 to 2 percent. Typically, the surface layer is black fine sand about 178 mm (7 in) thick. The subsurface layer is fine sand about 381 mm (15 in) thick. It is gray in the upper 51 mm (2 in), light gray in the next 102 mm (4 in), and white in the lower 229 mm (9 in). The upper part of the subsoil is fine sand about 330 mm (13 in) thick. It is very dark grayish brown in the first 76 mm (3 in), dark brown in the next 127 mm (5 in), and mixed dark brown and dark reddish brown in the last 127 mm (5 in). Between the upper and lower parts of the subsoil is a layer of light brownish gray fine sand about mm (16 in) thick. The lower part of the subsoil is grayish brown fine sandy loam in the first 76 mm (3 in), light gray sandy clay loam in the next 127 mm (5 in), and greenish gray sandy clay loam to a depth of more than 2032 (80 in).

- Chobee soils, frequently flooded (39) -- These nearly level, very poorly drained soils are in swamps along the floodplains of most of the major rivers and streams in the

county. Most areas of the unit are long and narrow and tend to parallel the streams and rivers. Some large areas lie slightly removed from the streams, but they are connected to the streams by narrow flood channels. The unit consists of Chobee soils and closely similar soils that do not occur in a regular and repeating pattern. One or all of these soils make up about 75 percent of each mapped area. Individual areas of each soil are large enough to map separately in most map units. However, because of inaccessibility and present and predicted use, they were not separated in mapping. In one of the more typical pedons of Chobee soils, the surface layer is fine sandy loam about mm (11 in) thick. It is black in the upper 152 mm (6 in) and very dark gray in the lower part. The subsoil is calcareous and extends to a depth of about 1422 mm (56 in). In the upper 356 mm (14 in) it is gray sandy clay loam, and below this, it is greenish gray sandy clay loam which has olive brown mottles in the lower part. The substratum, extending from a depth of 1422 to 2032 mm (56 to 80 in) or more, is mixed greenish gray and light greenish gray calcareous sandy clay loam.

- Newnan fine sand (59) -- This somewhat poorly drained soil is on low ridges in the flatwoods. Individual areas are irregular in shape. Typically, the surface layer is dark gray fine sand about 127 mm (5 in) thick. The subsurface layer is light brownish gray fine sand about 432 mm (17 in) thick. The upper part of the subsoil is fine sand about 406 mm (16 in) thick. It is dark brown in the upper 102 mm (4 in), dark yellowish brown in the next 178 mm (7 in), and yellowish brown in the next 127 mm (5 in). A layer of very pale brown fine sand 152 mm (6 in) thick separates the upper and lower parts of the subsoil. The lower part of the subsoil is yellowish brown sandy clay loam in the upper 660 mm (26 in) and grayish brown sandy clay loam below. It extends to a depth of 2032 (80 in) or more.

- Palmetto-Zephyr-Sellers complex (60) -- This complex consists of areas of nearly level, poorly drained Palmetto soils and closely similar soils and small areas of nearly level, very poorly drained Zephyr and Sellers soils. The soils are so intermixed that they cannot be separated at the scale selected for mapping. The complex occurs as elongated areas in the flatwoods. Palmetto soils are on long, narrow, interwinding sloughs about 15 m to 60 m (50 to 200 ft) wide, which are

interspersed with circular depressions containing Zephyr and Sellers soils. Individual depressions are less than 0.62 hectares (ha) (4 acres [ac]) in size. Slopes are less than 2 percent. Palmetto soils and closely similar soils make up about 45 to 60 percent of each mapped area. Typically, these soils have a surface layer of black fine sand about 102 mm (4 in) thick. The subsurface layer is gray fine sand about 152 mm (6 in) thick. The upper part of the subsoil is fine sand about 457 mm (18 in) thick. It is very dark grayish brown in the upper 229 mm (9 in) and mixed dark brown and brown in the lower 203 mm (8 in). A layer of pale brown and very pale brown fine sand about 457 mm (18 in) thick separates the upper and lower parts of the subsoil. The lower part of the subsoil is light brownish gray fine sandy loam in the first 51 mm (2 in) and light brownish gray sandy clay loam below that to a depth of 1448 mm (57 in). Between depths of 1448 and 1727 mm (57 and 68 in) is light gray sandy clay loam, and below this to a depth of 2032 (80 in) or more is gray sandy clay loam.

- Delray mucky fine sand (63): This very poorly drained, nearly level soil is in depressions in the flatwoods. Individual areas are irregular in shape and commonly surround a slightly elevated area of better drained soil. Slopes range from 0 to 2 percent. Typically, the surface layer is black. It is mucky fine sand in the upper 203 mm (8 in) and fine sand in the lower 203 mm (8 in). The subsurface layer is fine sand about 813 mm (32 in) thick. It is grayish brown in the upper 127 mm (5 in), light brownish gray in the next 559 mm (22 in), and grayish brown in the lower 127 mm (5 in). The subsoil is grayish brown fine sandy loam in the upper 76 mm (3 in). It is grayish brown sandy clay loam in the next 381 mm (15 in) and greenish gray sandy clay loam between depths of 1676 and 1905 mm (66 and 75 in). Below this, to a depth of 2032 (80 in) or more, is grayish brown sandy clay loam. A thin layer of muck and litter commonly is on the surface.

- Nobleton fine sand (64) -- This nearly level to gently sloping, somewhat poorly drained soil is on the uplands. Individual areas are irregular in shape. Slopes are smooth to concave. Typically, the surface layer is very dark grayish brown fine sand about 127 mm (5 in) thick. The subsurface layer is about 608 mm (24 in) thick. It is yellowish brown fine sand in the upper 304 mm (12 in) and pale brown fine sand

in the lower 304 mm (12 in). The subsoil is pale brown sandy clay loam in the upper 178 mm (7 in) and mottled yellowish red, strong brown, yellowish brown, and gray sandy clay in the next 279 mm (11 in). Below this, to a depth of 2032 mm (80 in) or more, is light gray sandy clay loam.

- Millhopper fine sand (69) -- This nearly level to gently sloping, moderately well drained soil is on uplands. Individual areas are irregular in shape. Slopes are smooth to concave. Typically, the surface layer is fine sand 178 mm (7 in) thick. It is dark gray in the upper 76 mm (3 in) and grayish brown below. The subsurface layer is fine sand and extends to a depth of about 1499 mm (59 in). It is very pale brown to a depth of 1067 mm (42 in) and then changes to light yellowish brown. Below this, and extending to a depth of 2032 mm (80 in) or more, is the subsoil. It is yellowish brown fine sandy loam in the upper 127 mm (5 in) and gray sandy clay loam below.

- Zolfo fine sand (73) -- This nearly level, somewhat poorly drained soil is on landscape positions that are slightly higher than adjacent flatwood areas. Slopes range from 0 to 2 percent. Typically, the surface layer is gray fine sand about 76 mm (3 in) thick. The subsurface layer consists of light brownish gray, pale brown, light gray, and white fine sand. The subsoil begins at a depth of 1651 mm (65 in). It is dark reddish brown fine sand in the upper 381 mm (15 in). The lower part is black fine sand and extends to a depth of 2032 mm (80 in) or more.

4.1.9 Accident Data

To evaluate the safety of traffic operations in the study area, FDOT crash accident records for the five year period between 1991 and 1995 were analyzed. Tables 4-7 and 4-8 present the characteristics of the crashes that occurred during the five year period within the study area. As shown, the most common type of crashes along the I-75 corridor were rear-end collisions, followed by overturned collisions. Most crashes along the corridor were caused by careless driving, followed by failure to yield ROW. See Section 3.2 for more information.

Table 4-7
Crash Summary for I-75 Spot Locations
(Defined as 0.1 mile or less)

Accident Characteristics	S.R. 54 at I-75 (MP 8.926 - 9.098)						S.R. 52 at I-75 (MP 23.317 - 23.490)					
	1991	1992	1993	1994	1995	Total	1991	1992	1993	1994	1995	Total
Type of Accident												
Rear end	1	-	1	4	6	12	-	-	1	-	2	3
Left-turn	1	2	3	3	2	11	1	2	1	-	3	7
Right-turn	-	-	-	-	-	-	-	-	-	-	-	-
Angle	1	-	-	-	5	6	3	2	1	1	5	12
Sideswipe	-	-	-	-	1	1	-	-	-	-	-	-
Head-On	1	-	-	1	1	3	-	-	-	-	-	-
Overturned	-	-	-	-	-	-	-	-	-	-	-	-
Hit Pedestrian/Bicyclist	-	-	-	-	1	1	-	-	-	-	-	-
Other	-	2	1	1	2	6	-	2	-	1	-	3
Cause of Accident												
Careless Driving	1	1	2	5	9	18	-	-	1	-	2	3
Disregard Traffic Control	-	-	-	-	-	-	-	-	-	-	-	-
Failed to Yield ROW	2	-	1	2	9	14	4	3	1	1	6	15
Exceeded Safe Speed	1	-	-	-	-	1	-	-	-	-	-	-
Following Too Close	-	-	-	-	-	-	-	-	-	-	-	-
Alcohol and/or Drugs	-	1	1	2	-	4	-	-	1	-	1	2
Improper Maneuver	-	1	1	-	-	2	-	1	-	-	-	1
Other	-	1	-	-	-	1	-	2	-	1	1	4
Pavement Condition												
Dry	2	3	5	7	17	34	4	5	3	1	9	22
Wet	2	1	-	1	1	5	-	1	-	1	1	3
Slippery	-	-	-	1	-	1	-	-	-	-	-	-
Light Condition												
Daylight	2	2	3	5	11	23	3	6	3	1	9	22
Night	2	2	2	4	7	17	1	-	-	1	-	2
Dawn/Dusk	-	-	-	-	-	-	-	-	-	-	1	1
Time of Day												
7:00 - 8:59 a.m.	-	-	-	-	1	1	-	-	1	-	2	3
4:00 - 5:59 p.m.	1	-	1	2	3	7	-	1	-	-	1	2
Other	3	4	4	7	14	32	4	5	2	2	7	20
Severity of Accident												
Injury*	6	5	5	14	20	50	4	13	5	3	11	36
Fatality	-	-	-	-	-	-	-	-	-	-	-	-
Property Damage Only	-	1	1	-	6	8	1	1	-	-	3	5
Safety Ratio	6.927	2.101	3.312	1.581	2.805	-	6.810	7.790	3.489	2.969	12.08	-
Economic Loss**	2.99	2.99	3.74	2.52	5.04	17.28	1.86	2.78	1.39	0.93	4.64	11.60
Total	**4**	**4**	**5**	**9**	**18**	**40**	**4**	**6**	**3**	**2**	**10**	**25**

Notes:
* More than one injury per accident might be reported.
** Figures are in 100,000 dollars.

Table 4-8
Crash Summary for I-75 Segment Locations

Accident Characteristics	From I-275 to S.R. 54 Interchange (MP 0.0 - 4.9)						S.R. 54 Interchange (MP 4.9 - 5.4)					
	1991	1992	1993	1994	1995	Total	1991	1992	1993	1994	1995	Total
Type of Accident												
Rear end	3	4	4	4	5	20	1	1	-	3	4	9
Left-turn	-	-	-	-	-	-	-	-	-	-	-	-
Right-turn	-	-	-	-	-	-	-	-	-	-	-	-
Angle	1	2	5	1	3	12	2	-	-	-	1	3
Sideswipe	3	-	2	2	5	12	-	1	-	-	1	2
Head-On	-	-	-	1	-	1	-	-	-	-	-	-
Overturned	1	2	2	6	4	15	-	1	1	-	-	2
Hit Pedestrian/Bicyclist	-	-	-	-	1	1	-	-	-	-	-	-
Other	3	5	3	6	8	25	1	-	2	1	1	5
Cause of Accident												
Careless Driving	5	10	9	12	12	48	2	2	1	3	4	12
Disregard Traffic Control	-	-	1	1	2	4	-	-	-	-	-	-
Failed to Yield ROW	-	-	-	-	-	-	-	-	-	-	-	-
Exceeded Safe Speed	-	-	-	-	1	1	-	-	-	-	-	-
Following Too Close	-	-	-	-	-	-	-	-	-	-	-	-
Alcohol and/or Drugs	-	-	1	2	1	4	-	-	-	-	-	-
Improper Maneuver	4	3	3	3	4	17	1	1	-	1	2	5
Other	2	-	2	2	6	10	1	-	2	-	1	4
Pavement Condition												
Dry	7	12	12	16	21	68	2	3	2	3	5	15
Wet	4	1	4	4	5	18	2	-	1	1	1	5
Slippery	-	-	-	-	-	-	-	-	-	-	1	1
Light Condition												
Daylight	9	5	7	11	14	46	3	2	2	3	4	14
Night	2	8	9	9	11	39	1	1	1	1	3	7
Dawn/Dusk	-	-	-	-	1	1	-	-	-	-	-	-
Time of Day												
7:00 - 8:59 a.m.	3	2	0	3	0	8	1	-	-	-	2	3
4:00 - 5:59 p.m.	4	0	3	0	5	12	1	1	-	2	1	5
Other	4	11	13	17	21	66	2	2	3	2	4	13
Severity of Accident												
Injury*	19	13	26	33	24	115	6	3	5	6	8	28
Fatality	-	1	2	1	2	6	-	-	-	1	-	1
Property Damage Only	2	3	2	1	8	16	-	-	-	1	3	4
Safety Ratio	0.347	0.444	0.566	0.64	0.826	-	0.937	0.746	0.76	0.914	1.664	-
Economic Loss**	7.82	9.24	11.38	14.22	18.49	61.15	2.84	2.13	2.13	2.84	4.98	14.93
Total	**11**	**13**	**16**	**20**	**26**	**86**	**4**	**3**	**3**	**4**	**7**	**21**

Notes:
* More than one injury per accident might be reported.
** Figures are in 100,000 dollars.

Table 4-8 (cont.)
Crash Summary for I-75 Segment Locations

Accident Characteristics	From S.R. 54 to S.R. 52 (MP 5.4 - 11.5)						S.R. 52 Interchange (MP 11.5 - 12.0)					
	1991	1992	1993	1994	1995	Total	1991	1992	1993	1994	1995	Total
Type of Accident												
Rear end	2	7	2	4	7	22	-	-	-	1	8	9
Left-turn	-	-	-	-	-	-	-	-	-	-	-	-
Right-turn	-	-	-	-	-	-	-	-	-	-	-	-
Angle	-	2	2	1	1	6	-	-	-	-	-	-
Sideswipe	-	2	2	1	-	5	1	-	-	1	2	4
Head-On	-	-	-	-	1	1	-	-	-	-	-	-
Overturned	6	4	6	5	6	27	-	1	1	1	-	3
Hit Pedestrian/Bicyclist	-	-	-	-	-	-	-	-	-	-	-	-
Other	4	3	8	7	14	36	1	2	2	1	5	11
Cause of Accident												
Careless Driving	8	10	10	11	16	55	-	-	1	2	9	12
Disregard Traffic Control	-	-	1	-	3	4	1	-	-	-	-	1
Failed to Yield ROW	-	2	-	-	-	2	-	1	-	1	1	3
Exceeded Safe Speed	-	-	-	1	-	1	-	-	-	-	-	-
Following Too Close	-	-	-	-	-	-	-	-	-	-	-	-
Alcohol and/or Drugs	2	3	3	-	5	13	-	-	-	1	1	2
Improper Maneuver	1	2	5	1	1	10	1	1	1	-	3	6
Other	1	1	1	5	4	12	-	1	1	-	1	3
Pavement Condition												
Dry	10	15	16	15	20	76	1	3	3	3	10	20
Wet	2	3	3	3	8	19	1	-	-	1	5	7
Slippery	-	-	1	-	1	2	-	-	-	-	-	-
Light Condition												
Daylight	6	10	12	9	18	55	2	2	2	2	10	18
Night	6	8	8	9	10	41	-	1	1	2	4	8
Dawn/Dusk	-	-	-	-	1	1	-	-	-	-	1	1
Time of Day												
7:00 - 8:59 a.m.	2	3	1	2	2	10	-	1	1	-	-	2
4:00 - 5:59 p.m.	0	4	1	1	3	9	1	-	-	-	2	3
Other	10	11	18	15	24	78	1	2	2	4	13	22
Severity of Accident												
Injury*	13	37	19	29	41	139	2	3	4	4	22	35
Fatality	-	1	2	1	-	4	-	-	-	-	-	-
Property Damage Only	1	1	6	3	9	20	1	-	1	2	3	7
Safety Ratio	0.422	0.597	0.651	0.529	0.914	-	0.635	0.953	0.893	1.058	4.431	-
Economic Loss**	8.53	12.80	14.22	12.80	20.62	68.97	1.422	2.13	2.13	2.84	10.67	19.20
Total	**12**	**18**	**20**	**18**	**29**	**97**	**2**	**3**	**3**	**4**	**15**	**27**

Notes:
* More than one injury per accident might be reported.
** Figures are in 100,000 dollars.

4.1.10 Railroad Crossings

There are no railroad crossings along or within the vicinity of the project study area.

4.1.11 Intersections and Signalization

The existing lane geometrics of S.R. 54 and S.R. 52 are illustrated schematically in Figures 4-14 and 4-15. Both I-75 northbound and southbound ramp termini with S.R. 54 are signalized. The signals are mast arm and maintained by Pasco County.

4.1.12 Lighting

High mast lighting is currently provided at the rest areas and the S.R. 54 interchange. The approximate spacing of the existing light poles is approximately 30 m (100 ft) at the rest areas, and the S.R. 54 interchange.

4.1.13 Utilities

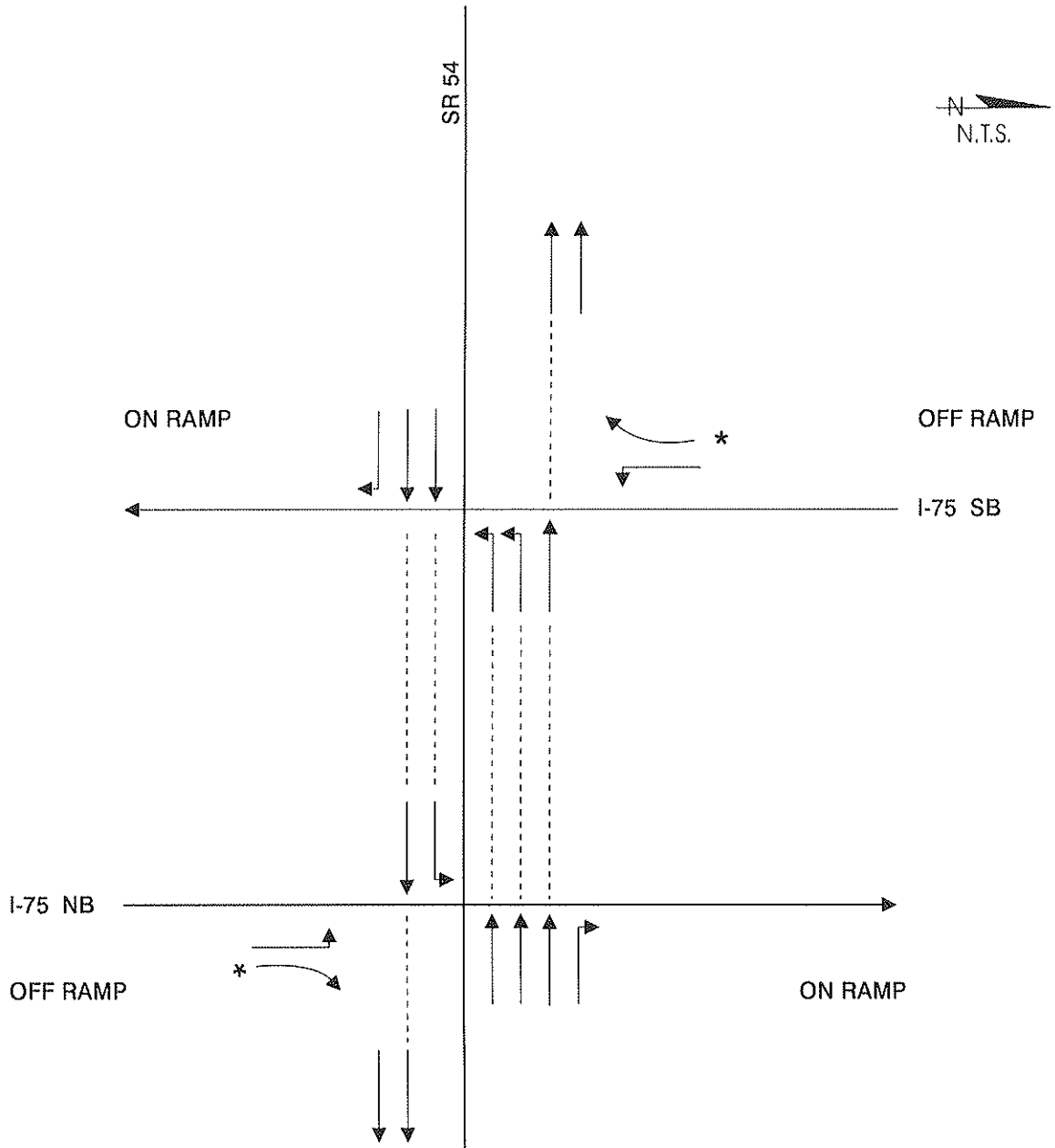
A Utility Assessment Package is being prepared for this project. Specific utility locations and relocation cost will be obtained from each of the utilities.

GTE provides telephone service within the project area, although specific locations were not provided by GTE.

An overhead Withlacoochee River electric power line and poles are located along S.R. 54 and S.R. 52. Underground power lines are located at northbound and southbound rest areas.

Pasco County Utilities has sewer and water lines along the east side of I-75, as well as service lines along the north side of S.R. 54, north side of S.R. 52 and the northbound and southbound rest areas.

Tampa Bay Water has an underground water line along the east side of I-75 which traverse I-75 at the southbound rest area and then proceeds northwest along Tampa Aero Park.



LEGEND

→ Direction of Flow / Lane

* Free Flow Rt. Turn

FLORIDA DEPARTMENT OF TRANSPORTATION

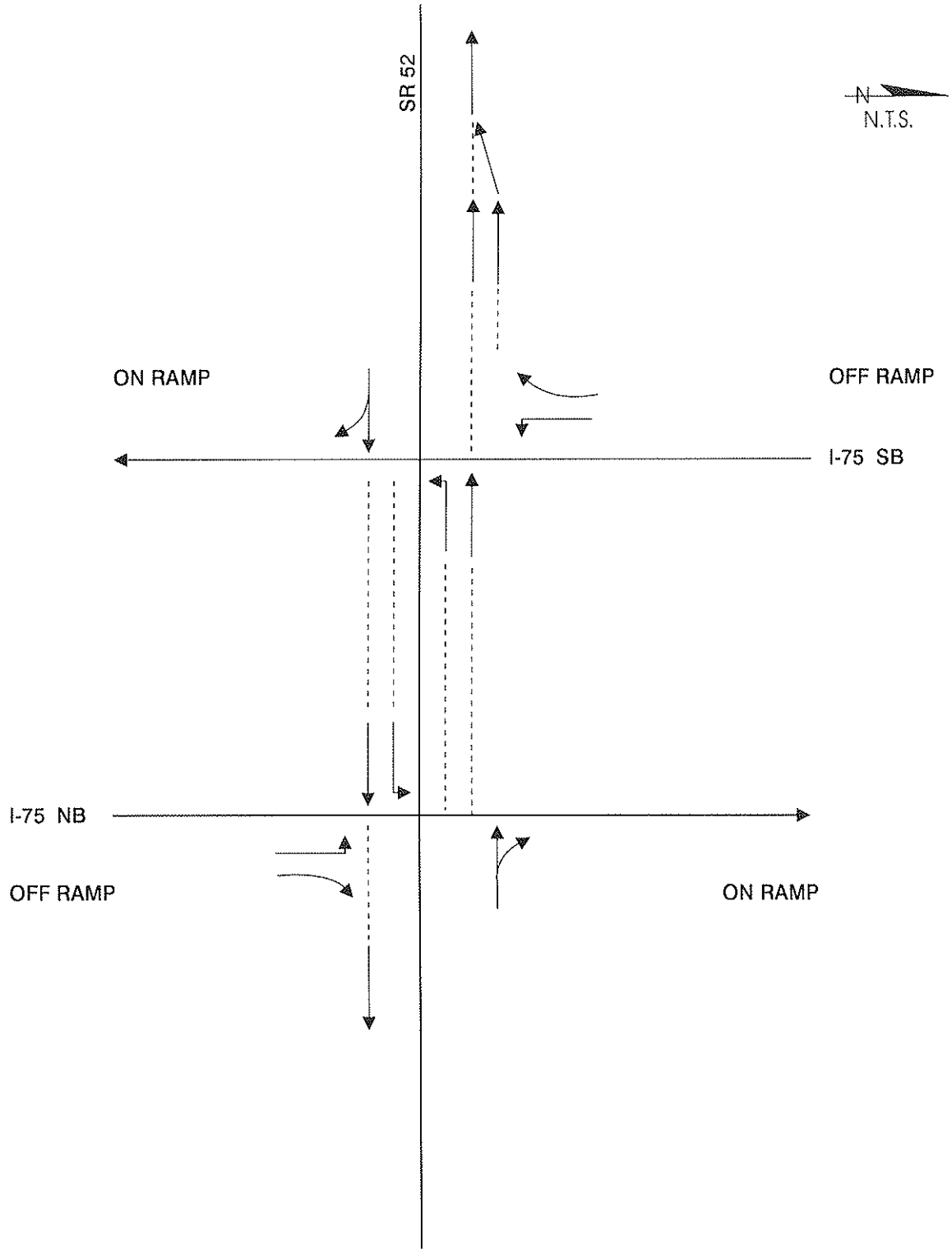
I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING LANE CONFIGURATION FOR S.R. 54 AT I-75

WPI Seg No. 258736 1
FAP No. NH-75-1(91)275

FIGURE 4-14

COREL \ I-75 \ REPORTS \ PER \ SECT_4 \ FIG_4-14.CDR \ 2-7-99



LEGEND

Direction of Flow / Lane

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING LANE CONFIGURATION FOR S.R. 52 AT I-75

WPI Seg No. 258736 1
FAP No. NH-75-1(91)275

FIGURE 4-15

COREL \ I-75 \ REPORTS \ PER \ SECT_4 \ FIG_4-15.CDR \ 2-7-99

The following utility organizations with potential facilities within the subject PD&E Study corridor, have **not responded** to request for existing and proposed facility information:

Tampa Electric
People Gas Systems, Inc.
Florida Power Corporation
FSN Cable, Inc.

4.1.14 Pavement Conditions

Based on field observations, the pavement within the project limits appears to be in fair condition. Additional data on pavement conditions within the study area is being sought and will be included in later versions of this report.

4.2 EXISTING BRIDGES

There are nine (9) existing bridge structures within the project limits. One bridge carries Overpass Road over I-75 and eight (8) bridges carry I-75 across other roadways or features as follows:

Bridge Location	Bridge Number(s)
Over Cypress Creek	140061 and 140062
Proposed S.R. 56 over I-75	140125
Over S.R. 54	140048 and 140049
Overpass Road over I-75	140052
Over S.R. 52	140055 and 140056
Over Abandoned Railroad Corridor	140056 and 140057

4.2.1 Type of Structure

4.2.1.1 Cypress Creek

The existing bridges carry I-75 over Cypress Creek. The superstructure consists of AASHTO Type II beams. The substructure consists of concrete bents founded on concrete piles.

4.2.1.2 S.R. 56

The bridge (Number 140125) will carry S.R. 56 over I-75. The superstructure will consist of AASHTO Type II beams. The substructure will consist of concrete piers supported on pile footing foundation.

4.2.1.3 S.R. 54

The existing bridges carry I-75 over S.R. 54. The superstructure consists of AASHTO Type II beams. The substructure consists of concrete piers supported on pile footing foundation.

4.2.1.4 Overpass Road Over I-75

The existing bridge carries Overpass Road over I-75. The superstructure consists of AASHTO Type II & III beams. The substructure consists of concrete piers supported on pile footing foundation.

4.2.1.5 S.R. 52

The existing bridges carry I-75 over S.R. 52. The superstructure consists of AASHTO Type II & III beams. The substructure consists of concrete piers supported on pile footing foundation.

4.2.1.6 Abandoned Railroad Corridor

The existing bridges carry I-75 over an abandoned CSX railroad corridor just north of S.R. 52. The superstructure consists of AASHTO Type II beams. The substructure consists of concrete bents founded on concrete piles.

4.2.2 Current Condition and Year of Construction

The following bridges have been evaluated using a sufficiency rating which is indicative of bridge suitability to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and zero would represent an entirely insufficient or deficient bridge.

4.2.2.1 Cypress Creek

Currently the bridges appear to be in good condition. The inventory rating for the northbound bridges is 41.7 tons in an HS20 configuration, and the inventory rating for the southbound bridge is 50.8 tons in an HS20 configuration.

The northbound bridge has a sufficiency rating of 91.2 with a status of no significant deficiency. The southbound bridge has a sufficiency rating of 91.1 with a status of no significant deficiency. Both sufficiency ratings were computed by FDOT, dated May 27, 1997.

Both bridges were constructed in 1963 and reconstructed in 1983.

4.2.2.2 S.R. 56

The S.R. 56 bridges are currently under construction and have a scheduled opening of August 2001.

4.2.2.3 S.R. 54

Currently the bridges appear to be in good condition. The inventory rating for the northbound bridges is 49.8 tons in an HS20 configuration, and the inventory rating for the southbound bridge is 49.8 tons in an HS20 configuration.

The northbound bridge has a sufficiency rating of 90.0 with a status of no significant deficiency. The southbound bridge has a sufficiency rating of 89.0 with a status of no significant deficiency. Both sufficiency ratings were computed by FDOT, dated March 26, 1997.

Both bridges were constructed in 1964.

4.2.2.4 Overpass Road Over I-75

The inventory load rating for this structure is 41.7 tons in an HS20 configuration.

The bridge has a sufficiency rating of 76.1 and is classified as functionally obsolete. The sufficiency rating was computed by FDOT, dated February 21, 1997.

The bridge was constructed in 1964.

4.2.2.5 S.R. 52

Currently the bridges appear to be in good condition. The inventory rating for the northbound bridges is 52.6 tons in an HS20 configuration, and the inventory rating for the southbound bridge is 52.6 tons in an HS20 configuration.

Both the northbound and southbound bridges have a sufficiency rating of 90.0 with a status of no significant deficiency. The sufficiency rating was computed by FDOT, dated March 10, 1997.

Both bridges were constructed in 1965.

4.2.2.6 Abandoned Railroad Corridor

Currently the bridges appear to be in good condition. The inventory rating for the northbound bridges is 48.0 tons in an HS20 configuration, and the inventory rating for the southbound bridge is 47.1 tons in an HS20 configuration.

Both the northbound and southbound bridge have a sufficiency rating of 91.6 with a status of no significant deficiency. The sufficiency ratings were computed by FDOT, dated February 24, 1997.

The bridges were constructed in 1965.

4.2.3 Horizontal and Vertical Alignment

The existing bridges are on tangent horizontal alignments.

The Cypress creek bridges are on a parabolic vertical curve with an incoming grade of (+) 0.8% and outgoing grades of (-) 0.8% and a vertical curve length of 152.40 m (500 ft).

The S.R. 54 bridges are on a parabolic vertical curve with an incoming grade of (+) 3.0% and outgoing grades of (-) 2.0% and a vertical curve length of 182.88 m (600 ft).

The Overpass Road bridge over I-75 is on a parabolic vertical curve with an incoming grade of (+) 0.20%, an outgoing grade of (-) 3.960% and a vertical curve length of 396.24 m (1300 ft).

The S.R. 52 bridges are on a grade of (+) 1.0480%.

The abandoned Railroad Corridor bridges are on a parabolic vertical curve with an incoming grade of (+) 1.048% and outgoing grades of (-) 3.0% and a vertical curve length of 320.04 m (1050 ft)

4.2.4 Span Arrangement

4.2.4.1 Cypress Creek

The twin bridge structures, each have a total of three (3) spans with a maximum span length of 15.850 m (52 ft). The total length of each bridge is 47.549 m (156 ft).

4.2.4.2 S.R. 54

The twin bridge structures, each have a total of three (3) spans with a maximum span length of 15.392 m (50.5 ft). The total length of each bridge is 39.167 m (128.5 ft).

4.2.4.3 Overpass Road Over I-75

The bridge consists of a single structure with a total of four (4) spans with a maximum span length of 22.098 m (72.5 ft). The total length of the bridge is 68.275 m (224 ft).

4.2.4.4 S.R. 52

The twin bridge structures, each have a total of three (3) spans with a maximum span length of 23.012 m (75.5 ft). The total length of each bridge is 43.281 m (142.0 ft).

4.2.4.5 Abandoned Railroad Corridor

The twin bridge structures, each have a total of three (3) spans with a maximum span length of 12.497 m (41.0 ft). The total length of each bridge is 37.49 m (123.0 ft).

4.2.5 Channel Data

4.2.5.1 Cypress Creek

The bridge has a vertical clearance of 628 mm (2.06 ft) from a mean high water elevation of 16.28 m (53.4 ft) (NVGD).

The FHWA has determined that a United States Coast Guard (USCG) permit is not required for any bridge construction at this location, because the FHWA has determined that the proposed construction, reconstruction, rehabilitation, or replacement of the federally aided or assisted bridge is over waters which are not used or are not susceptible to use in their natural conditions or by reasonable improvements as a means to transport interstate or foreign commerce and which are not tidal or if tidal, used only by recreational boating, fishing, and other small vessel less than 6.4 m (21 ft) in length.

4.2.6 Bridge Openings

There are no movable span bridges within the study limits.

4.2.7 Ship Impact Data

Ship impact is not applicable to these structures.

4.3 ENVIRONMENTAL CHARACTERISTICS

4.3.1 Land Use Data

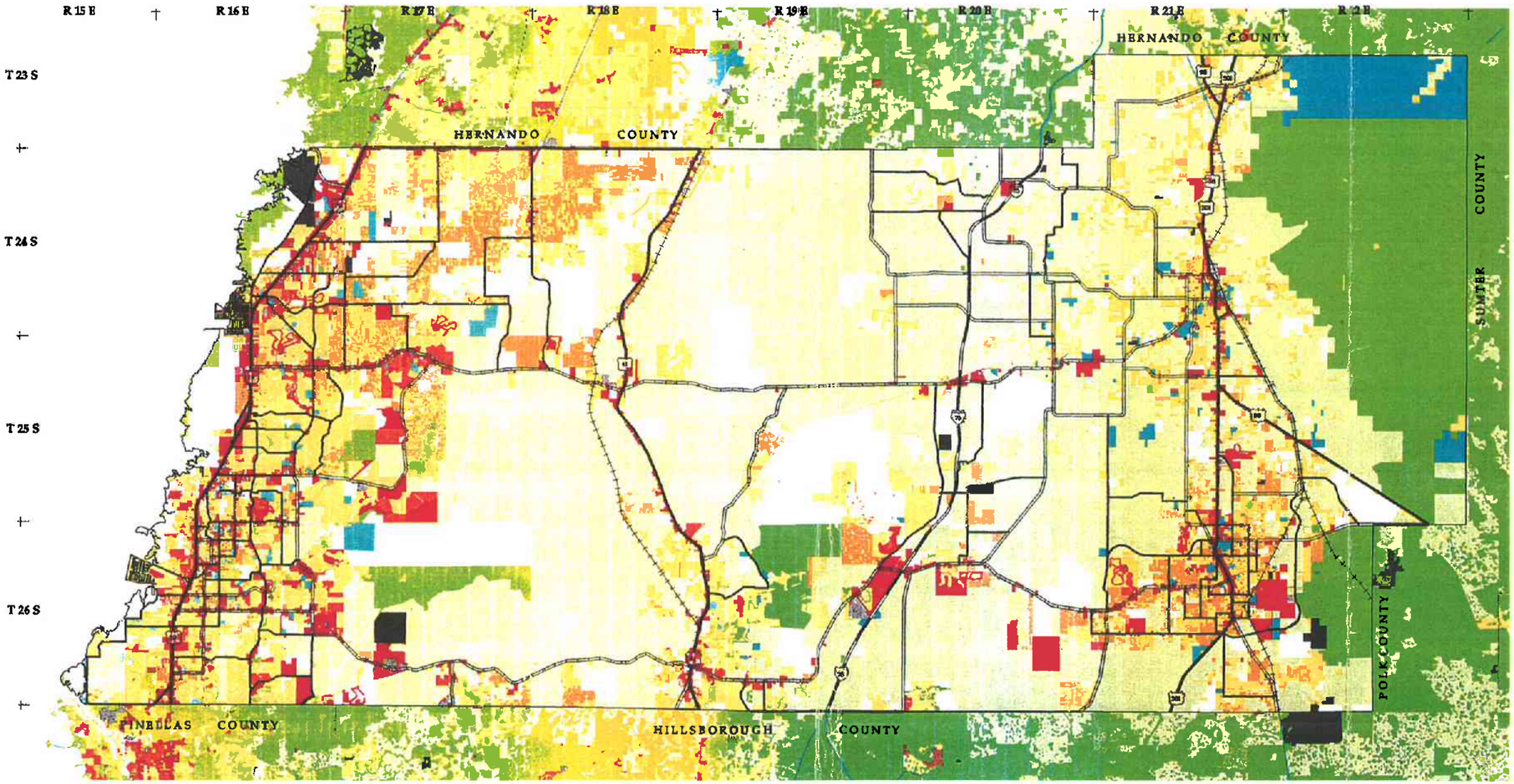
4.3.1.1 Existing Land Use

The existing land uses adjacent to the I-75 corridor consist of general agriculture, commercial, industrial and some low density residential areas in a rural setting as illustrated on Figure 4-16. General agriculture uses are prevalent throughout the project, and the commercial uses are primarily located at the interchanges with S.R. 54 and S.R. 52. Following is a description of the existing land use from south to north along the corridor.

The project originates just south of Cypress Creek and contains general agricultural uses with some rural residential and minimal commercial uses. Approximately 2.41 km (1.5 mi) north of the beginning of the project on the east side of the corridor is the Wesley Chapel Wastewater Treatment Plant. This site will become the master pumping station when construction is complete at the new wastewater treatment plant located further north along I-75. The West Coast Regional Water Supply Authority Pump Station is located also on the east side of the corridor immediately north of the treatment plant.

At the I-75/S.R. 54 interchange, commercial development is located adjacent to the interchange and continues along S.R. 54 in both directions. To the west of the interchange is the Corporate Center, Citgo Gas Station, Master's Inn, Cracker Barrel and Comfort Inn. The frontage of S.R. 54 east of the interchange consists of commercial uses including the vacant Shell and Texaco Gas Stations, Citrus Groves and the Village Market of Wesley Chapel. As you proceed to the north along the project, the existing land uses adjacent to the I-75 corridor consist of general agriculture, commercial, industrial and some low density residential areas, with predominantly general agricultural mixed with some low density single family, as well as manufactured housing along the western side of the corridor.

The Quail Run Recreational Vehicle (RV) Park is located approximately 2.7 km (1.7 mi) north and west of the I-75/S.R. 54 interchange. North of Quail Run RV Park on the eastern boundary of the



PASCO COUNTY FLORIDA 18 87

THE COMPREHENSIVE PLAN OF UNINCORPORATED PASCO COUNTY

MAP # 2 - 10
GENERALIZED EXISTING LAND USE
1995

- VACANT
- SINGLE FAMILY
- MOBILE HOME
- MULTI FAMILY
- COMMERCIAL
- OFFICE
- INDUSTRIAL
- PUBLIC / SEMI PUBLIC
- MINING
- GENERAL AGRICULTURE
- OPEN SPACE / WETLANDS

SOURCES:
ADJACENT LAND USES - SWFWMD - 1993
PASCO COUNTY PROPERTY APPRAISER - 1995

0 2 mi 4 mi NORTH

FIGURE 4-16

corridor is the Wesley Center Wastewater Treatment Plant. It is currently under construction and is planned as a major subregional facility to replace the existing Wesley Chapel Plant located to the south.

The Wildcat Citrus Groves are located north of Overpass Road adjacent to the eastern edge of the corridor. The Tampa Bay Golf and Tennis Club is located north of Overpass Road at the S.R. 52/I-75 interchange and extends from the western boundary of the I-75 corridor west to Pasco Road. The development is located behind commercial frontage in the southwest quadrant of the S.R. 52/I-75 interchange. The Tampa Bay Golf and Tennis Club is a Planned Unit Development (PUD) and contains approximately 295.4 total ha (730 total ac) including 1396 residential units and 1.77 hectares [190,000 gross square feet (gsf)] of commercial property.

The I-75/S.R. 52 interchange also contains commercial uses including the Waffle House, Shell and Texaco Truck Stop to the west and the Flying "J" Travel Plaza to the east. The southeast quadrant of the interchange is currently vacant. An abandoned railway easement is located approximately 315 m (1033 ft) north of the I-75/S.R. 52 interchange.

4.3.1.2 Future Land Use

Pasco County has included a 2010 Land Use Plan Map in their Comprehensive Plan for guidance in future planning. The designated land uses on the 2010 Land Use Plan Map near the vicinity of the I-75 project corridor indicate that future land uses will follow the established trends of the existing land uses in the study area. See Figure 4-17.

According to the 2010 Land Use Plan, from Cypress Creek north to S.R. 54, the areas adjacent to the roadway are proposed to be principally low density residential ranging from one (1) to six (6) dwelling units per acre, mixed use, which allows commercial, light industrial corporate parks, hotels and residential uses and major public/semi public uses.

Future land use designations for the northern segment of the project from S.R. 54 and continuing to the north are similar, allowing low density residential, major public/semi public use, mixed use and some agricultural use allowing one (1) dwelling unit per acre. These designations will allow for the

continuation of the commercial, residential, agricultural and public uses that are presently existing in this section of the project corridor.

The Saddlebrook Village Development of Regional Impact (DRI) is located in the southwest quadrant of the S.R. 54/I-75 interchange. The proposed land use contains commercial and light industry and the total acreage is 1012 ha (2,500 ac). The development will comprise a total of approximately 4,440 residential units including 600 hotel rooms; 29.73 ha (3,200,000 gsf) of industrial; and 17.56 ha (1,890,000 gsf) of commercial. Buildout is expected to be complete by the year 2010. Presently, phase I has been approved for 603 single family units. To date, no physical development has occurred other than infrastructure construction.

Much of the underdeveloped land and north of S.R. 54 and south of S.R. 52 is well field owned by SWFWMD and will never be developed.

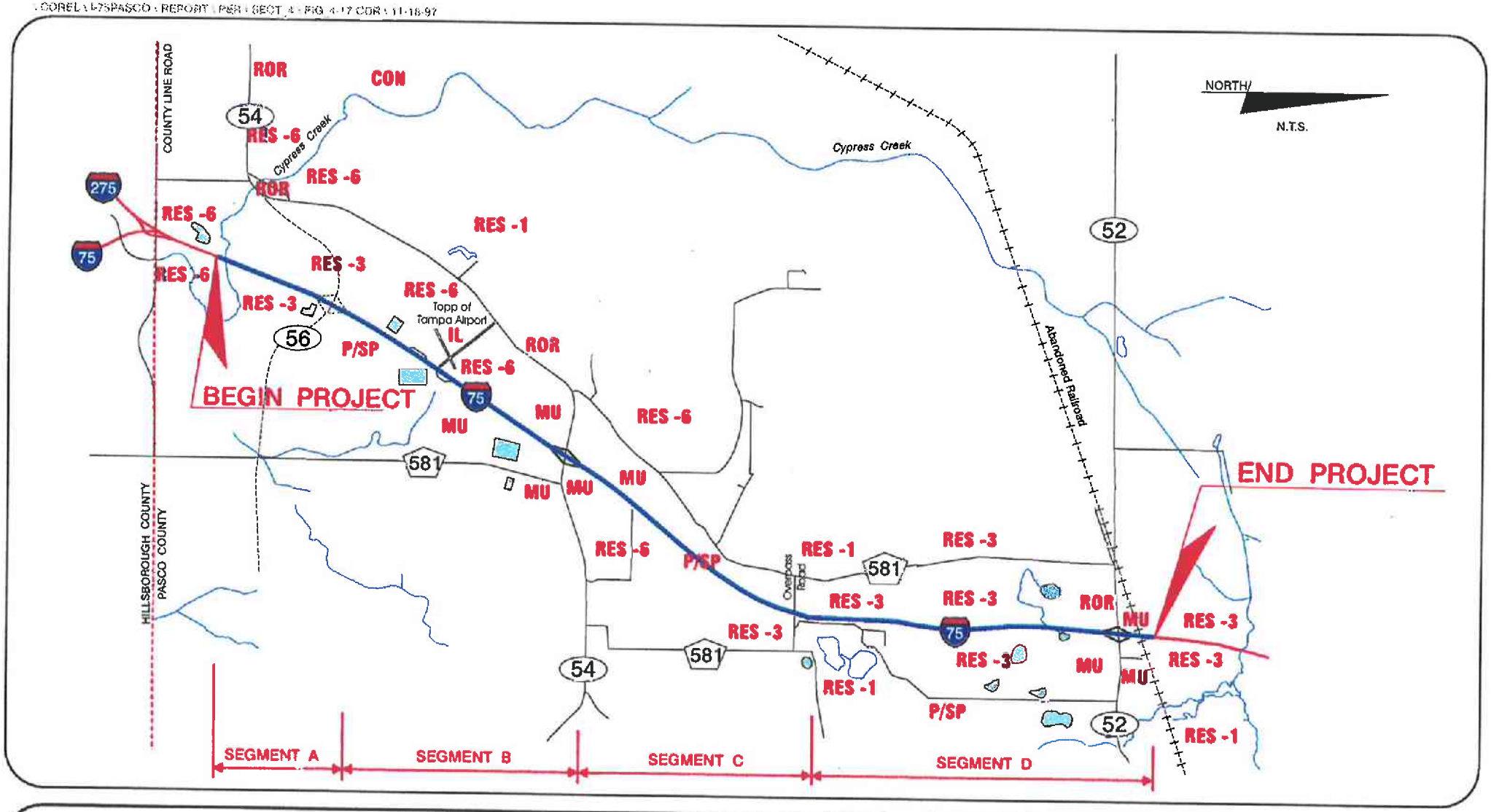
One Pasco Center is located just east of the S.R. 52/I-75 interchange. The total size is 81.34 ha (201 ac) including 11.61 ha (1,250,000 gsf) industrial, 7.90 ha (850,000 gsf) office research development, 0.46 ha (50,000 gsf) retail and 220 hotel rooms. Development is anticipated to occur in the year 2000 and build out complete by 2001.

Cannon Ranch is also located east of the S.R. 52/I-75 interchange and is expected to begin development in 2009, with a completion date of 2015. The total size is 811.4 ha (2,005 ac) of which 27.5 ha (68 ac) are planned for commercial use and 372.3 ha (920 ac) open space. Additionally, 5,956 units are designated for residential and 5.25 ha (565,000 gsf) for retail development.

4.3.2 Cultural Features and Community Services

4.3.2.1 Cultural Features

Literature reviews and field surveys were performed along the I-75 corridor study area as a component of the PD&E Study's cultural resource assessment survey. The objective of these efforts is to identify any cultural resources in the vicinity of the project and to assess their significance in terms of listing or eligibility for listing in the National Register of Historic Places (NRHP). The



LEGEND

Project Limits	
River / Water	
Railroad	
(54)	State Road Numbers
(581)	County Road Numbers
Proposed Roadway	
MU	Mixed Uses
ROR	Retail / Office / Residential
RES-6	Residential-6 du/ga*
RES-3	Residential-3 du/ga*
RES-1	Residential-1 du/ga*
CON	Conservation Lands
P/SP	Major Public / Semi Public

* du/ga (dwelling units per gross acre)

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

FUTURE LAND MAP

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-17

archaeological and historical/architectural portions of the survey were conducted in 1997 and are documented in the Final Cultural Resource Assessment Survey Report [6]. The following sections are a summary of the preliminary findings of that report. The FHWA "No Effect" letter was received on April 24, 1998 and a copy is in included in the Appendix.

Archaeological Sites

Background research and a review of the Florida Site File (FSF) indicated that one archaeological site was previously recorded within the project corridor. As a result of the field survey, the location of the previously recorded site was confirmed and fifteen new sites were discovered. Among the 16 total sites, two are classified as single artifact sites, three as artifact scatters, and 11 as lithic scatters. All are considered to have limited research potential, and none appear to be eligible for NRHP listing. Neither the previous site nor the newly discovered sites will be affected by the proposed project.

Historic Sites

The historical/architectural survey resulted in the recording of one historic cemetery within the viewshed of the I-75 project corridor. The Holten cemetery (FSF site 8PA619) was established in the 1880s and is still used for burials. Based on the lack of significant historical evidence, and unique gravestones and burial practices, the Holten Cemetery is not considered to be potentially eligible for listing in the NRHP.

4.3.2.2 Community Facilities

Community facilities provide a focal point for adjacent neighborhoods and communities, as well as serving the needs of surrounding areas. For the purpose of this study, the community facilities identified include churches and other religious institutions, parks and recreation areas, other neighborhood gathering places, fire stations, police stations, public and private schools, medical and emergency treatment facilities, cemeteries, and public facilities.

Cemeteries

The Holden Cemetery is located approximately 0.26 km (0.16 mi) north of Overpass Road on McKendree Road and is approximately 289.6 m (950 ft) east of the I-75 corridor.

Churches

No churches are located along the I-75 project corridor or within the study area.

Schools

There are no schools adjacent to the I-75 project corridor or within the study area.

Public Facilities

The public facilities located along the project include two FDOT rest areas on the north and south side of the I-75 corridor east of the North Tampa Aero Park and approximately 304.8 m (1000 ft) south of Trout Creek.

Medical Facilities

No medical facilities are located along the I-75 corridor or study area; however, a major medical facility is located just west of Livingston Road on S.R. 54.

4.3.3 Natural and Biological Features

A Final Wetland Evaluation Report and Biological Assessment[7] has been prepared for the project which will document any potential impacts to jurisdictional wetlands from the proposed roadway improvements as well as the efforts to avoid, minimize, and possibly mitigate for these impacts. For purposes of this evaluation, an area of 182.9 m (600 ft) in width [91.44 m (300 ft) each side of the I-75 centerline] was reviewed.

Wildlife surveys pertinent to this project began in June 1997 and continue to the present. Results of these surveys will be included in the Final Wetland Evaluation Report and Biological Assessment[7].

Existing land-use is predominately active and abandoned agricultural mixed, with small, but expanding areas of residential and commercial services near major interchanges. Interspersed are various rangeland and wetland habitats. There is development at the interchanges with S.R. 54 and S.R. 52 with residential support uses such as business parks, and retail establishments. Land uses in the central portion of the study area from S.R. 54 north to S.R. 52 consist of agricultural uses, large vacant parcels, and DRI's in various stages of development. The existing storm conveyance along the project limits primarily consists of open swales and roadside ditches. Existing ditches and swales within the limits of the project are limited.

Typically, roadway runoff drains directly into wetland areas adjacent to the ROW on the east and west sides of I-75 or is intercepted by cross drains. Median runoff is collected via ditch bottom inlets connected to existing cross drains under the interstate. South of S.R. 54, the roadway runoff generally flows toward Cypress Creek and Cabbage Swamp. The project crosses Cypress Creek and associated wetlands, which are designated as an OFW by the Florida Department of Environmental Protection (FDEP). This is the only stream crossing along the project. The OFW designation provides special protection for the water body due to its ecological and recreational significance. Dredge and fill activities in an OFW must be determined to be in the public interest in order to secure a permit. The OFW designation also requires that direct discharges cannot lower ambient water quality. Water quality in the OFW will be protected by the construction of ponds for stormwater treatment.

4.3.3.1 Wetlands

One objective of the Final Wetland Evaluation Report and Biological Assessment[7] is to evaluate the functions and values of wetlands within the project corridor and how they may be affected by the proposed project. The permitting requirements and conceptual wetland mitigation options are also identified for the proposed project.

Jurisdictional wetlands within the study area were located using the federal criteria of the U.S. Army Corps of Engineers (USACOE), and the state criteria (SWFWMD), Rule 62-340.300(1) and (2), F.A.C.). Areas in the vicinity of the project were investigated using the USDA-Natural Resources Conservation Service Soil Survey for Pasco County, United States Geodectic Survey (USGS) Topographic Maps (Lutz, Wesley Chapel, and San Antonio Quadrangles), and recent aerial photography. The classification of wetlands within and adjacent to the ROW is also in accordance with the U.S. Fish and Wildlife Service (USFWS) criteria.

The determination of wetland areas is generally based on the presence of the following three indicators: dominance of hydrophytic vegetation, underlain by hydric soils, and evidence of wetland hydrology. The wetlands within the study area met all three indicator criteria, although some of the hydrophytic vegetation along the existing toe-of-slope occurs on sideslope fill material.

There are approximately forty-three (43) state and federal jurisdictional wetland systems that are within, or adjacent to, the I-75 project study area boundary. The wetland boundaries are delineated in the Final Wetland Evaluation Report and Biological Assessment[7]. Some of these appear to be historically connected or have been bisected by I-75. Wetland types along the project include riverine (510), palustrine emergent (641), and forested (617, 621 and 630) wetland systems.

Of the forty-three (43) wetlands within and adjacent to the project limits, five wetland types have been chosen for analysis utilizing the Wetland Evaluation Technique (WET 2.1). Below is a list of the five (5) representative wetland types encountered and the corresponding number of each wetland within each group.

1. Palustrine, Forested (PFO1C - contiguous) - Wetlands 1A, 1B, 2A, 2B, 14, 16, 34, 35, 36.
2. Palustrine, Forested (PFO1C - isolated) - Wetlands 6, 11, 12, 15, 18, 21, 24, 25, 26, 27, 28, 29, 32
3. Palustrine, Forested (PFO2C - Cypress) - Wetlands 3, 4, 7, 8, 9, 10, 10A, 17, 22, 23, 31, 37, 38
4. Riverine system (R2AB4Hx) - Cypress Creek - Wetland 1
5. Emergent wetland (PEM1H/C) - Wetlands 5, 8A, 13, 19, 20, 30, 33

Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded (PFO1C) Contiguous Systems - Wetland 36 was chosen for analysis by WET 2.1. This wetland type (contiguous and isolated) is the most common wetland type along the project. Wetlands of this type range from less than 0.4 ha (1 ac) to greater than 30 ha (100 ac). Vegetative composition and wetland hydrology appear similar regardless of size. Wetland 36 was chosen because of its intermediate size, surrounding environment (almost all wetlands have been affected by agricultural activities), and ease of access. Most of these wetlands have a minor component of bald cypress (*Taxodium distichum*), suggesting that these areas may have been cypress strand before logging.

Wetland 36 is a relatively large system that is comprised of forested and scrub-shrub wetland. In the potential impact zone (ROW), this wetland is a palustrine, forested, broad-leaved deciduous, seasonally flooded system (PFO1C). The forested section has dominant coverage of laurel oak (*Quercus laurifolia*), red maple (*Acer rubrum*), bald cypress, slash pine (*Pinus elliottii*), ironwood (*Carpinus caroliniana*), dahoon holly (*Ilex cassine*), cabbage palm (*Sabal palmetto*), and American elm (*Ulmus americana*). Subcanopy coverage consists of scattered wax myrtle (*Myrica cerifera*), Carolina willow (*Salix caroliniana*), salt-bush (*Baccharis halimifolia*), elderberry (*Sambucus canadensis*), cabbage palm (*Sabal palmetto*), and gallberry (*Ilex glabra*).

Dominant ground coverage in these systems is often provided by pickerel weed (*Pontedaria cordata*), maidencane (*Panicum hemitomon*), duck potato (*Sagittaria lanceolata*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*), Virginia chain fern (*Woodwardia virginica*), pepper-vine (*Ampelopsis arborea*), and shield fern (*Thelypterus* spp.), with minor coverage provided by ragweed (*Ambrosia artemisiifolia*), broomsedges (*Andropogon glomeratus* and *Andropogon virginicus*), beggar-ticks (*Bidens* spp.).

Overall quality of this system (and others of this type) is moderate to high. Some wading birds were observed foraging in this wetland.

Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded (PFO1C) Isolated Systems - Wetland 21 was chosen for analysis by WET 2.1. Wetlands of this type range from less than 0.4 ha (one ac) to greater than 15 ha (50 ac). Vegetative composition and wetland hydrology appear similar regardless of size. Wetland 21 was chosen because of its intermediate size, surrounding

environment, and its ease of access. Some of these wetlands have a minor component of bald cypress.

Wetland 21 is a relatively small system that is comprised of forested and scrub-shrub wetland. In the potential impact zone (ROW), this wetland is a palustrine, forested, broad-leaved deciduous, seasonally flooded system (PFO1C). The forested section has dominant coverage of laurel oak, red maple, bald cypress, slash pine, ironwood, dahoon holly, cabbage palm, and American elm. Subcanopy coverage consists of scattered wax myrtle, Carolina willow, salt-bush, elderberry, cabbage palm, and gallberry.

Dominant ground coverage in these systems is often provided by pickerel weed, maidencane, duck potato, cinnamon fern, royal fern, and Virginia chain fern. The overall quality of this system (and others similarly classified) is moderate to high.

Palustrine, Forested, Needle-leaved Deciduous, Seasonally Flooded (PFO2C) - Wetland 9 was chosen for analysis by WET 2.1. This is a relatively large system that is comprised of forested and scrub-shrub components. In the potential impact zone (ROW), this wetland is a palustrine, forested, needle-leaved deciduous, seasonally flooded system (PFO2C). The forested section has dominant coverage of bald cypress, pond cypress, laurel oak, dahoon holly, and cabbage palm.

Subcanopy coverage consists of scattered wax myrtle, salt-bush, cabbage palm, and gallberry. Dominant ground coverage in the potential impact area is provided by maidencane, duck potato, cinnamon fern, royal fern, and Virginia chain fern, with minor coverage provided by ragweed and broomsedges. Overall quality of this system (and others similarly classified) is moderate to high.

Riverine, Lower Perennial, Aquatic Bed, Permanently Flowing, channelized - Wetland 1, Cypress Creek, is the only stream crossing along the project, and consequently the only Riverine wetland system. At the point of crossing, Cypress Creek has been channelized with steep banks in the potential area of impact. The stream channel has a thick growth of water hyacinth (*Eichhornia crassipes*) throughout the summer with very limited littoral shelf due to channelization. The potential impact zone is characterized by steep slopes with transitional weedy species and few trees. Dominant coverage in the potential impact area is provided by water hyacinth, torpedo grass, with

some pickerel weed, duck potato, arrowhead (*Sagittaria latifolia*). Transitional coverage is provided by ragweed, broomsedges, and beggar-ticks (*Bidens* spp.).

Overall quality of this system at the road crossing is low to moderate. Some wading birds were observed foraging in this wetland. Beyond the ROW limits, the riverine wetland transitions into a palustrine, forested, broad-leaved deciduous, semi-permanently flooded system (PFO3H).

Palustrine, Emergent, Persistent, Seasonally Flooded (PEM1C) - Wetland 19 was chosen for analysis by WET 2.1. Wetland 19 is a palustrine, emergent, persistent, semi-permanently flooded wetland system (PEM1F). The area appears to be a remnant of a forested system to the west, but is currently surrounded by improved pasture. Dominant ground coverage in the potential impact area is provided by pickerel weed, maidencane, duck potato, soft rush (*Juncus effusus*), spikerush (*Eleocharis baldwinii*), beak-rushes (*Rhynchospora* spp.), sand cordgrass (*Spartina bakeri*), pennywort (*Hydrocotyle umbellata*), yellow-eyed grass (*Xyris* spp.), and various sedges (*Cyperus* spp. and *Carex* spp.). Overall quality of this system is low to moderate. Some wading birds were observed foraging in this wetland.

Other Surface Waters - There are several small areas, designated as "Other Surface Waters" (OSW) on the Florida Land Use, Cover, and Forms Classification System (FLUCFCS) map that appear to be upland-cut ditches/swales that have evidence of wetland hydrology and a predominance of hydrophytic vegetation. The majority of the roadway sideslopes adjacent to this segment of I-75 have no swales or ditches with a discernable bed and bank. Swales within the upland portions of the project are cut from well-drained soils and are almost exclusively covered with bahiagrass (*Panicum notatum*). The OSW's that do have hydrophytic vegetation are dominated by Carolina willow, primrose willow, elderberry, *Andropogon* spp., pennywort, coinwort (*Centella asiatica*), various sedges (*Cyperus* spp.), duck potato and beak-rushes (*Rhynchospora* spp.). Some of these OSW areas are periodically mowed or cleared by FDOT maintenance crews.

Hydroperiod fluctuations were determined predominantly by evaluating lichen lines, water stained trees, outer wetland grades (seasonal high water table [SHWT]) and moss collars or adventitious roots (normal pool [NP]) within the wetlands.

Agency Coordination

As part of the coordination process, the USFWS, the Florida Game and Fresh Water Fish Commission, the Florida Natural Areas Inventory (FNAI), the FDEP, the USACOE, and the SWFWMD will be contacted regarding the proposed improvements to this section of I-75. Permits for any construction in jurisdictional wetlands will be required from the USACOE and SWFWMD.

Three agencies have regulatory jurisdiction authority over wetlands within the project area. These agencies include the SWFWMD, USACOE, and the FDEP. The isolated wetlands are listed under USACOE and SWFWMD jurisdiction and the "Waters of the State" fall under all three agencies' jurisdiction. The permitting process for the FDEP has been delegated to the SWFWMD with permitting requirements associated with the proposed roadway improvements being regulated under the Environmental Resource Permit (ERP effective October, 1995). Environmental permitting requirements are anticipated to be as follows:

United States Army Corps of Engineers - Nationwide Dredge and Fill Permit - (Clean Water Act - Section 404), mitigation required.

Southwest Florida Water Management District - An Environmental Resource Permit will be necessary with compensatory wetland mitigation required.

Conclusion

The above wetland descriptions give overall and site specific qualitative assessments of the quality of wetlands associated with this project area. Overall, the proposed impact areas represent moderate to high quality wetland in terms of function and effectiveness. Habitat limitations in the potential impact areas are due in part to the dominance of nuisance and/or exotic species in many wetlands. The estimated wetland impact acreage will be based on the preferred alternative within the project area boundary.

If the proposed roadway improvements are constructed within the existing FDOT ROW, the quantity and quality of wetland impacts would be minimal. Wetland impacts are primarily confined to

forested wetland currently existing within the ROW and "Other Surface Waters." These OSW's are regulated differently than other types of wetlands. Compensation for any OSW impacts is generally provided by similar water quality facilities (i.e. swales, stormwater ponds, etc.). Small amounts of wetland habitat within the ROW [outer 3-6 m (10-20 ft)] could be impacted by widening to accommodate clear safety zones or widening stormwater treatment swales.

Recent legislation was passed regarding wetland mitigation for FDOT projects (FS 373.4137, as created by Senate Bill 1986). This legislation allows FDOT to pay $75,000 to the FDEP (SWFWMD) for each acre of wetland impact. The funds raised will be used for aquatic weed control and to fund project specific mitigation plans approved by the legislature. Implementation procedures are currently being finalized to merge the mitigation requirements from state and federal permitting programs under Senate Bill 1986.

The FDOT will attempt to minimize wetland impacts to the greatest extent possible, however, Federal Highway safety requirements for maintaining sideslope grades and roadway geometry are critical elements that will affect the project design. It is noted that most of the proposed construction will be conducted within existing cleared, sideslope areas. Only the wetland fringes and possible small upland tracts (stormwater ponds) will be directly impacted by the proposed roadway widening.

Disturbed wetland areas along the existing roadway have experienced varying degrees of hydroperiod alteration (fill material or ditching), cleared vegetation and/or nuisance species invasion, sedimentation problems, and water quality degradation due to human activities. Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action will include all practicable measures to minimize harm to wetlands which may result from such use.

Because the major wetland functions associated with the ditches (OSW's) are water quality, mitigation for ditch impacts will be accomplished by creation of stormwater ponds that should provide substantially higher water quality/wildlife habitat functions.

4.3.3.2 Threatened and Endangered Species

The study area was surveyed for the presence of protected species and/or their preferred habitat. The results of that analysis is contained in Final Wetland Evaluation Report and Biological Assessment[7]. A literature review was conducted to determine the potential threatened, endangered, or species of special concern which may inhabit the project area. Information reviewed includes, the Florida Natural Areas Inventory (FNAI) matrix of protected species in Pasco County, the "Florida Atlas of Breeding Sites for Herons and Their Allies," and historic and recent aerial photography.

Based on the literature review and field surveys, several species classified by USFWS and FGFWFC as threatened or endangered could be potentially affected by the proposed project. Table 4-9 presents a list of those species. However, due to the habitat specificity of most species, and limitations of their range within Pasco County, few of these species are expected to occur in the project area. Species most likely to be affected by this project are the gopher tortoise, eastern indigo snake, and wading birds.

Vehicular and pedestrian surveys were conducted in June, 1997 through September, 1997 to determine the ecological characteristics (jurisdictional wetlands, plant communities, present condition, unique features, etc.) and the possible existence of any state- or federally-listed species within the proposed pond site locations along the referenced project. Survey methods included pedestrian surveys along the entire project with perpendicular and/or random transects in areas of suitable habitat. These surveys included observations for wildlife, listed plants, tree cavities/nests, ground burrows, animal tracks, scat, etc. Particular attention was given to evaluating areas for wading birds in wetlands and gopher tortoises in suitable habitat.

Since in 1997 the S.R. 56 interchange construction was in the permitting process, protected species surveys were limited within this area. Protected species involvement in this area was addressed during the permitting phase of that project.

Table 4-9
State- and Federally-listed Species Potentially Occurring in the Vicinity of I-75

Scientific Name	Common Name	FGFWFC	USFWS
Amphibians and Reptiles:			
Alligator mississippiensis	American alligator	SSC	T(S/A)
Drymarchon corais couperi	Eastern indigo snake	T	T
Gopherus polyphemus	Gopher tortoise	SSC	-
Pituophis melanoleucus mugitus	Florida pine snake	SSC	-
Rana capito aesopus	Gopher frog	T	-
Stilosoma extenuatum	Short-tailed snake	SSC	-
Avian Species:			
Athene cunicularia	Florida burrowing owl	SSC	-
Egretta caerulea	Little blue heron	SSC	-
Egretta thula	Snowy egret	SSC	-
Egretta tricolor	Tricolored heron	SSC	-
Eudocimus albus	White ibis	SSC	-
Grus canadensis pratensis	Florida sandhill crane	T	-
Haliaeetus leucocephalus	Bald eagle	T	T
Mycteria americana	Wood stork	E	E
Mammals:			
Podomys floridanus	Florida mouse	SSC	-
Scirus niger shermani	Sherman's fox squirrel	SSC	-
Flora*			
Asclepias curtissii	Curtiss milkweed	E	-
Asplenium auritum	Auricled spleenwort	E	-
Asplenium plenum	Double spleenwort	T	-

E - Endangered
T - Threatened
T(S/A) - Threatened Due to Similarity of Appearance
SSC - Species of Special Concern

* The plant species are protected under the Florida Dept. of Agriculture on the state level.

Eastern Indigo Snake (*Drymarchon corais couperi*)

The eastern indigo snake inhabits both dry scrub and sandhill areas, as well as moister hardwood hammocks. In xeric habitats, this species is often found in association with gopher tortoise burrows. There are few potential areas of occurrence within the project. No eastern indigo snakes were observed along the project corridor and due to the linear nature of the project, minimal impact to eastern indigo snake habitat is expected. However, to minimize impacts to individual eastern indigo snakes encountered during construction, a special provision will be included in the construction contract to advise the contractor of the potential presence of this species and its protected status.

Gopher Tortoise (*Gopherus polyphemus*)

The gopher tortoise can occupy a variety of habitats but generally prefer sandy soil conditions where the surficial water table does not reach close to the ground surface grade. Vegetative conditions require enough ground cover to provide a food source. These vegetative conditions are met in some of the upland habitat areas within the study area. Pedestrian surveys were conducted within and along the project area. Several gopher tortoise burrows (three active, one inactive) were observed within the project area. The highest concentration of active burrows was observed in the S.R. 56 interchange area. This project is currently undergoing agency review and any impacts to the gopher tortoise are being resolved during the permitting process for that project.

Cursory review of the potential pond sites will be conducted as pond sites are further evaluated. The dense canopy and subcanopy coverage of the majority of upland habitat areas along the study area has limited ground foraging material for the gopher tortoise. The upland habitat has also been fragmented by development which has also limited the potential for gopher tortoises. The presence of burrows will be a factor in determining the pond sites and configuration in the final design.

Efforts will be made to limit impacts to gopher tortoise burrows and any tortoise habitat. Any unavoidable impacts to gopher tortoise burrows will require a Gopher Tortoise Take Permit from the FGFWFC. Special conditions requiring the construction contractor to protect preserved burrows and to not harm any tortoises that enter the construction area will be placed in the construction contract.

Wading Birds

The open water, wet prairie, and herbaceous marsh near the project present suitable foraging habitat for wading birds. Wading birds were observed outside the proposed ROW in moderate numbers during the study. These wetlands offer adequate opportunity to forage, but no breeding or nesting activities were observed.

Review of the Florida Atlas of Breeding Sites for Herons and Their Allies[8], indicates no documented active colony sites within 3.2 km (2 mi) of the project. Many of the wetland areas have dense cattail, primrose willow, and Carolina willow stands which limit wading bird movement. Also, the proximity of I-75 to these wetlands results in traffic noise disturbance. Given the above factors, the loss of wading bird habitat associated with the project is expected to be minimal.

The wood stork will usually nest in cypress or mangrove swamps and feed in freshwater marshes and flooded ditches and pasture. Negative impacts to the wood stork (and other wetland birds) are not expected because of the extensive available habitat in the project area that will not be affected. As with the other wading birds, any impact to foraging areas will be compensated with the construction of wet detention stormwater facilities.

4.3.3.3 Summary

The only federally-protected species that was observed during the surveys was the wood stork (ten individuals). This species was observed either foraging in wet pasture or flying overhead. The observed species is transient and appear to only use the available habitats as foraging or resting areas. State-listed animal species observed during field surveys were the Florida sandhill crane (eight individuals), snowy egret (two individuals), little blue heron (one individual), tricolor heron (one individual), and white ibis (35+ individuals).

Faunal components of the area observed directly or indirectly (tracks, burrows, scat, rooting) during the field surveys include common mammals such as the whitetail deer, feral hog, raccoon, opossum, armadillo, pocket gopher, and various rodent species. Herptiles are represented by commonly occurring Florida species such as black racer, rat snakes, cottonmouth, and various amphibians.

Common bird species observed include the cattle egret (*Bubulcus ibis*), turkey vulture (*Cathartes aura*), black vulture (*Coragyps atratus*), mourning dove (*Zenaida macroura*), great blue heron (*Ardea herodias*), cardinal (*Cardinalis cardinalis*), tufted titmouse (*Parus bicolor*), mockingbird (*Mimus polyglottos*), common grackle (*Quiscalus quiscula*), blue jay (*Cyanocitta cristata*), killdeer (*Charadrius vociferus*), great egret (*Casmerodius albus*), and red-winged blackbird (*Agelaius phoeniceus*).

No protected fish or invertebrates are known to occur in the study area. Any protected plants in the existing ROW would be routinely mowed due to maintenance along the ROW of I-75. Very little suitable habitat for protected plants was observed during this survey. Survey of the project area did not indicate the presence of any listed flora. However, the auricled spleenwort (*Asplenium auritum*) is known to occur within upland hardwood hammocks similar to areas associated with this segment.

Observation of habitat adjacent to I-75 indicates that the listed species with the greatest potential of occurrence are wading birds foraging in the wetland areas and the gopher tortoise. Due to the large amount of suitable foraging and nesting habitat in the project area, impacts from the proposed improvements to I-75 are expected to be minimal. Disturbed vegetative conditions associated with the potential habitat areas limit the use and/or presence of listed species. Only minimal adverse impacts to listed upland species is expected, limited primarily to the gopher tortoise. The growing concentration of residential areas within the upland portions of the study area and the fragmentation of available upland habitat by agricultural activities limit the potential occurrence of protected wildlife.

Information gathered from a literature review and field survey indicate no listed species inhabiting the potentially affected wetland areas or uplands adjacent to the proposed pond sites (considering preferred habitat types and known geographical ranges). The proposed project is not located in an area designated as "Critical Habitat" by the U.S. Department of the Interior Fish and Wildlife Service. **Through Best Management Practices the FDOT has determined that the proposed improvements will have "No Effect" on any federally-listed threatened or endangered species.**

4.3.4 Potential Hazardous Materials and Petroleum Contamination Sites

A Draft Contamination Screening Evaluation Report[9] is being has been prepared for this PD&E Study. A summary of the preliminary findings of this evaluation is presented in this section. The first phase of the contamination evaluation of properties along the project corridor is a data collection effort, which includes a review of regulatory agency information, business directories and historical aerial photographs, and an initial site inspection. The second and final phase of the evaluation is more in-depth, on-site surveys and research.

On August 19, 1997 a physical inspection of each property around the project corridor was conducted. Systematic inspections of each site included looking for apparent changes to the ground surface, ground staining, standing liquids, odors, ventilation pipes, fill caps, drums, pump islands, containers, and other signs of potential contamination. Interviews were conducted with persons knowledgeable about the property and, when possible, its history.

Through the contamination screening evaluation, eleven properties were identified where conditions pose potential impacts to the project. Seven of the sites are located in Segment B and four sites are located in Segment D. None of these sites have potential hazardous waste contamination, while all eleven sites are potentially contaminated with petroleum products. Figure 4-18 illustrates the approximate location of these sites. Among the eleven sites, five received a "high" risk rating, four received a "medium" rating, two sites were rated "low", and none of the eleven sites received a "no" rating. The following is a discussion of the eleven sites with the name, address, facility identification number, type of contamination concern, and contamination evaluation risk rating for each of the suspect site.

Site No. 1 Racetrac #407 (Facility ID# 519100181, 28053 S.R. 54)

This site is located on the north side of S.R. 54, approximately 150 m (492 ft) east of I-75. Two, 12,000-gallon underground petroleum storage tanks are registered at this facility. The tanks were installed in 1990. The risk rating is "low."

Site No. 2 Oakley Groves, Inc (Facility I.D. #518515016, S.R. 54 and I-75)

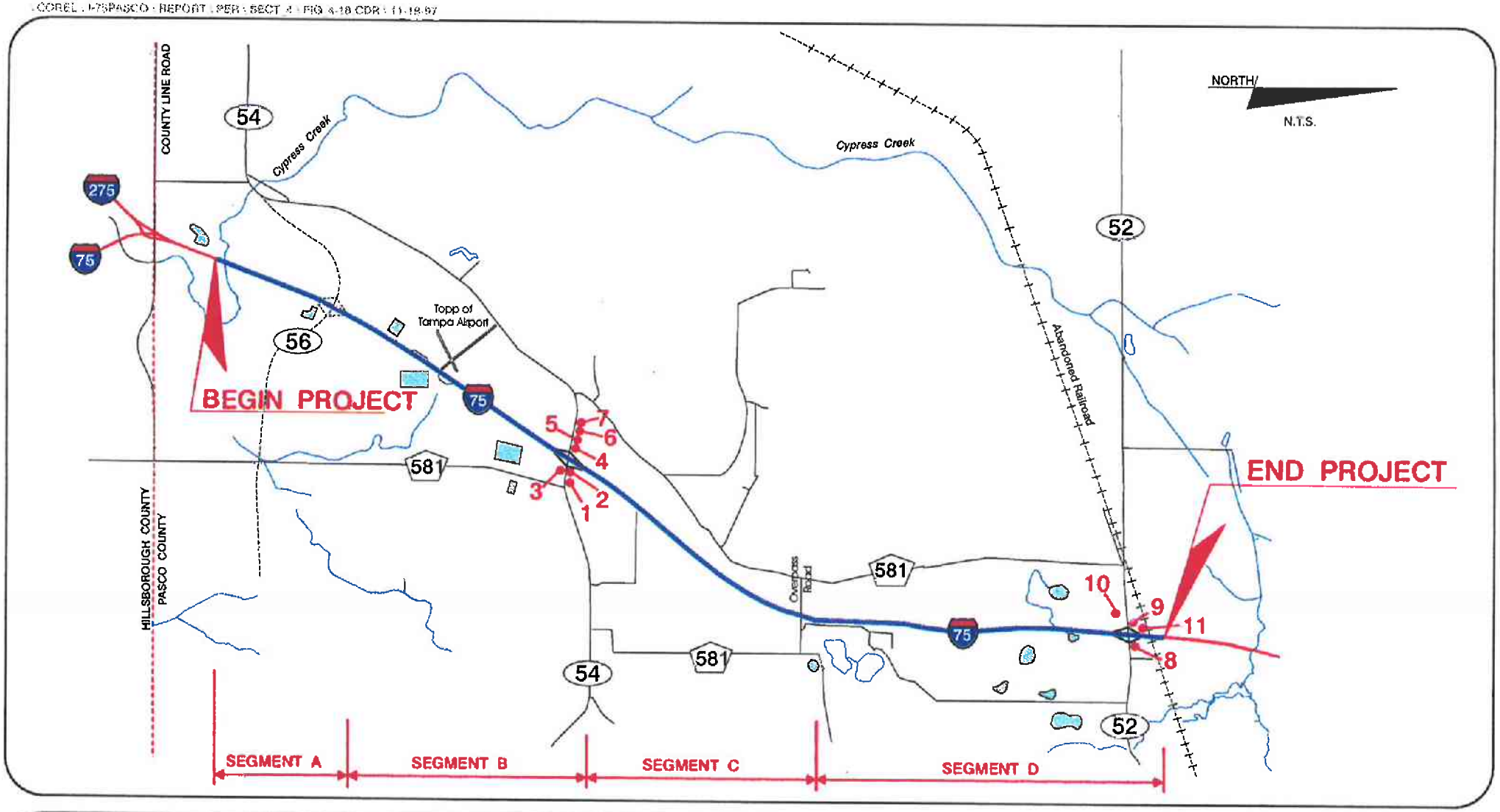
The site is located in the northeast quadrant of S.R. 54 and I-75. Soil and groundwater contamination were identified through an environmental assessment performed by Florida Groundwater Services in 1991. The groundwater flow is to the southeast. High Tech Environmental Services initiated clean up of the site and, to date, over 1,852,012 liter (489,250 gallons) of groundwater have been treated using two production wells pumping to two, 208 liter (55-gallon) granulated activated carbon vessels. Groundwater contamination levels are within clean up target levels throughout the site except in one well. One production well continues to operate in order to complete the remediation. The risk rating is "high."

Site No. 3 Gas Kwik #49 (Texaco) (Facility I.D. #519046575, 28014 S.R. 54)

The site is located in the southeast quadrant of S.R. 54 and I-75. This site was approved for cleanup activities under FDEP's revised tanks program. A contamination assessment performed by Tower Environmental was approved by the FDEP in September 1994. No other information was available through the FDEP district office or the Pasco County Health Department. The risk rating is "high."

Site No. 4 Tillack and Sons, Inc.(Chevron) (Facility I.D. #518515078, 27829 W. S.R. 54)

The site is located in the northwest quadrant of S.R. 54 and I-75. The FDEP approved a Contamination Assessment Report (CAR) performed by FDEP Associates in April 1995. The report indicated that contamination was limited to the site. Groundwater flow was measured to flow toward the south-southwest. Approximately 37.16 cubic meters (cm) [1312 sf] of excessively-contaminated soil were removed from the property as part of an initial remedial action. No other information was available through FDEP district or Pasco County Health Department files. The risk rating is "high."



LEGEND

- Project Limits
- River / Water
- Railroad
- (54) State Road Numbers
- (581) County Road Numbers
- Proposed Roadway
- Potential Hazardous Material Sites

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

POTENTIAL HAZARDOUS MATERIAL SITES

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 4-18

Site No. 5 Masters Economy Inn (Facility I.D. #519201573, 27807 S.R. 54)

The site is located in the northwest quadrant of S.R. 54 and I-75. An underground petroleum storage tank was uncovered during construction of a canopy in the motel driveway. The site was approved for clean up under the revised FDEP tanks program. The risk rating is "medium."

Site No. 6 Amoco #10710 (Facility I.D.#518520035, 15016 W. Highway 54)

The site is located in the northwest quadrant of S.R. 54 and I-75. A CAR conducted by Geraghty and Miller was approved by the FDEP in October 1993. Groundwater flow was identified to move in a southeasterly direction. Groundwater contamination was limited to the site. The site was approved for clean up under the revised FDEP tanks program. No other information was available through FDEP or Pasco County files. The risk rating is "medium."

Site No. 7 Circle K #518520488 (Facility I.D. #518520488, Highway 54 and I-75)

The site is located in the northwest quadrant of S.R. 54 and I-75. A CAR was completed by ATEC in 1995. The groundwater flow at the time of the CAR was to the southwest. No other information was available through FDEP district or Pasco County files. The risk rating is "medium."

Site No. 8 Chevron #47132 (Facility I.D. #518515028, I-75 and S.R. 52)

The site is located in the northeast quadrant of S.R. 52 and I-75. Three 37,854 liter (10,000-gallon) underground petroleum storage tanks were excavated and removed from this inactive station in 1991. The Tank Closure Assessment was performed by Delta Environmental Consultants on March 3, 1991. No contamination was found during the assessment. The risk rating is "low."

Site No. 9 Mobil #02-DHQ (Facility I.D. #518519953, I-75 and S.R. 52 West)

The site is located in the northwest quadrant of S.R. 52 and I-75. Five underground petroleum storage tanks were removed from the property in 1991. Approximately 62.29 cm (2,200 cubic yards) of excessively contaminated soil were removed from the property as part of the initial remedial

action. A CAR was completed by Missimer and Associates approved by the FDEP in January 1992. Groundwater flow was identified in the CAR as moving towards the south-southeast. The site is eligible for reimbursement under the revised tanks program at FDEP. The risk rating is "high."

Site No. 10 Roberts and Associates (Facility I.D. #518520041,8611 S.R. 52)

The site is located in the northwest quadrant of S.R. 52 and I-75. This facility has been closed since late 1990. FDEP determined that this site is not eligible for clean up under the revised tanks program. No additional information was available at the FDEP district office or Pasco County. The risk rating is "high."

Site No. 11 Pasco Fuel and Food Shoppe (Stuckeys), (Facility I.D. #518630460, I-75 and S.R. 52)

The site is located in the northwest quadrant of S.R. 52 and I-75. Groundwater contamination was revealed at this site in 1988. A CAR written by Gurr Omega in 1995 recommended a Monitoring Only Plan due to the limited extent of contamination. The CAR was approved by FDEP in April 1996. The risk rating is "medium."

Generally, the potential contamination impacts of the project, including liability for exacerbating existing contamination, can be managed through design and construction management practices.

4.4 REFERENCES

1. Pasco County Comprehensive Plan, Traffic Circulation Element; Pasco County Board of County Commissioners; Adopted June 15, 1989, Refined February 1995.

2. Pasco County Metropolitan Planning Organization Adopted 2020 Cost Affordable Transportation Plan; Pasco County Metropolitan Planning Organization; New Port Richey, Florida; December 18, 1995.

3. Final Location Hydraulic Report; Post, Buckley, Schuh & Jernigan, Inc.; Tampa, Florida; November 1997.

4. Federal Emergency Management Agency Flood Insurance Rate Maps Panels, 120230 0275D, 120230 0425D and 120230 0430E.

5. Soil Survey of Pasco County Florida; United States Department of Agriculture Soil Conservation Service; Washington, D.C.; June 1982.

6. Final Cultural Resource Assessment Survey Report; Archaeological Consultants, Inc.; Sarasota, Florida; October 1997.

7. Final Wetland Evaluation Report and Biological Assessment; Post, Buckley, Schuh & Jernigan, Inc.; Tampa, Florida; November 1997.

8. Florida Atlas of Breeding Sites for Herons and their Allies; Technical Report No. 10, Florida Game and Freshwater Fish Commission., September 1991

9. Draft Contamination Screening Evaluation Report; Post, Buckley, Schuh & Jernigan, Inc.; Tampa, Florida; November 1997.

SECTION 5

DESIGN CONTROLS AND STANDARDS

In order for the proposed roadway improvements to fulfill their objective of accommodating motorized vehicles, pedestrians, and bicyclists in a safe and efficient manner, they must adhere to specific design standards. The FDOT's Plans Preparation Manual[1] (metric) was the primary source in developing design criteria for this project. Tables 5-1, 5-2, 5-3 and 5-4 present the criteria used for this project and their respective values. A discussion of each criterion follows the tables.

5.1 FUNCTIONAL CLASSIFICATION

The functional classification of a roadway affects elements of design such as design speed, LOS requirements, and local access accommodations. The FDOT's Straight Line Diagrams indicate I-75 is currently a rural interstate within the project limits, while S.R. 52 and S.R. 54 are rural principal arterials within the interchange area. According to the Pasco County Comprehensive Plan[2], Overpass Road is an unimproved off-system minor collector.

5.2 ACCESS CLASSIFICATION

The FDOT has developed access management regulations to help achieve safer and more efficient traffic flow on the state highway system. The major documents on access management regulations are:

- Florida Statute 335.18 - The Access Management Act (Adopted 1988 and Revised 1992),
- Administrative Rule 14-96 (Regulating the access permitting process), and
- Administrative Rule 14-97 (the access management classification system and standards).

Administrative Rule 14-97 divides the state highways into seven access management classes, each class with its own standards. The most stringent standards apply to Access Class 1 which covers freeways. Access Classes 2 through 7 covers controlled access highways and are organized from the most restrictive (Class 2) to the least restrictive (Class 7).

The current access management classification for I-75 from south of Cypress Creek to north of the S.R. 52 interchange is an Access Class 1 facility.

S.R. 54 is an Access Class 5 facility from Cypress Road (west of I-75) to Overpass Road (east of I-75). S.R. 54 reverts to the more restrictive Access Class 3 classification east of Overpass Road. An Access Class 5 facility is described in Table 5-1.

S.R. 52 is an Access Class 3 facility from U.S. 41 (west of I-75) to 21st Street in Dade City (east of I-75). An Access Class 3 facility is described in Table 5-2.

Table 5-1
FDOT Access Management Standards - Access Class 5

ACCESS CLASS 5		
Facility Design Features (Median Treatment & Access Roads)	Restrictive	
Minimum Connection Spacing - With posted speed over 70 km/h (45 mph) - With posted speed at or less than 70 km/h (45 mph)	 135 m 75 m	 (440 ft) (245 ft)
Minimum Directional Median Opening Spacing	200 m	(660 ft)
Minimum Full Median Opening Spacing - With posted speed over 70 km/h (45 mph) - With posted speed at or less than 70 km/h (45 mph)	 800 m 400 m	 (2,640 ft) (1,320 ft)
Minimum Signal Spacing - With posted speed over 70 km/h (45 mph) - With posted speed at or less than 70 km/h (45 mph)	 800 m 400 m	 (2,640 ft) (1,320 ft)

Table 5-2
FDOT Access Management Standards - Access Class 3

ACCESS CLASS 3 STANDARDS		
Facility Design Features (Median Treatment & Access Roads)	Restrictive	
Minimum Connection Spacing - With posted speed over 70 km/h (45 mph) - With posted speed at or less than 70 km/h (45 mph)	 200 m 135 m	 (660 ft) (440 ft)
Minimum Directional Median Opening Spacing	400 m	(1,320 ft)
Minimum Full Median Opening Spacing	800 m	(2,640 ft)
Minimum Signal Spacing	800 m	(2,640 ft)

Table 5-3
Design Criteria

Criteria	Value/Designation Metric	Value/Designation English *	Documentation
Functional Classification: I-75 S.R. 52 Overpass Road Bridge**	 Rural Interstate Rural Principal Arterial Rural Collector	 Rural Interstate Rural Principal Arterial Rural Collector	 Straight Line Diagram Straight Line Diagram Pasco Co. Comp. Plan
Design Speed: I-75 S.R. 52 Overpass Road Bridge**	 110 km/h 90 km/h 60 km/h	 70 mph 55 mph 40 mph	FDOT Metric Plans, Preparation Manual, Tables 1.9.1 & 1.9.2 Fla. Green Book Tbl. III-1
Design Vehicle	WB-15	WB-50	Florida Green Book p. III-5
Travel Lane Width: Mainline Ramp (Single Lane)	 3.6 m 4.5 m	 12 ft 15 ft	FDOT Metric Plans Preparation Manual Table 2.1.1 & 2.1.3
Depressed Median Width: I-75 S.R. 52	 19.2 m (19.507 m existing) 12.0 m	 64 ft (existing) 40 ft	FDOT Metric Plans Preparation Manual Table 2.2.1
Shoulder Width: I-75 (Inside & Outside) S.R. 52 Outside Inside Ramps Outside Inside Overpass Road Bridge**	 3.6 m total/3.0 m paved & bridge 3.0 m total/1.5 m paved 2.4 m 1.8 m total/1.2 paved 1.8 m total/0.6 paved 2.4 m	 12 ft total/ 10 ft paved & bridge 10 ft total/5 ft paved 8 ft 6 ft total/4 ft paved 6 ft total/ 2 ft paved 8 ft	FDOT Metric Plans Preparation Manual Table 2.3.2 and FDOT Structures Design Guidelines Figures 2-1 & 2-2
Border Width: I-75 (Mainline & Ramps) S.R. 52	 25.0 m 12.0 m	 82 ft 40 ft	FDOT Metric Plans Preparation Manual Table 2.5.1
Clear Zone I-75 (Mainline & Ramps) S.R. 52	 11.0 m 9.1 m	 36 ft 30 ft	FDOT Metric Plans Preparation Manual Table 2.5.1
Minimum Radius I-75 (Mainline & Ramps) S.R. 52	 455 m 275 m	 1492 ft 902 ft	FDOT Metric Plans Preparation Manual Table 2.5.1
Minimum Bridge Separation Distance (recommended)	6.0 m	20 ft	FDOT Structures Design Guidelines

* English values represent the standard FDOT/AASHTO hard conversion equivalents of the metric values.
**Overpass Road criteria are for the bridge over I-75 (not the approach roadway).

Table 5-4
Structural Design Criteria

Design Specifications

The design of the structural elements of this project shall be in full compliance with the FDOT Structures Design Guidelines and the Detailing Manual. Design criteria is also presented for retaining walls, sign support structures and other miscellaneous structural elements.

Design Methods

Load factor design is used in proportioning all elements of the superstructure and substructure with the exception of the following:

- Prestressed concrete members are design by the service load method. Ultimate capacity is checked by the load factor method.
- Driven pile, drilled shaft and spread foundation capacities are designed by the service load method.
- Bearings are designed by the service load method.
- Prestressing Steel
  Strands ..... ASTM A416, Grade 1860, low relaxation strands (LRS)
  Modulus of Elasticity (Strands) ..... 190 GPa
  Strand diameters ..... No. 13 pretensioning

Allowable Stresses/Loads

Allowable stresses shall be in full compliance with the requirements of the AASHTO Specifications as amended by the FDOT Structures Design Guidelines.

Maintenance Requirements

The bridge structures shall be configured such that all parts of the structure can be accessed in a reasonable fashion. This accessibility is required to provide a safe environment for both bridge inspection and periodic maintenance. Accessibility to commonly maintained elements of the structure, i.e., bearings, drain pipe cleanouts, etc. shall be provided.

Table 5-4 (cont.)
Structural Design Criteria

Applicable Design Specifications

Structures shall be designed in accordance with FDOT standard practices and procedures. The design will comply the latest of the following design specifications:

- AASHTO Standard Specifications for Highway Bridges, 1995 Edition.
- FDOT Structural Design Guidelines, Topic No. 625-020-150-a, effective July 1, 1994 with April 1995 revisions.
- FDOT Detailing Manual, Topic No. 625-020-200-c.
- FDOT Utility Accommodation Guide Document No. 710-020-001-c, June 1993.
- Thermal Forces - Temperature Variation
  Movements of bridge structures shall be calculated assuming the following temperature ranges:

Superstructure Material	Mean	Rise	Fall
Concrete	21°C	+14°C	-14°C

The following coefficients of thermal expansion shall be utilized in the design:

Concrete ..... 0.0000090 per C

- Seismic Design

The connections between the superstructure and the substructure for all new and replacement structures shall be designed in full accordance with the requirements of Seismic Performance Category (SPC) B. Connection force shall not exceed 20 percent of the dead load reaction. All major and minor widenings shall be designed in full accordance with the requirements of SPC a. Refer to Appendix for minutes of meeting granting variance for major widenings allowing design per SPC a.

5.3 DESIGN SPEED

The design speed affects design elements such as horizontal and vertical alignments, superelevation, and typical section dimensions (clear zone, median width, etc.). For the I-75 mainline, a design speed of 110 kilometers per hour (km/h) [70 miles per hour (mph)] was selected to match the existing posted speed limit. For S.R. 52, a design speed of 90 km/h (55 mph) was selected, which exceeds the existing posted speed limit of 70 km/h (45 mph). These speeds are in conformance with the FDOT's Plans Preparation Manual[1].

For the Overpass Road bridge, a design speed of 60 km/h (40 mph) was selected, which exceeds the existing posted speed of 50 km/h (30 mph). This speed is consistent with the requirement for a minor collector with speed restrictions specified by the Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways for the State of Florida[3], commonly known as the Florida Green Book[3]. This standard is appropriate, as Overpass Road is an off-system roadway. The speed restriction is created by site conditions which indicate to the driver that a lower speed is necessary, such as an unpaved approach roadway on a positive grade, a short two-lane bridge (no passing zone), and a lower posted speed.

5.4 DESIGN VEHICLE

Design vehicles are selected motor vehicles with specific dimensions, weight, and operating characteristics used to establish roadway design controls for accommodating vehicles of designated classes. In the design of any roadway facility, the largest design vehicle likely to use that facility with considerable frequency is used to determine the dimensions of such critical features as radii at intersections and radii at turning roadways. The WB-15 (WB-50) is representative of larger tractor/semi-trailer combinations commonly in use on the interstate system. This choice of design vehicle is consistent with the Florida Green Book[3].

5.5 LANE WIDTH

A mainline lane width of 3.6 m (12 ft) was chosen, consistent with the Plans Preparation Manual[1]. For interchange ramps (single lane), the standard 4.5 m (15 ft) width was selected.

5.6 MEDIAN WIDTHS

If I-75 mainline widening occurs within the border width, the existing median width of 19.507 m (64 ft) will be retained, which meets or exceeds the width specified by the Plans Preparation Manual[1] for an interstate freeway without barrier (19.2 m/64 ft). If I-75 mainline widening occurs within the existing median, the resultant median width will be 12.538 m (40 ft), which would require a design variation.

For S.R. 52, a depressed median width of 12.0 m (40 ft) was chosen, consistent with the Plans Preparation Manual[1] requirement for arterials with a design speed greater than 80 km/h (50 mph). The S.R. 52 Finding of No Significant Impact (FONSI) from U.S. 19 to I-75 [SP No. 14120-1518, WPI No. 7115879, FAP No. F-270-1(2), approved July 13, 1988] proposed a 15.850 m (52 ft) median, consistent with the "desirable" width within the range of acceptable widths in effect at that time. That range has been subsequently replaced by a single standard dimension of 12.0 m (40 ft).

5.7 SHOULDER WIDTH

According to the Plans Preparation Manual[1], the total shoulder (both inside and outside) width on a six lane freeway should be 3.6 m (12 ft), of which 3.0 m (10 ft) should be paved. For a four lane divided arterial (normal volume), such as S.R. 52, the outside shoulder width should be 3.0 m (10 ft), of which 1.5 m (5 ft) should be paved, while the inside shoulder should be unpaved and 2.4 m (8 ft) wide. Single lane interchange ramps should have 1.8 m (6 ft) wide shoulders, of which 0.6 m (2 ft) should be paved on the inside and 1.2 m (4 ft) paved on the outside.

In addition, the FDOT's Structures Design Guidelines[4] specifies 3.0 m (10 ft) shoulders on freeway bridge decks. For a two-lane undivided collector bridge (low volume), such as the Overpass Road bridge over I-75, the shoulder width may be 2.4 m (8 ft).

5.8 BORDER WIDTHS

The Plans Preparation Manual[1] requires a minimum border width of 25.0 m (82 ft) for freeways, including interchange ramps. For arterials with a design speed greater than 80 km/h (50 mph), such as S.R. 52, a minimum 12.0 m (40 ft) border is required.

5.9 SIDEWALK WIDTH

Sidewalk widths are not applicable to this project.

5.10 CLEAR ZONE

The term clear zone is used to designate the unobstructed, relatively flat area provided beyond the edge of the traveled way for the recovery of errant vehicles. The traveled way does not include shoulders or auxiliary lanes. The width of the clear zone is influenced by the traffic volume, speed and embankment slopes. According to the Plans Preparation Manual[1] for freeways, the clear zone width should be at least 11.0 m (36 ft) wide from the edge of the traveled way. The clear zone width should be at least 9.1 m (30 ft) for S.R. 52 which is classified as a rural arterial.

5.11 HORIZONTAL ALIGNMENT CRITERIA

For balance in highway design, all geometric elements should, as far as economically feasible, be determined to provide safe, continuous operation at the design speed for the highway or street. In the design of highway curves it is necessary to establish the proper relation between design speed and curvature and also their joint relationships with superelevation and side friction. At 110 km/h (70 mph) design speed, a minimum radius of 455 m (1492.78 ft) is allowed for rural facilities. At 90 km/h (55 mph) design speed, a minimum radius of 275 m (902.23 ft) is allowed for rural facilities.

Superelevation is the slope of the pavement perpendicular to the travel direction used at horizontal curves to counterbalance the centrifugal force. The current FDOT Plans Preparation Manual allows for a maximum superelevation of 0.10 m/m (0.10 ft/ft) on rural facilities.

When deflection angles between tangent sections of a horizontal alignment are small, horizontal curves are not required. Curves may be omitted when deflection angles are equal or less than 00° 45' 00" for both 110 km/h (75 mph) and 90 km/h (55 mph) design speeds.

5.12 VERTICAL ALIGNMENT

Vertical curves are distinguished between sag and crest curves. Three criteria are used to design vertical alignments.

For freeway facilities and a design speed of 110 km/h (70 mph), the FDOT Plans Preparation Manual[1] recommends grades (longitudinal slope of the travel path) no steeper than 3.0 percent. When changes in grade along a vertical alignment are small, vertical curves are not required. For a design speed of 110 km/h (70 mph), the FDOT Plans Preparation Manual does not required vertical curves when the algebraic difference between the grades is equal to or smaller than 0.2 percent.

On vertical curves, a measure of curvature (L/A) is the horizontal distance (L) in meters required to effect a 1.0 percent change in gradient (A). The quantity L/A, termed "K", is used in determining minimum lengths of vertical curves for various design speeds. For a design speed of 110 km/h (70 mph), a "K" value of 100 (370) is the minimum allowed for crest curves, and 52 (200) for sag curves . For a design speed of 90 km/h (55 mph), a "K" value of 71 (220) is the minimum allowed for crest curves, and 40 (130) for sag curves.

5.13 STOPPING SIGHT DISTANCE

Sight distance is the length of roadway ahead visible to the driver. The minimum sight distance available on a roadway should be sufficiently long to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path. Although greater length is desirable, sight distance at every point along the highway should be at least that required for a below-average operator or vehicle to stop in this distance. For a design speed of 110 km/h (70 mph), a stopping sight distance of 225 m (740 ft) is required at minimum for grades of 2% or less. For a design speed of 90 km/h (55 mph), a stopping sight distance of 145 m (475 ft) is required at minimum for grades of 2% or less.

5.14 REFERENCES

1. Plans Preparation Manual (Metric); Florida Department of Transportation, Tallahassee, Florida; 1995.

2. Pasco County Comprehensive Plan; Pasco County Board of County Commissioners; Adopted June 15, 1989, Refined January 1995.

3. Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways for the State of Florida; Florida Department of Transportation; Tallahassee, Florida; 1992.

4. Structures Design Guidelines; Florida Department of Transportation; Tallahassee, Florida.

SECTION 6
TRAFFIC

This section addresses the existing (1997) as well as the projected future Design Year (2020) traffic conditions for the study corridor. The traffic projections for the design year (2020) were evaluated for two improvement alternatives: 1) No-Project, and 2) Build (Widen I-75 from south of S.R. 56 to North of S.R. 52 to a six-lane freeway). The traffic analyses completed for this PD&E Study are documented in the Revised Draft Traffic Report[1]. The following sections present a summary of the findings from this report.

As a result of this traffic report, a loop on-ramp was recommended for the northwest quadrant of the I-75 and S.R. 52 interchange. The addition of this recommended loop ramp required the preparation and approval of an Interchange Modification Report (IMR) in accordance with state and federal guidelines. As part of the IMR, several interchange design alternatives were evaluated to determine operational conditions for a 2028 design year. The results of the IMR identified the need for a loop ramp to accommodate future travel demand and provide safe operating conditions for both the interstate mainline and arterial traffic movements. The analyses and recommendations of the IMR can be found in the Draft Final Interchange Modification Report for the Interstate 75 Interchange with State Road 52, June 2000, prepared by FDOT District Seven.

6.1 EXISTING TRAFFIC VOLUMES

This section summarizes the traffic count data collected for the study corridor. A description of the methodologies used to adjust the traffic count data for the existing operational analysis for use in estimation of 1997 volumes are also provided in this section.

6.1.1 Existing Traffic Counts

Traffic counts were conducted at several locations within the study corridor. These traffic counts were conducted May 6 through May 12, 1997. The type and location of the traffic counts are described below. In addition, the traffic count locations are displayed on Figure 6-1.

7-Day Traffic Counts

- I-75 South of S.R. 54
- I-75 Between S.R. 54 and S.R. 52
- I-75 North of S.R. 52

8-Hour Turning Movement Counts (Vehicles and Trucks)

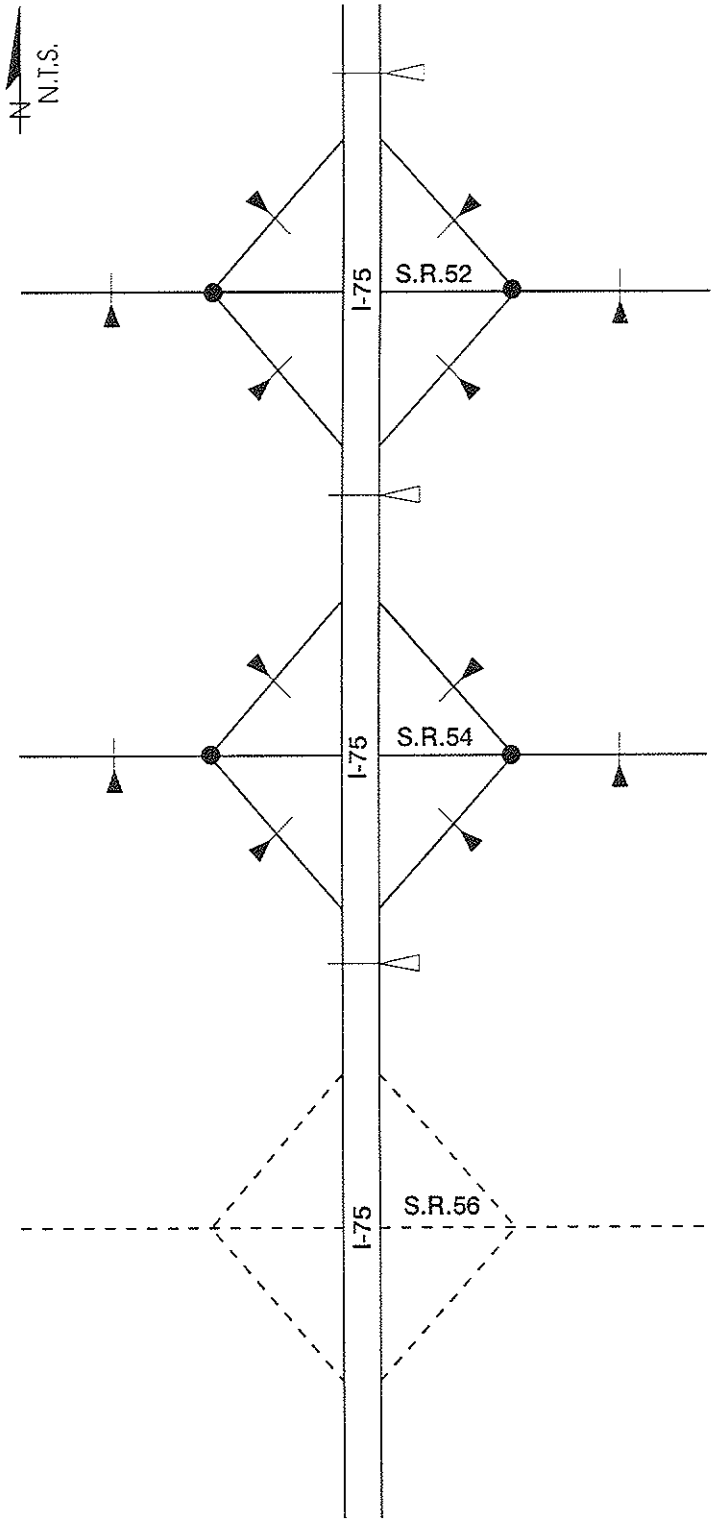
- S.R. 54 at I-75 Northbound Exit/Entrance Ramps
- S.R. 54 at I-75 Southbound Exit/Entrance Ramps
- S.R. 52 at I-75 Northbound Exit/Entrance Ramps
- S.R. 52 at I-75 Southbound Exit/Entrance Ramps

In addition, the FDOT provided 1996 annual average daily traffic (AADT) volumes, which were used for several locations within the study corridor. These traffic count locations included the I-75 entrance and exit ramps and directional volumes on S.R. 54 and S.R. 52 east and west of I-75. These traffic count locations are also shown on Figure 6-1.

6.1.2 Existing Annual Average Daily Traffic Volumes

The existing (1997) AADT volumes were developed from the raw traffic count data discussed previously. The AADT volumes were calculated by averaging the 7-day traffic count data collected and applying the current (1996) FDOT seasonal and axle adjustment factors to the averaged raw traffic counts. The 1996 seasonal adjustment factor for I-75 in Pasco County is 1.06 for the week starting May 6th. The 1996 axle adjustment factor is 0.86 for the same week in May. The existing (1997) AADT volumes developed from the current traffic count data collected are displayed on Figure 6-2.

The FDOT 1996 AADT volumes were adjusted to reflect the current analysis year (1997), using a 4.0 percent growth rate to estimate 1997 traffic volumes. Therefore, the 1996 AADT volumes were factored by 1.04 to estimate the 1997 AADT volumes.



LEGEND

- Daily Traffic Count (1997)
- FDOT Daily Traffic Count (1996)
- Turning Movement Traffic Count (1997)
- Proposed Roadway

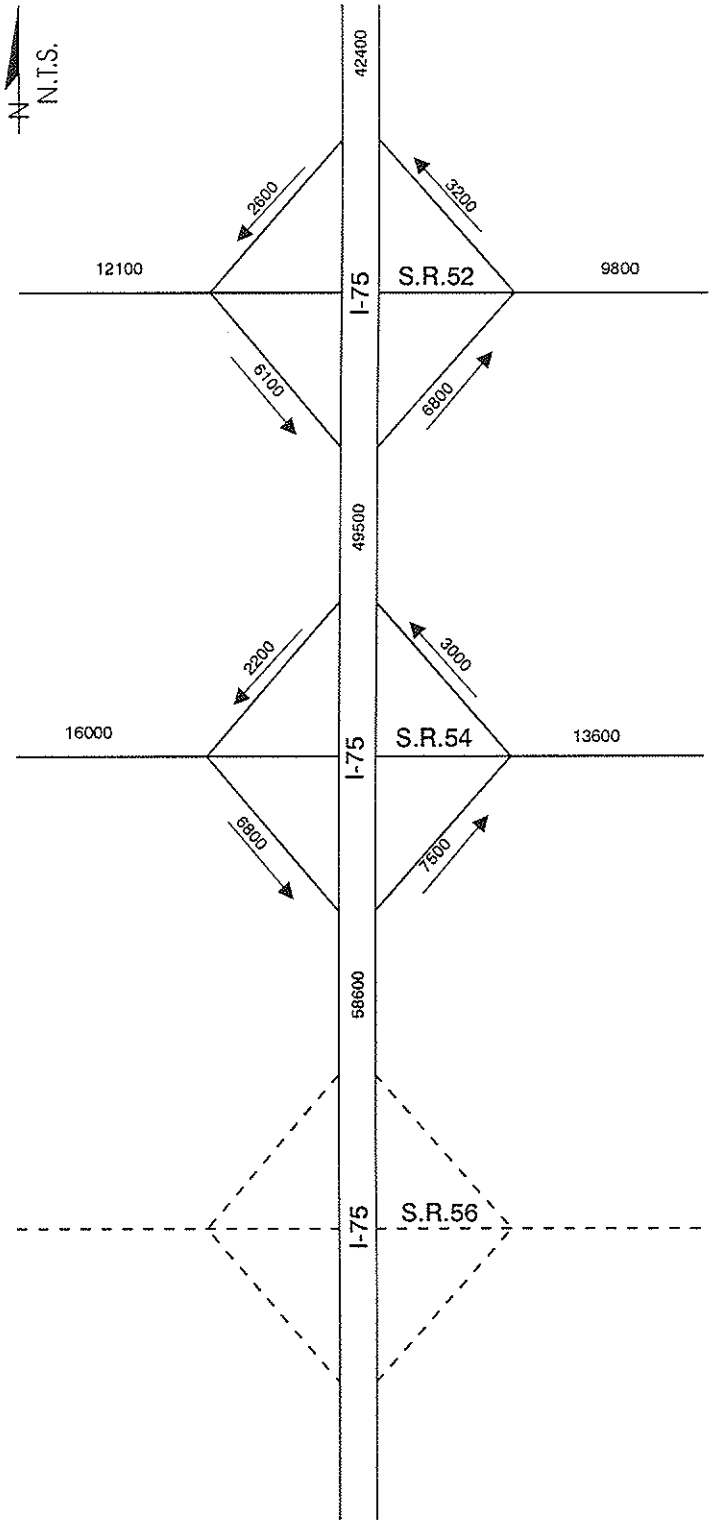
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

TRAFFIC COUNT LOCATIONS

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-1



LEGEND

12100	Two Way AADT Volume
6100 →	Directional AADT Volume
- - - - -	Proposed Roadway

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING (1997) ANNUAL AVERAGE DAILY TRAFFIC VOLUMES

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-2

6.1.3 Existing Peak Hour Volumes

The existing peak hour volumes at the I-75 ramp intersections with S.R. 54 and S.R. 52 were developed from the 8-hour turning movement counts. A review of the data revealed that the peak hours slightly vary for each intersection. However, generally the A.M. and P.M. peak hours occur from 7:00 A.M. to 8:00 A.M. and from 5:00 P.M. to 6:00 P.M., respectively.

The turning movement counts also required seasonal adjusting. The peak hour turning movement counts were adjusted to reflect seasonal conditions by applying the seasonal adjustment factor of 1.06 to the raw turning movement counts. Figure 6-3 displays the existing (1997) A.M. and P.M. peak hour turning movement volumes.

In addition, Figure 6-3 displays the directional peak hour volumes for I-75. These directional peak hour volumes were determined by using the adjusted 7-day traffic count data for I-75 south of S.R. 54. The daily traffic count data collected on May 8, 1997 were compared to the peak hour turning movement counts for consistency, since this is the same day the peak hour turning movement counts were conducted. The 15-minute incremental volumes were added for the periods from 7:00 to 8:00 A.M. and 5:00 to 6:00 P.M. to obtain the A.M. and P.M. peak hour volumes for northbound and southbound I-75 south of S.R. 56. The remaining mainline volumes were determined by balancing the mainline through traffic to reflect the decrease and increase in traffic volumes due to the exit ramp and entrance ramp traffic volumes.

6.1.4 Existing K, D, and T Factors

The FDOT Roadway Characteristics Inventory (RCI) database was used to obtain the design hour factor (K_{30}-factor) for the study corridor. In addition, the average directional distribution factor (D-factor) and the twenty-four hour truck (T_{24}) factors were obtained from the RCI database. The existing truck percentages were also obtained for design hour trucks (DHT), design hour medium trucks (DH2) and design hour heavy trucks (DH3). As shown in Table 6-1, these traffic characteristics were collected for each major segment of I-75 located within the study corridor.

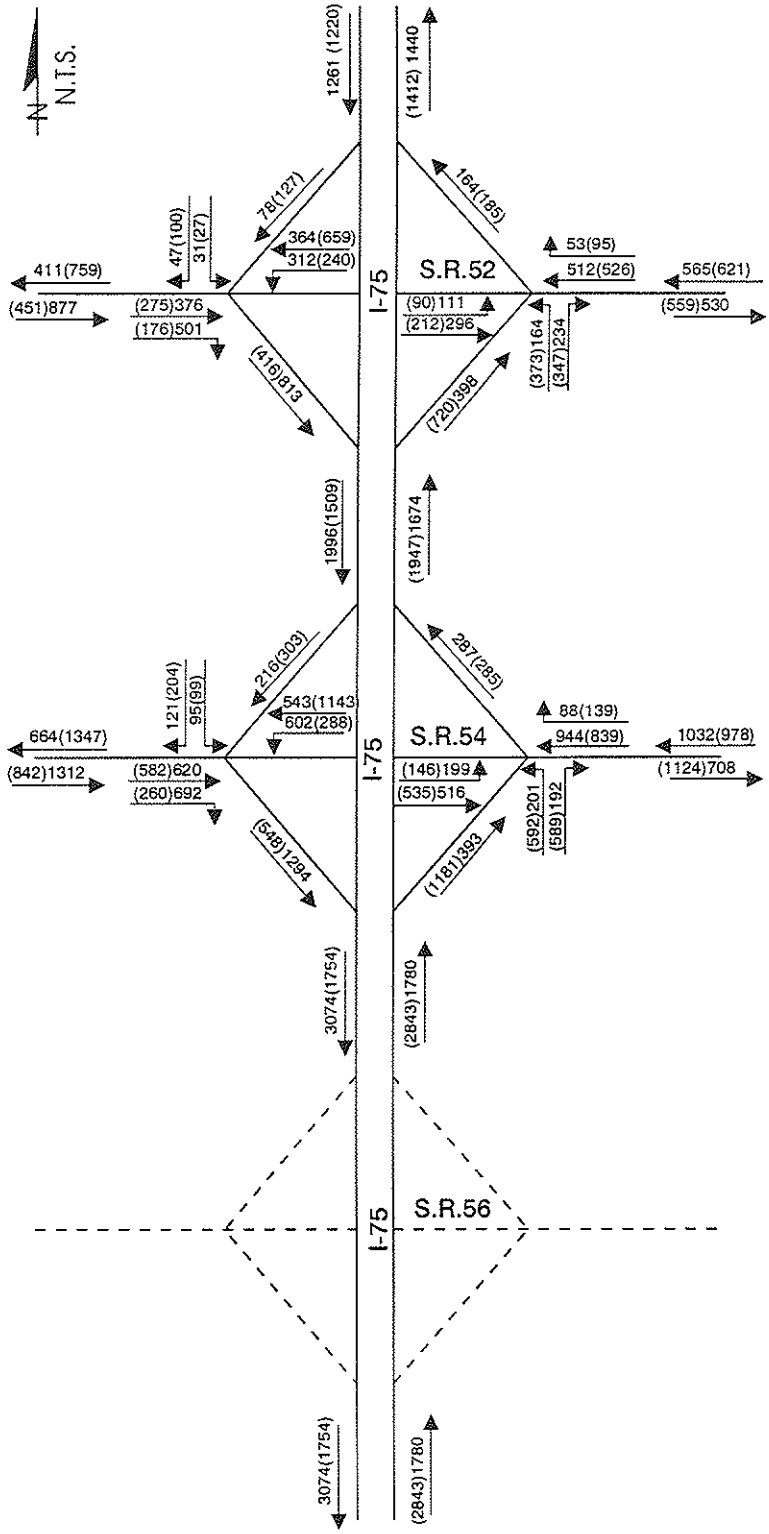
Table 6-1
Existing Traffic Characteristics for I-75 Segments

Segment Locations	Traffic Characteristics					
			Trucks			
	K_{30}	Avg D	T_{24}	DHT	DH2	DH3
I-75 South of S.R. 54	9.18%	54.46%	19.33%	9.67%	0.45%	9.22%
I-75 Between S.R. 54 and S.R. 52	9.18%	54.46%	20.90%	10.45%	1.53%	8.92%
I-75 North of S.R. 52	9.18%	54.46%	22.30%	11.15%	1.29%	9.86%

6.2 EXISTING ROADWAY CHARACTERISTICS

The Pasco County Comprehensive Plan[2], Traffic Circulation Element indicates that the I-75 study corridor is located in an urbanized area and is classified as a controlled access highway. Within the study corridor it is currently a four-lane freeway. The Traffic Circulation Element also indicates LOS C is the acceptable standard along this facility. The I-75 roadway corridor is also designated on the FIHS. The FIHS standards are the same as indicated in the Pasco County Comprehensive Plan[2], that is maintenance of LOS C conditions.

Currently there are two interchanges located in the I-75 study corridor. The first interchange is located at S.R. 54. The Pasco County Comprehensive Plan[2] indicates the functional classification for S.R. 54 is an arterial, and LOS E is the acceptable standard for this facility in the vicinity of I-75. However, the Florida's Level of Service Standards and Guidelines Manual for Planning[3] indicates the minimum acceptable LOS standard for a multi-lane state road located in an urbanized area under 500,000 population is LOS D. S.R. 54 is currently a divided roadway within the immediate interchange area, striped for one through lane in each direction. However, the recently-constructed "interim" interchange improvements widened the S.R. 54 pavement enough to accommodate four future signalized through lanes with minor roadway reconstruction to accommodate future traffic demand. Both I-75 northbound and southbound ramp termini with S.R. 54 are currently signalized. The existing lane configuration for S.R. 54 at I-75 is displayed in Figure 6-4.



LEGEND

780	A.M. Peak Hour Volumes
(900)	P.M. Peak Hour Volumes
⟶	Direction of Flow
- - - - -	Proposed Roadway

Note: Peak hour traffic volumes were slightly adjusted to insure the traffic volumes balanced through the interchanges and intersections

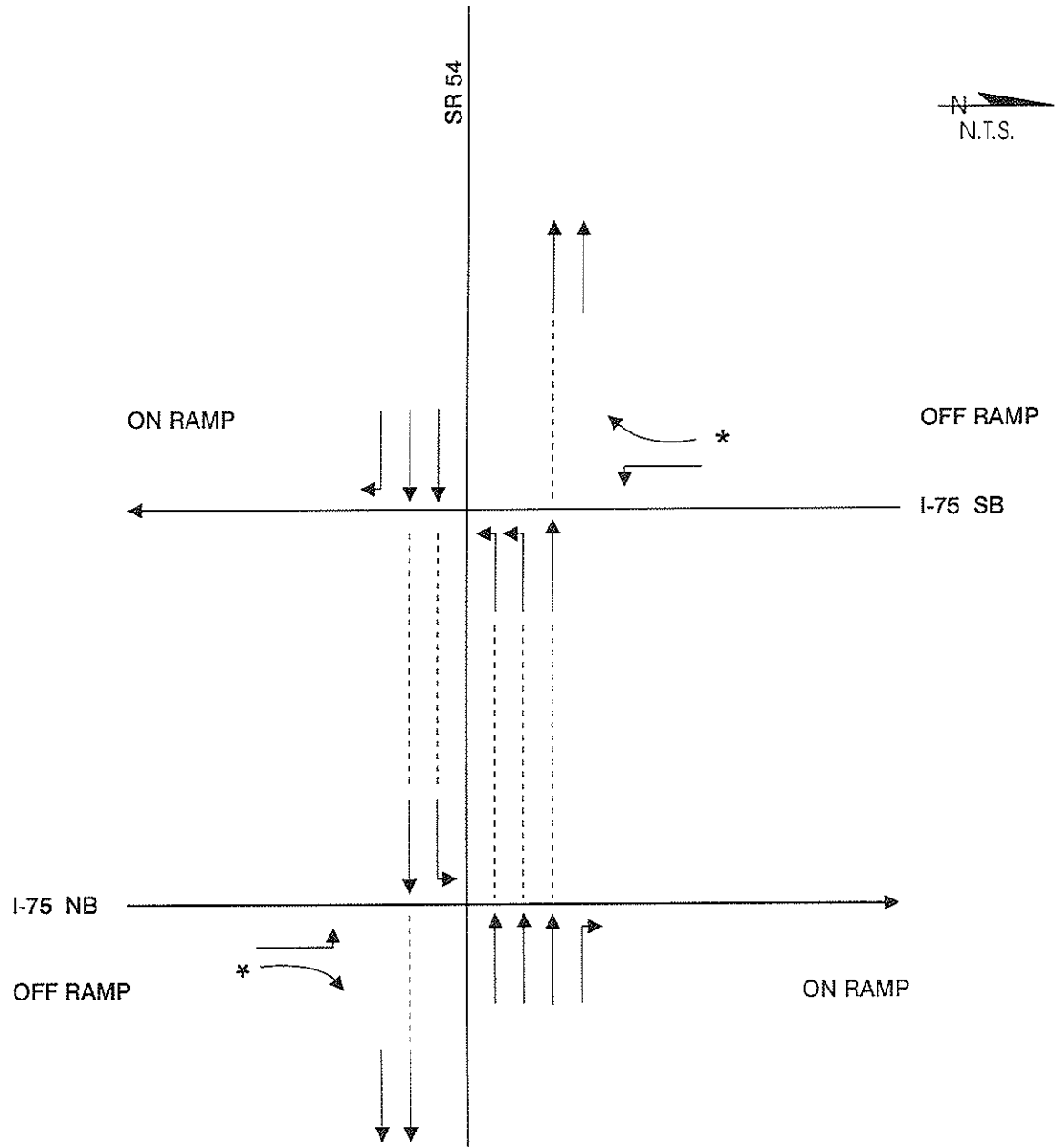
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING (1997) PEAK HOUR VOLUMES

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-3



LEGEND

→ Direction of Flow / Lane

* Free Flow Rt. Turn

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING LANE CONFIGURATION FOR S.R. 54 AT I-75

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-4

The second interchange is located at S.R. 52. This facility is a two-lane undivided roadway and is functionally classified as an arterial in the Pasco County Comprehensive Plan[2]. Maintenance of LOS E standard along S.R. 52 in the vicinity of I-75 is indicated in the Traffic Circulation Element of the Plan. However, the FDOT LOS Manual standard for a two-lane state road is LOS D. Currently both the I-75 northbound and southbound ramp termini are unsignalized. The existing lane configuration for S.R. 52 at I-75 is displayed in Figure 6-5.

6.3 EXISTING TRAFFIC CONDITIONS

The existing capacity analysis included evaluation of the S.R. 54 and S.R. 52 intersections with the I-75 ramps. In addition to the capacity analyses, field observations were conducted to observe the existing operating conditions of each intersection. As part of this study, capacity analyses were also completed for the existing freeway segments and ramp junctions. The Highway Capacity Software[4] (HCS) based on the 1994 Highway Capacity Manual, Special Report 209 [5] (HCM) was used for these analyses. In addition, PASSER III-90[6] was used to analyze the overall operation of both signalized intersections at an interchange. The A.M. and P.M. peak hour traffic volumes shown on Figure 6-3 were used for the existing (1997) conditions analyses. The results of these analyses are provided in the following subsections. The overall LOS along the study corridor are provided on Figure 6-6.

6.3.1 Existing Operational Analyses at S.R. 54/I-75 Intersections

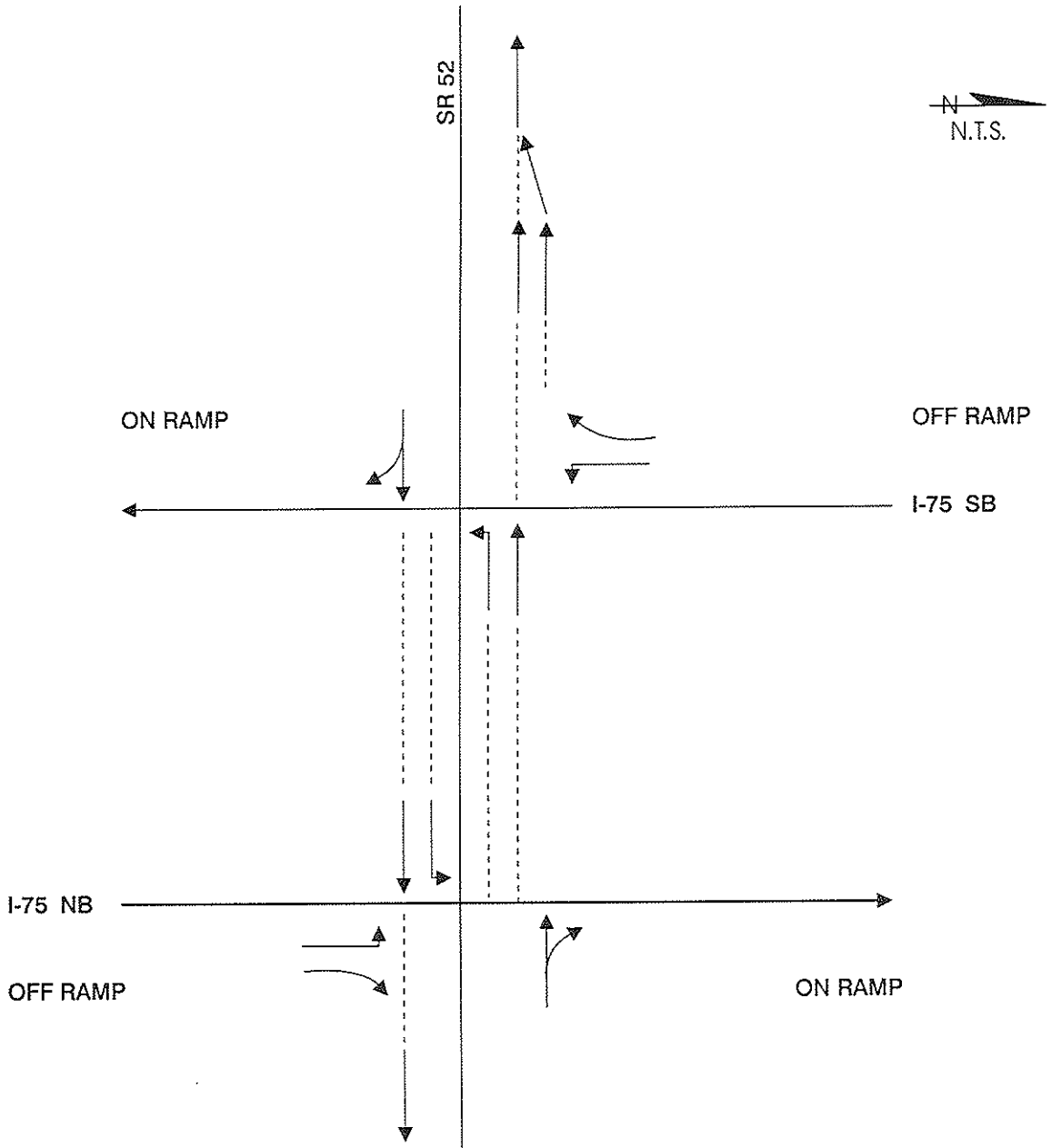
As mentioned earlier, there are two existing signalized intersections located within the study corridor. These include the intersections of S.R. 54 with the I-75 northbound and southbound ramps. As shown in Table 6-2, both S.R. 54 intersections with I-75 northbound ramps are operating at LOS C or better during the A.M. and P.M. peak hours. Therefore, these intersections are operating better than the acceptable LOS D standard required by FDOT for this type roadway. Also, during both peak hours the signalized intersection at S.R. 54 and the I-75 southbound ramps is operating at LOS B.

Table 6-2
S.R. 54/I-75 Signalized Intersections
Existing Conditions - HCS Analyses

Approach	Lane Group	A.M. Peak Hour	P.M. Peak Hour
S.R. 54 at I-75 Northbound Exit/Entrance Ramps			
EB	Left	D	D
	Thru	A	B
WB	Thru	C	C
	Right	A	A
NB	Left	D	D
	Right	A	A
OVERALL		C	C
S.R. 54 at I-75 Southbound Exit/Entrance Ramps			
EB	Thru	B	B
	Right	A	A
WB	Left	D	D
	Thru	A	A
SB	Left	D	D
	Right	A	A
OVERALL		B	B

In addition to HCS, the PASSER III-90 was also used to analyze the operation of the entire interchange. PASSER III-90 is a computer program that is specifically designed for determining the best strategy to minimize the average delay per vehicle for a pretimed signalized diamond interchange. It incorporates both the external and internal delays at the interchange by addressing the effects each signalized ramp junction has on the other. In contrast, the signalized intersection module of the HCS treats each signalized intersection as if it were isolated. HCS does not make adjustments for the effects of other traffic signals within close proximity that can result in excessive delays and queues of certain movements affecting the flow of other movements. The PASSER III-90 revealed overall that the interchange is currently operating at LOS D during the A.M. and P.M. peak hour.

Field observations also were conducted in order to evaluate the general operating conditions at the S.R. 54 intersections with the I-75 northbound and southbound ramps. The field observations were conducted during the morning (7:00 A.M. to 8:00 A.M.) and evening (5:00 P.M. to 6:00 P.M.) peak



LEGEND

→ Direction of Flow / Lane

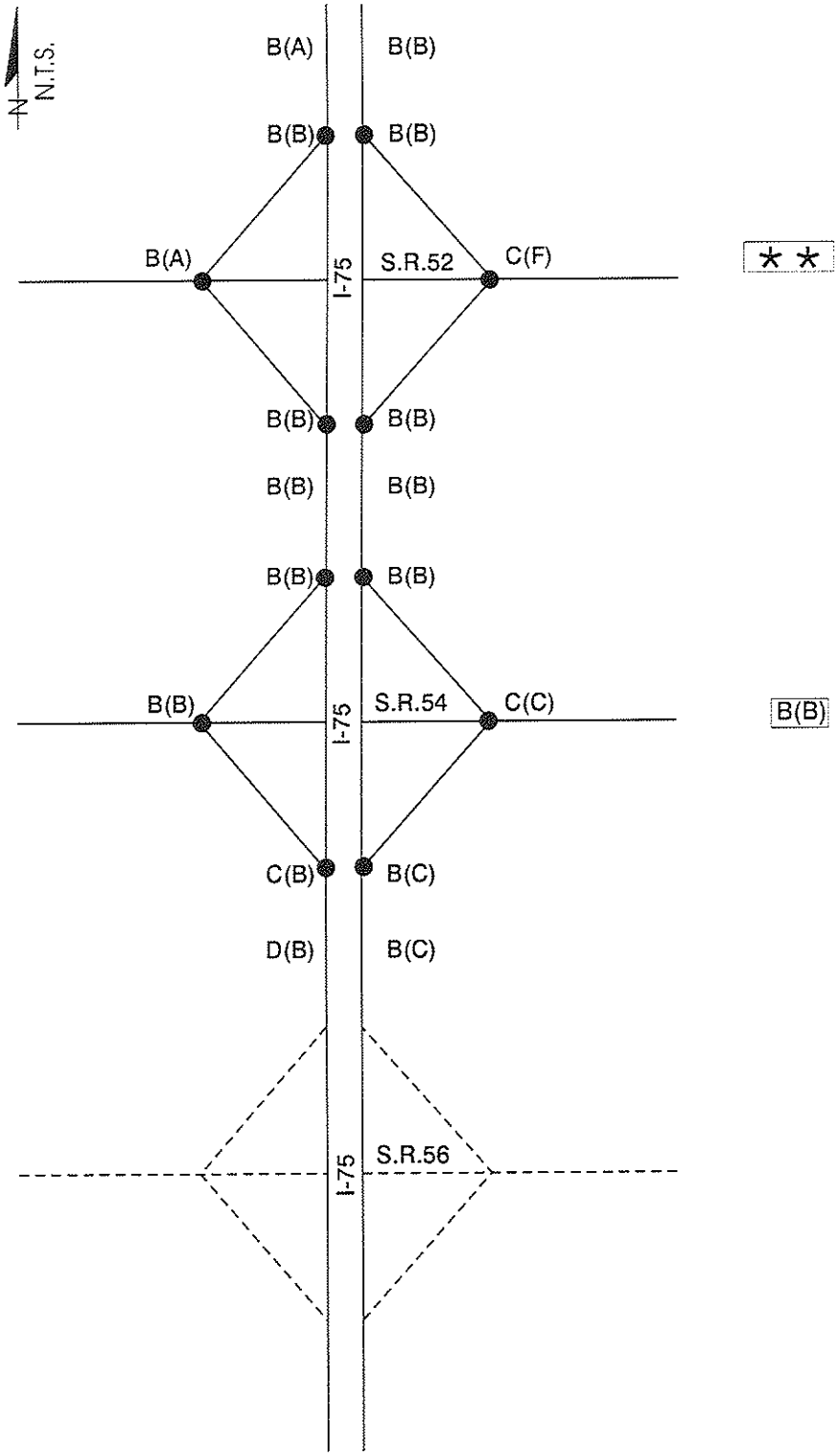
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING LANE CONFIGURATION FOR S.R. 52 AT I-75

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-5



LEGEND

D	A.M. Peak Hour LOS
(B)	P.M. Peak Hour LOS
B(B)	PASSER III-90 Overall Interchange LOS
- - - - -	Proposed Roadway
* *	Unable to use PASSER III-90 to evaluate interchange with unsignlized intersections

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

EXISTING (1997) LEVELS OF SERVICE

WPI Seg No. 258736 1
FAP No. NH-75-1(91)275

FIGURE 6-6

COREL \ I-75 \ REPORTS \ PER \ SECT_6 \ FIG_6-6.CDR \ 2-7-99

hours. Both intersections were observed during these hours on June 18, 1997. It should also be noted, however, that field observations were conducted during the time of year when traffic volumes are typically lower than average due to schools not being in full session and the decrease in seasonal visitors. A review of the queuing characteristics for the A.M. peak hour revealed no significant problems. No cycle failures were observed at either intersection during the A.M. peak hour. However, during the P.M. peak hour, the northbound left-turn movement at the intersection of S.R. 54 and the I-75 northbound ramps are experiencing cycle failures during the majority of the cycles observed. However, no cycle failures were observed at the S.R. 54 intersections at the I-75 southbound ramps during the P.M. peak hour.

6.3.2 Existing Operational Analyses at S.R. 52/I-75 Intersections

As mentioned earlier, the intersections located at S.R. 52 and the I-75 ramp termini are currently unsignalized. Since these intersections are unsignalized, only the HCS unsignalized intersection module was used for the existing capacity analysis. PASSER III-90 does not evaluate interchanges with unsignalized intersections. The results of the HCS analysis are summarized in Table 6-3.

Table 6-3
S.R. 52/I-75 Unsignalized Intersections
Existing Conditions - HCS Analyses

Approach	Lane Group	A.M. Peak Hour	P.M. Peak Hour
S.R. 52 at I-75 Northbound Exit/Entrance Ramps			
NB	Left	F	F
	Right	B	B
EB	Left	B	B
OVERALL		C	F
S.R. 52 at I-75 Southbound Exit/Entrance Ramps			
SB	Left	F	E
	Right	A	B
WB	Left	C	A
OVERALL		B	A

In addition to the capacity analysis, field observations were also conducted at the I-75 interchange at S.R. 52 to examine the actual operating conditions during the peak hours. Both the morning and evening peak hours were observed on June 18, 1997. As previously mentioned, this time of year

typically produces lower than average traffic volumes for the area. The comparison of the field observations to the HCS results revealed operational problems not revealed by the HCS analysis. During the A.M. peak hour the eastbound left-turn movement at the northbound I-75 entrance ramp appears to be operating worse than the LOS B condition reported by HCS. In addition, during the A.M. peak hour, the S.R. 52 westbound left-turn movement at the I-75 southbound entrance ramp appears to be operating worse than the LOS C condition reported by HCS. During the P.M. peak hour the field observations revealed that the northbound exit ramp was over capacity during the majority of the peak hour and all other movements appear to be operating at acceptable conditions. There also appears to be a sight distance problem at the northbound and southbound I-75 exit ramp termini at S.R. 52. Field observations revealed that both the I-75 northbound and southbound exit ramp traffic traveled beyond the stop bar to view the S.R. 52 oncoming traffic prior to making a left- or right-turn onto S.R. 52.

6.3.3 Existing I-75 Segments Level of Service

Table 6-4 summarizes the results of the existing operational analyses conducted for the freeway segments. The table reveals that currently the majority of all freeway segments located in the study corridor are operating at or better than the FDOT LOS C standard. However, there is one exception: the southbound segment of I-75 south of S.R. 54 is currently operating at LOS D during the A.M. peak hour.

Table 6-4
Existing I-75 Level of Service
Freeway Segments

Segment Locations	Existing LOS			
	Northbound		Southbound	
	A.M.	P.M.	A.M.	P.M.
I-75 South of S.R. 54	B	C	D	B
I-75 Between S.R. 54 and S.R. 52	B	B	B	B
I-75 North of S.R. 52	B	B	B	A

6.3.4 Existing I-75 Ramp Junctions Level of Service

Table 6-5 summarizes the results for the existing operational analyses conducted for ramp junctions along the I-75 study corridor. Review of Table 6-5 reveals that all ramp junctions are operating at

or better than the FDOT LOS C standard. The table shows that majority of the ramp junctions are operating at LOS B. Only two ramp junctions are currently operating at LOS C. These junctions are located at I-75 northbound and the S.R. 54 exit ramp, and at I-75 southbound and the S.R. 54 entrance ramp.

Table 6-5
Existing I-75 Level of Service
Freeway Ramp Junctions

Freeway Ramp Junction	Existing LOS	
	A.M.	P.M.
I-75 Northbound		
at S.R. 54 Exit Ramp	B	C
at S.R. 54 Entrance Ramp	B	B
at S.R. 52 Exit Ramp	B	B
at S.R. 52 Entrance Ramp	B	B
I-75 Southbound		
at S.R. 52 Exit Ramp	B	B
at S.R. 52 Entrance Ramp	B	B
at S.R. 54 Exit Ramp	B	B
at S.R. 54 Entrance Ramp	C	B

6.4 MULTIMODAL TRANSPORTATION SYSTEM CONSIDERATIONS

The Transportation, Mass Transit and Traffic Circulation Elements of the Pasco County Comprehensive Plan[2] were reviewed to determine the effect of local transit, commuter rail, rail service, aviation and port on the I-75 study corridor. A summary of the findings follows:

6.4.1 Transit

Pasco County operates a demand-response public transportation system. The service area for the demand response service is all of Pasco County. Figure 6-7, "1995 Transit Service Areas and Major Transit Trip Destinations", presents the primary paratransit service areas. The majority of trips are concentrated in the West Pasco urbanized area. Trips are also concentrated in the East Pasco communities of Dade City and Zephryhills. The trip priority scheduling is for medical, work-related

and training followed by shopping and miscellaneous trips. Services provided by the Pasco County Public Transportation Division operate Monday through Friday from 8:00 A.M. to 5:00 P.M. in East Pasco. This service is provided to the transportation-disadvantaged population and other residents of Pasco County. A review of 1994 Public Transportation Ridership Statistics indicates that the I-75 corridor and study area are included in the East Pasco ridership data that consisted of approximately 27 percent of the total 142,927 trips.

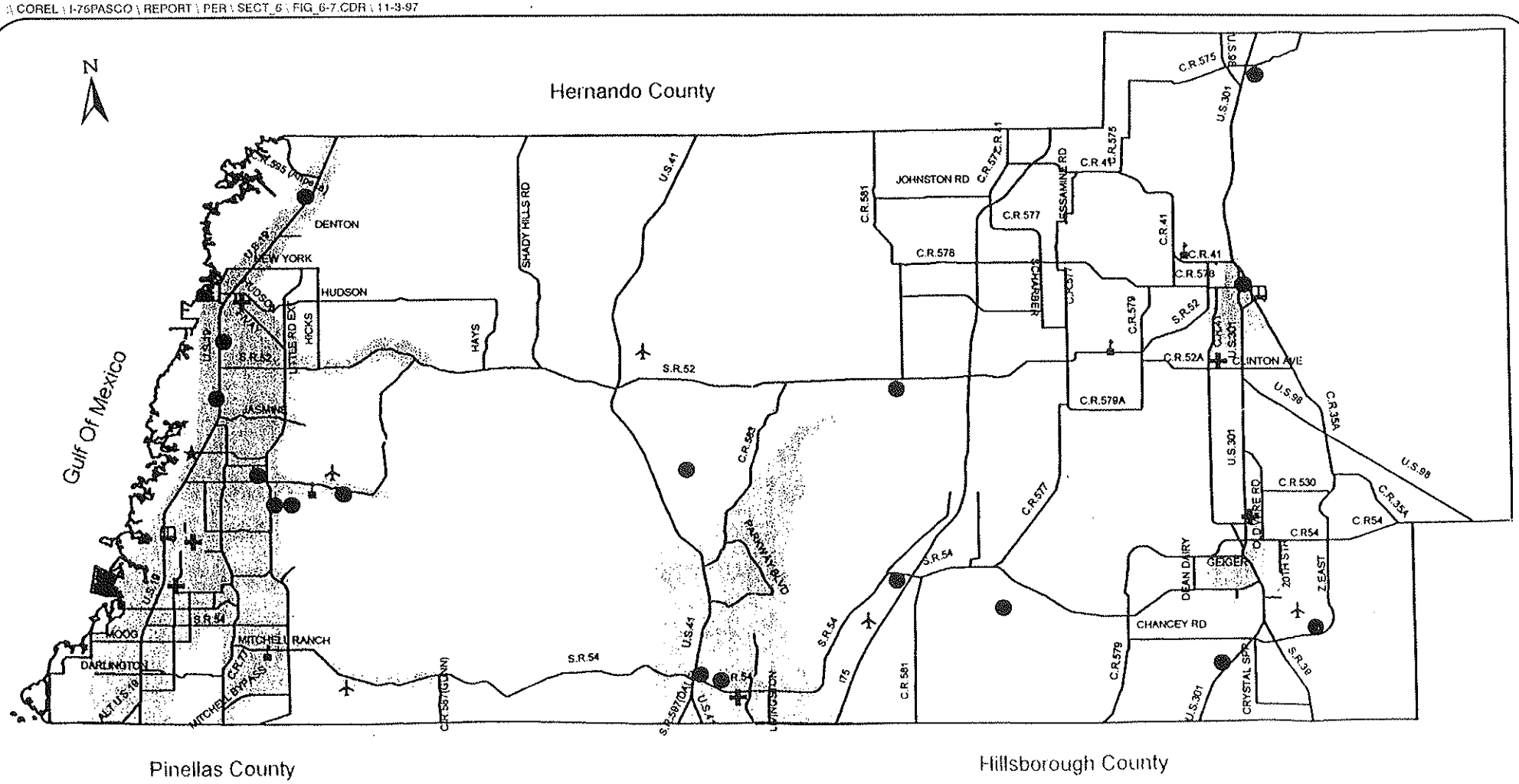
Two Greyhound Bus Stations currently exist in Pasco County; one is located in New Port Richey and the other is in Dade City. The bus station located in Dade City is approximately one block east of 7th Street on Pineapple Avenue. Daily connections are provided with buses traveling through the County to both out-of-County and out-of-state destinations. The Dade City station is accessible from S.R. 54 but is located outside the I-75 corridor and study area.

A park and ride lot currently exists at the southeast corner of S.R. 54 and U.S. 41. This lot was used to provide parking for express bus route commuters traveling south to Hillsborough County but the express bus route is no longer provided. Figure 6-8 presents existing intermodal facilities in Pasco County including airport, park and ride lot, bus station, rail line and the operational historic train station.

A fixed-route bus service is addressed in the Pasco County MPO 2020 Cost Affordable Plan[7]. The transit development plan process is currently being updated for the urbanized areas and may include implementation of service routes in West Pasco, and recommendations for the existing demand response service.

6.4.2 Rail

The only operating passenger train station near the project corridor is located on the east side of downtown Dade City. This transit station was built in 1912 and was added to the National Registry of Historic Places in 1994. In 1990, this transit station became an active depot for the Amtrak Passenger Rail service that passes through Pasco County; however, there are no Amtrak agents at this site.



Source: Pasco County Comprehensive Plan Transportation Element 11-7-96

LEGEND

- Airport Facility
- Major Medical Facility
- College or University
- Regional Shopping Mall
- Major Service / Commercial Employer
- Bus / Train Station
- Primary Paratransit Service Area

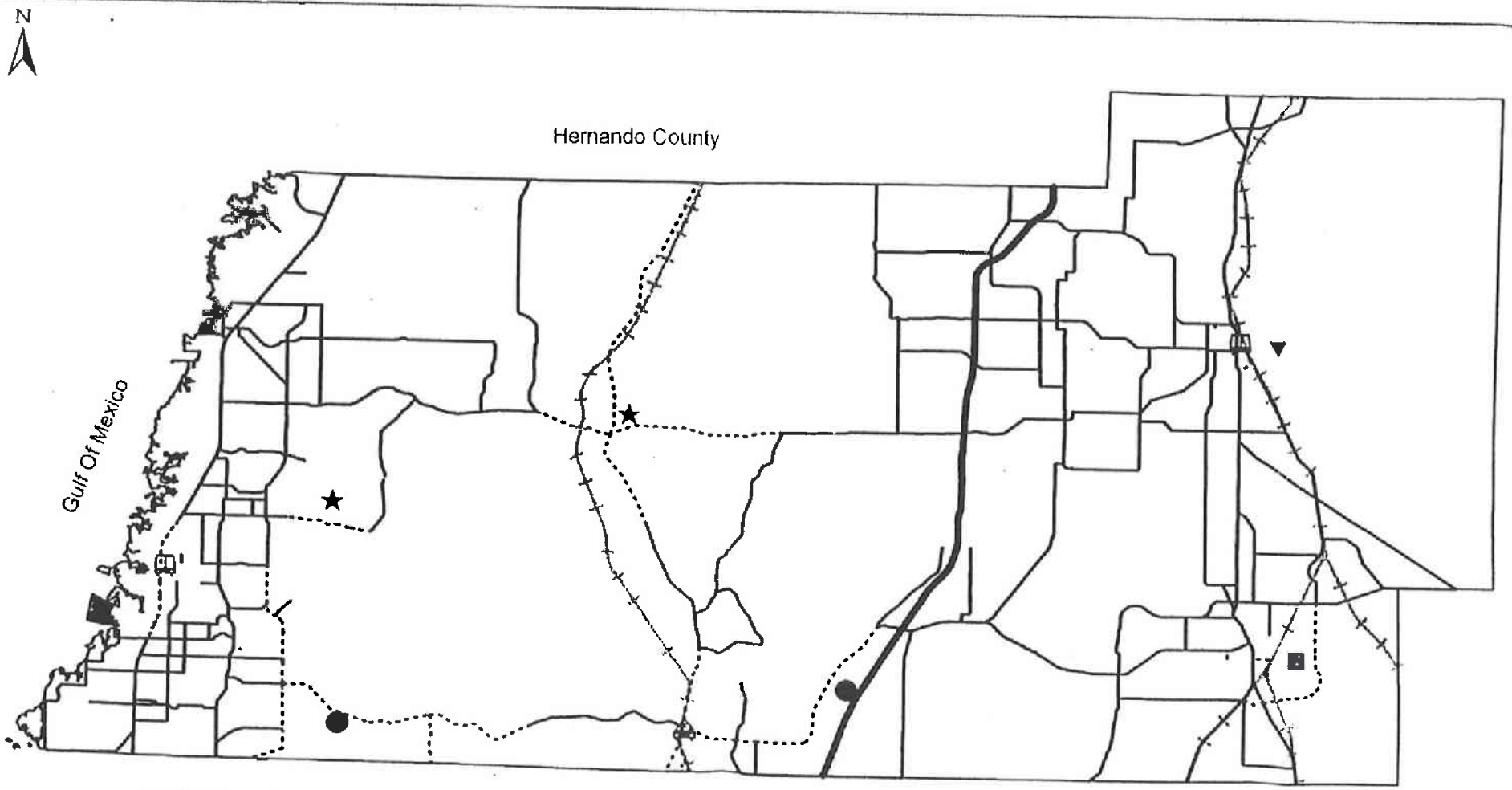
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

1995 TRANSIT SERVICE AREAS & MAJOR TRANSIT TRIP DESTINATIONS

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-7



Source: Pasco County Comprehensive Plan Transportation Element 11-6-96

LEGEND

- Limited Access Facility
- Public General Aviation Facility
- Transit Station
- Private Aviation Facility
- General Aviation Facility
- Greyhound Bus Station
- Park and Ride Lot
- Railroads

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

1995 LIMITED ACCESS FACILITIES, RAIL LINES, AIRPORTS & INTERMODAL FACILITIES

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-8

There are currently several inactive and active railroad corridors traversing Pasco County. These rail lines are used predominantly for freight movement. Approximately 315 m (1,033 ft) north or the interchange of S.R. 52 with I-75 is an abandoned C.S.X. railroad corridor. Portions of the property along the abandoned rail corridor have been sold to non-railroad entities. No rail facilities are located along the remaining portion of the I-75 corridor.

6.4.3 Aviation

Tampa International Airport (TIA) provides major carrier service to Pinellas, Pasco, Hernando, Sumter, Manatee, Sarasota, Hardee, DeSoto and western Polk Counties. However, the I-75 corridor project is not located in the vicinity of TIA, nor does it provide direct access to the airport. However, I-75 is a regional road providing access to I-275 which provides direct access to TIA.

There are five general aviation airports located in Pasco County, as follows:

- Tampa Bay Executive Airport, a privately-owned, public use airport
- Zephryhills Municipal Airport, a publicly-owned, public use airport
- Tampa North Aero Park, a privately-owned, private use airport
- Hidden Lakes, a privately-owned, private use airport
- Pilot County, a privately-owned, private use airport

Only the Tampa North Aero Park (formerly Topp of Tampa Airport) is located within the I-75 corridor study area. However, according to the Pasco County Comprehensive Plan[2], this airport does not meet Federal Aviation Administration (FAA) paved runway criteria and is not included in the data and analysis of Pasco County airports.

Airport demand in Pasco County indicates the need to begin planning the expansion of the Tampa Bay Executive Airport or consideration of a new airport site. Any new airport or expansion of the existing airport to meet the needs of Pasco County and the region will be designed as a reliever to TIA in accordance with FAA design standards. However, according to the Pasco County Comprehensive Plan[2], preliminary studies identify the western portion of Pasco County as the most

feasible area for expansion or new airport development which is not expected to directly affect the I-75 corridor.

6.4.4 Ports

Pasco County does not have a port facility as defined in Rule 9J-5 of the Florida Administrative Code.

The Port of Tampa serves Hillsborough, Pinellas, Pasco, Polk and Hernando Counties.

Roadways are an important landside component of the Port's interface between land and water transportation. The majority of the Port's work force and haulers of freight travel to and from the port via the regional roadway networks, I-75 provides regional port access via I-4.

6.5 FUTURE TRAFFIC ANALYSIS ASSUMPTIONS

The FDOT future traffic characteristics for the study corridor are summarized in Table 6-6.

Table 6-6
Future Traffic Characteristics

Segment Locations	Provided by FDOT					
	K_{30}	D	T_{24}	DHT	DH2[a]	DH3[a]
I-75						
South of S.R. 56	9.18%	54.74%	14%	7%	0.33%	6.67%
Between S.R. 56 and S.R. 54	9.18%	54.74%	15%	7.5%	0.37%	7.13%
Between S.R. 54 and S.R. 52	9.18%	54.74%	17%	8.5%	1.24%	7.26%
North of S.R. 52	9.18%	54.74%	18%	9%	1.24%	7.26%
S.R. 54						
West of I-75	9.44%	56.74%	6%	3%	N/A[b]	N/A[b]
East of I-75	9.44%	56.74%	6%	3%	N/A[b]	N/A[b]
S.R. 52						
West of I-75	9.44%	56.74%	12%	6%	N/A[b]	N/A[b]
East of I-75	9.44%	56.74%	6%	3%	N/A[b]	N/A[b]

Notes:
[a] Based on median and heavy truck split provided in Table 6-1.
[b] The break down for median and heavy truck was not applicable for this study.

Comparison of the information provided in Table 6-6 to the existing characteristics displayed in Section 6.1.4 reveals that the K_{30} - and D- factors are similar to the data used for existing conditions. However, a review of the design hour truck percentages indicates the existing truck percentages are significantly higher than the future truck percentages. This can be explained by the change in land use expected within the study corridor. During future conditions the number of trucks are expected to increase; however, they will not increase by the same proportion as the increase in total vehicles. Therefore, this condition results in a decrease in the truck percentages for the future.

6.6 TRAFFIC VOLUME PROJECTIONS

The FDOT traffic projection data used to complete the future traffic analyses for the I-75 study included AADT volumes for the opening year (2008) and design year (2020). The following subsections summarize the traffic projections. Although S.R. 56 is included in the study corridor, it was exempt from the future traffic analysis for the PD&E Study because adequate analyses were performed in conjunction with the design of this interchange as discussed in Section 6.2.1.1.

6.6.1 Annual Average Daily Traffic Projections

The Tampa Bay Regional Transportation Analysis (RTA) Model was used to develop the design year (2020) traffic projections. A historical count trend analysis was used to develop the opening year (2008) traffic projections. In addition, the S.R. 56 interchange was assumed to be open to traffic before the year 2008. The projected AADT volumes are the same for the No-Project and Build alternatives.

The opening year (2008) and design year (2020) AADT volumes are provided on Figures 6-9 and 6-10, respectively. The AADT volumes along I-75 are expected to range from 48,800 vehicles per day (vpd) north of S.R. 52 to 99,200 vpd south of S.R. 56 in 2008. The 2020 AADT volumes are expected to range from 57,700 vpd north of S.R. 52 to 118,300 vpd south of S.R. 56. The opening of the S.R. 56 interchange at I-75 is expected to impact the traffic demand at the S.R. 54 interchange. Comparisons of the 2008 and 2020 traffic volumes to the existing traffic volumes reveals a minimal

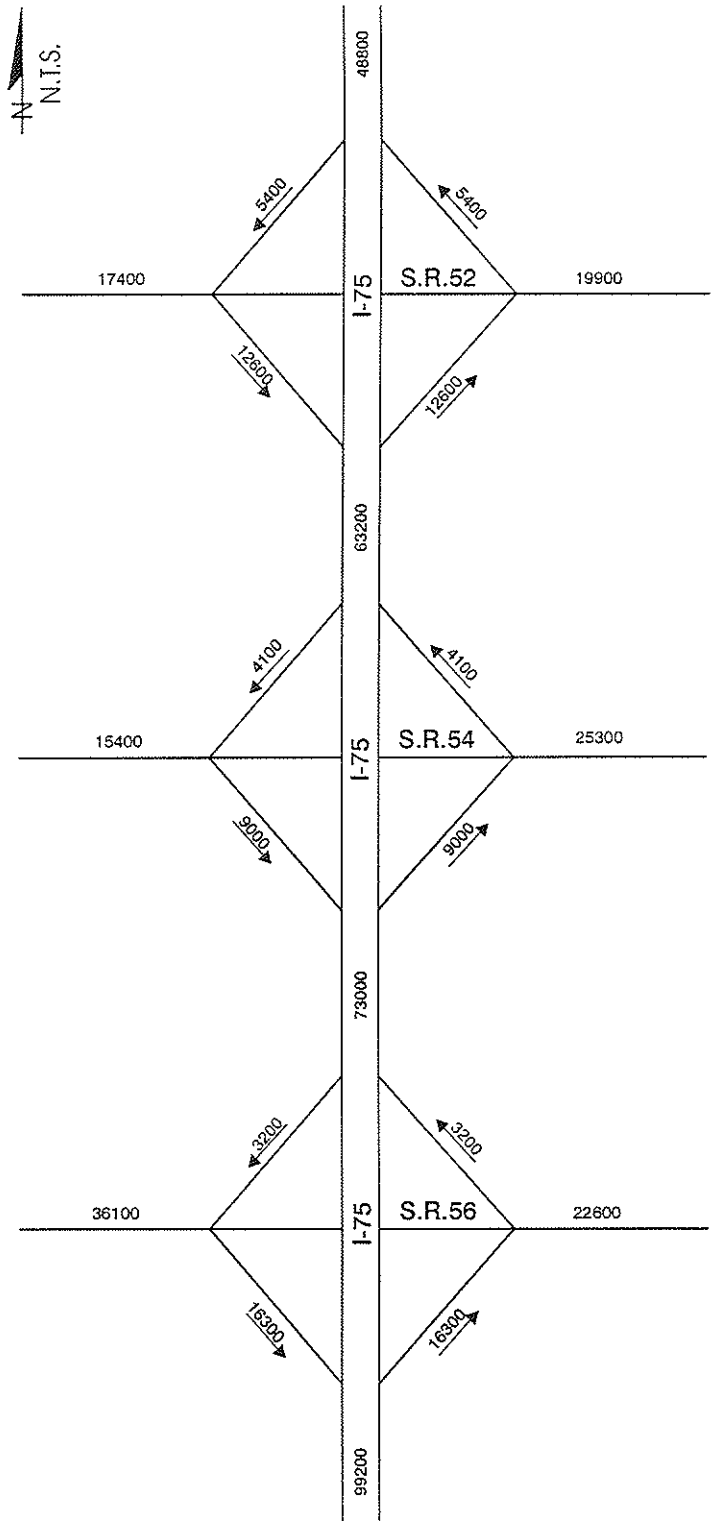
increase in traffic volumes at the S.R. 54 and I-75 interchange. The minimal increase in traffic at S.R. 54 is expected to be due to the diversion of traffic to the S.R. 56 interchange.

6.6.1.1 S.R. 56 Interchange AADT Projections

The S.R. 56 interchange with I-75 is currently under design by others. The 2020 traffic projections being used for that project were compared to the PD&E Study projections to determine if the planned design will accommodate the 2020 traffic volumes. The comparisons revealed that the S.R. 56 traffic projections are slightly higher than the I-75 study projections. This indicates that the S.R. 56 interchange design will be able to accommodate the PD&E Study 2020 projected traffic volumes. The only major discrepancy between the two sets of traffic projections was to the east of I-75. The S.R. 56 interchange design traffic projections of 46,600 vpd warrants a six-lane roadway and the I-75 PD&E Study traffic projections of 26,700 vpd warrants a four-lane roadway facility. However, the Pasco County MPO 2020 Cost Affordable Transportation Plan[7] indicates plans to widen S.R. 56 east of I-75 to a six-lane roadway facility. Therefore, the lane calls based on the S.R. 56 interchange design traffic study are consistent with the 2020 Cost Affordable Transportation Plan[7]. The proposed lane configuration for the S.R. 56 interchange at I-75 is displayed on Figure 6-11. Based on this review, it was recommended that reanalysis of the S.R. 56 interchange is not necessary. The traffic projections for S.R. 56 displayed on Figures 6-9 and 6-10 represent the future traffic volumes. Only, PD&E Study data was displayed in order to maintain consistency with the other study corridor interchange data presented on these figures.

6.6.2 Peak Hour Traffic Projections

The future traffic characteristics discussed in Section 6-5 were used to develop the peak hour volumes. First, the non-directional peak hour volumes were developed by multiplying the future AADT volumes by the appropriate K_{30}-factors. The A.M. and P.M. peak hour volumes were then determined by applying the appropriate D-factors provided in Table 6-6. The peak direction for the A.M. peak hour was assumed to be southbound on I-75, westbound on S.R. 54 and eastbound on S.R. 52. The peak direction for the P.M. peak hour was assumed to be the opposite direction of the A.M. peak hour. The FDOT also provided turning movement assumptions for each intersection. These assumptions were applied to the directional peak hour traffic volumes to obtain peak hour



LEGEND

12100 Two Way AADT Volume

6100 → Directional AADT Volume

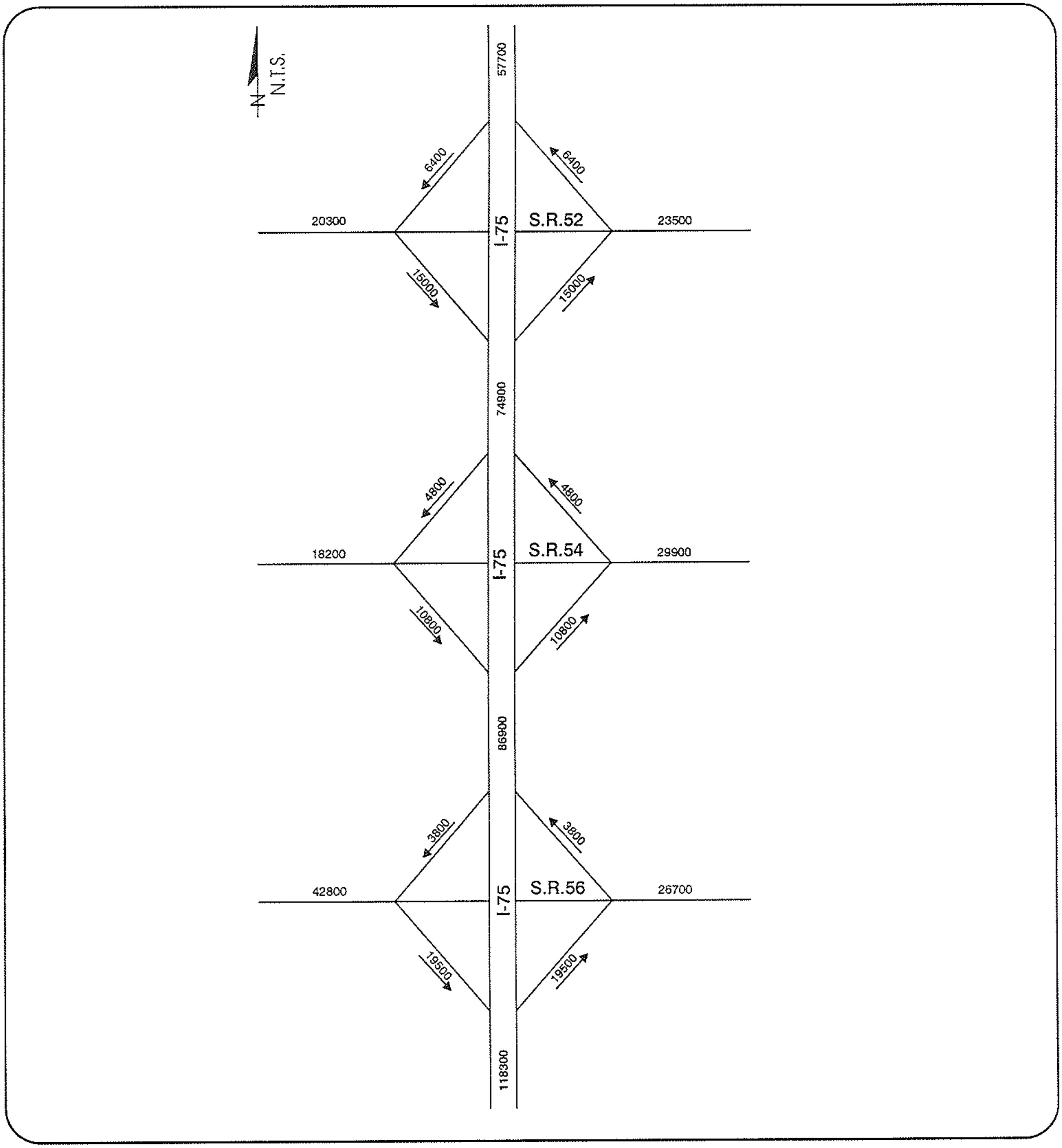
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

OPENING YEAR (2008) ANNUAL AVERAGE DAILY TRAFFIC VOLUMES

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-9



LEGEND

12100 Two Way AADT Volume

6100 → Directional AADT Volume

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)

PD&E STUDY

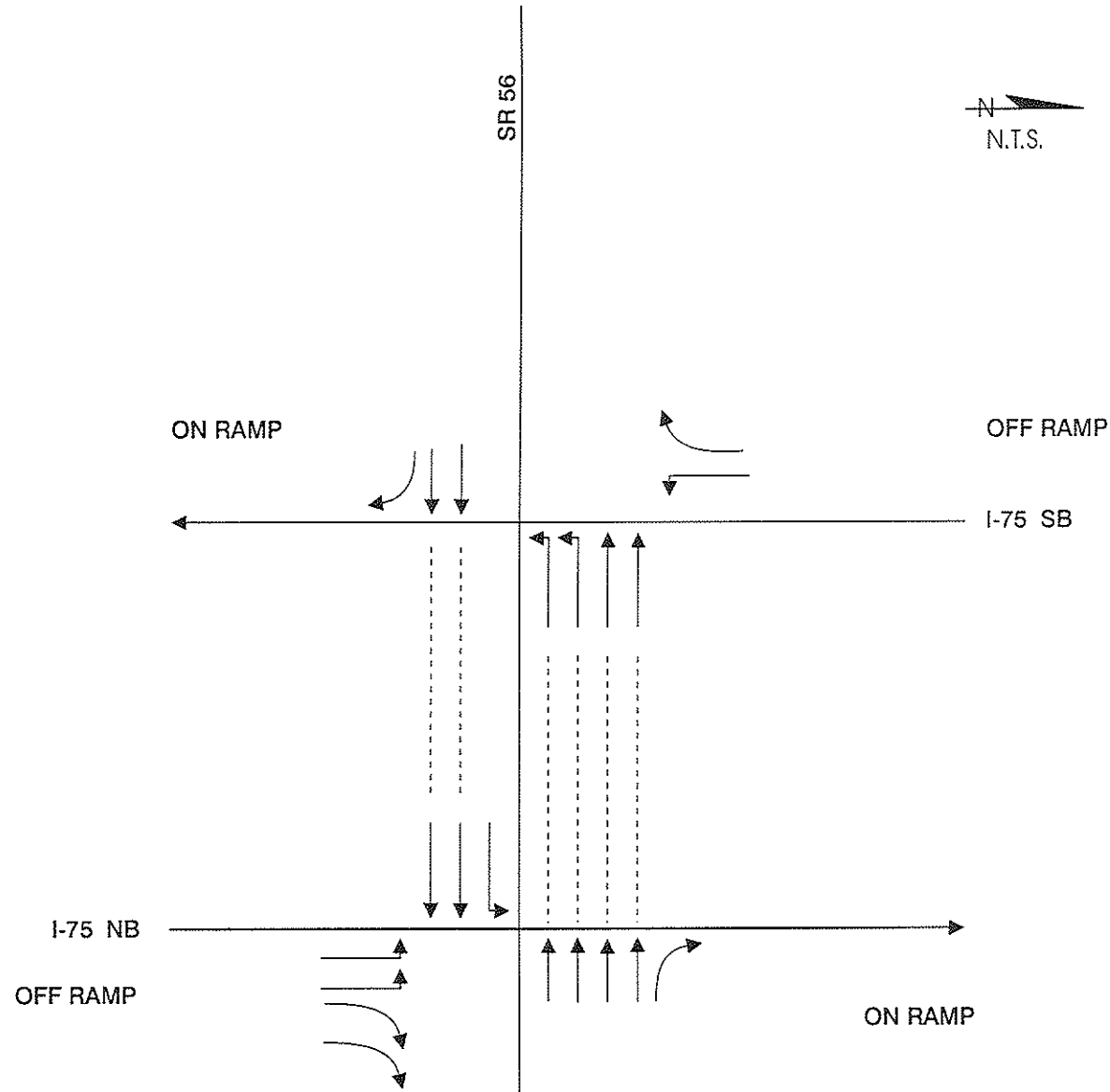
From South of S.R. 56 to North of S.R. 52

Pasco County, Florida

DESIGN YEAR (2020) ANNUAL AVERAGE DAILY TRAFFIC VOLUMES

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-10



LEGEND

→ Direction of Flow / Lane

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

LANE CONFIGURATION FOR PROPOSED S.R. 56 AT I-75

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-11

turning movement volumes. The peak hour turning movement volumes were developed for the opening year (2008) and the design year (2020). The 2008 peak hour volumes are displayed in Figure 6-12 and the 2020 peak hour volumes are displayed in Figure 6-13.

A review of the 2020 peak hour traffic projections reveals that minimal traffic growth is expected to occur at the S.R. 54 signalized intersections at I-75. This minimal growth is due to the opening of the S.R. 56 interchange at I-75. This new interchange is expected to divert future traffic volumes that would typically travel along S.R. 54 to access I-75.

6.7 FUTURE LEVEL OF SERVICE

Traffic analyses were only conducted for design year (2020) conditions. Therefore, the 2020 traffic projections displayed in Figure 6-13 were used for design year analyses. In addition, the same analysis procedure used for existing conditions was used to analyze future conditions. This includes using the HCS and PASSER III-90 software packages. As noted under the existing operation analyses, PASSER III-90 was specifically designed for determining the best strategy to minimize the average delay per vehicle for a pretimed signalized diamond interchange. HCS evaluates isolated intersections and is, therefore unable to analyze the overall operation of the interchange. Two alternatives were evaluated for the design year: No-Project and the Build alternative. The overall results of the analyses are provided in Figures 6-14 and 6-15, respectively. The following subsections summarizes the analyses completed for the design year (2020) traffic conditions.

6.7.1 Design Year (2020) Operational Analyses at S.R. 54/I-75 Signalized Intersections

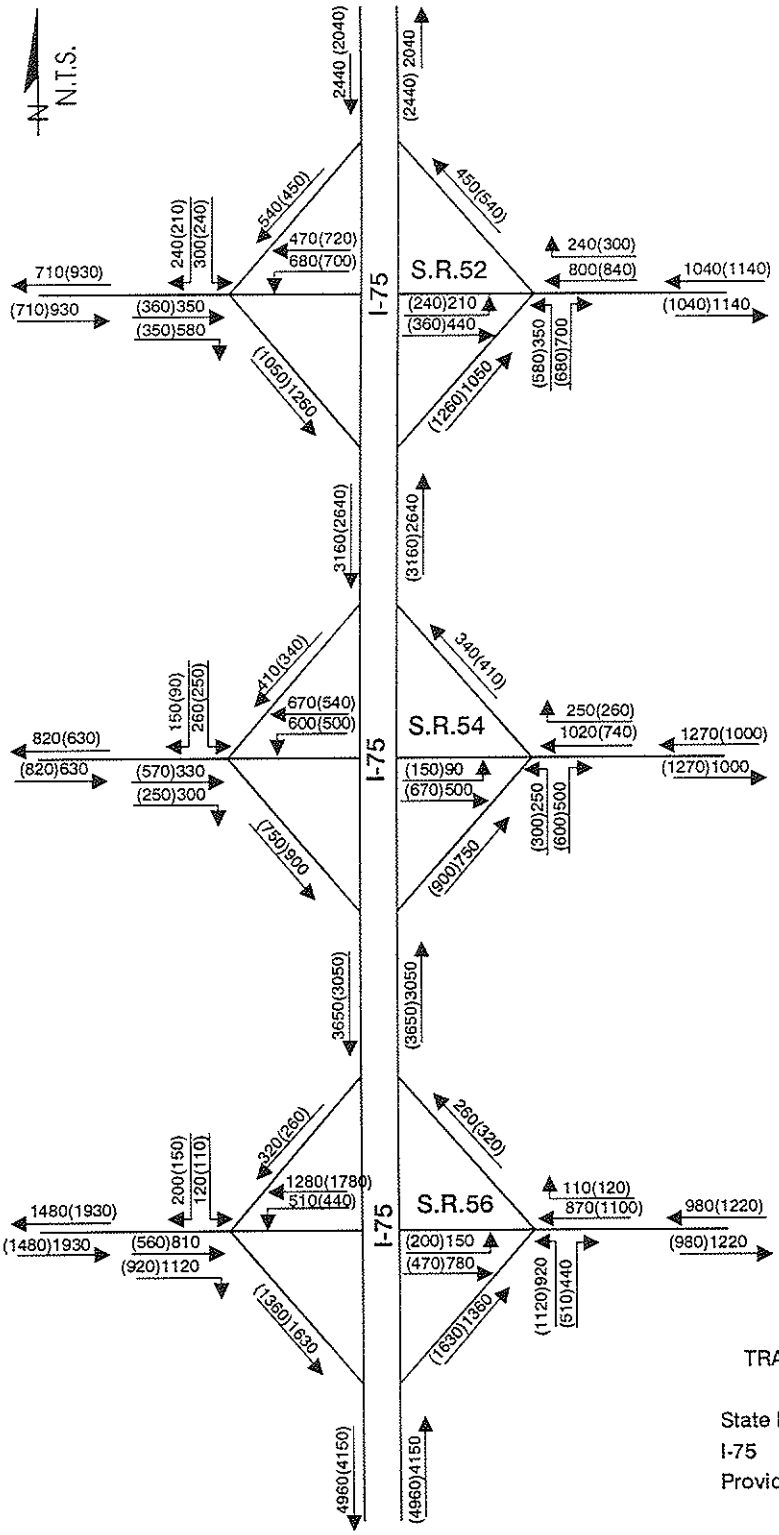
As mentioned previously in the existing conditions section, both intersections at S.R. 54 and the I-75 northbound and southbound ramps are currently signalized. Minimal growth is expected to occur at the S.R. 54 interchange. The new S.R. 56 interchange will divert substantial S.R. 54 eastbound traffic from the existing S.R. 54 interchange. Existing development is currently concentrated along S.R. 54 and near U.S. 41. Drivers from this area (Land O Lakes) will eliminate approximately 6.44 km (4 mi) from their trip by using the S. R. 56 interchange. Much of the underdeveloped land and north of S.R. 54 and south of S.R. 52 is well field owned by SWFWMD and will never be developed. Therefore, the existing lane configuration, also shown as the recommended lane

configuration on Figure 6-16, is expected to operate sufficiently in the year 2020. Hence, the results from future analysis for No-Project and Build conditions are the same. As shown in Table 6-7, both S.R. 54 intersections with I-75 ramps are expected to operate at LOS B during the 2020 A.M. and P.M. peak hours. These intersections are operating better than the acceptable LOS D standard required by FDOT for this type roadway.

Table 6-7
Design Year (2020) S.R. 54/I-75 Signalized Intersections
No-Project and Build - HCS Analyses

Approach	Lane Group	2020 No-Project & Build	
		A.M. Peak Hour	P.M. Peak Hour
S.R. 54 at I-75 Northbound Exit/Entrance Ramps			
EB	Left	C	D
	Thru	A	A
WB	Thru	B	B
	Right	A	A
NB	Left	C	D
	Right	A	A
OVERALL		B	B
S.R. 54 at I-75 Southbound Exit/Entrance Ramps			
EB	Thru	C	B
	Right	A	A
WB	Left	C	C
	Thru	A	A
SB	Left	D	D
	Right	A	A
OVERALL		B	B

PASSER III-90 was also used to analyze the operation of the entire interchange, since this program is specifically designed for determining the best strategy to minimize the average delay per vehicle for a pretimed signalized diamond interchange. The results of the PASSER III-90 analysis revealed that the overall interchange is expected to operate at LOS D during the 2020 A.M. and P.M. peak hours. Hence, the interchange is expected to operate at the acceptable FDOT standard (LOS D) for the roadway.



TRAFFIC CHARACTERISTICS *

	K - Factor	D - Factor
State Roads	9.44%	56.74%
I-75	9.18%	54.46%

Provided by FDOT, District 7

LEGEND

780 A.M. Peak Hour Volumes

(900) P.M. Peak Hour Volumes

→ Direction of Flow

* These are the initial traffic characteristics used to develop the design hour volumes. Due to smoothing, the characteristics were varied slightly during the development of the balanced volumes.

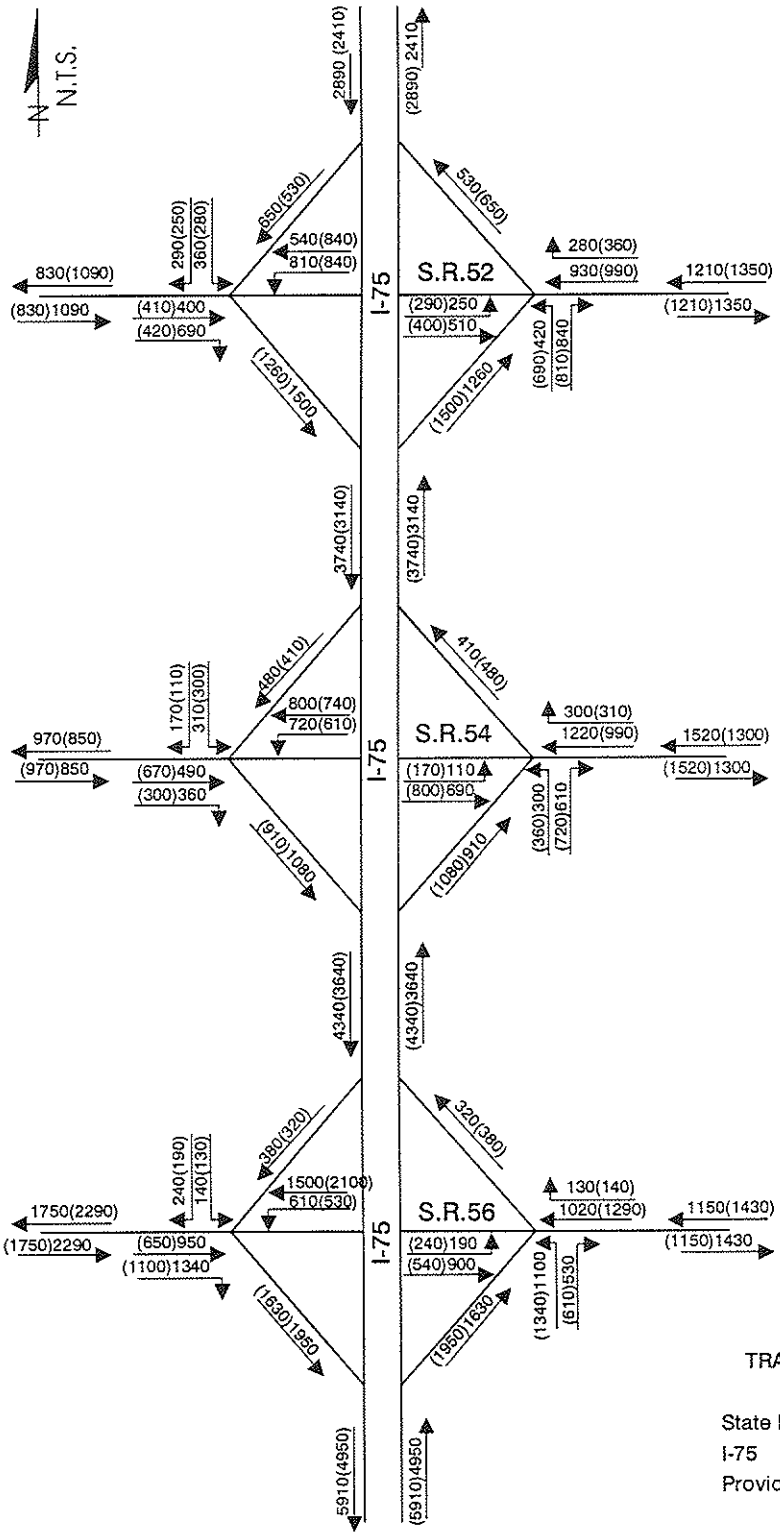
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

OPENING YEAR (2008) PEAK HOUR VOLUMES

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-12



TRAFFIC CHARACTERISTICS *

	K - Factor	D - Factor
State Roads	9.44%	56.74%
I-75	9.18%	54.46%

Provided by FDOT, District 7

LEGEND

780 A.M. Peak Hour Volumes

(900) P.M. Peak Hour Volumes

→ Direction of Flow

* These are the initial traffic characteristics used to develop the design hour volumes. Due to smoothing, the characteristics were varied slightly during the development of the balanced volumes.

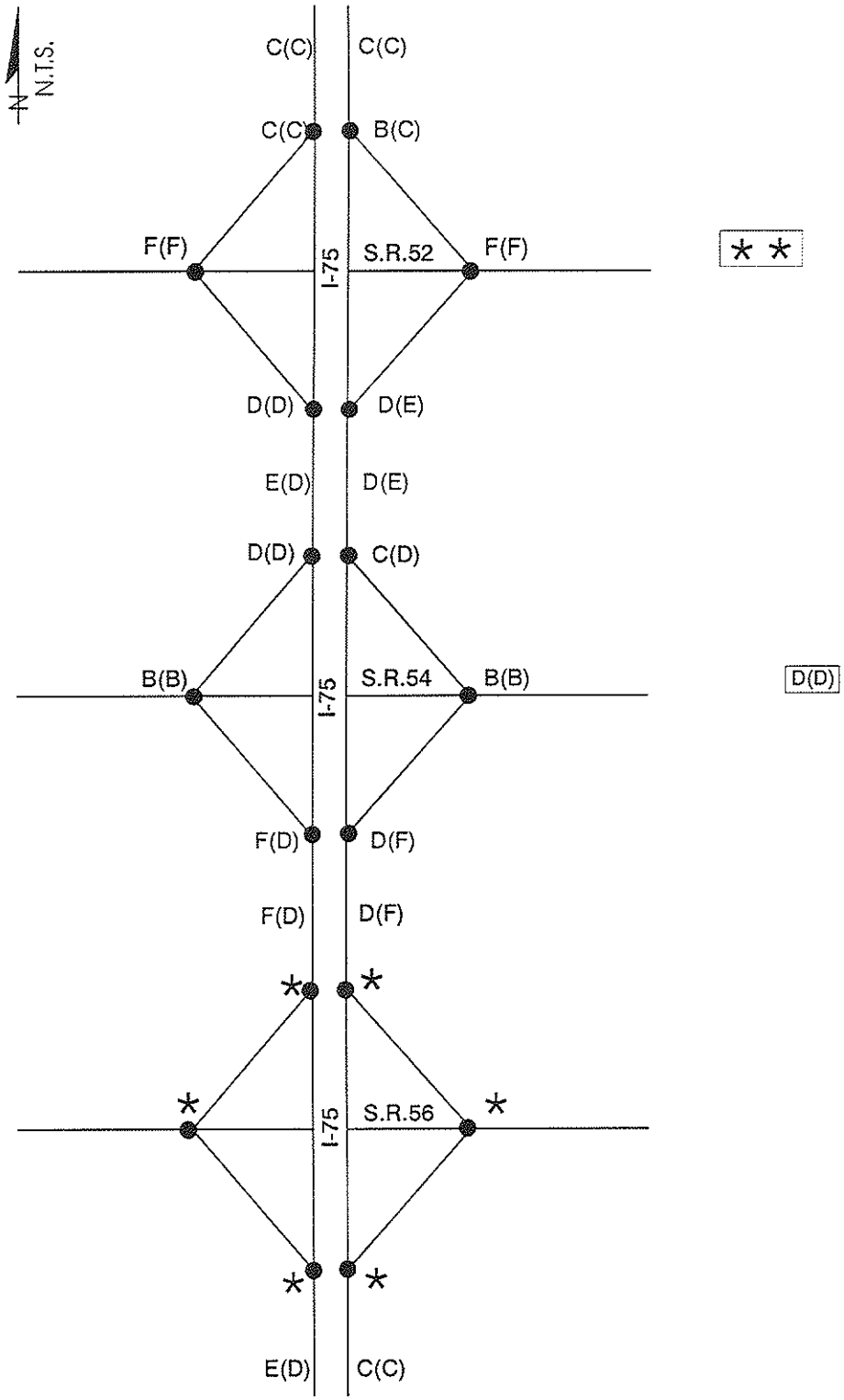
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

DESIGN YEAR (2020) PEAK HOUR VOLUMES

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-13



LEGEND

C	A.M. Peak Hour LOS
(D)	P.M. Peak Hour LOS
D(D)	PASSER III-90 Overall Interchange LOS
* *	Unable to use PASSER III-90 to evaluate interchange with unsignlized intersections
*	Operational analyses recently completed for the S.R. 56 interchange design. Therefore the FDOT decided that reanalysis of the interchange was not necessary for this study.

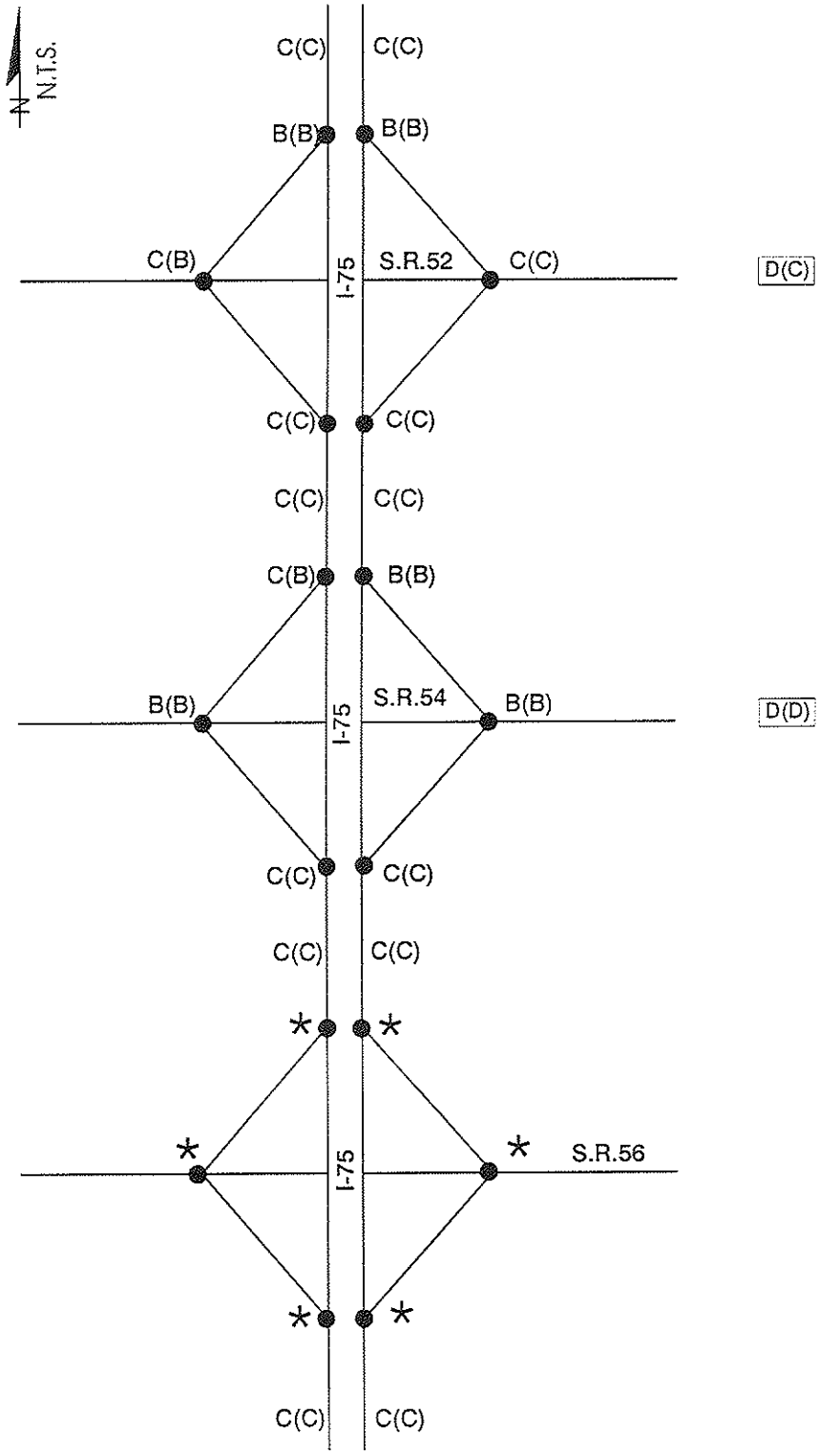
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

DESIGN YEAR (2020) LEVELS OF SERVICE NO-PROJECT ALTERNATIVE

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-14



LEGEND

C	A.M. Peak Hour LOS
(D)	P.M. Peak Hour LOS
D(D)	PASSER III-90 Overall Interchange LOS
*	Operational analyses recently completed for the S.R. 56 interchange design. Therefore the FDOT decided that reanalysis of the interchange was not necessary for this study.

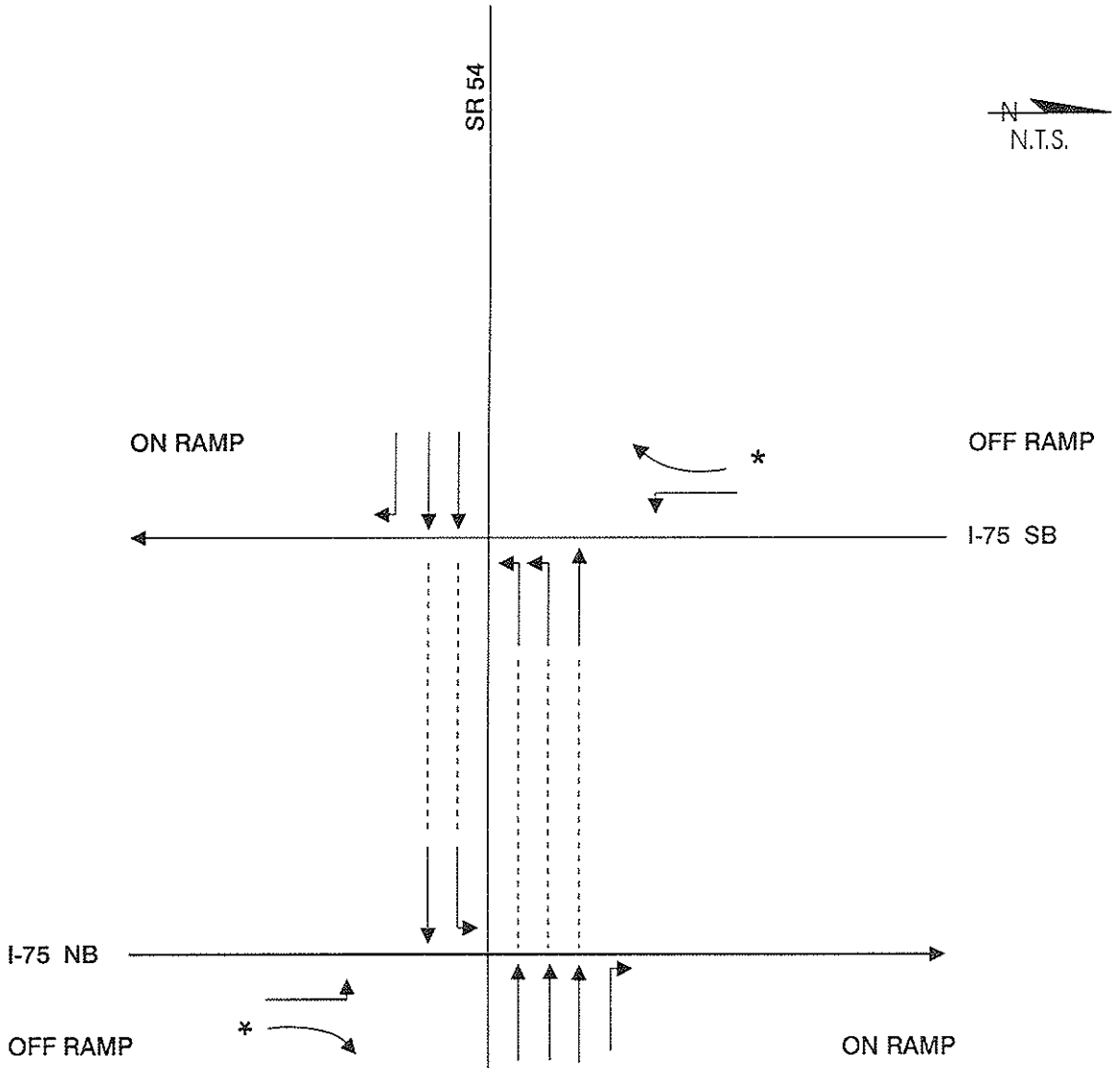
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

DESIGN YEAR (2020) LEVELS OF SERVICE BUILD ALTERNATIVE

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-15



LEGEND

→ Direction of Flow / Lane

* Free Flow Right Turn

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

RECOMMENDED DESIGN YEAR (2020) LANE CONFIGURATION FOR S.R. 54 at I-75

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-16

6.7.2 Design Year (2020) Operational Analyses at S.R. 52/I-75 Intersections

The operational analyses for S.R. 52 intersections at I-75 were conducted for the No-Project and Build conditions for the year 2020. The No-Project condition assumes the existing lane configuration and unsignalized intersections at the interchange as shown in Figure 6-5. HCS unsignalized intersection module was used to complete this analysis. Table 6-8 provides the results of the No-Project analyses for the 2020 A.M. and P.M. peak hours. Review of the results reveals that the majority of the movements are expected to operate at LOS F. Therefore, the intersections are expected to operating below the FDOT LOS D standards under the 2020 No-Project option.

Table 6-8
Design Year (2020) S.R. 52/I-75 Signalized Intersections
Build - HCS Analyses

Approach	Lane Group	2020 No-Project (Unsignalized)		2020 Build Option C (Signalized)	
		A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour
S.R. 52 at I-75 Northbound Exit/Entrance Ramps					
EB	Left	D	F	D	D
	Thru	(1)	(1)	B	A
WB	Thru	(1)	(1)	C	C
	Right	(1)	(1)	C	D
NB	Left	F	F	C	C
	Right	F	F	C	D
OVERALL		F	F	C	C
S.R. 52 at I-75 Southbound Exit/Entrance Ramps					
EB	Thru	(1)	(1)	B	B
	Right	(1)	(1)	D	C
WB	Left	F	F	D	C
	Thru	(1)	(1)	A	A
SB	Left	F	F	D	D
	Right	B	C	D	D
OVERALL		F	F	C	B

Note: (1) HCS Unsignalized Intersection Module did not report LOS for this approach.

The Build condition includes the improvements expected to be needed for the intersections to operate at LOS D standards for the year 2020. The traffic operational analyses for the I-75 and S.R. 52 interchange were performed for three different intersection Build Options. The description of the three options and the analyses performed for the options are provided in a memorandum prepared

on July 28, 1997. A copy of this memorandum is provided in Appendix G of the Revised Draft Traffic Report[1] prepared for this PD&E Study. Traffic operational analyses were performed using the HCS and PASSER III-90 software packages. Based on the results of the analyses, the recommended lane geometry for the S.R. 52 intersections at I-75 was Option C. This lane configuration is displayed in Figure 6-17. The analysis results of Build Option C are presented in Table 6-8.

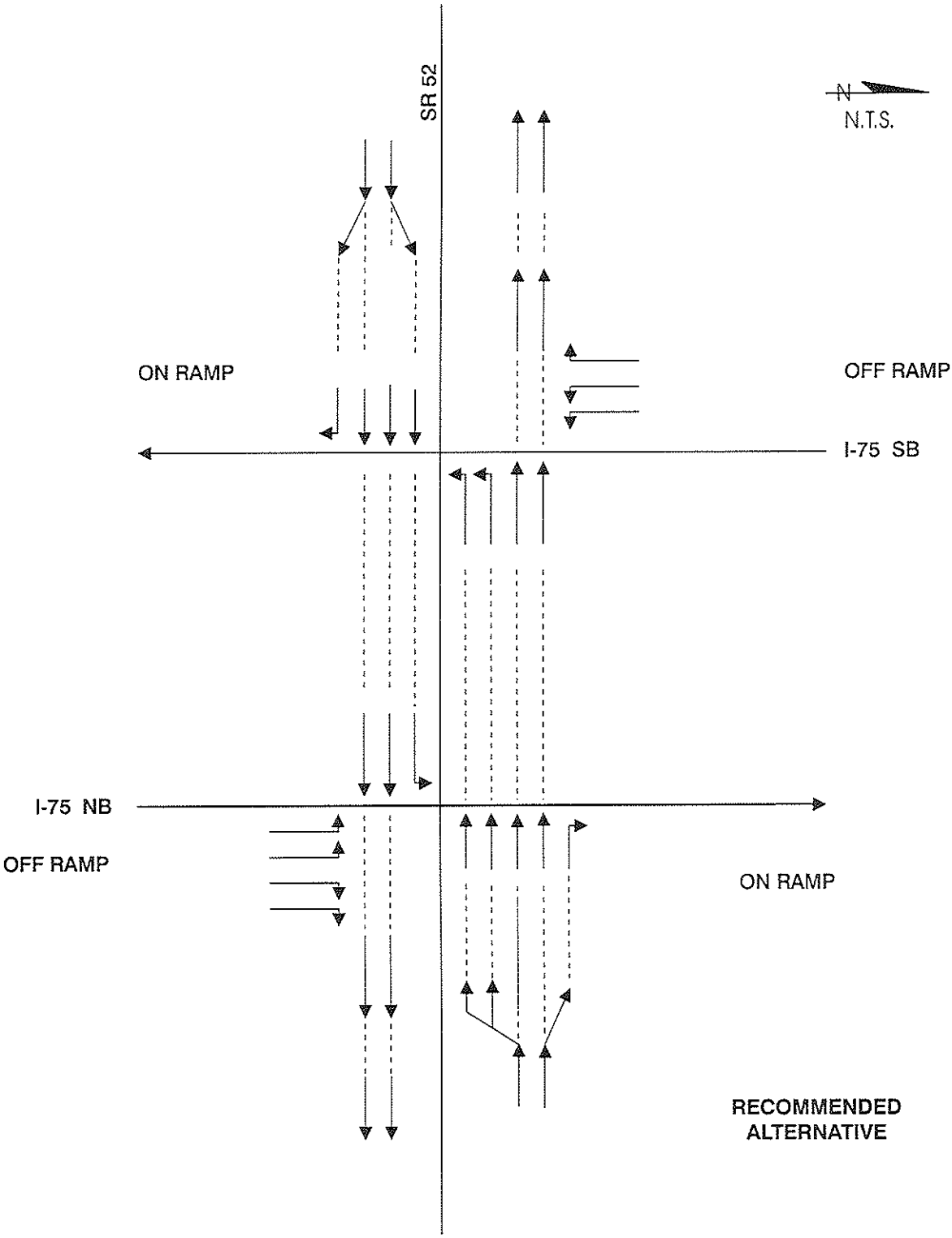
A review of Table 6-8 reveals that the northbound ramp intersection during the A.M. and P.M. peak hours is expected to operate at LOS C in the year 2020. The southbound ramp intersection is expected to operate at LOS C during the 2020 A.M. peak hour and at LOS B during the P.M. peak hour.

The results of the PASSER III-90 analysis revealed that the overall interchange is expected to operate at LOS D during the 2020 A.M. peak hour and LOS D for 2020 P.M. peak hour. Therefore, the interchange is expected to operate at the acceptable FDOT standard (LOS D) with recommended lane geometry shown in Figure 6-17 by the year 2020.

6.7.3 Design Year (2020) I-75 Segments Level of Service

Table 6-9 displays the I-75 freeway segment LOS for the design year 2020. A review of Table 6-9 reveals that the majority of the freeway segments located in the study corridor are expected to operate below the acceptable FDOT LOS C standard with the No-Project conditions. However, there are a few exceptions, for example during the 2020 A.M. and P.M. peak hours the northbound and southbound I-75 segments north of S.R. 52 are expected to operate at LOS C.

In addition, the northbound segment of I-75 south of S.R. 56 during the A.M. and P.M. peak hours is expected to operate at LOS C in the year 2020. However, the southbound segment of I-75 south of S.R. 56 is expected to operate at LOS E during the A.M. peak hour and LOS D during the P.M. peak hour. The difference in LOS for the northbound segment versus the southbound segment is due to the number of thru lanes assumed for the 2020 No-Project traffic analysis. The No-Project analysis assumes that I-75 south of S.R. 56 is a four-lane section in the northbound direction and a three-lane section in the southbound direction. As the Build analysis is displayed in Table 6-9, improving the I-75 southbound segment (including the Cypress Creek Bridge) to a four-lane sections is expected to enhance the operation to LOS C for the 2020 A.M. and P.M. peak hours.



LEGEND

→ Direction of Flow / Lane

* Free Flow Right Turn

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

RECOMMENDED DESIGN YEAR (2020) LANE CONFIGURATION FOR S.R. 52 AT I-75

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 6-17

Table 6-9
Design Year (2020) I-75 Freeway Segments
Level of Service

Segment Locations	2020 No-Project (Four-Lane Freeway)				2020 Build (Six-Lane Freeway)			
	Northbound		Southbound		Northbound		Southbound	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
I-75 South of S.R. 56	C	C	E	D	C	C	C	C
I-75 Between S.R. 56 and S.R. 54	D	F*	F*	D	C	C	C	C
I-75 Between S.R. 54 and S.R. 52	D	E	E	D	C	C	C	C
I-75 North of S.R. 52	C	C	C	C	C	C	C	C

* Speed and density are highly variable for LOS F

Table 6-9 reveals that all freeway segments under the Build alternative are expected to operate at the acceptable FDOT LOS C standard. Every northbound and southbound segment along the I-75 study corridor is expected to operate at LOS C during the 2020 A.M. and P.M. peak hours.

6.7.4 Design Year (2020) I-75 Ramp Junctions Level of Service

The results of the freeway/ramp junction capacity analysis are summarized in Table 6-10. This table summarizes the results from the No-Project and Build Options. Review of Table 6-10 reveals that the majority of the ramp junctions are expected to operate below the acceptable LOS C standard during the 2020 A.M. and P.M. peak hours for the No-Project conditions. Only two freeway ramp junctions are expected to operate at LOS C or better for both No-Project peak hours during the year 2020. These ramp junctions are the I-75 southbound exit ramp and the northbound entrance ramp at S.R. 52.

A review of Table 6-10 reveals that all ramp junctions are expected to operate at LOS C or better in the 2020 design year under the Build alternative. Therefore, all ramp junctions will be operating above the FDOT standard LOS C.

Table 6-10
Design Year (2020) I-75 Freeway Ramp Junctions
Level of Service

Freeway Ramp Junction	2020 No-Project (Four-Lane Freeway)		2020 Build (Six-Lane Freeway)	
	A.M.	P.M.	A.M.	P.M.
I-75 Northbound				
at S.R. 54 Exit Ramp	D	F*	C	C
at S.R. 54 Entrance Ramp	C	D	B	B
at S.R. 52 Exit Ramp	D	E	C	C
at S.R. 52 Entrance Ramp	B	C	B	B
I-75 Southbound				
at S.R. 52 Exit Ramp	C	C	B	B
at S.R. 52 Entrance Ramp	D	D	C	C
at S.R. 54 Exit Ramp	D	D	C	B
at S.R. 54 Entrance Ramp	F*	D	C	C

* Speed and density are highly variable for LOS F.

6.8 REFERENCES

1. Revised Draft Traffic Report; Post, Buckley, Schuh & Jernigan, Inc. Prepared for Florida Department of Transportation, District 7; Tampa, FL, Revised October 1997.

2. Pasco County Comprehensive Plan, Traffic Circulation Element; Pasco County Board of County Commissioners; Adopted June 15, 1989, Refined January 1995.

3. Florida's Level of Service Standards and Guidelines Manual for Planning; Florida Department of Transportation, System Planning Office; Tallahassee, Florida; 1995.

4. Highway Capacity Software, Version 2.4; McTrans Center, University of Florida; Gainesville, FL; 1995.

5. Highway Capacity Manual, Special Report 209, Third Edition; Transportation Research Board; Washington, DC; 1994.

6. PASSER III-90; Texas Transportation Institute; Texas A&M University; College Station, Texas; March 1991.

7. Pasco County MPO 2020 Cost Affordable Transportation Plan; Tindale-Oliver and Associates, Inc.; Tampa, Florida; December 1995.

8. S.R. 54 PD&E Study, Final Engineering Report; Gee & Jensen, Inc.; Tampa, Florida; May, 1993.

SECTION 7
CORRIDOR ANALYSIS

7.1 EVALUATION OF ALTERNATE CORRIDORS

In order to identify potential alternate corridors which could satisfy the future travel demand of the I-75 corridor, the following options were considered.

- Improvement to another north-to south corridor within the region
- Enhancement of transit within the corridor
- Roadway improvements to the existing I-75 corridor

7.1.1 Improvement of Parallel Roadways

A review to determine the feasibility of improving an existing parallel facility was conducted prior to the evaluation of widening I-75. The function of an Interstate is to provide regional travel movement for all modes. I-75, as part of the interstate system, is unique in that it provides high speed long distance movement unimpeded by intersection and driveway conflicts. The only regional road in the general vicinity providing long distance movement is U.S. 19, located over 32 km (20 mi) to the west. U.S. 19 is not a limited access roadway, and has both driveway access and numerous intersections. There is no parallel facility to the east within the region. Therefore improvements to a parallel facility is not considered a viable alternative.

7.1.2 Enhancement of Transit Service

Pasco County currently operates a demand-response public transit system. The service area covers all of Pasco County. No other public transit facilities currently exist within the I-75 corridor. The nearest park and ride lot is located at S.R. 54 and US 41. The Pasco County MPO 2020 Cost Affordable Plan[1] does not include any transit routes or facilities within the I-75 corridor. The Long Range Transportation Plan is currently being updated to the Year 2020. At this time the plan does

not include any transit facilities within the corridor. Therefore, transit was not considered a viable alternative for the I-75 corridor.

7.1.3 Improvement of the Existing Corridor

The ROW along the I-75 corridor is not sufficient for widening to the outside borders without either acquisition of additional ROW or a request for a variation to the border width design standards. In order to widen to the inside median, a variation to the median width standard is required. All three widening options were considered viable for additional study.

Widening of the I-75 corridor is compatible with the Pasco County MPO 2020 Cost Affordable Plan[1] , as amended January 1995.

7.2 CORRIDOR SELECTION

In summary, neither alternative corridors or transit were considered viable alternatives to the widening of I-75.

Therefore the existing corridor, with three widening options, is considered viable for further study:

- Widening to the outside borders with ROW acquisition
- Widening to the outside borders with a reduced border width
- Widening to the inside medians with a reduced median width.

7.3 REFERENCES

1. Pasco County MPO 2020 Cost Affordable Transportation Plan; Tindale-Oliver and Associates, Inc.; Tampa, Florida; December 1995.

SECTION 8
ALTERNATIVES ANALYSIS

To develop an improved interstate facility for I-75 that is in the best overall public interest, engineering, environmental, and economic factors must be taken into consideration. The improved facility should be designed to safely and efficiently accommodate the projected design year vehicular traffic. The alignment should be placed so as to optimize the possibilities for construction staging and traffic control. All of these criteria have a direct bearing on the selection of the preferred design concept.

Included in the following sections are descriptions of the alternate 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-Project Alternative.

8.1 NO-PROJECT ALTERNATIVE

The No-Project Alternative consists of canceling the project or postponing improvements of I-75 beyond the design year 2020. Certain advantages would be associated with the implementation of the No-Project Alternative, including:

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

The disadvantages of the No-Project Alternative include:

- Minimizing or preventing increased the economic viability and community values.
- Unacceptable LOS on the existing interstate.
- Increased traffic congestion causing increased road user cost due to travel delay.

- Deterioration of air quality caused by traffic congestions and delays.
- Deterioration of the existing safety deficiencies due to the traffic increases.
- Deterioration in the emergency service response time.
- Increased roadway maintenance costs.

Postponement of the project may jeopardize its future economic feasibility due to the current escalation of construction and ROW costs.

The No-Project alternative will remain under consideration throughout the alternatives analysis and evaluation process.

8.2 TRANSPORTATION SYSTEM MANAGEMENT

The Transportation System Management (TSM) alternative, which consists of low cost capital improvements that maximize the efficiency of the present system, was also considered for this project.

TSM activities currently in place within the Tampa Bay Area, which may reduce single occupancy vehicular trips and improve operational efficiency within the project corridor, include the following:

- Active "Transportation Management Organizations" within Pasco County which provide car pooling, van sharing, mass transit incentives and flex-time support services to businesses and the general public.

- Frequent bus service within the corridor, which is in compliance with the "Americans with Disabilities Act." Additionally, the transit system has implemented various improvements and/or incentives to increase ridership. Such measures include express service, bicycle carrying racks for the buses, a bus shelter program, bus turnouts, and reduced fares for students and the elderly.

However, in order to accommodate future travel demand along the I-75 corridor, TSM activities alone are not considered a viable alternative to roadway improvements.

8.3 ALTERNATIVES DEVELOPMENT

To effectively develop and evaluate all viable improvement alternatives for the project, the following three-step process was applied:

- In Step One, the project was divided into four segments based on interchange locations and type and age of existing structures along I-75.

- In Step Two, alternative typical cross sections were generated based on roadway design criteria discussed in Section 5 and the findings of the traffic analyses.

- In Step Three, alternatives were developed by identifying the groups of possible related roadway and bridge typical sections within each segment and stringing the various combinations together. A table displaying these combinations is provided in Section 8.4.

8.3.1 Project Segmentation

Project segmentation is used in this type of study in order to effectively assess and compare the impacts of each alternative in different geographical areas within the project. After considering the interchange locations and type and age of existing structures along I-75 the project was divided into four study segments as follows:

- Segment A: South of Cypress Creek to north of the proposed S.R. 56 interchange
- Segment B: North of the proposed S.R. 56 interchange to north of the S.R. 54 interchange
- Segment C: North of the S.R. 54 interchange to north of Overpass Road
- Segment D: North of Overpass Road to north of the S.R. 52 interchange

8.3.2 Proposed Typical Sections Common to All Segments

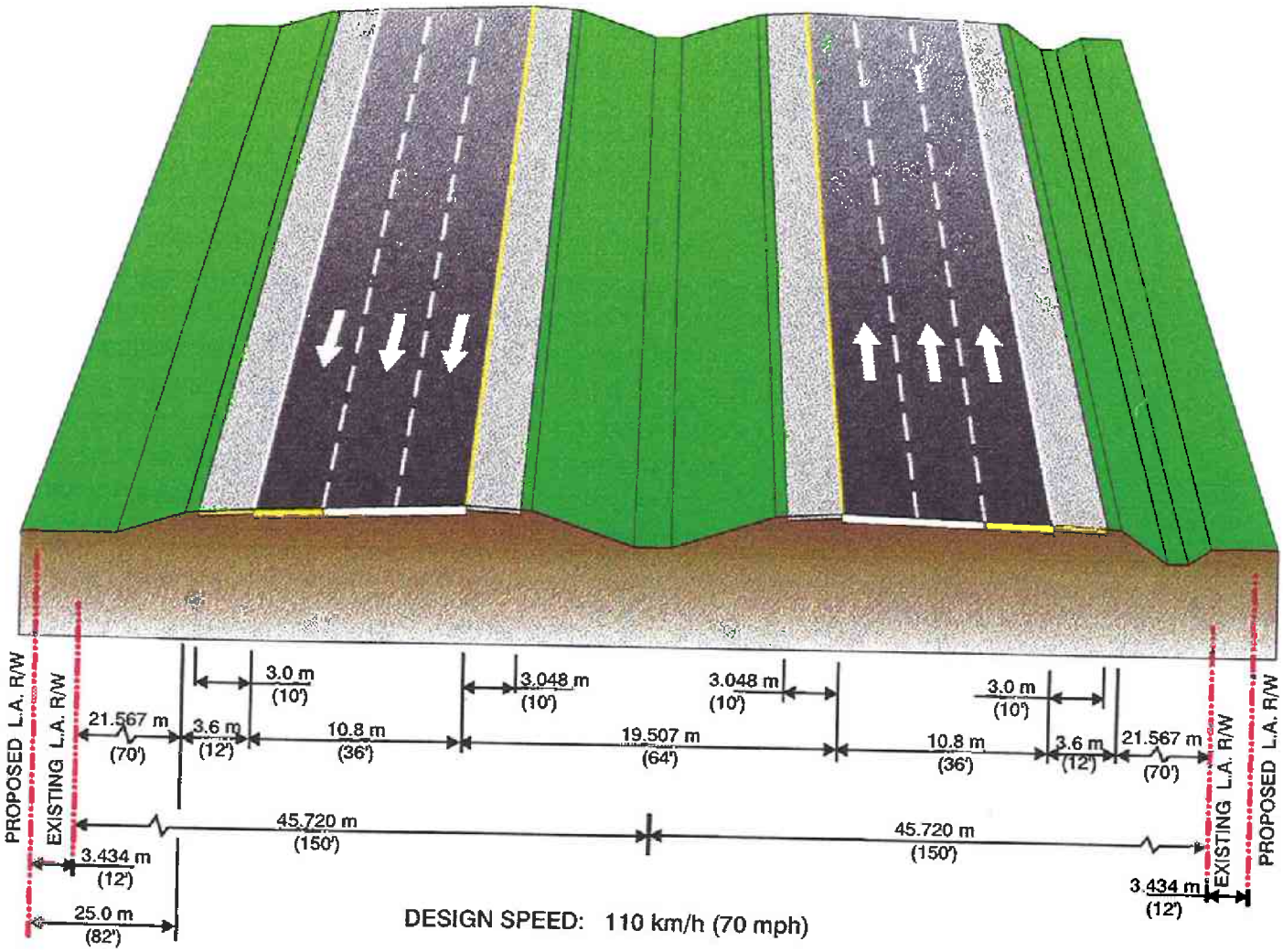
Three (3) roadway typical sections and two (2) interchange typical sections were developed in order to compare the impacts of widening the interstate into the border area (outside widening) or into the median (inside widening). Those five (5) typical sections are described below.

Roadway Typical Section 1

Roadway Typical Section 1 (Figure 8-1) depicts the widening into the border of the I-75 mainline. The resulting section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). In order to maintain the desirable 25.0 m (82 ft) border, 3.434 m (12 ft) of limited access, ROW acquisition will be required on each side of the Interstate.

Roadway Typical Section 2

Roadway Typical Section 2 (Figure 8-2) depicts widening for the I-75 mainline which features the addition of one lane each way within the existing median. The resulting section has a 12.538 m (40 ft) V-ditch median with 1:10 slopes and double-faced thrie-beam guardrail in the ditch bottom, three 3.6 m (12 ft) lanes each way, and 3.6 m (12 ft) inside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 3.657 m (12 ft) outside shoulders (of which 3.048 m/10 ft is paved), and 24.994 m (82 ft) borders with open drainage. Since the resultant median width is less than the required 19.2 m (64 ft) width (without a barrier), a design variation will be required to pursue this typical section. However, this section has the advantage of fitting within the existing limited access ROW, without a reduction in the border width.



LEGEND

Denotes Widening

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)

PD&E STUDY

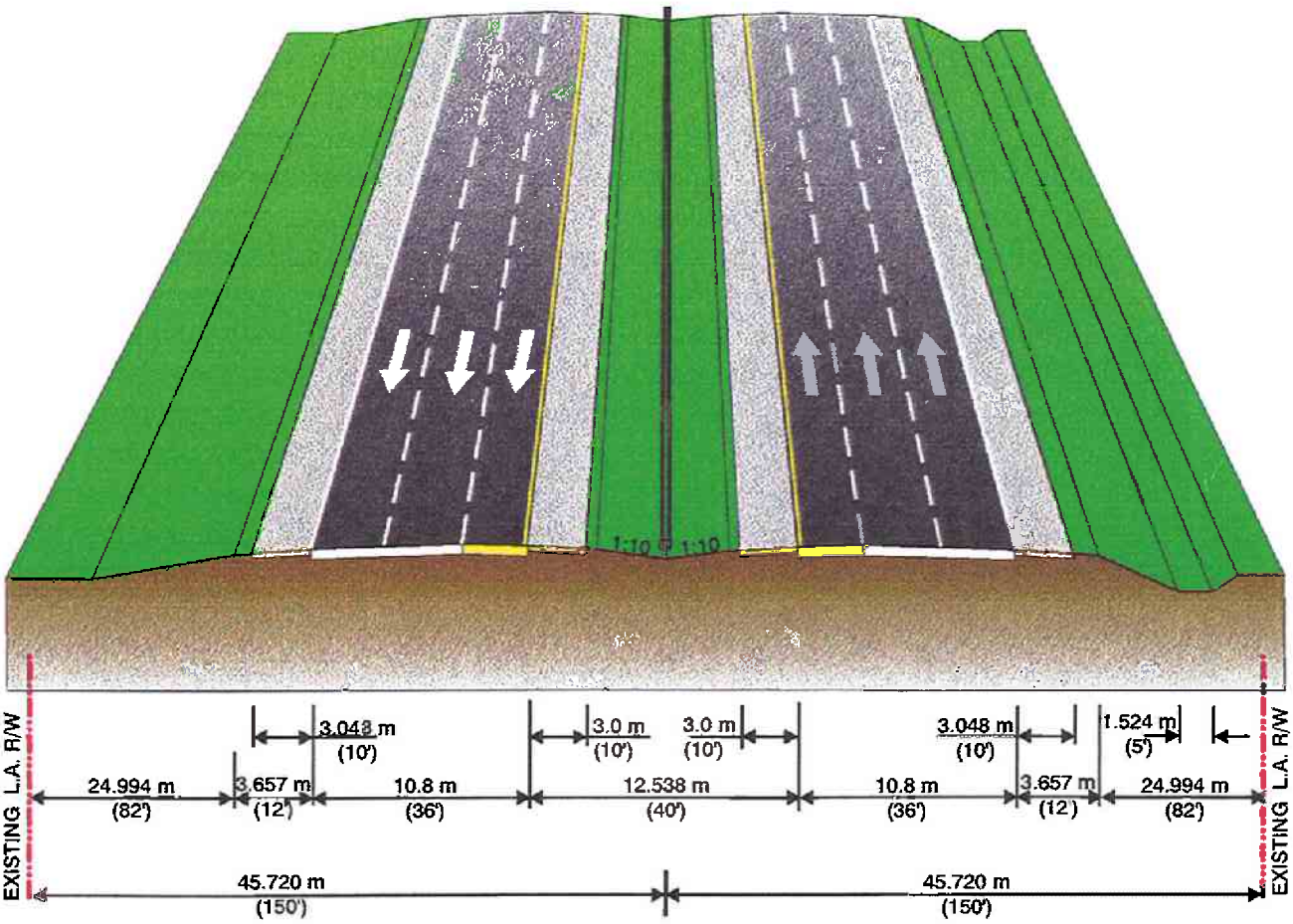
From South of S.R. 56 to North of S.R. 52

Pasco County, Florida

PROPOSED TYPICAL SECTION 1

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-1



DESIGN SPEED: 110 km/h (70 mph)

LEGEND

Denotes Widening

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 2

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-2

Roadway Typical Section 3

Roadway Typical Section 3 (Figure 8-3) depicts widening into the border of the I-75 mainline. The resulting section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). A reduced border width of 21.567 m (70 ft) is proposed in order to avoid the need for additional ROW acquisition. Since the resultant border width is less than the required 25.0 m (82 ft), a design variation will be required to pursue this typical section.

Interchange Bridge Typical Section 4

Bridge Typical Section 4 (Figure 8-4) depicts the proposed twin I-75 bridges over either S.R. 54 or over S.R. 52. Each resulting twin bridge will feature three 3.6 m (12 ft) lanes, 3.0 m (10 ft) shoulders and 0.46 m (1.5 ft) barriers. The resulting separation between each pair of structures will be 12.587 m (41 ft) and the effective median width will be 19.507 m (64 ft). Typical Section 5 can occur either with the widening of the existing twin structures at S.R. 54 or replacement of the existing structure at S.R. 52. *Interchange Bridge Typical Section 4 is compatible with Roadway Typical Section 1 or Roadway Typical Section 3.*

Interchange Bridge Typical Section 5

Typical Section 5 (Figure 8-5) depicts the proposed single I-75 bridge over S.R. 54 and over S.R. 52. The new single bridge typical results from either the widening of the existing twin structures at S.R. 54 or with the replacement of the existing bridge at S.R. 52. The proposed bridge typical section will feature a 12.538 m (40 ft) median with a 0.61 m (2 ft) center barrier and 5.964 m (19 ft) inside shoulders, three 3.6 m (12 ft) lanes each way, 3.0 m (10 ft) outside shoulders, and 0.46 m (1.5 m) side barriers. *Interchange Bridge Typical Section 5 is only compatible with roadway Typical Section 2.*

8.3.3 Proposed Typical Sections Applicable Only to Segment A

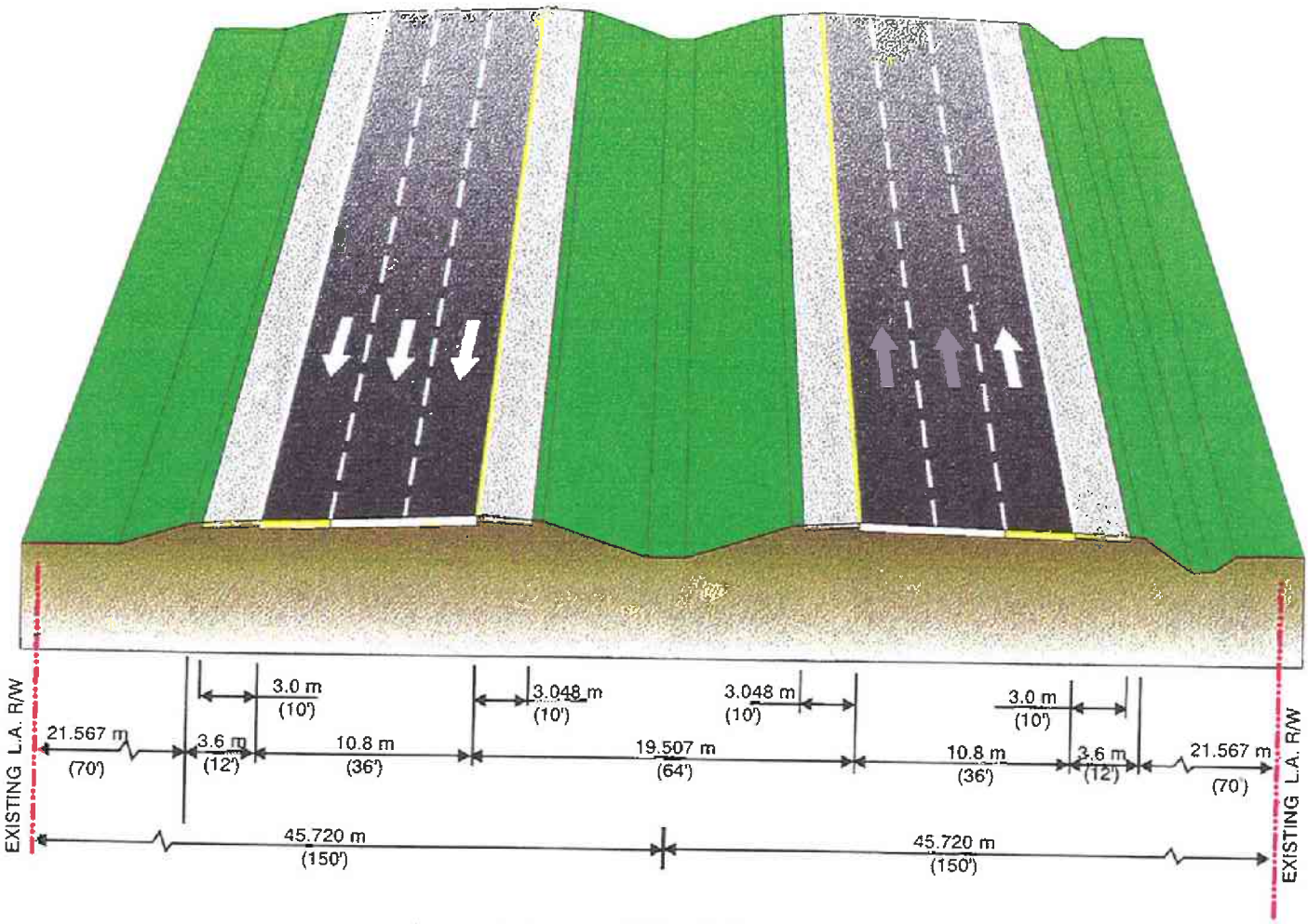
Segment A is defined as between south of Cypress Creek to north of the proposed S.R. 56 interchange. Among the five (5) typical sections initially developed for the I-75 corridor, only two sections (1 and 3) have been identified as being carried forward for development of various viable alternatives. The following section discusses the reasons for the elimination of roadway typical section 2 and the exclusion of Bridge Typical Section 4 and 5 within Segment A.

Within Segment A there are no existing interchange overpasses, in which typicals 4 and 5 would be applicable. As previously discussed a new interchange is under construction for this area. The new interchange and roadway are designated S.R. 56.

Traffic analysis during the study showed that widening is necessary to address a projected southbound traffic capacity deficiency between S.R. 56 and the I-75/I-275 apex. Therefore, two additional typical sections (6 and 7) were developed to address this deficiency and are described below. The two typicals apply only to this portion of Segment A.

Bridge Typical Section 6

Bridge Typical Section 6 (Figure 8-6) depicts widening of the existing three-lane southbound I-75 bridge over Cypress Creek by adding one lane to the outside of the existing structure. The resulting bridge typical section will feature four 3.6 m (12 ft) lanes, 3.0 m (10 ft) shoulders and a 0.46 m (1.5 ft) outside barrier, while retaining the existing inside 0.419 m (1.38 ft) barrier constructed in 1983. There is a 12.573 m (41.24 ft) separation from the northbound bridge. A total of 3.372 m (12.12 ft) of deck widening is proposed. Widening to the outside of the southbound Cypress Creek bridge is geometrically compatible with the introduction of the proposed two-lane southbound entrance ramp from S.R. 56, as well as the ongoing final design project to widen southbound I-275 south of Cypress Creek one lane to the outside. *Bridge Typical Section 6 is compatible with Roadway Typical Section 1 or Roadway Typical Section 3.*



DESIGN SPEED: 110 km/h (70 mph)

LEGEND

Denotes Widening

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)

PD&E STUDY

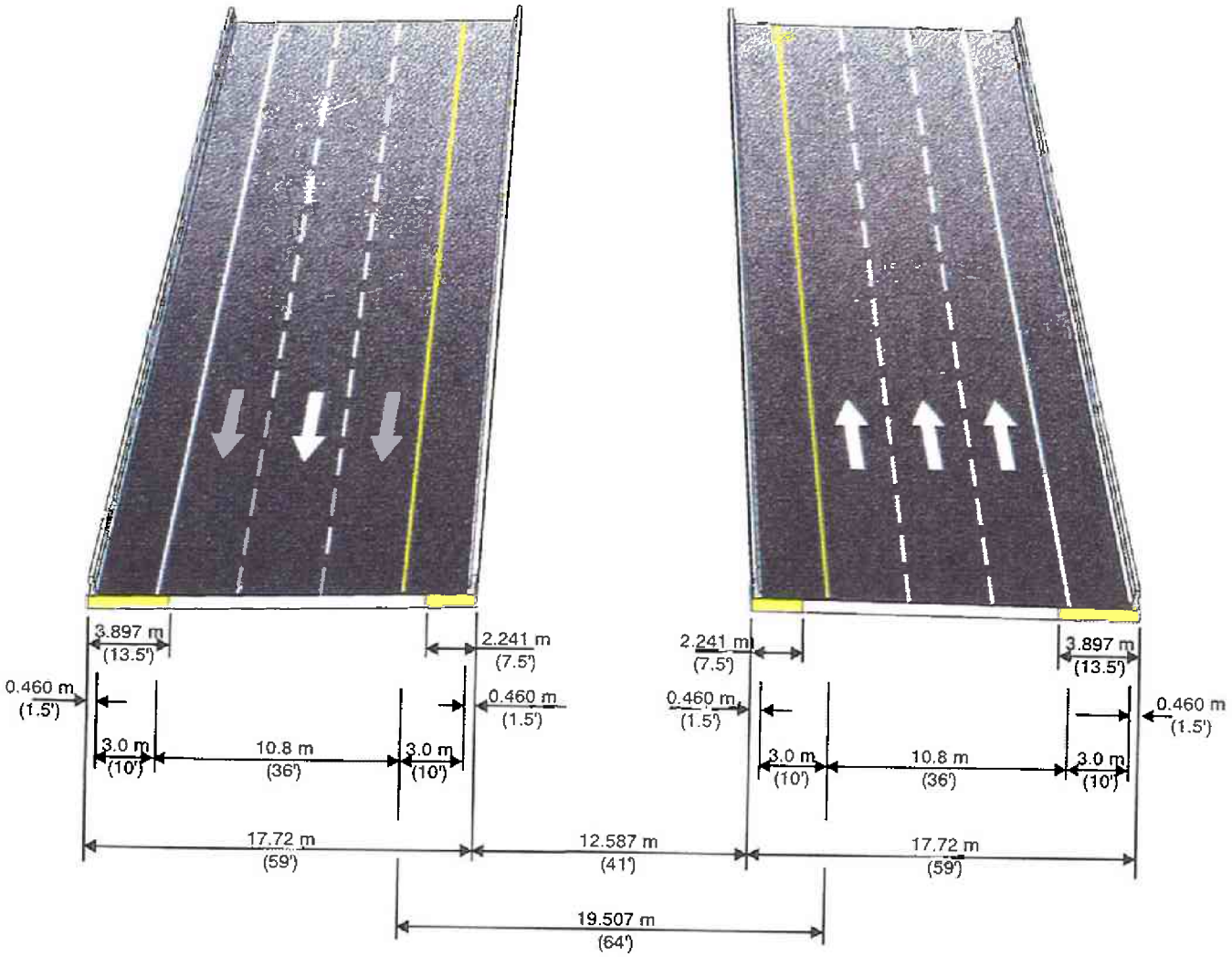
From South of S.R. 56 to North of S.R. 52

Pasco County, Florida

PROPOSED TYPICAL SECTION 3

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-3



DESIGN SPEED: 110 km/h (70 mph)

LEGEND

Denotes Deck Widening After Removal of Existing Curb and Rail (S.R. 54 Bridges Only)

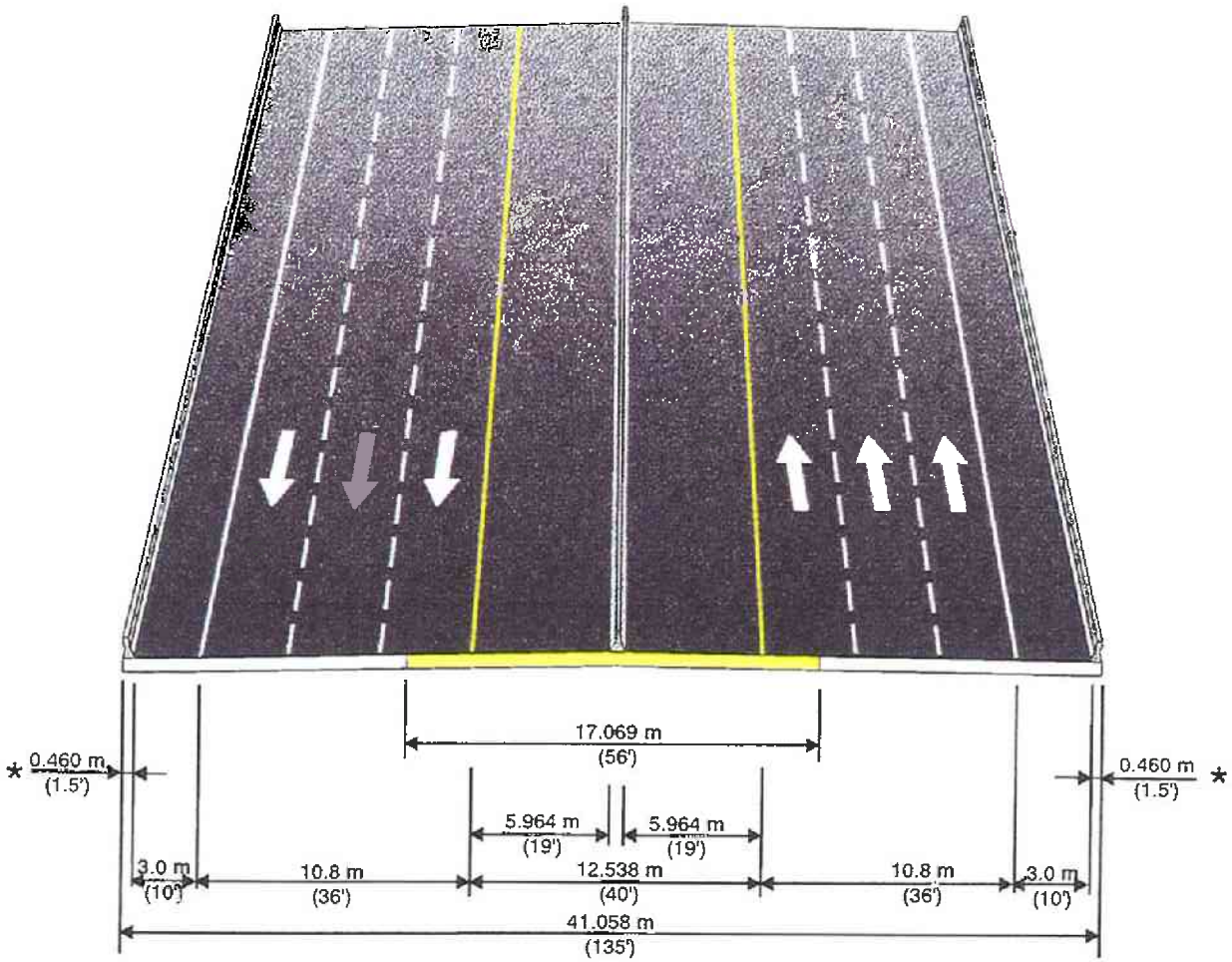
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 4

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-4



DESIGN SPEED: 110 km/h (70 mph)

LEGEND

Denotes Deck Widening After Removal of Existing Curb and Rail (S.R. 54 Bridges Only)

* 0.413 m (1.5') of outside deck widening to replace existing curb and railing (S.R. 54 Bridges Only)

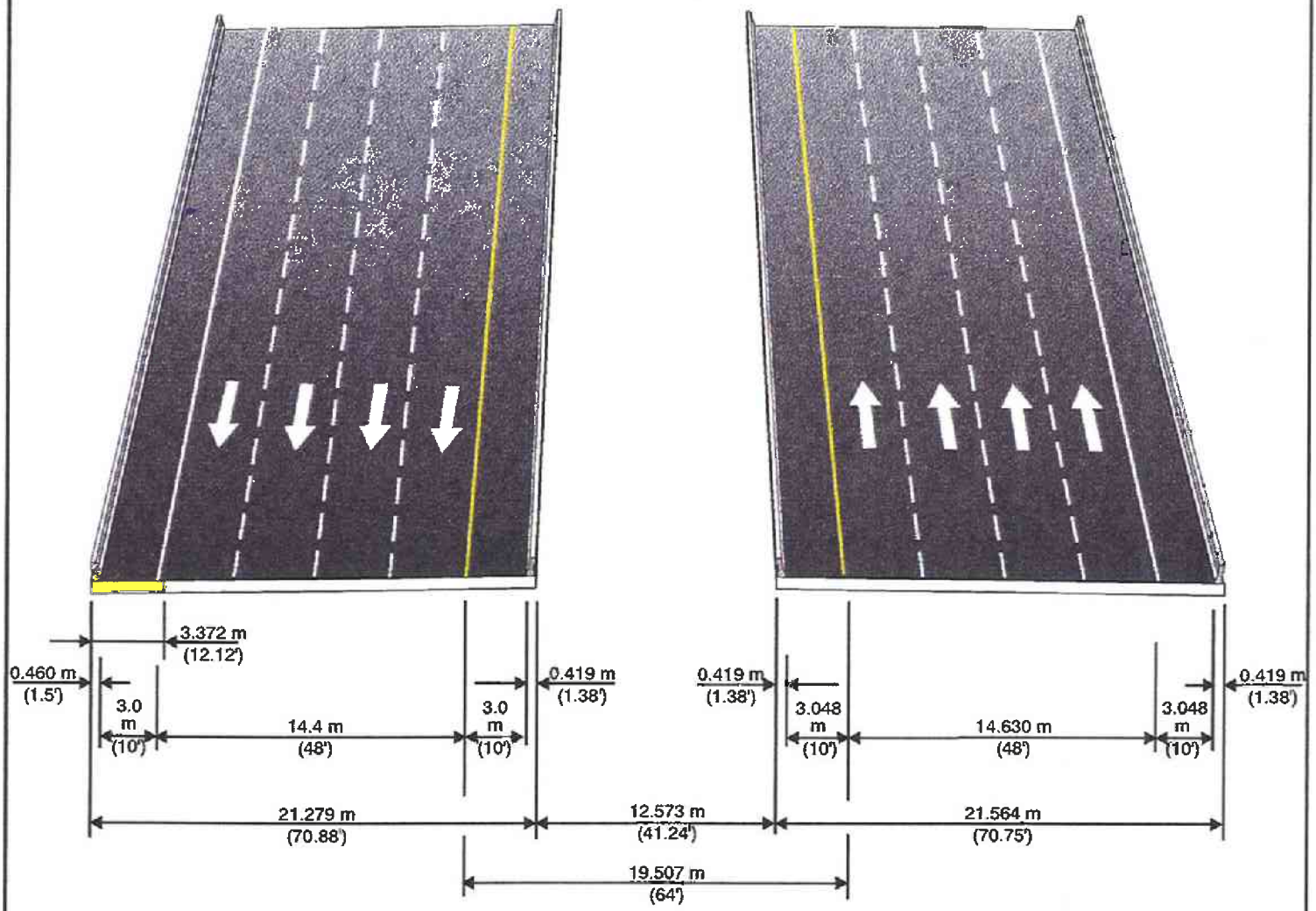
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 5

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-5



DESIGN SPEED: 110 km/h (70 mph)

LEGEND

Denotes Widening

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 6

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-6

C:\DGN\I-75\REPORTS\PER\SECT_8\FIG_8-6.DGN - 8-7-98

Bridge Typical Section 7

Bridge Typical Section 7 (Figure 8-7) depicts widening of the existing three-lane southbound I-75 bridge over Cypress Creek by adding one lane to the inside of the bridge. The resulting bridge typical section would feature four 3.6 m (12 ft) lanes, 3.0 m (10 ft) shoulders and a 0.46 m (1.5 ft) inside barrier, while retaining the existing 0.419 m (1.38 ft) outside barrier constructed in 1983. A total of 3.372 m (12.12 ft) of deck widening would be proposed, resulting in a 9.201 m (29.12 ft) separation from the northbound bridge. *Bridge Typical Section 7 is compatible only with Roadway Typical Section 2.*

Bridge Typical Section 7 was eliminated from further study because such widening is geometrically incompatible with the introduction on the outside of the proposed two-lane southbound entrance ramp from S.R. 56, as well as the ongoing final design project to widen southbound I-275 south of Cypress Creek one lane to the outside border. In addition, the position of the piers of the proposed S.R. 56 bridge over I-75 accommodates I-75 southbound widening to the outside border more easily from a constructability standpoint, than to median widening. *Since, Bridge Typical Section 7 is compatible only with Roadway Typical Section 2, both are therefore "fatally flawed," and as consequence not carried forward in the development of improvement alternatives within Segment A.*

Summary

The combination of Roadway Typical Section 1 with Bridge Typical Section 6 or Roadway Typical Section 3 with Bridge Typical Section 6 are the only two typical section combinations within Segment A which are compatible with two ongoing projects: the S.R. 56 interchange and the widening of I-275 south of the project. The two combinations will be carried forward for further comparison.

8.3.4 Proposed Typical Sections Applicable Only to Segment B

Segment B is defined as north of the proposed S.R. 56 interchange to north of the S.R. 54 interchange. Within this segment, all three (3) roadway typical sections and both interchange bridge

typical sections, initially developed for the I-75 corridor alternatives, will be carried forward for further comparison.

At S.R. 54, only bridge widening, in lieu of bridge replacement was considered viable. Bridge replacement is not proposed over S.R. 54, because the existing bridges are structurally sufficient (see Section 4.2.2) and because the recently-constructed interim improvements underneath the overpasses widened S.R. 54 enough to accommodate four future signalized through lanes with minor reconstruction.

At the North Tampa Aeropark, the alignment has been shifted to the east in this segment to avoid affecting the runway glide scope.

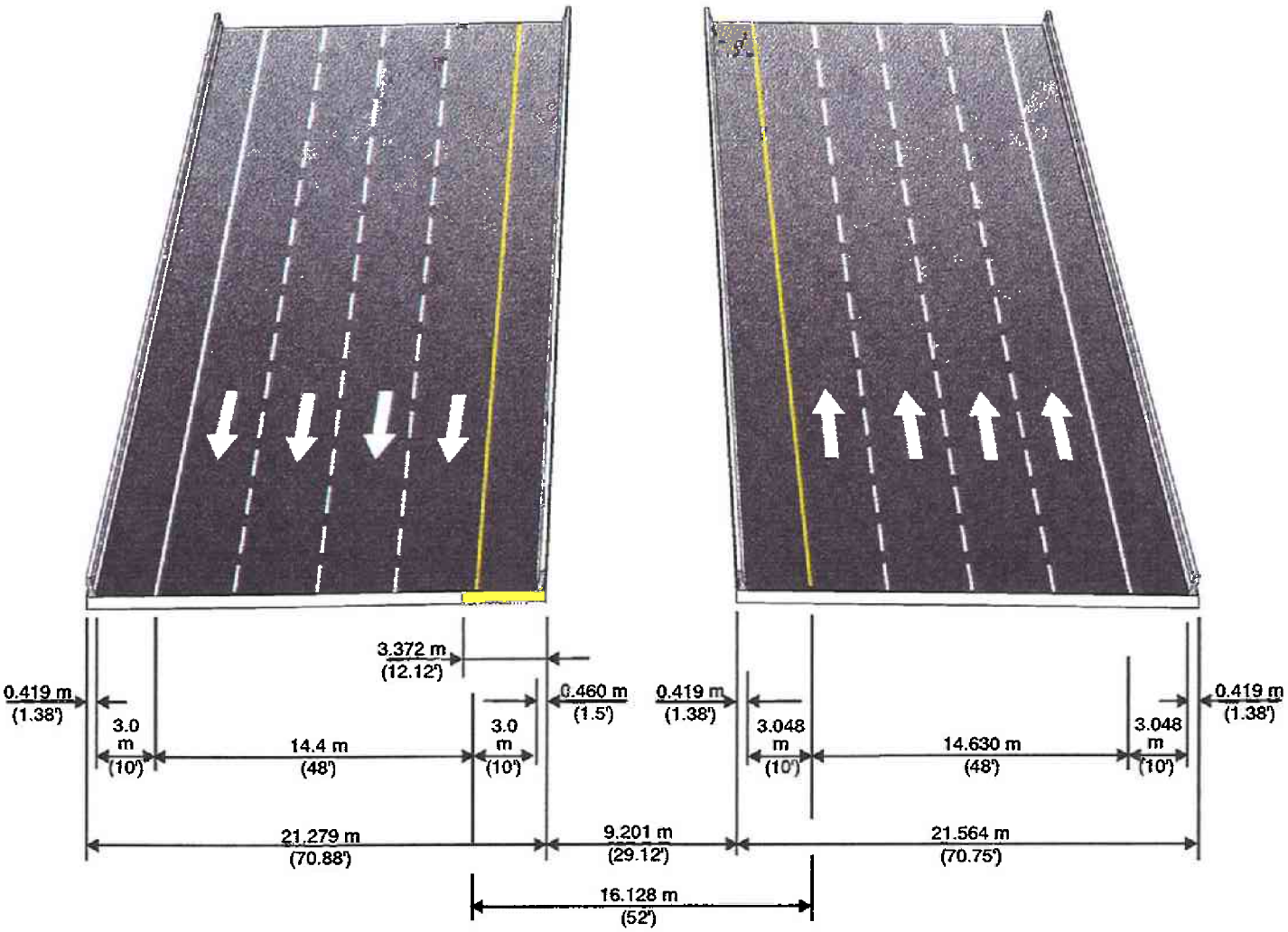
8.3.5 Proposed Typical Sections Applicable Only to Segment C

Segment C is defined as North of the S.R. 54 interchange to north of Overpass Road. Within this segment, all three (3) roadway typical sections initially developed for the I-75 corridor will be carried forward in this segment for the development of various viable alternatives. Within Segment C there are no existing interchange overpasses, in which typicals 4 and 5 would be applicable. However, the existing Overpass Road bridge introduces the need for the development of two additional bridge typical sections. Bridge Typical Section 8 and 9 are discussed below.

Bridge Typical Section 8 (Figure 8-8) depicts the replacement of the existing Overpass Road Bridge over I-75. The new undivided two-way bridge features two 3.6 m (12 ft) lanes, 2.4 m (8 ft) shoulders and 0.475 m (1.54 ft) barriers with handrail.

Bridge replacement is necessary in conjunction with only the border widening option for the I-75 mainline as previously shown in Figure 8-1 and 8-3 (Roadway Typical Section 1 and 3). This condition occurs because the existing horizontal clearance distance between the outside edge of I-75 travel lanes and the inside face of the side bridge piers is only 3.467 m (11.38 ft), which is less than a lane width. Outward relocation of the bridge piers to accommodate an additional I-75 lane each way requires complete replacement of the bridge. *Bridge Typical Section 8 is compatible with either Roadway Typical Section 1 or Roadway Typical Section 3.*

Bridge Typical Section 9 (Figure 8-9) depicts the proposed Overpass Road Bridge over I-75. The proposed typical is the same as the existing typical section. The existing two-way undivided bridge



DESIGN SPEED: 110 km/h (70 mph)

LEGEND

Denotes Widening

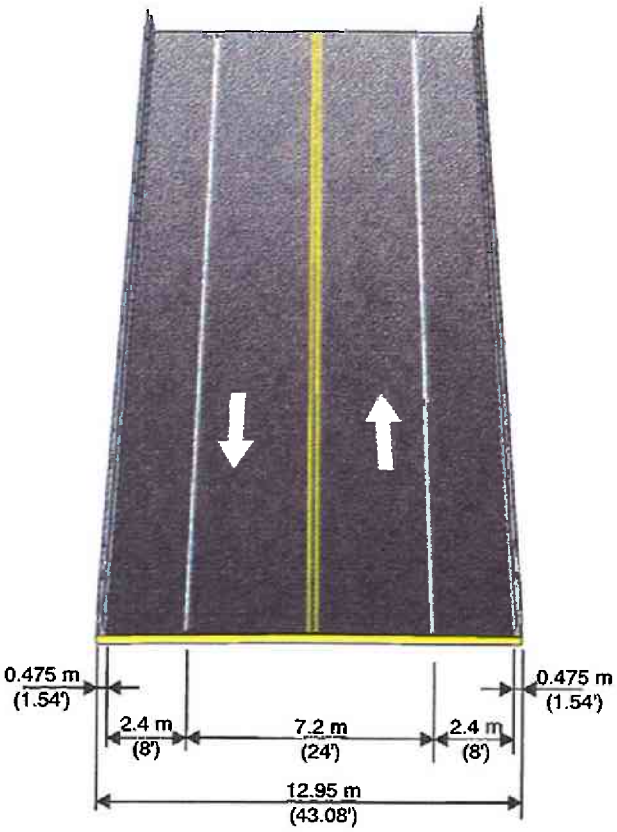
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 7

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-7



DESIGN SPEED: 60 km/h (40 mph)

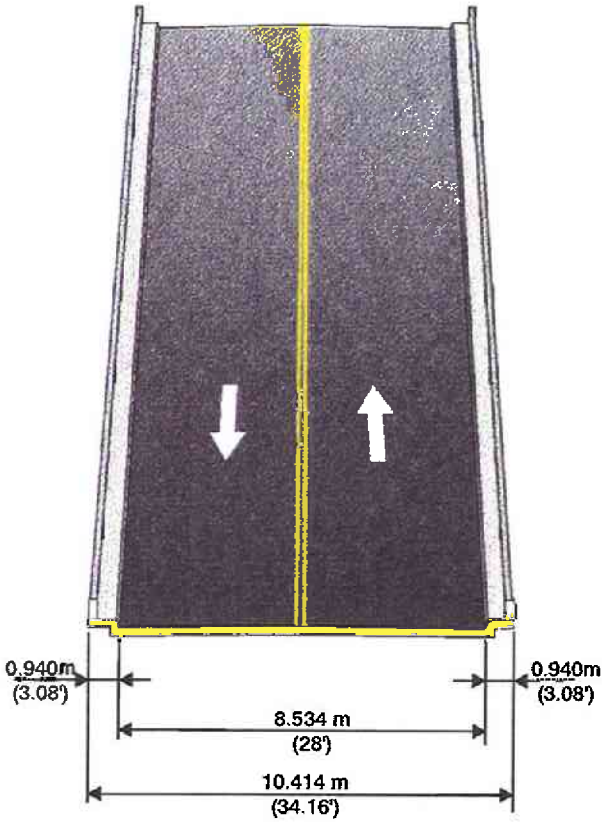
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 8

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-8



POSTED SPEED: 50 km/h (30 mph)

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 9

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-9

COREL: I-75 \ REPORTS \ PER \ SECT_8 \ FIG_8-9.CDR \ 8-7-98

features two 4.267 m (14 ft) lanes, and 0.904 m (3.08 ft) barriers with handrails. *Bridge Typical Section 9 is only compatible with Typical Roadway Section 2.*

8.3.6 Proposed Typical Sections Applicable Only to Segment D

Segment D is defined as north of the S.R. 54 interchange to north of the S.R. 52 interchange. Within this segment, all three (3) roadway typical sections and both interchange bridge typical sections, initially developed for the I-75 corridor will be carried forward in this segment for the development of various viable alternatives.

At S.R. 52, Interchange Bridge Typical Sections 4 and 5 described above should be utilized exclusively as a bridge replacement, in lieu of bridge widening. Widening is not feasible for the following reasons. The former railroad corridor just north of S.R. 52 has been sold by CSX to different private owners on either side of the I-75 ROW. The FDOT is currently pursuing purchase of the portion between the existing I-75 ROW lines, which is still owned by CSX. Therefore, the twin I-75 bridges over that former corridor are recommended for removal and non-replacement, in order to provide increased opportunities for vertical sight distance improvements. This improvement can be accomplished by correcting and shifting the existing deficient crest vertical curves at that location southward to the I-75 overpasses over S.R. 52 (which are now on a positive grade), only if the S.R. 52 bridges are replaced. Replacement would also allow correction of the existing vertical clearance over S.R. 52, which is deficient by as much as 0.15 m (6 in). In addition, a previous PD&E Study recommended widening S.R. 52 through the I-75 interchange area to a four-lane divided rural roadway by acquiring ROW on the south side of the existing ROW. Consequently, the piers supporting the south ends of the existing I-75 bridges would obstruct this proposed S.R. 52 horizontal alignment. Removal/relocation of those piers will therefore require complete replacement of the bridges.

During the course of the study, it was determined proposed future land use intensification in the southeast corner of the S.R. 52 and I-75 interchange was in the land use approval process. This resulted in changing the original diamond interchange design to a loop ramp alternative to better facilitate future traffic demand and safety. Subsequent to the public workshop, Interchange Bridge Typicals 4 and 5 were eliminated from further study in this segment due to the inability of both

typicals to meet the future traffic demands. This resulted in the development of Interchange Bridge Typicals 10, 11, and 13 which are described below.

Interchange Bridge Typical Section 10

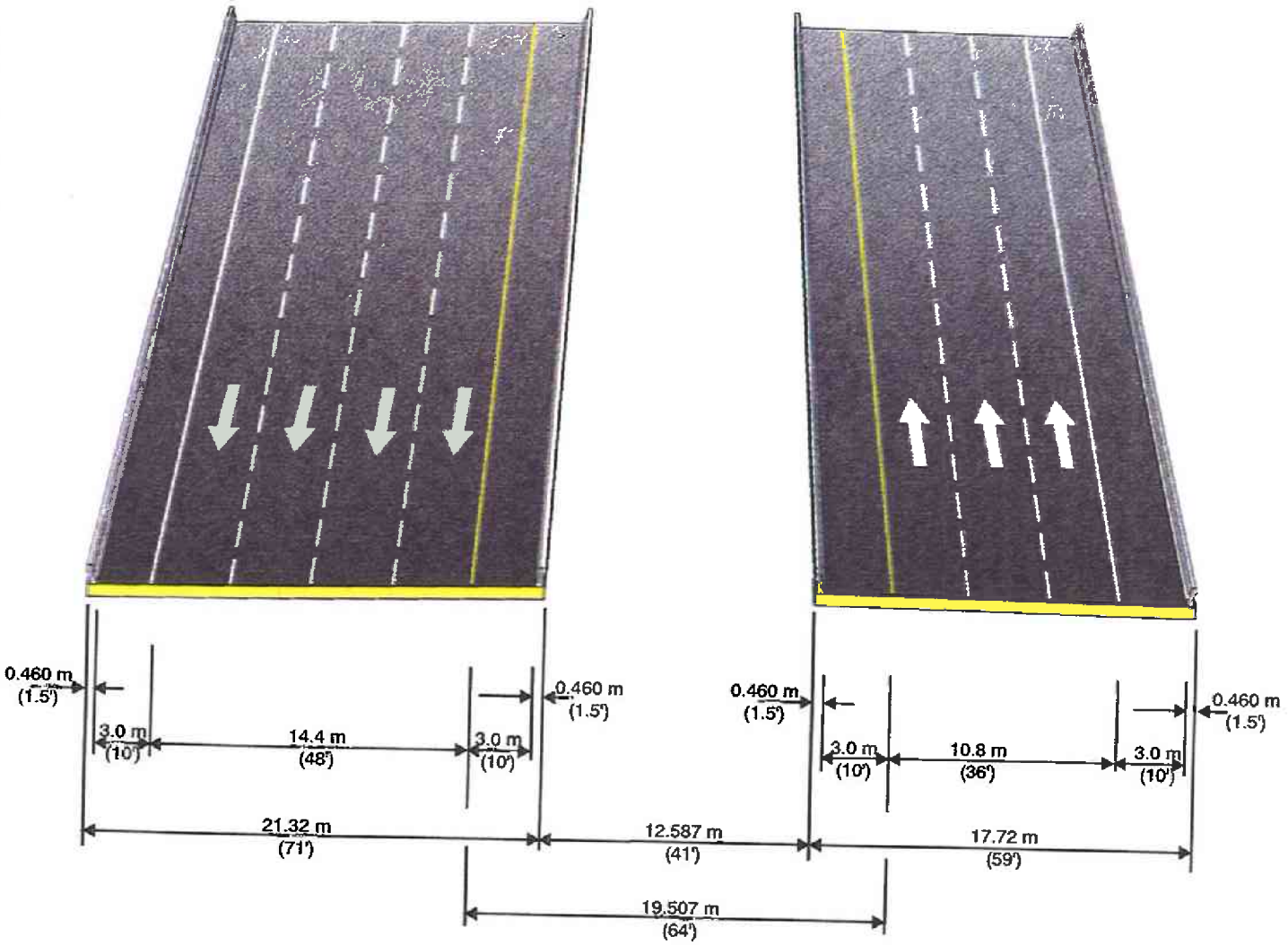
Consideration of a loop-type entrance ramp in the northwest quadrant of a re-configured I-75 interchange with S.R. 52 (for the west-bound to south-bound movement) necessitates a fourth (ramp) lane on the southbound bridge over S.R. 52 to accommodate the proper merge distance. Interchange Bridge Typical Section 10 (Figure 8-10) depicts the proposed twin replacement bridges in conjunction with a widening within the border area shown in Roadway Typical Section 1 (Figure 8-1) and Roadway Typical Section 3 (Figure 8-3). These bridges each feature 3.6 m (12 ft) lanes (four southbound / three northbound), 3.0 m (10 ft) shoulders and 0.46 m (1.5 ft) barriers. *Interchange Bridge Typical Section 10 is compatible with either Roadway Typical Section 1 or Roadway Typical Section 3.*

Interchange Bridge Typical Section 11

Interchange Bridge Typical Section 11 (Figure 8-11) depicts the single I-75 bridge over S.R. 52 which accommodates the loop ramp discussed above and accommodates median widening for the approach roadways in conjunction with Roadway Typical Section 2 shown in Figure 8-2 (Typical Section 2). This replacement bridge features a 12.538 m (40 ft) median with a 0.61 m (2 ft) center barrier and 5.964 m (19 ft) inside shoulders, 3.6 m (12 ft) lanes (four southbound/three northbound), 3.0 m (10 ft) outside shoulders, and 0.46 m (1.5 m) side barriers. *Interchange Bridge Typical Section 10 is compatible only with Roadway Typical Section 2.*

Interchange Bridge Typical Section 13

Interchange Bridge Typical Section 13 (Figure 8-13) depicts the proposed twin replacement bridges in conjunction with a widening within the border area shown in Roadway Typical Section 1 (Figure 8-1) and Roadway Typical Section 3 (Figure 8-3). The mainline bridges each feature 3.6 m (12 ft) lanes (four southbound / three northbound), 3.0 m (10 ft) shoulders and 0.46 m (1.5 ft) barriers. The ramp bridge which is physically separated from the mainline features a 4.5 m (15 ft) lane, a 1.8 m



DESIGN SPEED: 110 km/h (70 mph)

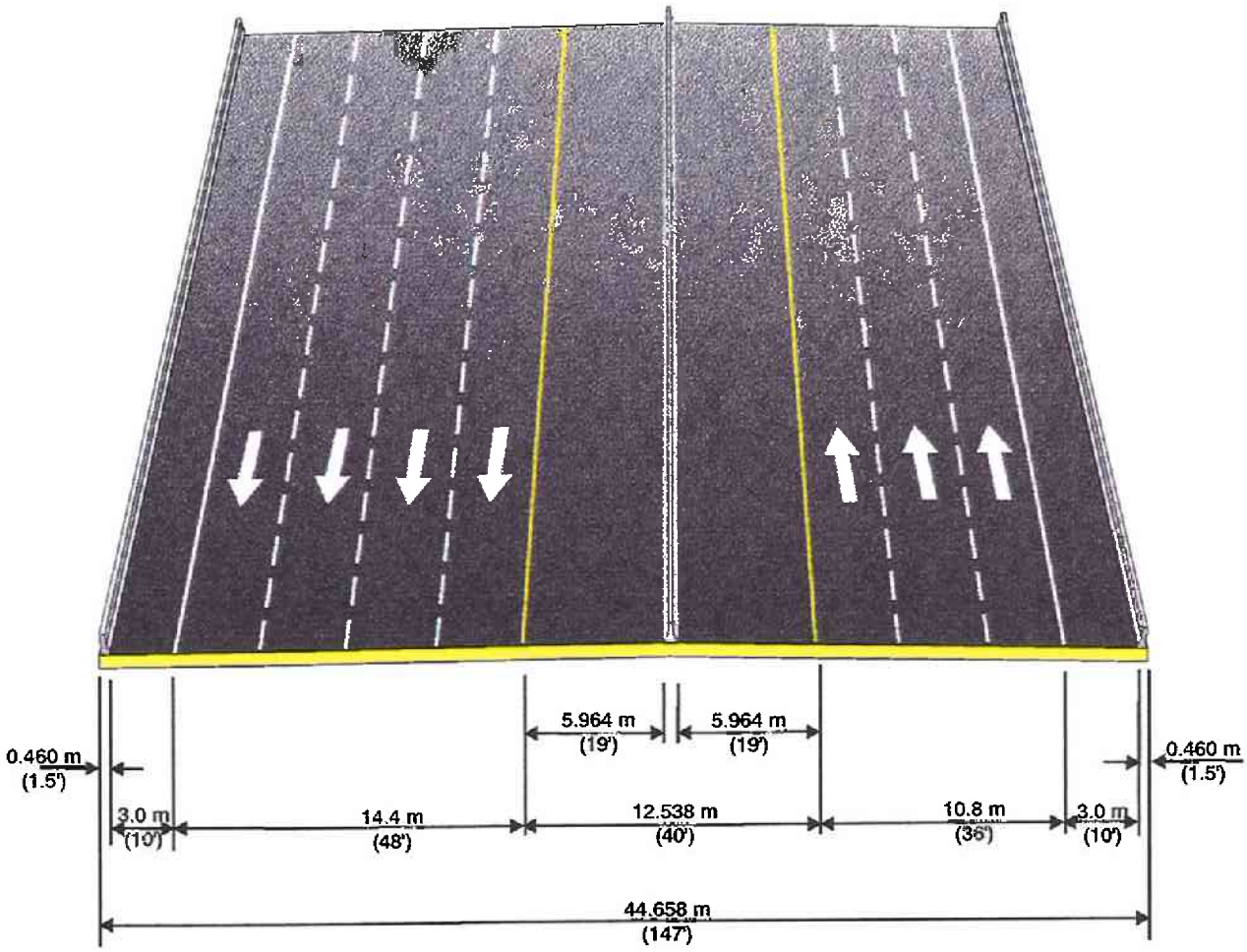
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 10

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-10



DESIGN SPEED: 110 km/h (70 mph)

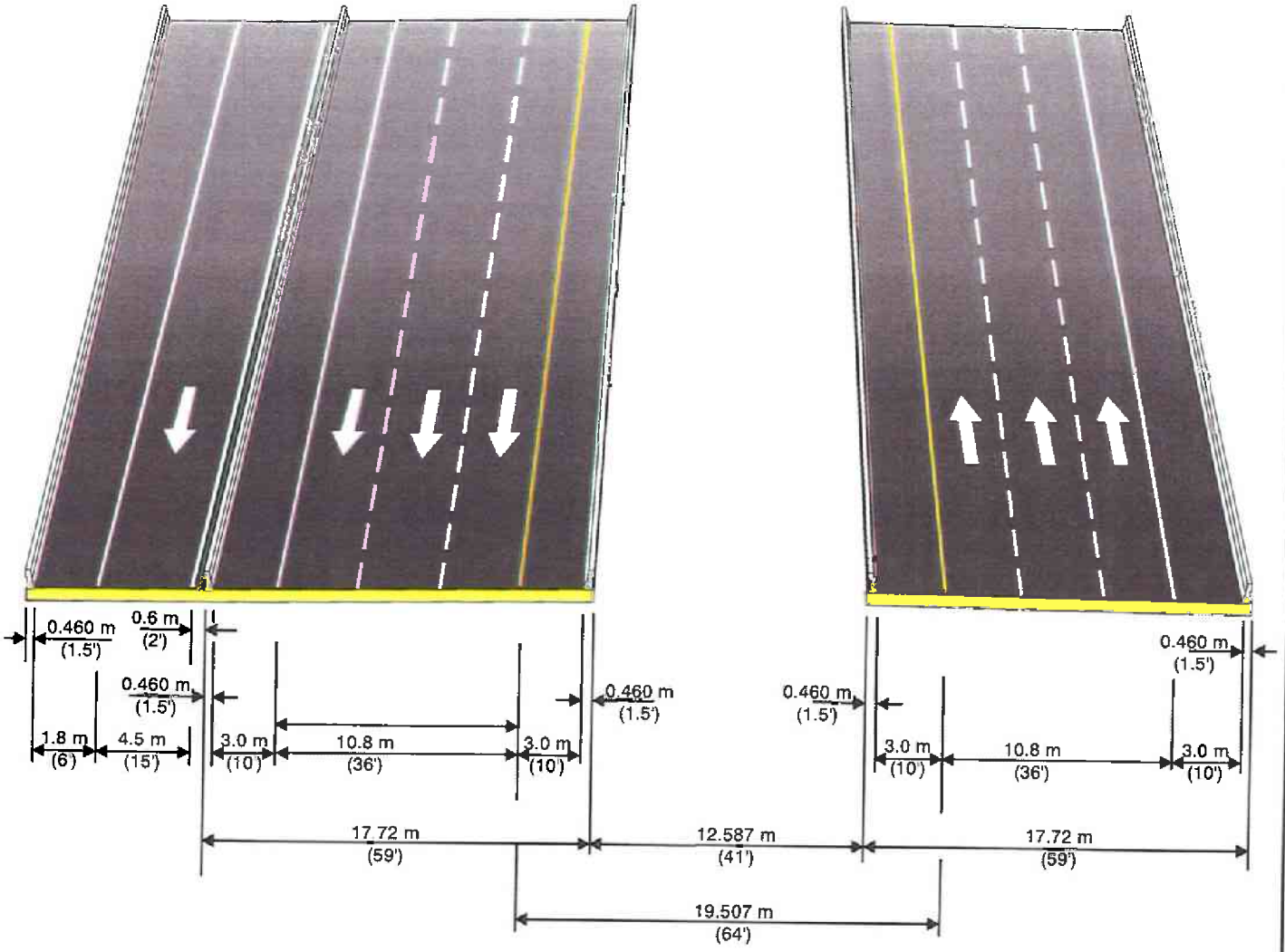
FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 11

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-11



DESIGN SPEED: 110 km/h (70 mph)

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 13

WPI Seg No. 258736 1
FAP No. NH-75-1(91)275

FIGURE 8-13

COREL: I-75 PASCO \ DIST_7 \ REPORTS \ PER \ SECT_8 \ FIG_8-13.CDR \ 6-16-2000

(6 ft) outside shoulder, 0.6 m (2 ft) inside shoulder and a 0.46 (1.5 ft) barrier. *Interchange Bridge Typical Section 13 is only compatible with Roadway Typical Section 3.*

S.R. 52 Roadway Through the I-75 Interchange Area

The Pasco County Comprehensive Plan[1] designates S.R. 52 through the interchange area as a four-lane facility in the Year 2020. In a Finding of No Significant Impact (FONSI) environmental document for S.R. 52 from U.S. 19 to I-75 approved July 13, 1988, widening of S.R. 52 is specified for a four-lane divided rural roadway by acquiring ROW on the south side.

Roadway Typical Section 12 (Figure 8-12) depicts this concept and features a 12.0 m (40 ft) depressed median, two 3.6 m (12 ft) lanes each way, 2.4 m (8 ft) inside shoulders, 3.0 m (10 ft) outside shoulders (of which 1.5 m/5 ft is paved) and 12.0 m (40 ft) borders with open drainage. The total required ROW width is 56.4 m (188 ft), which necessitates 25.92 m (88 ft) of acquisition on the south side.

The proposed loop ramp at the S.R. 52 interchange will feature a 4.5 m (15 ft) travel lane, 1.8 m (6 ft) shoulders (of which 0.6 m [2 ft] is paved on the inside and 1.2 m [4 ft] on the outside), and a 25.0 m (82 ft) outside border. Re-alignment is necessary to allow for more widely-separated ramp termini at S.R. 52.

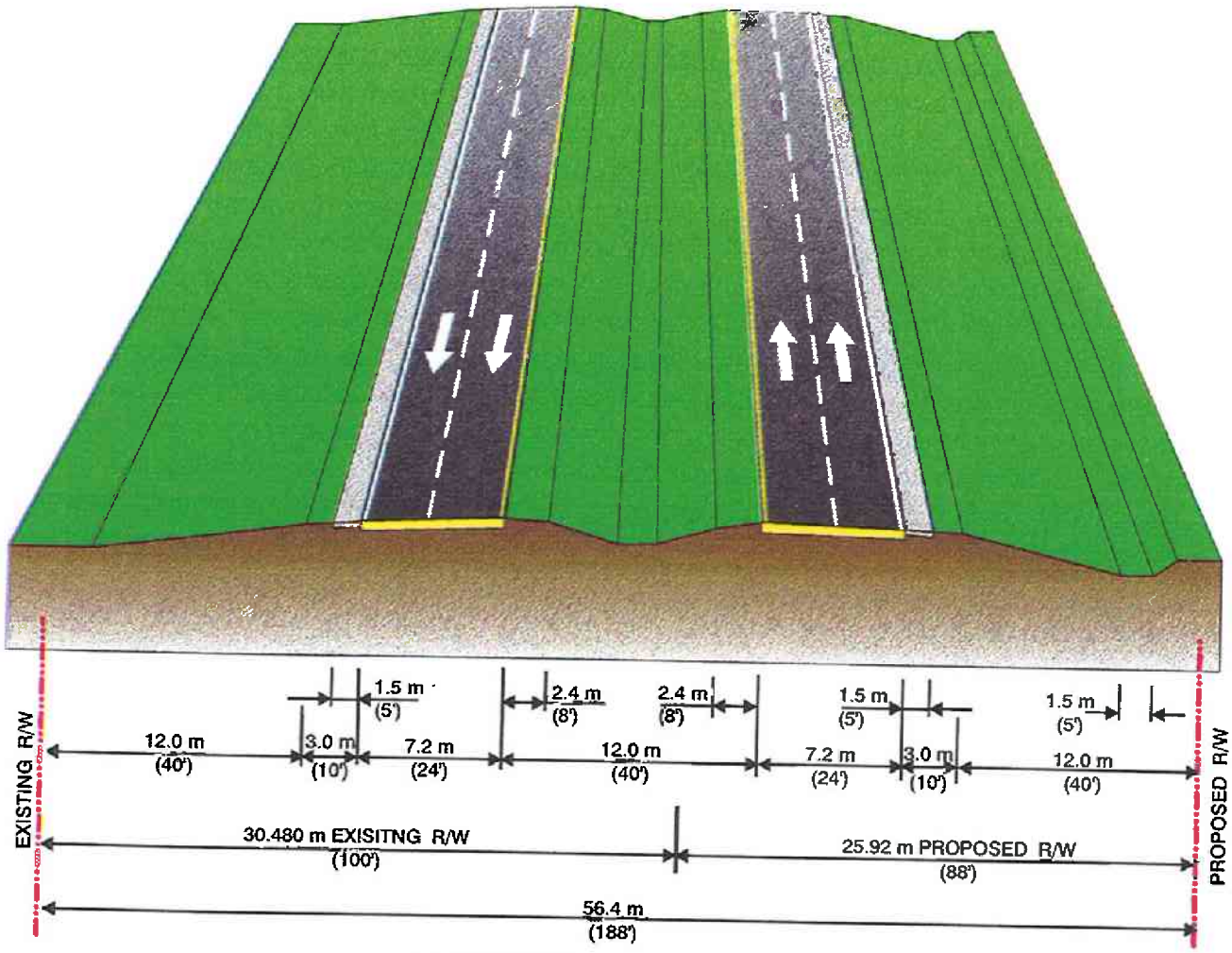
8.4 VIABLE ALTERNATIVES

Twelve (12) typical sections were developed as part of the PD&E Study. Typical Section 7 was fatally flawed and eliminated from further study. The use of Typical Sections 4 and 5 for S.R. 52 were also eliminated from study as previously described. The remaining typical sections were carried forward for further study.

In addition to the No-Project Alternative, five viable build alternatives, can be derived by aggregating for each segment the appropriate combinations of compatible roadway and bridge typicals. Table 8-1 displays the combinations of typicals by segment for each of these alternatives.

Table 8-1
Alternatives Definition

Alternative Number	Segment/Typical Section			
	A	B	C	D
Alternative 1				
Roadway	1	1	1	1
Interchange	-	4	-	4
Other	6	-	8	-
Alternative 2				
Roadway	3	2	2	2
Interchange	-	5	-	5
Other	6	-	9	-
Alternative 3				
Roadway	3	3	3	3
Interchange	-	4	-	4
Other	6	-	8	-
Alternative 4				
Roadway	3	2	2	2
Interchange	-	5	-	13
Other	6	-	9	-
Alternative 5				
Roadway	3	3	3	3
Interchange	-	4	-	13
Other	6	-	8	-



DESIGN SPEED: 90 km/h (55 mph)

FLORIDA DEPARTMENT OF TRANSPORTATION

I-75 (S.R. 93)
PD&E STUDY
From South of S.R. 56 to North of S.R. 52
Pasco County, Florida

PROPOSED TYPICAL SECTION 12

SPN #: 14140-1423
WPI #: 7147619
FAP#: NH-75-1(91)275

FIGURE 8-12

8.5 ALTERNATIVES EVALUATION PROCESS

8.5.1 Quantifiable Criteria

In order to evaluate the study alternatives, the evaluation matrices shown in Tables 8-1 through 8-7 were prepared using quantifiable criteria from a multitude of categories including, socio-economic, environmental, cultural, hazardous material/petroleum contamination, and costs (engineering, ROW, and construction). The matrices data was developed utilizing raster-based aerial photography depicting the proposed ROW and field reviews. A brief description of these quantifiable evaluation criteria is presented below.

- Business Relocations

  The number of businesses expected to be seriously impacted by the Build Alternative so as to require relocation was identified using raster based aerial photography and field verification. Other business impacts expected to be sustained by businesses which will not need to be relocated, such as parking lots, etc., were considered in the ROW acquisition cost estimates.

- Residential Impacts

  The impacts on existing residences along the project were assessed by determining the number of residences that exist within the proposed ROW and which will have to be relocated if the Build Alternative is implemented.

- Community Facility Impacts

  The project impacts on existing community facilities such as churches, schools, hospitals, fire stations, etc., were assessed. Similar to the residential impacts, the number of the community facilities requiring relocation within the proposed ROW were counted.

Table 8-2
I-75 PD&E Study Impacts Evaluation Matrix
Alternative 1

EVALUATION FACTORS	SEGMENT				TOTAL
	A	B	C	D	
BUSINESS RELOCATIONS					
Number of businesses expected to be relocated	0	0	0	1	1
RESIDENTIAL RELOCATIONS					
Number of residences expected to be relocated	0	0	0	0	0
RIGHT OF WAY INVOLVEMENT					
Number of parcels affected	2	15	24	26	65
Area of ROW to be acquired in hectares (acres)	0.288 (0.71)	4.309 (10.65)	3.162 (7.81)	11.121 (27.48)	18.880 (46.65)
COMMUNITY FACILITY EFFECTS (Community impacts within ROW)					
Number of churches affected	0	0	0	0	0
Number of schools affected	0	0	0	0	0
Number of nursing homes affected	0	0	0	0	0
Number of hospitals affected	0	0	0	0	0
Number of cemeteries affected	0	0	0	0	0
Number of other public services (fire stations, etc.) affected	0	0	0	0	0
NOISE EFFECTS					
Number of noise sensitive sites affected*	0	3	17	12	32
CULTURAL/HISTORIC RESOURCES AND PUBLIC PARKS INVOLVEMENT					
Number of historic sites/structures within or adjacent to ROW	0	0	0	0	0
Number of public parks within or adjacent to ROW	0	0	0	0	0
NATURAL ENVIRONMENT INVOLVEMENT					
Total wetland involvement area in hectares (acres)	0.409 (1.01)	0.915 (2.26)	0.073 (0.18)	1.962 (4.85)	3.359 (8.30)
FLOODPLAIN AND FLOODWAY ENCROACHMENT					
Area of base floodplain encroachment in hectares (acres)	0.396 (0.98)	1.339 (3.31)	0.370 (0.91)	0.286 (0.71)	2.391 (5.91)
Area of base floodway encroachment in hectares (acres)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
POTENTIAL HAZARDOUS MATERIAL AND PETROLEUM POLLUTANT CONTAMINATED SITES (within or adjacent to ROW)					
Number of potential hazardous material sites within or adjacent to ROW	0	0	0	0	0
Number of potential petroleum pollutant contaminated sites within or adjacent to ROW	0	7	0	4	11
ESTIMATED PROJECT COSTS (Present value in million $)					
ROW acquisition cost	$0.163	$4.801	$1.483	$16.957	$23.404
Engineering cost 15%	$0.180	$0.744	$0.639	$1.442	$3.005
Construction cost	$1.202	$4.961	$4.259	$9.611	$20.033
Construction engineering and inspection cost 15%	$0.180	$0.744	$0.639	$1.442	$3.005
TOTAL COST	$1.726	$11.250	$7.020	$29.451	$49.447

* within the 66 dBA Isopleth

Table 8-3
I-75 PD&E Study Impacts Evaluation Matrix
Alternative 2

EVALUATION FACTORS	SEGMENT				TOTAL
	A	B	C	D	
BUSINESS RELOCATIONS					
Number of businesses expected to be relocated	0	0	0	1	1
RESIDENTIAL RELOCATIONS					
Number of residences expected to be relocated	0	0	0	0	0
RIGHT OF WAY INVOLVEMENT					
Number of parcels affected	2	3	0	15	20
Area of ROW to be acquired in hectares (acres)	0.288 (0.71)	0.427 (1.05)	0 (0)	6.674 (16.49)	7.389 (18.25)
COMMUNITY FACILITY EFFECTS (Community impacts within ROW)					
Number of churches affected	0	0	0	0	0
Number of schools affected	0	0	0	0	0
Number of nursing homes affected	0	0	0	0	0
Number of hospitals affected	0	0	0	0	0
Number of cemeteries affected	0	0	0	0	0
Number of other public services (fire stations, etc.) affected	0	0	0	0	0
NOISE EFFECTS					
Number of noise sensitive sites affected*	0	3	17	12	32
CULTURAL/HISTORIC RESOURCES AND PUBLIC PARKS INVOLVEMENT					
Number of historic sites/structures within or adjacent to ROW	0	0	0	0	0
Number of public parks within or adjacent to ROW	0	0	0	0	0
NATURAL ENVIRONMENT INVOLVEMENT					
Total wetland involvement area in hectares (acres)	0.324 (0.80)	0.057 (0.14)	0 (0)	0.822 (2.03)	1.202 (2.97)
FLOODPLAIN AND FLOODWAY ENCROACHMENT					
Area of base floodplain encroachment in hectares (acres)	0.396 (0.98)	0 (0)	0 (0)	0 (0)	0.396 (0.98)
Area of base floodway encroachment in hectares (acres)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
POTENTIAL HAZARDOUS MATERIAL AND PETROLEUM POLLUTANT CONTAMINATED SITES (within or adjacent to ROW)					
Number of potential hazardous material sites within or adjacent to ROW	0	0	0	0	0
Number of potential petroleum pollutant contaminated sites within or adjacent to ROW	0	7	0	4	11
ESTIMATED PROJECT COSTS (Present value in million $)					
ROW acquisition cost	$0.163	$0.210	$0.000	$14.138	$14.511
Engineering cost 15%	$0.180	$0.679	$0.518	$1.51	$2.887
Construction cost	$1.202	$4.525	$3.454	$10.064	$19.245
Construction engineering and inspection cost 15%	$0.180	$0.679	$0.518	$1.51	$2.887
TOTAL COST	$1.726	$6.093	$4.490	$27.221	$39.530

* within the 66 dBA Isopleth

Table 8-4
I-75 PD&E Study Impacts Evaluation Matrix
Alternative 3

EVALUATION FACTORS	SEGMENT				TOTAL
	A	B	C	D	
BUSINESS RELOCATIONS					
Number of businesses expected to be relocated	0	0	0	1	1
RESIDENTIAL RELOCATIONS					
Number of residences expected to be relocated	0	0	0	0	0
RIGHT OF WAY INVOLVEMENT					
Number of parcels affected	2	13	24	26	65
Area of ROW to be acquired in hectares (acres)	0.288 (0.71)	4.309 (10.65)	3.162 (7.81)	11.121 (27.48)	18.880 (46.65)
COMMUNITY FACILITY EFFECTS (Community impacts within ROW)					
Number of churches affected	0	0	0	0	0
Number of schools affected	0	0	0	0	0
Number of nursing homes affected	0	0	0	0	0
Number of hospitals afected	0	0	0	0	0
Number of cemeteries affected	0	0	0	0	0
Number of other public services (fire stations, etc.) affected	0	0	0	0	0
NOISE EFFECTS					
Number of noise sensitive sites affected*	0	3	17	12	32
CULTURAL/HISTORIC RESOURCES AND PUBLIC PARKS INVOLVEMENT					
Number of historic sites/structures within or adjacent to ROW	0	0	0	0	0
Number of public parks within or adjacent to ROW	0	0	0	0	0
NATURAL ENVIRONMENT INVOLVEMENT					
Total wetland involvement area in hectares (acres)	0.142 (0.35)	0.271 (0.67)	0 (0)	0.778 (1.921)	1.202 (2.97)
FLOODPLAIN AND FLOODWAY ENCROACHMENT					
Area of base floodplain encroachment in hectares (acres)	0.396 (0.98)	1.339 (3.31)	0.370 (0.91)	0.286 (0.71)	2.391 (5.91)
Area of base floodway encroachment in hectares (acres)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
POTENTIAL HAZARDOUS MATERIAL AND PETROLEUM POLLUTANT CONTAMINATED SITES (within or adjacent to ROW)					
Number of potential hazardous material sites within or adjacent to ROW	0	0	0	0	0
Number of potential petroleum pollutant contaminated sites within or adjacent to ROW	0	7	0	4	11
ESTIMATED PROJECT COSTS (Present value in million $)					
ROW acquisition cost	$0.159	$3.263	$1.483	$16.957	$21.862
Engineering cost 15%	$0.180	$0.744	$0.639	$1.442	$3.005
Construction cost	$1.202	$4.961	$4.259	$9.611	$20.033
Construction engineering and inspection cost 15%	$0.180	$0.744	$0.639	$1.442	$3.005
TOTAL COST	$1.722	$9.712	$7.020	$29.451	$47.905

* within the 66 dBA Isopleth

Table 8-5
I-75 PD&E Study Impacts Evaluation Matrix
Alternative 4

EVALUATION FACTORS	SEGMENT				TOTAL
	A	B	C	D	
BUSINESS RELOCATIONS					
Number of businesses expected to be relocated	0	0	0	4	4
RESIDENTIAL RELOCATIONS					
Number of residences expected to be relocated	0	0	0	1	1
RIGHT OF WAY INVOLVEMENT					
Number of parcels affected	2	3	0	15	20
Area of ROW to be acquired in hectares (acres)	0.288 (0.71)	0.427 (1.05)	0 (0)	6.674 (16.49)	7.389 (18.25)
COMMUNITY FACILITY EFFECTS (Community impacts within ROW)					
Number of churches affected	0	0	0	0	0
Number of schools affected	0	0	0	0	0
Number of nursing homes affected	0	0	0	0	0
Number of hospitals affected	0	0	0	0	0
Number of cemeteries affected	0	0	0	0	0
Number of other public services (fire stations, etc.) affected	0	0	0	0	0
NOISE EFFECTS					
Number of noise sensitive sites affected*	0	3	17	12	32
CULTURAL/HISTORIC RESOURCES AND PUBLIC PARKS INVOLVEMENT					
Number of historic sites/structures within or adjacent to ROW	0	0	0	0	0
Number of public parks within or adjacent to ROW	0	0	0	0	0
NATURAL ENVIRONMENT INVOLVEMENT					
Total wetland involvement area in hectares (acres)	0.324 (0.80)	0.057 (0.14)	0 (0)	0.822 (2.03)	1.202 (2.97)
FLOODPLAIN AND FLOODWAY ENCROACHMENT					
Area of base floodplain encroachment in hectares (acres)	0.396 (0.98)	0 (0)	0 (0)	0 (0)	0.396 (0.98)
Area of base floodway encroachment in hectares (acres)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
POTENTIAL HAZARDOUS MATERIAL AND PETROLEUM POLLUTANT CONTAMINATED SITES (within or adjacent to ROW)					
Number of potential hazardous material sites within or adjacent to ROW	0	0	0	0	0
Number of potential petroleum pollutant contaminated sites within or adjacent to ROW	0	7	0	4	11
ESTIMATED PROJECT COSTS (Present value in million $)					
ROW acquisition cost	$0.190	$0.230	$0.000	$31.348	$31.768
Engineering cost 15%	$0.180	$0.679	$0.518	$1.784	$3.161
Construction cost	$1.202	$4.525	$3.454	$11.891	$21.072
Construction engineering and inspection cost 15%	$0.180	$0.679	$0.518	$1.784	$3.161
TOTAL COST	$1.753	$6.113	$4.490	$46.806	$59.162

* within the 66 dBA Isopleth

Table 8-6
I-75 PD&E Study Impacts Evaluation Matrix
Alternative 5

EVALUATION FACTORS	SEGMENT				TOTAL
	A	B	C	D	
BUSINESS RELOCATIONS					
Number of businesses expected to be relocated	0	0	0	4	4
RESIDENTIAL RELOCATIONS					
Number of residences expected to be relocated	0	0	0	1	1
RIGHT OF WAY INVOLVEMENT					
Number of parcels affected	2	13	24	26	65
Area of ROW to be acquired in hectares (acres)	0.288 (0.71)	4.309 (10.65)	3.162 (7.81)	10.82 (26.74)	18.579 (45.91)
COMMUNITY FACILITY EFFECTS (Community impacts within ROW)					
Number of churches affected	0	0	0	0	0
Number of schools affected	0	0	0	0	0
Number of nursing homes affected	0	0	0	0	0
Number of hospitals affected	0	0	0	0	0
Number of cemeteries affected	0	0	0	0	0
Number of other public services (fire stations, etc.) affected	0	0	0	0	0
NOISE EFFECTS					
Number of noise sensitive sites affected*	0	3	17	12	32
CULTURAL/HISTORIC RESOURCES AND PUBLIC PARKS INVOLVEMENT					
Number of historic sites/structures within or adjacent to ROW	0	0	0	0	0
Number of public parks within or adjacent to ROW	0	0	0	0	0
NATURAL ENVIRONMENT INVOLVEMENT					
Total wetland involvement area in hectares (acres)	0.142 (0.35)	0.271 (0.67)	0 (0)	0.874 (2.16)	1.287 (3.18)
FLOODPLAIN AND FLOODWAY ENCROACHMENT					
Area of base floodplain encroachment in hectares (acres)	0.396 (0.98)	1.339 (3.31)	0.370 (0.91)	0.286 (0.71)	2.391 (5.91)
Area of base floodway encroachment in hectares (acres)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
POTENTIAL HAZARDOUS MATERIAL AND PETROLEUM POLLUTANT CONTAMINATED SITES (within or adjacent to ROW)					
Number of potential hazardous material sites within or adjacent to ROW	0	0	0	0	0
Number of potential petroleum pollutant contaminated sites within or adjacent to ROW	0	7	0	4	11
ESTIMATED PROJECT COSTS (Present value in million $)					
ROW acquisition cost	$0.184	$3.387	$1.483	$32.832	$37.886
Engineering cost 15%	$0.180	$1.018	$0.639	$1.716	$3.553
Construction cost	$1.202	$6.786**	$4.259	$11.439	$23.686
Construction engineering and inspection cost 15%	$0.180	$1.018	$0.639	$1.716	$3.553
TOTAL COST	$1.746	$12.209	$7.020	$47.703	$68.678

* within the 66 dBA Isopleth

** includes SR 54 Bridge Replacement to accomodate 6 lanes on SR 54

Table 8-7
I-75 PD&E Study Impacts Evaluation Matrix

EVALUATION FACTORS	ALTERNATIVE				
	1	2	3	4	5
BUSINESS RELOCATIONS					
Number of businesses expected to be relocated	1	1	4	4	4
RESIDENTIAL RELOCATIONS					
Number of residences expected to be relocated	0	0	1	1	1
RIGHT OF WAY RELOCATION					
Number of parcels affected	65	20	65	20	65
Area of ROW to be acquired in hectares (acres)	18.880 (46.65)	7.389 (18.25)	18.880 (46.65)	7.389 (18.25)	18.579 (45.91)
COMMUNITY FACILITY EFFECTS (Community impacts within ROW)					
Number of churches affected	0	0	0	0	0
Number of schools affected	0	0	0	0	0
Number of nursing homes affected	0	0	0	0	0
Number of hospitals affected	0	0	0	0	0
Number of cemeteries affected	0	0	0	0	0
Number of other public services (fire stations, etc.) affected	0	0	0	0	0
NOISE EFFECTS					
Number of noise sensitive sites affected*	32	32	32	32	32
CULTURAL/HISTORIC RESOURCES AND PUBLIC PARKS INVOLVEMENT					
Number of historic sites/structures within or adjacent to ROW	0	0	0	0	0
Number of public parks within or adjacent to ROW	0	0	0	0	0
NATURAL ENVIRONMENT INVOLVEMENT					
Total wetland involvement area in hectares (acres)	3.359 (8.30)	1.202 (2.97)	1.202 (2.97)	1.202 (2.97)	1.289 (3.18)
FLOODPLAIN AND FLOODWAY ENCROACHMENT					
Area of base floodplain encroachment in hectares (acres)	2.391 (5.91)	0.396 (0.98)	2.391 (5.91)	0.396 (0.98)	2.391 (5.91)
Area of base floodway encroachment in hectares (acres)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
POTENTIAL HAZARDOUS MATERIAL AND PETROLEUM POLLUTANT CONTAMINATED SITES (within or adjacent to ROW)					
Number of potential hazardous material sites within or adjacent to ROW	0	0	0	0	0
Number of potential petroleum pollutant contaminated sites within or adjacent to ROW	11	11	11	11	11
ESTIMATED PROJECT COSTS (Present value in million $)					
ROW acquisition cost	$23.404	$14.511	$21.862	$31.768	$37.886
Engineering cost 15%	$3.005	$2.887	$3.005	$3.161	$3.553
Construction cost	$20.033	$19.245	$20.033	$21.072	$23.686
Construction engineering and inspection cost 15%	$3.005	$2.887	$3.005	$3.161	$3.553
TOTAL COST	$49.447	$39.530	$47.905	$59.162	$68.678

* within the 66 dBA Isopleth

- Noise Impacts

  Noise-sensitive sites are sites associated with rest, recreation, concentration, and communication. Noise sensitive sites include residences, schools, churches, hospitals, nursing homes, libraries, public assembly halls, lodgings and parks. The number of the existing noise-sensitive sites that are within the 66 dBA Isopleth of the Build Alternative was determined using the FHWA's STAMINA 2.0 (Florida Version 2.1) computer model.

- Impacts on Cultural/Historic Resources and Public Parks

  As previously presented in Section 4, a thorough investigation was undertaken to identify the number of potential historically and archaeologically significant sites and structures along the project corridor. Similarly, the location of existing and proposed public parks was determined.

- Natural Environment Impacts

  Impacts of the proposed ROW on the natural environment include impacts on wetlands, floodplains and floodways.

- Potential Hazardous Material and Petroleum Pollutant Contaminated Sites

  As presented in Section 4, several potential hazardous material and/or petroleum contaminated sites exist along the project. The number of potentially contaminated sites within or adjacent to the proposed ROW were grouped into two categories: hazardous material sites and petroleum contaminated sites.

- Right of Way Impacts

Private property impacts were quantified with two measures: number of parcels being affected and acreage of private property to be purchased. The number of parcels affected is directly related to the administrative effort and cost that is required to obtain the needed land. The acreage of private property to be taken and the number of parcels to be affected affect the ROW acquisition costs. The ROW costs were determined using 1999 dollars.

- Estimated Project Costs

Preliminary cost estimates were prepared for the Build Alternative, including separate estimates of the ROW acquisition, engineering/design, construction, and construction engineering and inspection costs (CEI). These project costs shown in the matrices were generated using 1999 dollars.

The ROW acquisition cost includes the cost of business and residence relocations, private property purchase, and reimbursement cost for miscellaneous business damages. The construction cost of the Build Alternative was calculated using the FDOT's Long-Range Estimates (LRE) computer program, and includes stormwater management systems, signing and marking, and excludes utility adjustments and wetland mitigation.

The engineering (final design) cost was estimated based on current per-mile costs of designing other similar roadway facilities. The construction engineering and inspection costs were calculated as a percentage (15.0 percent) of the construction cost.

8.6 PREFERRED ALTERNATIVE

The recommendation of the preferred alternative, the Build Alternative and the No-Project Alternative, was based on the use of the impact evaluation matrix as shown in Table 8-7. The following sections explain the rationale behind the selection of the preferred alternative.

8.6.1 Alternatives 1, 2, 3, 4 and 5

Alternatives 1, 2, 3, 4 and 5 apply from south of Cypress Creek to north of S.R. 52 in Pasco County. Widening into the border while maintaining a desirable 25.0 m (82 ft) border width, widening into the median, and widening into the border using a reduced border width of 21.567 m (70 ft) were developed for these alternatives. The following sections analyze the quantifiable factors used in selecting a preferred alternative.

8.6.2 Analysis of Quantifiable Factors for Alternative 1

- Alternatives 1, 2, and 3 have only one (1) business relocation. Alternative 4 and 5 have four (4) business relocations.

- Alternative 1, 2, and 3 have no residential relocations. Alternative 4 and 5 have one (1) residential relocation.

- Alternatives 1 and 5 have the greatest amount of parcels affected (65) compared to twenty (20) for Alternatives 2 and 4.

- All Alternatives affect thirty-two (32) noise sensitive sites.

- Alternative 1 has the greatest amount of wetland impacts 3.359 ha (8.30 ac) versus 1.202 ha (2.97 ac) for Alternatives 2 and 4, and 1.289 ha (3.18 ac) for Alternative 5.

- Alternatives 1 and 5 have the greatest amount of floodplain encroachment 2.391 ha (5.91 ac) versus 0.396 ha (0.98 ac) for Alternatives 2 and 4.

- All Alternatives impact equal number (11) of potential petroleum pollutant contaminated sites.

8.6.3 Analysis of Quantifiable Factors for Alternative 2

- Alternatives 1, 2, and 3 have only one (1) business relocation. Alternative 4 and 5 have four (4) business relocations.

- Alternative 1, 2, and 3 have no residential relocations. Alternative 4 and 5 have one (1) residential relocation.

- Alternatives 2 and 4 have the least amount of parcels affected (20) compared to sixty-five (65) for Alternatives 1, 3, and 5.

- All Alternatives impact thirty-two (32) noise sensitive sites.

- Alternatives 2, 3, and 4 have the least amount of wetland impacts 1.202 ha (2.97 ac) versus 3.359 ha (8.3 ac) for Alternative 1, and 1.289 ha (3.18 ac) for Alternative 5.

- Alternatives 2 and 4 have the least amount of floodplain encroachment 0.396 ha (0.98 ac) versus 2.391 ha (5.91 ac) for Alternatives 1, 3, and 5.

- All Alternatives impact equal number (11) of potential petroleum pollutant contaminated sites.

- Alternative 2 has the least ROW acquisition cost ($14.511 million) compared to $37.886 million for Alternative 5, $21.862 million for Alternative 3, and $23.404 million for Alternative 1.

- Alternative 2 has the least total cost ($39.530 million) compared to $68.678 for Alternative 5, $59.162 million for Alternative 4, $49,447 for Alternative 1, and $47,905 for Alternative 3.

8.6.4 Analysis of Quantifiable Factors for Alternative 3

- Alternatives 1, 2, and 3 have only one (1) business relocation. Alternative 4 and 5 have four (4) business relocations.

- Alternative 1, 2, and 3 have no residential relocations. Alternative 4 and 5 have one (1) residential relocation.

- Alternative 3 has the greatest amount of parcels affected (65) compared to twenty (20) for Alternatives 2 and 4.

- All Alternatives impact thirty-two (32) noise sensitive sites.

- Alternatives 2, 3, and 4 have the least amount of wetland impacts 1.202 ha (2.97 ac) versus 3.359 ha (8.30 ac) for Alternative 1 and 1.289 ha (3.18 ac) for Alternative 5.

- Alternatives 1, 3, 5 have the greatest amount of floodplain encroachment 2.391 ha (5.91 ac) versus 0.396 ha (0.98 ac) for Alternatives 2 and 4.

- All Alternatives impact equal number (11) of potential petroleum pollutant contaminated sites.

8.6.5 Analysis of Quantifiable Factors for Alternative 4

- Alternatives 1, 2, and 3 have only one (1) business relocation. Alternative 4 and 5 have four (4) business relocations.

- Alternative 1, 2, and 3 have no residential relocations. Alternative 4 and 5 have one (1) residential relocation.

- Alternatives 2 and 4 have the least amount of parcels affected (20) compared to sixty five (65) for Alternatives 1, 3, and 5.

- All Alternatives impact thirty-two (32) noise sensitive sites.

- Alternatives 2, 3 and 4 have the least amount of wetland impacts 1.202 ha (2.97 ac) versus 3.359 ha (8.30 ac) for Alternative 1 and 1.289 ha (3.18 ac) for Alternative 5.

- Alternatives 2 and 4 have the least amount of floodplain encroachment 0.396 ha (0.98 ac) versus 2.391 ha (5.91 ac) for Alternatives 1, 3, and 5.

- All Alternatives impact equal number (11) of potential petroleum pollutant contaminated sites.

8.6.6 Analysis of Quantifiable Factors for Alternative 5

- Alternatives 1, 2, and 3 have only one (1) business relocation. Alternative 4 and 5 have four (4) business relocations.

- Alternative 1, 2, and 3 have no residential relocations. Alternative 4 and 5 have one (1) residential relocation.

- Alternative 1, 3, and 5 have the greatest amount of parcels affected (65) compared to twenty (20) for Alternatives 2 and 4.

- All Alternatives impact thirty-two (32) noise sensitive sites.

- Alternatives 1, 3, and 5 have the greatest amount of floodplain encroachment 2.391 (5.91 ac) versus .396 ha (.98 ac) for Alternatives 2 and 4.

- All Alternatives impact equal number (11) of potential petroleum pollutant contaminated sites.

- Alternative 5 has the greatest ROW cost ($37.886 million) compared to $14.511 million for Alternative 2, $21,862 million for Alternative 3, $23.404 million for Alternative 1, and $31,768 million for Alternative 4.

- Alternative 5 has the greatest total cost ($68.678 million) compared to $59.162 million for Alternative 4, $49.447 million for Alternative 1, and $39.530 million for Alternative 2.

8.7 RECOMMENDATION OF PREFERRED ALTERNATIVE

Alternative 5 was determined to be the preferred alternative as shown in Appendix B.

Alternative 5 is selected as the preferred alternative because although it has a slightly higher cost than Alternative 2, it will provide a safer southbound entrance to I-75 from west-bound S.R. 52 as well as provide increased interchange capacity in the opening and future years. Alternative 5 incorporates widening into the border of the I-75 mainline and the recommended loop ramp alternative for the S.R. 52 interchange from the Interchange Modification Report[2] and includes the alignment shift to the east in segment B which avoids affecting the runway glide slope at the North Tampa Aeropark. The preferred alternative mainline typical section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). A reduced border width of 21.567 m (70 ft) is proposed in order to avoid the need for additional ROW acquisition. Since the resultant border width is less than the required 25.0 m (82 ft), a design variation will be required to pursue this typical section.

Providing a loop ramp in the northwest quadrant of the I-75/ S.R. 52 interchange would eliminate the conflict of the westbound to southbound left-turn movement with the eastbound through movement. The loop ramp would also eliminate the conflict of the westbound to southbound left-

turn movement with the eastbound to southbound right-turn movement, as these movements merge together on the southbound entrance ramp to I-75. The implementation of the loop ramp would reduce the signal operation from the existing three-phase to a two-phase signal operation, thus increasing the capacity of the intersection on the west side of the interchange. The loop ramp would ensure that the interchange could accommodate heavier traffic volumes while maintaining an acceptable LOS. Significantly higher traffic volumes, especially for the westbound to southbound movement, could be accommodated at the interchange. This would reduce queuing on the west side of the interchange and prevent potential queues from extending into the east side of the interchange.

The "Interchange Modification Report"[2] (IMR) was reviewed and preliminarily accepted by FHWA. The recommended loop ramp alternative was selected as the most cost effective alternative which meets the objectives of the IMR. This alternative accommodates future travel demand, maintains an acceptable level of service, and by eliminating the need for an additional interstate access location, does not degrade the operations of the interstate mainline. Queuing on the northbound exit ramp will also be reduced, thus improving safety along the interstate mainline. This loop ramp alternative also provides for heavy vehicles safe and easy access to adjacent land uses and to the southbound interstate. The recommended loop ramp alternative requires the least amount of ROW, has the least potential of affecting the surrounding environment, and improves traffic operations for local cross streets and cross street intersections.

Increasing capacity at the S.R. 52 interchange is necessary because it will address the anticipated future development in the north and eastern areas of Pasco County. Future development in the remaining portions of Pasco county is limited due to the presence of well fields throughout the remaining areas of Pasco County.

DESIGN CHANGES TO THE PREFERRED ALTERNATIVE

The department had completed a previous PD&E study in 1988 for the interchange of I-75 and SR 54. The 1988 study recommended extending the I-75 bridge over SR 54 to accommodate future widening of SR 54. The recommended improvements did not advance to the next phase due to the construction of the new SR 56 interchange. However, in response to comments received at the Public Hearing on July27, 2000, the proposed bridge extension of the I-75 bridges over SR 54 will

be incorporated in the preferred alternative. The bridge extension will allow for future widening of SR 54 to a six lane facility. The bridge extension will not require any additional ROW. Table 8-6 reflects the additonal construction cost of the SR 54 bridge extension.

8.8 REFERENCES

1. Pasco County Comprehensive Plan, Traffic Circulation Element; Pasco County Board of County Commissioners; Adopted June 15, 1989, Refined February 1995.

2. Draft Final Interchange Modification Report for the Interstate 75 and State Road 52 Interchange; PBS&J; June 2000.

SECTION 9
PRELIMINARY DESIGN ANALYSIS

9.1 DESIGN TRAFFIC VOLUMES

The annual average daily traffic volumes and directional design hour volumes, AADT and DDHV respectfully, were developed for the interstate mainline and study interchanges for the opening year 2008 and the design year 2020. These volumes are presented in Section 6 of this report. Figures 6-12 and 6-13 illustrate the study volumes. For the IMR, design year volumes were developed for the S.R. 52 proposed interchange alternatives for an additional interim year of 2001 and a new design year of 2028. These volumes are discussed and presented in Figures 2-2 through 2-11 of the "Draft Final Interchange Modification Report for the Interstate 75 and State Road 52 Interchange"[1].

9.2 TYPICAL SECTIONS

9.2.1 Preferred Alternative

Segment A

Segment A is defined as between south of Cypress Creek to north of the proposed S.R. 56 interchange. The recommended preferred typical sections 3 and 6 for the project were previously discussed in Section 8.6 and shown in Figures 8-3 and 8-6.

Roadway Typical Section 3

Roadway Typical Section 3 (Figure 8-3) depicts the widening into the border of the I-75 mainline. The resulting section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). A reduced border width of 21.567 m (70 ft) is proposed in order to avoid the need for additional ROW acquisition. Since the resultant

border width is less than the required 25.0 m (82 ft), a design variation will be required to pursue this typical section.

Bridge Typical Section 6

Bridge Typical Section 6 (Figure 8-6) depicts widening of the existing three-lane southbound I-75 bridge over Cypress Creek by adding one lane to the outside of the existing structure. The resulting bridge typical section will feature four 3.6 m (12 ft) lanes, 3.0 m (10 ft) shoulders and a 0.46 m (1.5 ft) outside barrier, while retaining the existing inside 0.419 m (1.38 ft) barrier constructed in 1983. There is a 12.573 m (41.24 ft) separation from the northbound bridge. A total of 3.372 m (12.12 ft) of deck widening is proposed. Widening to the outside of the southbound Cypress Creek bridge is geometrically compatible with the introduction of the proposed two-lane southbound entrance ramp from S.R. 56, as well as the ongoing final design project to widen southbound I-275 south of Cypress Creek one lane to the outside.

Segment B

Segment B is defined as north of the proposed S.R. 56 interchange to north of the S.R. 54 interchange. The recommended preferred typical sections 3 and 4 for the project were previously discussed in Section 8.6 and shown in Figures 8-3 and 8-4.

In order to avoid affecting the North Tampa Aeropark runway glide slope, the I-75 mainline alignment was shifted to the east in this segment.

Roadway Typical Section 3

Roadway Typical Section 3 (Figure 8-1) depicts the widening into the border of the I-75 mainline. The resulting section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). A reduced border width of 21.567 m (70 ft) is proposed in order to avoid the need for additional ROW acquisition. Since the resultant border width is less than the required 25.0 m (82 ft), a design variation will be required to pursue this typical section.

Interchange Bridge Typical Section 4

Bridge Typical Section 4 (Figure 8-4) depicts the proposed twin I-75 bridges over either S.R. 54 or over S.R. 52. Each resulting twin bridge will feature three 3.6 m (12 ft) lanes, 3.0 m (10 ft) shoulders and 0.46 m (1.5 ft) barriers. The resulting separation between each pair of structures will be 12.587 m (41 ft) and the effective median width will be 19.507 m (64 ft). Typical Section 5 can occur either with the widening of the existing twin structures at S.R. 54 or replacement of the existing structure at S.R. 52.

Segment C

Segment C is defined as North of the S.R. 54 interchange to north of Overpass Road. The recommended preferred typical sections 3 and 8 for the project were previously discussed in Section 8.6 and shown in Figures 8-3 and 8-8.

Roadway Typical Section 3

Roadway Typical Section 3 (Figure 8-3) depicts the widening into the border of the I-75 mainline. The resulting section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). A reduced border width of 21.567 m (70 ft) is proposed in order to avoid the need for additional ROW acquisition. Since the resultant border width is less than the required 25.0 m (82 ft), a design variation will be required to pursue this typical section.

Bridge Typical Section 8 (Figure 8-8) depicts the replacement of the existing Overpass Road Bridge over I-75. The new undivided two-way bridge features two 3.6 m (12 ft) lanes, 2.4 m (8 ft) shoulders and 0.475 m (1.54 ft) barriers with handrail.

Bridge replacement is necessary in conjunction with only the border widening option for the I-75 mainline as previously shown in Figure 8-1 and 8-3 (Roadway Typical Section 1 and 3). This condition occurs because the existing horizontal clearance distance between the outside edge of I-75

travel lanes and the inside face of the side bridge piers is only 3.467 m (11.38 ft), which is less than a lane width. Outward relocation of the bridge piers to accommodate an additional I-75 lane each way requires complete replacement of the bridge.

Segment D

Segment D is defined as north of the S.R. 54 interchange to north of the S.R. 52 interchange. The recommended preferred typical sections 3 and 13 for the project were previously discussed in Section 8.6 and shown in Figures 8-3 and 8-13.

Roadway Typical Section 3

Roadway Typical Section 3 (Figure 8-3) depicts the widening into the border of the I-75 mainline. The resulting section features three 3.6 m (12 ft) lanes each way, 3.6 m (12 ft) outside shoulders (of which 3.0 m/10 ft is paved), while retaining the existing 19.507 m (64 ft) depressed median and 3.657 m (12 ft) inside shoulders (of which 3.048 m/10 ft is paved). A reduced border width of 21.567 m (70 ft) is proposed in order to avoid the need for additional ROW acquisition. Since the resultant border width is less than the required 25.0 m (82 ft), a design variation will be required to pursue this typical section.

Interchange Bridge Typical Section 13

Consideration of a loop-type entrance ramp in the northwest quadrant of a re-configured I-75 interchange with S.R. 52 (for the west-bound to south-bound movement) necessitates an additional ramp lane on the southbound bridge over S.R. 52 to accommodate the proper merge distance. This additional ramp lane will be provided using an adjacent bridge structure to the west of the proposed twin replacement bridge. Interchange Bridge Typical Section 13 (Figure 8-10) depicts the proposed twin replacement bridges in conjunction with a widening within the border area shown in the Roadway Typical Section 3 (Figure 8-3). The mainline bridges each feature 3.6 m (12 ft) lanes (four southbound / three northbound), 3.0 m (10 ft) shoulders and 0.46 m (1.5 ft) barriers. The ramp bridge features a 4.5 m (15 ft) lane, a 1.8 m (6 ft) outside shoulder, 0.6 m (2 ft) inside shoulder and a 0.46 (1.5 ft) barrier.

9.3 INTERSECTION CONCEPTS AND SIGNAL ANALYSIS

The only signalized intersections within the study area are located at the S. R. 52 and I-75 interchange. During the completion of the existing conditions analysis, the signals were not present. However, two signalized intersections at the exit ramp termini with S.R. 52 were recommended and analyzed as part of the Transportation System Management (TSM) alternative and the loop ramp build alternatives for the interchange. The project for the signalization of the exit ramp termini is programmed in the Department's Five- Year Work Program for fiscal year 2001/2002. During the course of the study, however, the installation of these signals was advanced and the signals at each exit ramp termini are currently operational. The proposed geometry and analysis of the signalized intersection operations for each proposed interchange alternatives are presented in Section 7 of the "Draft Final Interchange Modification Report for the Interstate 75 and State Road 52 Interchange"[1]. As illustrated in Tables 7-1 and 7-2 of the IMR, during the design year 2028, with the recommended lane geometry, the two signalized intersections are expected to operate at LOS D or better for the recommended Revised Loop Ramp 3 Alternative.

9.4 ALIGNMENT AND RIGHT OF WAY NEEDS

Appendix B includes aerial photos illustrating the recommended design alternative for the project and the anticipated roadway ROW needs. As shown, the proposed roadway improvements are primarily accommodated within the existing ROW width. Table 8-11, presented previously, indicates that a total of approximately 2.16 ha (5.38 ac) of ROW will need to be acquired in order to build the recommended improvement alternative along I-75.

9.5 RELOCATIONS

As presented earlier in Table 8-9, construction of the preferred alternative is estimated to cause the relocation of 2 businesses. More information on relocations to be caused by the recommended improvements can be found in the "Draft Conceptual Stage Relocation Report"[2] which has been prepared for this study.

9.6 RIGHT OF WAY COSTS

Table 8-6, presented previously, summarized the estimated ROW acquisition costs by segment for the preferred alternative. These costs include ROW acquisitions for improving the roadway facility along I-75 from south of Cypress Creek to north of S.R. 52. As shown in Table 8-7, the total estimated ROW acquisition cost is $37.886 million. The ROW costs were determined using 1999 dollars.

9.7 CONSTRUCTION COST

Table 8-6, shown in Section 8, summarized the estimated construction costs by project segment for the preferred alternative. These costs were calculated with the use of the Department's LRE method. As shown, the estimated total construction cost for the roadway and bridge construction is $23.686 million, and were generated using 1999 dollars.

9.8 PRELIMINARY ENGINEERING AND CONSTRUCTION ENGINEERING COSTS

The cost of engineering (final design) and the cost of CEI were estimated as 15.0 percent each of the estimated $23.686 million construction cost. Therefore, these efforts are expected to cost approximately $3.55 million each for a total of $7.10 million.

9.9 RECYCLING OF SALVAGEABLE MATERIALS

During construction of the project, recycling of re-usable materials will occur to the greatest extent possible. Where possible, removal and recycling of the existing pavement for use in the new pavement will be considered. This will help to reduce the volume of the materials that need to be hauled and disposed of away from the project and to reduce the cost of purchasing materials suitable for pavement construction. Other materials such as signs, drainage concrete pipes, etc., will also be salvaged and re-used for regular maintenance operations if they are deemed to be in good condition.

9.10 USER BENEFITS

Numerous benefits will be realized by the public after the recommended preferred alternative is constructed. Savings in travel time, reduced vehicle operating costs, reduced traffic accident-related costs, and reduced emergency response times are the main benefits. Access to schools and community facilities, as well as the numerous commercial establishments and residences, will be enhanced. The creation of a motorist-friendly facility will contribute to the economic growth of the area adjacent to the project.

9.11 PEDESTRIAN AND BICYCLE FACILITIES

There are no pedestrian or bicycle facilities within the project study area.

9.12 SAFETY

The proposed improvements will upgrade this portion of I-75 to a safer and more efficient transportation facility. The increased roadway capacity is expected to result in less congestion and therefore, reduce the probability for accidents. The design and alignment of the roadway will meet applicable safety standards. Adherence to design speed as it applies to establishing and setting minimum values on critical roadway design features will be closely followed. Roadway design elements including curvature, sight distance, width and clearance will meet the applicable minimum roadway design standards. Access control techniques to promote safe and efficient traffic circulation will also be used.

9.13 ECONOMIC AND COMMUNITY DEVELOPMENT

As previously presented in Section 3, the Pasco County Comprehensive[3] and the Pasco County Metropolitan Planning Organizations Adopted 2020 Long-Range Transportation Plan[4], call for improvements along the existing I-75 corridor. These plans were developed after thorough evaluation of the future population and development growth in the region of the project. The proposed I-75 improvements developed through the process previously described in Section 8,

respond to and fully accommodate the projected year 2020 traffic demand to the maximum extent feasible.

9.14 ENVIRONMENTAL IMPACTS

9.14.1 Land Use Data

The existing land uses adjacent to the I-75 corridor consist of general agriculture, commercial, industrial and some low density residential areas in a rural setting. The proposed project is consistent with future land use plans. Population growth trends in Pasco and northern Hillsborough Counties have shown a high growth rate over the past thirty years. Future land uses are expected to follow the established trends, and secondary development or land use changes associated with the proposed project are unlikely.

9.14.1.1 Community Facilities and Established Land Uses

Community facilities provide a focal point for adjacent neighborhoods and communities, as well as serving the needs of surrounding areas. For the purpose of this study, community facilities include churches and other religious institutions, parks and recreation areas, other neighborhood gathering places, fire stations, police stations, public and private schools, medical and emergency treatment facilities, cemeteries, and public buildings and facilities. Information for mapping the community facilities in the project vicinity was derived from on-site observation and conversations with county staff. No disruption to community services are expected.

9.14.2 Community Cohesion

The project involves expansion of an existing four lane facility with little expected ROW acquisition. No splitting or isolation of neighborhoods will occur. The project is not anticipated to harm elderly persons, handicapped individuals, non-drivers and transit dependent individuals, or minorities. It is anticipated that the project improvements will not impact community cohesiveness.

Therefore, the proposed improvements are being developed to comply with Executive Order 12898, Environmental Justice, issued on February 11, 1994. The proposed improvements are considered to have no effect on community cohesiveness.

9.14.3 Wetland Impact and Mitigation

In accordance with Executive Order 11990, "Protection of Wetlands," dated May 23, 1977, a wetland study was conducted to identify, characterize, and evaluate wetland systems that traverse or parallel the proposed widening of I-75. The details of the study are presented in the Wetlands Evaluation Report[4]. The extent of wetland impacts will depend on the final alignment. Total roadway-related wetland impacts should not exceed approximately 3.48 ha (8.60 ac) for the preferred alternative (Alternative 5). Evaluations of stormwater facility-related wetland impacts will be conducted during the design phase.

Overall, the proposed impact areas represent moderate to high quality wetlands in terms of function and effectiveness. Habitat limitations in the potential impact areas are due in part to the dominance of nuisance and/or exotic species in many wetlands. Any proposed wetland impacts will require permits from the state and federal wetland regulatory agencies. An Environment Resource Permit will be required by the SWFWMD and a Section 404 Dredge and Fill Permit will be required from the U.S. Army Corps of Engineers prior to construction.

Pursuant to Executive Order 11990, dated May 23, 1977, guidelines have been established to avoid long-term and short-term adverse impacts to wetland resources and to avoid new construction in wetlands wherever there is a practicable alternative. First, it must be demonstrated that avoidance of wetland areas has been accomplished to a reasonable extent (viable alternative alignments under consideration or expansion to the inside or outside of the existing travel lanes). Second, minimization techniques must be employed before mitigation of wetland loss will be considered. Wetland impacts which will result from the construction of this project will be mitigated pursuant to S. 373.4137 F.S. to satisfy all mitigation requirements of Part IV, Chapter 373, F.S. and 33 U.S.C.s. 1344. Compensatory mitigation may include a monetary contribution to the FDEP or, if that option is unavailable, actions such as wetland preservation, restoration, enhancement, and/or creation.

9.14.4 Threatened and Endangered Species

The project area was surveyed for state and federally listed species in August, September, and October 1997. Observation of habitat adjacent to I-75 indicates that the listed species with the greatest potential of occurrence are wading birds, due to the large amount of suitable foraging and nesting habitat in the project area. Habitat impacts from the proposed improvements to I-75 are expected to be minimal. Disturbed vegetative conditions associated with the potential habitat areas limit the use and/or presence of listed species.

Moreover, the growing concentration of residential areas within the upland portions of the study area and the fragmentation of available upland habitat by agricultural activities limit the potential occurrence of protected wildlife. Consequently, only minimal adverse impacts to listed upland species is expected, limited primarily to the gopher tortoise.

Information gathered from a literature review and field survey indicate no listed species inhabiting the potentially affected wetland areas or uplands adjacent to the proposed pond sites (considering preferred habitat types and known geographical ranges). Based on the results of past and present surveys, no effect to state- or federally-listed threatened or endangered species is expected from construction activities along the existing or proposed new alignment ROW. The proposed project is not located in an area designated as "Critical Habitat" by the U.S. Department of the Interior, Fish and Wildlife Service. Through Best Management Practices and the special provisions discussed in the report, the Department has determined that the proposed improvements will have "No Effect" on any federally-listed threatened or endangered species. A letter of concurrence from the U.S. Fish and Wildlife Service was received on April 20, 1999.

9.14.5 Potential Hazardous Materials and Petroleum Products Contaminated Sites

A total of 11 sites were classified into one of three types of contamination potential: hazardous waste contamination only (H1, H2, etc.), petroleum products contamination only (P-1, P-2, etc.) and sites contaminated with both petroleum and hazardous waste (HP1, HP2, etc.). All 11 sites are potentially contaminated by petroleum products; no sites are potentially contaminated by hazardous wastes or by a combination of petroleum and hazardous wastes. Seven of the 11 sites are located

at the S.R. 54/I-75 interchange which is in Segment B; four of the 11 sites are located at the S.R. 52/I-75 interchange which is in Segment D. Three sites (one in Segment B and two in Segment D) were assigned a risk rating of "low", eight sites (six in Segment B and two in Segment D) were assigned a "medium" risk rating, and no sites were assigned a "high" risk rating. The eight sites that were assigned a risk rating of "medium" are recommended for further evaluation in the form of soil and groundwater sampling and testing for the presence of petroleum products.

9.14.6 Noise Impacts

In accordance with 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise", an assessment of traffic noise was conducted for this project. The FHWA has established guidelines for the relationship between land use and design year noise levels. Residences, churches, motels, hospitals, parks and recreation areas are in Category B with a Noise Abatement Criteria (NAC) level of 67 decibels on the A-weighted scale (dBA). Noise sensitive sites predicted to "approach" within 1 dBA of the NAC or exceed the NAC were identified.

The noise study was conducted utilizing the FHWA STAMINA 2.0 (Florida Version 2.1) traffic noise prediction model. The traffic noise impact evaluation identified 3 noise sensitive sites in Segment B, 17 in Segment C and 12 in Segment D as approaching or exceeding the FHWA NAC for a total of 32 affected noise sensitive sites. The sites included two motel swimming pools (Master's Inn and Comfort Inn), a swimming pool and shuffleboard court at Quail Run RV Park, and the remainder were residential sites. The range of increase from existing conditions to design year build is 1.3 to 1.7. Noise level increases up to 2.5 decibels are not perceptible to the average human being; therefore, noise impacts from the proposed project are considered minimal.

Noise abatement measures were evaluated for the affected noise sensitive sites including traffic system management, alignment modifications, property acquisition, land use controls and noise barriers. None of the noise abatement measures evaluated were found to be feasible and cost reasonable. Land use controls can be used to minimize the future development of noise sensitive sites.

The Tampa Bay Golf and Tennis Club is a master planned unit development located south of S.R. 52 and west of I-75. At the time of the noise evaluation for the PD&E phase of this project, construction had been completed for only one residence and a noise level of 66.5 dBA was predicted at the residence indicating that noise abatement should be considered. All residences that have been planned, designed, and programmed (i.e., have acquired a building permit) prior to the date of public knowledge (i.e., date the Type 2 Categorical Exclusion is approved) are to be evaluated in a noise analysis and considered for abatement if predicted noise levels approach or exceed the NAC. Currently, building permits are being acquired and construction is beginning on other lots in this development. Since the date of public knowledge has not yet been established, the exact location and number of residences that are to be evaluated cannot be determined at this time. During subsequent reevaluations for this project. The number and location of residential properties that acquired building permits prior to the date of public knowledge should be determined and a noise evaluation performed for those residences.

9.14.7 Air Quality Impacts

The preferred build alternative was subjected to an air quality screening test COSCREEN98. A review of the traffic data showed the signalized intersection at the S.R. 54 interchange as having the worst combination of high traffic volumes and nearby reasonable receptor sites. The results of the screening test are provided in Tables 9-1 and 9-2.

Table 9-1
Predicted Carbon Monoxide Concentrations for the No-Build Alternative

Receptor	Opening Year 2008		Design Year 2020	
	1-Hour Concentration [1] (ppm)	8-Hour Concentration [2] (ppm)	1-Hour Concentration [1] (ppm)	8-Hour Concentration [2] (ppm)
Denny's	5.4	3.3	5.8	3.5
Citgo	5.7	3.4	6.2	3.7
Master's Inn Pool	5.2	3.1	5.5	3.3

[1] Includes background CO of 3.3 ppm.

[2] Includes background CO of 2.0 ppm.

Table 9-2
Predicted Carbon Monoxide Concentrations for the Build Alternative

Receptor	Opening Year 2008		Design Year 2020	
	1-Hour Concentration [1] (ppm)	8-Hour Concentration [2] (ppm)	1-Hour Concentration [1] (ppm)	8-Hour Concentration [2] (ppm)
Denny's	5.4	3.3	5.8	3.5
Citgo	5.7	3.4	6.2	3.7
Master's Inn Pool	5.2	3.1	5.5	3.3

[1] Includes background CO of 3.3 ppm.

[2] Includes background CO of 2.0 ppm.

The predicted concentrations are well below the national ambient air quality standards of 35 parts per million for 1-hour and 9 parts per million for an 8-hour averaging time. Therefore, the project is not expected to cause concentrations of CO that would exceed the NAAQS.

The project is in an area which has been designated as attainment for all the air quality standards under the criteria provided in the Clean Air Act Amendments of 1990; therefore conformity does not apply.

9.14.8 Water Quality Impacts

No adverse impacts to water quality are anticipated. The proposed storm water facility design will include, at a minimum, the water quality requirements for water quality impacts as required by the SWFWMD. Therefore, no further mitigation for water quality impacts will be needed. A Water Quality Impact Evaluation (WQIE) was conducted on June 19, 2000 for this project.

9.14.9 Aquatic Preserves

There is No Involvement with Aquatic Preserves.

9.14.10 Section 4(f) Lands

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 was examined for possible Section 4(f) properties.

No Section 4(f) resources are located within or immediately adjacent to the proposed project. Therefore, this project does not involve, nor will affect, any Section 4(f) properties.

9.14.11 Outstanding Florida Waters

The Stormwater Management Facilities (SMF) sites have been evaluated assuming the facilities will be designed as wet detention systems providing treatment for 1.5 inches of runoff in facilities discharging directly in OFW and treatment of 1 inch of runoff for facilities not discharging directly to OFW.

9.14.12 Floodplains

The Federal Emergency Management Agency (FEMA) (Flood Insurance Rate Maps) has completed a Flood Insurance Study (FIS) for Pasco County dated February 17, 1989, and there were no floodways indicated within the project corridor. Although Cypress Creek and Trout Creek are not considered floodways, FEMA has performed a hydraulic and hydrologic analysis for both streams.

In accordance with Executive Order 11988, "Floodplain Management," USDOT Order 5650.2, "Floodplain Management and Protection," and Chapter 23, Code of Federal Regulations, Part 650A, impacts to floodplains from the construction of the proposed project were considered. Portions of the study area are located within the floodplain limits shown on the FIRM compiled by FEMA. The project corridor has six segments which lie in a designated 100 year floodplain that are linked to the Big Cypress Swamp. Compensation for any fill involvement in these areas may be required by SWFWMD. Mitigation for encroachment into the 100 year floodplain will be compensated through the construction of floodplain compensation ponds. These ponds will be addressed in the design phase of this project.

This project can be categorized as Category 4: PROJECTS ON EXISTING ALIGNMENT INVOLVING REPLACEMENT OF EXISTING DRAINAGE STRUCTURES WITH NO RECORD OF DRAINAGE PROBLEMS as defined in Section 3.2.4 of the FDOT Drainage Manual. "The proposed structures will perform hydraulically in a manner equal to or greater than the existing structure, and backwater surface elevations are not expected to increase. As a result, there will be no significant adverse impacts on natural and beneficial floodplain values, there will be no significant change in flood risk, and there will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant."

9.15 UTILITY IMPACTS

As previously discussed in Section 4.1.14 and summarized in Table 4-11 of this report, several utility distribution lines are located within the existing I-75 ROW, including buried power lines, aerial and buried telephone cables, aerial and buried cable television lines, potable water mains, force mains, and gas mains. Depending on their location and depth, implementation of the recommended improvements for the project may require adjustment of some of these facilities. A set of plans identifying the recommended preferred alternative was sent to the utility companies to provide utility relocation costs. These costs will be added to this section when they are received from the utility companies. These costs are not included in the total estimated project costs presented in Section 9.7, since they will be incurred by the utility owners.

9.16 TRAFFIC CONTROL PLAN

Maintenance of traffic and sequence of construction will be planned and scheduled so as to minimize traffic delays. Accesss of all businesses, residneces, and recreational facilities will be maintained to the extent practical through controlled construction scheduling. Signage will be used, as appropriate, to provide pertinent information to the traveling public. The local news media will be notified in advance of road closings and other construction related activities which could excessively inconvenience the community, so that motorists, residents, and business persons can plan travel

routes accordingly. All provisions of thte most current edition of the FDOT's Standard Specifications for Road and Bridge Construction[8] will be followed.

I-75 provides access to numerous residences and businesses along this corridor. Due to its importance, I-75 should 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 maintain traffic operations along I-75:

Mainline Roadway

- Relocate existing utilities within the ROW.
- Construct stormwater ponds (if ponds are proposed in these areas).
- Construct temporary pavement as necessary to maintain existing two-way traffic.
- Construct the widening of either the northbound or southbound lanes including shoulders, while maintaining the traffic on a combination of the existing and temporary pavement.

Bridges

- Maintain existing traffic on the northbound or southbound structure and widen the structure.

9.17 RESULTS OF PUBLIC INVOLVEMENT PROGRAM

An updated Public Involvement Program was approved for this PD&E Study on July 23, 2000. The purpose of the program was to inform and solicit responses from interested parties, including local residents, public officials and agencies, and business owners. The program, which included an Advance Notification (AN) Package, a presentation to the county Metropolitan Planning Organizations and their Technical and Citizens Advisory Committees, a Public Information Meeting and a Public Hearing, will be summarized in the Comments and Coordination Report after the

scheduled July 27, 2000 Public Hearing. A brief summary of the Public Involvement Program follows.

9.17.1 Advance Notification

An AN Package was prepared in accordance with Part 1, Chapter 2 of the FDOT PD&E Manual and was transmitted to the Florida State Clearinghouse in the Governor's Office of Planning and Budgeting on June 10, 1997. Several agencies responded with comments, including the Florida SHPO, FAA, Florida Department of Community Affairs, FDEP, SWFWMD, Tampa Bay Regional Planning Council, and the Florida Natural Areas Inventory.

Generally, the comments indicated either no anticipated impacts, consistency with applicable requirements, a request that standard protective measures be used, or a request for further coordination during the project's permitting and final engineering design phase. In addition, comments indicated the potential impact to Cypress Creek, an OFW, and consideration to provide new and/or improved pedestrian/bicycle linkages along roads located under the replaced/widened bridges. The full comments and the corresponding responses can be found in the Comments and Coordination Report.

9.17.2 Public Information Meeting

A Public Information Meeting was held on December 3, 1997, to inform the public of the project's status, present the alternatives under consideration, and receive comments. The following techniques were used to notify the public in advance about the meeting: 1) letters to property owners within 137.2 m (450 ft) of the centerline of the proposed project, 2) letters to public officials and agencies, 3) letters to interested parties or those individuals and groups who asked to be placed on the mailing list, 4) and display advertisements in the Tampa Tribune. The meeting was conducted in an informal format which gave the public an opportunity to view project graphics and discuss the proposed project on a one-to-one basis with representatives from the FDOT.

In general, the majority of written comments from the Information Meeting supported the need for the project improvements and appeared to favor Alternative 2 (median widening). Many of the

attendees asked questions concerning the new S.R. 56 interchange, the possibility of an interchange at Overpass Road, and the amount of ROW needed for each alternative, while minimal questions and comments regarding natural environmental and physical impacts were received. A summary of the comments received at the workshop can be found in the Comments and Coordination Report.

9.17.3 Public Hearing

A Public Hearing was held on Thursday, July 27, 2000, from 4:30 to 7:30 p.m. at the Thomas E. Weightman Middle School Gymnasium, 30649 Wells Road, Wesley Chapel, Florida. As shown on the sign-in sheets in Appendix I, 37 people attended the Public Hearing. Jeraldo Comellas, Jr., P.E., District Environmental Management Office Engineer, presided at the Hearing. The Hearing was advertised in the Tampa Tribune Pasco Edition and the Florida Administrative Weekly (see Appendix J). In addition, meeting notices were mailed to elected and appointed officials and property owners whose property lies within 137.2 m (450 ft) of the centerline of the preferred alternative were notified of the meeting by first class mail at least 21 days prior to the Hearing.

Conceptual alignments and project reports were available for public review prior to and after the Hearing beginning July 6, 2000, through August 7, 2000, at the New River Branch Library in Zephyrhills, Florida. The study materials were also available for public review at the Hearing. Informational handouts were offered to those in attendance at the Public Hearing. The handouts included a project history, a description of the proposed improvements, the ROW acquisition and relocation program, an evaluation matrix, the status of the project in the Work Program and a comment form.

The informal portion of the Hearing was from 4:30 p.m. to 6:00 p.m. Throughout the informal portion, a project video ran continuously and FDOT representatives were available for one-on-one questions and answers. The formal portion began at 6:00 p.m. and consisted of a presentation by FDOT on the proposed improvements followed by a public comment period. The proceedings of the formal portion were recorded by a court reporter. The transcript of the Public Hearing can be found in Appendix M of the Comments and Coordination Report. One person spoke during the formal portion. The court reporter was also available to take one-on-one oral statements during the

informal portion. One person made an oral statement to the court reporter during the informal portion. Four written comments were received during the comment period.

The FDOT has responded to the person who spoke in the formal portion of the Hearing and all those written comments that required a response. The FDOT has committed to wetland mitigation, further evaluation of noise sensitive and contamination sites, and further archeological field testing for the preferred pond and floodplain compensation areas. Specific commitments are stated in Section 6.0 of the Comments and Coordination Report[9].

9.18 VALUE ENGINEERING

Several I-75 improvement alternatives were reviewed by a Value Engineering (VE) review team formed by FDOT staff. The review was performed from September 11, 1998 to February 15, 2000. The VE team endorsed the preferred alternative design without savings.

9.19 DRAINAGE

A Final Location Hydraulic Report[5] has been prepared for this PD&E Study. This report summarizes the existing drainage conditions along this area of I-75. According to personnel at the FDOT Dade City Maintenance Yard, there are no records of roadway ever topping within the project limits. There are also no reported flooding problems within the project limits.

The proposed improvements will include constructing roadside ditches which directly flow to pond sites for treatments. The preferred pond sites and floodplain compensation sites, listed in the Pond Siting Report[7], provide the required stormwater management and floodplain compensation for this project.

9.20 STRUCTURES

There are nine (9) existing bridge structures within the project limits. One bridge carries Overpass Road over I-75 and eight (8) bridges carry I-75 across other roadways or features as follows:

Bridge Location	Bridge Number(s)
Over Cypress Creek	140061 and 140062
Proposed S.R. 56 over I-75	140125
Over S.R. 54	140048 and 140049
Overpass Road over I-75	140052
Over S.R. 52	140055 and 140056
Over Abandoned Railroad Corridor	140056 and 140057

The bridges have been evaluated using a sufficiency rating which is indicative of bridge sufficiency to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and zero would represent an entirely insufficient or deficient bridge. The sufficiency ratings are discussed in Section 4.2.2 of this report. The proposed typical bridge sections are discussed in Section 9.2.

9.21 ACCESS MANAGEMENT

I-75 is a limited access facility. Access management for interstate facilities is regulated through interchange spacing standards. Currently, I-75 within study area meets the interchange spacing standards for a transitioning and rural limited access facility.

S.R. 54 is an Access Class 5 facility from Cypress Road (west of I-75) to C.R. 581 (east of I-75). S.R. 54 reverts to the more restrictive Access Class 3 category east of C.R. 581.

Each of these access classes has standard minimum dimensions for signal, full median opening, directional median opening and connection (driveway) spacings. A review of the existing median opening spacing and connection spacing along the corridor reveals that it does not currently meet

access management standards. Improvements made to the facility in the interchange area will bring the facility into compliance with the access management standards.

S.R. 52 is an Access Class 3 facility from US 41 (west of I-75) to 21st Street in Dade City (east of I-75). A review of the existing median opening spacing and connection spacing along the corridor reveals that it does not currently meet access management standards. Section 7.9 of the IMR, discusses the signal, median opening and connection locations and spacing for each alternative and identifies whether the alternative does or does not comply with access management criteria for interchanges.

9.22 REGIONAL TRANSIT LOCATIONS

Pasco County Public Transportation Division and Greyhound provides transit service in the study area. Services provided by Pasco County Public Transportation Division operate Monday through Friday 8:00 A.M. to 5:00 P.M. in east Pasco. This service is provided to the transportation-disadvantaged and other residents of Pasco County. Two Greyhound Bus Stations currently exist in Pasco County and provide daily connections within the county as well as out-of-county and out-of-state destinations. A brief description of these routes is provided in Section 6.4.1.

9.23 AESTHETICS AND LANDSCAPING

The placement and maintenance of any landscaping shall comply with the required clear zone and sight distance at intersections. No other provisions or commitments were made regarding special aesthetic features.

9.24 REFERENCES

1. Draft Final Interchange Modification Report for the Interstate 75 and State Road 52 Interchange; PBS&J; June 2000.

2. Draft Conceptual Stage Relocation Report; Rodeo Right of Way; Tampa, Florida; June 2000.

3. Pasco County Comprehensive Plan; Pasco County Planning Department; Pasco, Florida; December 1995.

4. Pasco County Metropolitan Planning Organization Adopted 2020 Cost Affordable Transportation Plan; Pasco County Metropolitan Planning Organization; New Port Richey, Florida; December 18, 1995.

5. Final Location Hydraulic Report; PBS&J; Tampa, Florida; November 1997.

6. Final Wetland Evaluation Report and Biological Assessment; Post, Buckley, Schuh & Jernigan, Inc.; Tampa, Florida; November 1997.

7. Pond Siting Report; PBS&J; June 2000.

8. Florida Department of Transportation; Standard Specifications for Road and Bridge Construction; 2000.

9. Comments and Coordination Report; PBS&J; October 2000.

APPENDIX A

Correspondence

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 06694-791-096-13

FM#:	2567361	Former WPI#:	7147619	District:	Seven
County:	Pasco	FAP No.:	NH-75-4(91)275	Date:	27-Jun-00
State Rd.:	93 (I-75)	Alternate:	Five	C.E. Sequence#	N/A
Project Des.	I-75 (SR 93) S. of SR 56 to N. of SR 52				

Parcels	Gross	Net
Commercial	13	10
Residential	6	3
Unimproved	56	36
Total Parcels	75	49

Estimated Relocatees:	
Business	4
Residential	1
Signs	0
Special	6
Total Relocatees	11

R/W SUPPORT COSTS (PHASE 41)							Amount	Federal Aid
1. Direct Labor Cost	(Parcels	49	x	6,500 =	Rate)		318,500	Participating
2. Indirect Overhead	(Parcels	49	x	0 =	Rate)		0	Participating
3. (Participating	318,500)	+	(Non-Participating =	0	)	TOTAL PHASE 41		$318,500

R/W OPS (PHASE 48)								Amount	
4. Appraisal Fees Through Trial					49	Parcels	x 12,000 =	588,000	Participating
5. Business Damage CPA Fees Through Trail					34	Claims	x 19,000 =	646,000	Non-Partic.
6. Court Reporter & Process Servers	75%	x	49	=	37	Parcels	x 500 =	18,500	Participating
7. Expert Witness	75%	x	49	=	37	Parcels	x 30,000 =	1,110,000	Participating
8. Mediators	50%	x	49	=	25	Parcels	x 2,400 =	60,000	Participating
9. Demolition, Asb. Abate., Survey, etc.					10	Imprvmet	x 15,000 =	150,000	Participating
10. Miscellaneous Contracts					1	Per Project	x 15,000 =	15,000	Participating
11. Appraisal Fee Review					N/A	Parcels	x 5,000 =	0	Participating
12. (Participating	$1,941,500)	+	(Non-Participating =	$646,000	)	TOTAL PHASE 48			$2,587,500

R/W LAND COSTS (PHASE 43)						Amount	Subtotal	
13. Land, Improvements & Severance Damages and Cost to Cure Amount	7,845,020	x	130%	* Design plan stage	=	10,198,500		Participating
14. Water Retention & Mit.	1,786,811	x	130%	(0 Parcels w/o R/W Acq)	=	2322900		Participating
15. SUBTOTAL				(Lines 13 &14)			12,521,400	
16. Admin. Settlements (Factor	45%	x	30%	of Line 15)	=	1,690,400		Participating
17. Litigation Awards (Factor	60%	x	70%	of Line 15)	=	5,259,000		Participating
18. Business Damages (Claims	34	x	$0)		=	6,322,000		Non-Partici.
19. Bus. Damages Incrs. (Factor	25%	x	$6,322,000)		=	1,580,500		Non-Partici.
20. Owner Appr. Fees (Parcels	37	x	$10,000)		=	370,000		Non-Partici.
21. Owner CPA Fees (Claims	34	x	$10,000)		=	340,000		Non-Partici.
22. Defend.Atty Fees (Sum of Lines 16-19)	16,351,900	x	40%)		=	5,940,800		Non-Partici.
23. Owner Expert Witness (Comm.+Unimp.)	10	+	36)	x 18,000	=	828,000		Non-Partici.
24. Other Condemn. Costs	49	x	$500		=	24,500		Participating
25. SUBTOTAL				(Lines 16 thru 24)	=		22,355,200	
26. (Participating	19,495,300)	+ (	15,381,300	Non-Participating)		TOTAL PHASE 43		$34,876,600

* *Design contingency for design plan stage.*
(1) PD&E plans - 130% (2) 30% plans - 125% (3) 60% plans - 120% (4) 90% plans -115% (5) 268 Date -110%

R/W ACQUISITION CONSULTANT (PHASE 42)			Federal Aid
27.	(100% Participating)	TOTAL PHASE 42	$0

RELOCATION COSTS (PHASE 45)							
Replacement Housing			Number		Amount		
28. Owner	$20,000	x	0	=	0		
29 Tenant	$10,000	x	1	=	10,000		
Move Costs							
30. Residential	$1,500	x	1	=	1,500		
31. Business/Farm	$20,000	x	4	=	80,000		
32. Personal Property	$2,000	x	6	=	12,000		
33. (Lines 28 thru 32)				(100% Participating)		TOTAL PHASE 45	$103,500
34. Relocation Services Cost			$10,350	(Not in Phase Total)			

35.	$16,027,300		Non-Participating
36.	$21,858,800		Participating
37.	(All Phases)	TOTAL ESTIMATE	$37,886,100

Appraisal:	Marilyn Jackson	Signed:	Marilyn Jackson	Date:	
Bus. Dam. :	Gerson Preston Co.	Signed:	By Attachment	Date:	30-Oct-98
Relocation:	Marilyn Jackson	Signed:	Marilyn Jackson	Date:	
Overall Review:	Doris Saunders	Signed:	Doris Saunders	Date:	

Cost Estimate Sequence #: Dated: In the Amount of $ Data Input Completion Date:

REMARKS: This estimate combines and updates prior estimates for Alternative 5 mainline, revised loop 3 and 28 pond/FPC sites. Valuation of ROW necessary for loop 3 has been included from a cost estimate prepared by Mitch Hammer of PBS&J in April, 2000. Those parcels have not been updated for this estimate

The following indicates the estimator's confidence in the above estimate		Future Value Factors @	10%
_____	Type A - Indicates the most confidence	Year One	1.1000
_____	Type B - Indicates above average confidence	Year Two	1.2100
X	Type C - Indicates below average confidence	Year Three	1.3310
_____	Type D - Indicates the least or no confidence	Year Four	1.4641
		Year Five	1.6105

The following indicates the Department's purpose for this estimate

Work Program Update: X Special Purpose: _____

Comments: _____

RA RA — ILE

KB - FYI & F

DISTRICT SECRETARY
DISTRICT SEVEN
98 MAY -7 AM 9:36

RECEIVED
98

Florida Division Office
227 N. Bronough St., Suite 2015
Tallahassee, Florida 32301

U.S. Department of Transportation
Federal Highway Administration

May 1, 1998

IN REPLY REFER TO: HPO-FL

Mr. Kenneth A. Hartmann
District Secretary
Florida Department of Transportation
11201 N. McKinley Drive
Tampa, Florida 33612

RECEIVED
MAY 20 1998
PBS&J TAMPA
PLANNING / PD&E

Attention: Mr. Michael J. Coleman

Dear Mr. Hartmann:

Subject: Cultural Resource Assessment Survey Report
FAP No. NH-75-1(91)
WPI No. 7147619
State Project No. 14140-1423
Pasco County

The Cultural Resource Assessment Survey (CRAS) for the subject project has been reviewed by our office and the State Historic Preservation Officer. There were no properties found listed or potentially eligible for listing in the *National Register of Historic Places*. Therefore, based upon the results of the CRAS report, it is our opinion that the proposed project will not affect significant historic properties.

If you have any questions, please contact this office.

Sincerely yours,

Mark D. Bartlett

For: J. R. Skinner
Division Administrator

Enclosure

FLORIDA DEPARTMENT OF STATE
Office of the Secretary
Office of International Relations
Division of Administrative Services
Division of Corporations
Division of Cultural Affairs

MEMBER OF THE FLORIDA CABINET
Division of Library & Information Services
Division of Historical Resources
Ringling Museum of Art
Division of Licensing
Division of Elections

FLORIDA DEPARTMENT OF STATE
Sandra B. Mortham
Secretary of State
DIVISION OF HISTORICAL RESOURCES

April 24, 1998

Mr. J. R. Skinner
Division of Administration
Federal Highway Administration
U.S. Department of Transportation
227 N. Bronough Street, Suite 2015
Tallahassee, Florida 32301

In Reply Refer To:
Scott B. Edwards
Historic Sites Specialist
Project File No. 981531

RE: Cultural Resource Assessment Review Request
Cultural Resource Assessment Survey Report, I-75 (SR 93) from South of SR 56 to North of SR 52, Pasco County, Florida. By Archaeological Consultants, Inc.
SPN: 14140-1423
WPN: 7147619
FPN: NH-75-1-(91)

Dear Mr. Skinner:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), as well as the provisions contained in Chapter 267.061, *Florida Statutes*, we have reviewed the results of the field survey of the referenced project performed by Archaeological Consultants, Inc., and find them to be complete and sufficient.

We note that sixteen previously unrecorded historic properties (8PA619-8PA634) were recorded and one recorded historic properties (8PA357) was revisited during the course of the survey. Based on the results of the survey, the properties were determined to be ineligible for listing in the National Register. We concur with the determination. Therefore, it is the opinion of this office that the proposed undertaking will have no effect on historic properties listed or eligible for listing in the National Register of Historic Places or otherwise of historical, archaeological or architectural value.

If you have any questions concerning our comments, please do not hesitate to contact us. Your interest in protecting Florida's archaeological and historic resources is appreciated.

Sincerely,

Laura A. Kammerer

for George W. Percy, Director
Division of Historical Resources
and
State Historic Preservation Officer

GWP/Ese

xc: C. L. Irwin, FDOT
Rick Adair, FDOT, District 7

COMMUNICATIONS MEMORANDUM

SUBJECT I-75 PD&E (LHR)
South of S.R. 56 to North of S.R. 52

DATE 6 5 97
TIME 2 30 P

JOB NO

AUTHOR MDM

☐ VERBAL COMMENTS
~~FROM~~ with Jerry Sanford
Maintenance Engineer

☒ TELEPHONE CONVERSATION
FROM FDOT Dade City Maintenance
NUMBER (352) 521-1444

I spoke with Jerry Sanford a Maintenance Engineer for the FDOT in Dade City about any flooding problems along I-75 and/or caused by I-75. Mr. Sanford informed me that their records showed no flooding within the project corridor. Most of the development in the area came after the Interstate was built.

ACTIONS/RECOMMENDATIONS All cross drains were analyzed using Velocity = 6 fps to calculate the 25yr flow (Q) as recommended in the Drainage Manual Vol I 4.12.2

DISTRIBUTION FHS, File

FORM NO GA/070-06R