

TRAFFIC STATEMENT

For

Fiddler's Creek (Collier County, Florida)

January 12, 2017

Prepared by:

JMB TRANSPORTATION ENGINEERING, INC.
4711 7TH AVENUE SW
NAPLES, FLORIDA 34119
(239) 227-2355
CERTIFICATE OF AUTHORIZATION NO. 27830

(PROJECT NO. 130813)

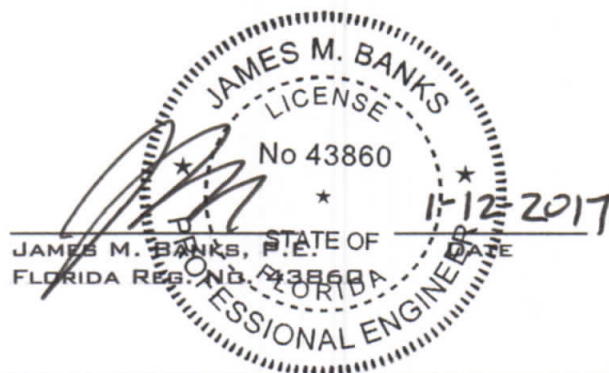


TABLE OF CONTENTS

Conclusions	2
Scope of Project	2
Table A - Approved/Vested Land Uses	3
Master Concept Plan	3.1
Vested Site-Generated Trips	4
Table B - Vested Site-Generated Trips	4
Exhibit 5 - Trip Generation Computations	4.1
Reassignment of Project Traffic	5
Figure 1 - Project Traffic Assignment	5.1
Appendix	6

Conclusions

Based upon the findings of this report, it was determined that the proposed relocation of previously approved commercial/retail land uses (not yet constructed) within the Fiddler's Creek DRI will not result in any additional site-generated trips or additional impacts to the adjacent road network. More specifically, it is proposed to construct a portion of the project's approved 325,000 square feet of commercial/retail land uses, which were previously planned along Collier Boulevard and U.S. 41 (Tamiami Trail East), at two alternate sites that are contiguous to U.S. 41. The commercial areas adjacent to Collier Boulevard will remain, but substantially less commercial will be developed than previously envisioned on those two sites.

The net result of relocating a portion of the commercial land uses will be no additional site-generated trips, but previously estimated turning movements at the project's access points on Collier Boulevard and U.S. 41 will be different than originally forecasted. It is the report's findings that the project's accesses on Collier Boulevard will have notable less ingress/egress traffic movements than previously expected, as will be the case for the project's access that will be aligned with the intersection of Naples Reserve Boulevard & U.S. 41. The project's primary full access on U.S. 41 (Sandpiper Drive), which will be used by residential and commercial land uses, will have an increase in the volume of ingress/egress movements and most likely will warrant a traffic signal as Fiddler's Creek nears build-out. In addition, there is a proposed right-in/out access to the southeast of Sandpiper/U.S. 41 intersection which will also provide access to the newly planned commercial tract/ Also proposed is a full access further to the southeast that will serve residents in the southeast most areas of Fiddler's Creek.

It should be noted that redistribution of a portion of the project's commercial trips from the more heavily traveled Collier Boulevard (south of Tamiami Trail) to the less traveled Tamiami Trail (recently widened to six-lanes) will relieve some pressure on the more critical segment of Collier Boulevard. The relocation of commercial land uses will also better serve other existing and planned residential communities to the immediate north and to the east that currently travel to the more commercially developed areas to the west. Therefore, the effect of relocating a portion of the approved commercial land uses will be a benefit to the public in both convenience and reducing traffic demands on more heavily traveled roadways.

Scope of Project

Fiddler's Creek is an approved/vested DRI that is located south of U.S. 41 and east of Collier Boulevard within Collier County, Florida. The project is currently approved for the development of 3,000 single-family dwelling units, 3,000 multi-family units, 90-hole golf course, various types of residential amenities/recreation areas, and 325,000 square feet of commercial/retail land uses. A portion of all the land uses have been constructed, but none are built-out.

It is being proposed to relocate/construct 67,000 +/- square feet of commercial/retail land use on the southeast corner of the project's approved access that will be aligned with the existing intersection of Naples Reserve Boulevard & Tamiami Trail. This access will only provide ingress/egress for the proposed commercial land uses. The residents of Fiddler's Creek will be provided access to this commercial site via an internal interconnection. Therefore, residents of Fiddler's Creek will not need to travel on the adjacent arterials in order to access this commercial site.

It is being proposed to relocate/construct 198,000 +/- square feet of commercial/retail land use on the southeast corner of the project's existing full access (i.e., Sandpiper Drive & Tamiami Trail). Sandpiper Drive is aligned with Greenway Road which intersects Tamiami Trail from the north. Sandpiper Drive currently provides ingress/egress to the residents and will also provide full access to the proposed adjacent commercial uses. In addition, a right-in/out access for the commercial site will be constructed to the southeast of Sandpiper Drive. The residents of Fiddler's Creek will be provided access to this commercial site via an internal interconnection. Therefore, residents of Fiddler's Creek will not need to travel on the adjacent arterials in order to access this commercial site.

There is 30,400 +/- square feet of commercial/retail that has been constructed along Collier Boulevard and the remaining balance of commercial/retail land use (i.e., 30,000 square feet) will also be developed along Collier Boulevard.

It is also being proposed to construct a full access further to the southeast of Sandpiper Drive that will serve the community's residents in the southeast most areas of Fiddler's Creek.

The project's previously approved points of access to Collier Boulevard, which serve both residential and commercial land uses, will remain intact.

Table A
Approved/Vested Land Uses

Land Use	Number of Units or Gross Square Feet
Single-Family	3,000 d.u.'s
Multi-Family	3,000 d.u.'s
Commercial/Retail	325,000 s.f.
Golf Course	90 Holes

3.1



Vested Site-Generated Trips

Traffic that can be expected to be generated by the project was previously established by David Plummer & Associates (refer to page 4.1 - Exhibit 5), and accepted and accounted for by the applicable governmental agencies. A summary the vested site-generated trips is provided in Table B.

Table B
Vested Site-Generated Trips
(Summation of Exhibit 5)

PM New Peak Hour Two-Way Trips (vph)	PM New Peak Hour Entering Trips (vph)	PM New Peak Hour Exiting Trips (vph)
3,265 Enter/Exit	1,985 Enter	1,280 Exit

EXHIBIT 5

FIDDLER'S CREEK ^(A)

TRIP GENERATION CALCULATION (Current Development Parameters – 6,000 Dwelling Units – and New Trip Generation Calculations ⁽¹⁾)

<u>Land Use</u>	<u>Size</u>		<u>PM Peak Hour</u>			<u>24-Hour</u>
			<u>In</u>	<u>Out</u>	<u>Total</u>	
Single-Family	3,000 d.u.	Total	1,472	828	2,300	23,691
		Internal ⁽²⁾	353	199	552	5,686
		External	1,119	629	1,748	18,005
Multifamily	3,000 d.u.	Total	685	338	1,023	11,724
		Internal ⁽²⁾	164	81	245	2,862
		External	521	257	778	8,862
Business/Commercial	325,000 s.f. ⁽³⁾	Total	656	711	1,367	14,545
		Internal ⁽²⁾	131	142	273	2,909
		External	525	569	1,094	11,636
		Pass-By ⁽⁴⁾	202	202	404	3,025
		Net New	323	367	690	8,611
Golf	90 holes	Total	109	138	247	3,217
		Internal	87	111	198	2,574
		External	22	27	49	643
TOTAL		Total	2,922	2,015	4,937	53,177
		Internal	735	533	1,268	14,031
		External	2,187	1,482	3,669	39,146
		Pass-By	202	202	404	3,025
		Net New	1,985	1,280	3,265	36,121

Footnotes:

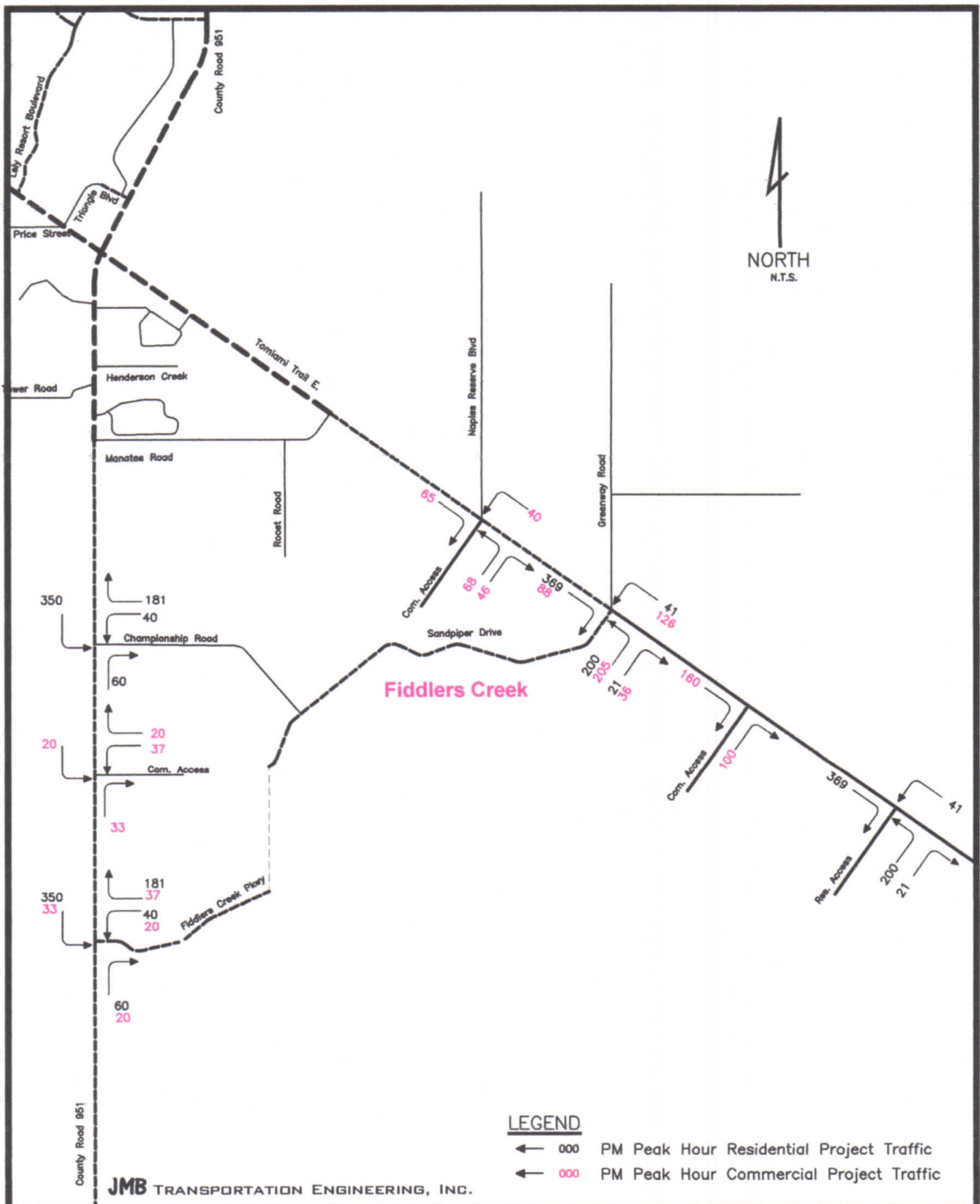
- (A) Exhibit taken from the report titled Fiddler's Creek DRI Notice of Proposed Change Traffic Study and dated April 26, 2000.
- (1) ITE, Trip Generation, Sixth Edition.
- (2) Internal orientation based on prior NOPC Traffic Study.
- (3) Considered as commercial.
- (4) Pass-by derived from prior NOPC Traffic Study.



Reassignment of Project Traffic

As previously mentioned, there will be no change in the type, number or size of the previously approved/vested land uses within Fiddlers Creek DRI. Therefore, there will be no increase in site-generated trips and no increase in off-site transportation impacts. However, the relocation of a portion of the commercial land uses from the Collier Boulevard corridor over to Tamiami Trail will result in a change in the previously estimated ingress/egress movements at the project's accesses on both of the adjacent arterials. Figure 1 provides a detail of the expected site accesses turning movement volumes at build-out of Fiddler's Creek as a result of relocating a portion of the commercial land uses and the proposed access modifications.

It should be noted that redistribution of a portion of the project's commercial trips from the more heavily traveled Collier Boulevard (south of Tamiami Trail) to the less traveled Tamiami Trail (recently widened to six lanes) will relieve some pressure on the more critical segment of Collier Boulevard. The relocation of commercial land uses will also better serve other existing and planned residential communities to the immediate north and to the east that currently travel to the more commercially developed areas to the west. Therefore, the net effect of relocating a portion of the approved commercial land uses will be a benefit to the public in both convenience and reducing traffic demands on more heavily traveled roadways.



Fiddler's Creek

Dec 12, 2016

Project Generated
Traffic Assignment

FIGURE 1

APPENDIX

Support Documents

FIDDLER'S CREEK ACCESS
TRAFFIC IMPACT STATEMENT
SUFFICIENCY RESPONSE

Project #06550

October 13, 2006

Prepared by:
DAVID PLUMMER & ASSOCIATES, INC.
1531 Hendry Street
Fort Myers, Florida 33901



FIDDLER'S CREEK ACCESS TRAFFIC IMPACT STATEMENT

Introduction

Fiddler's Creek, formerly Marco Shores Unit 30, is a part of an approved DRI, located on SR 951 and US 41 in South Collier County, Exhibit 1. Originally approved in June of 1984, the Project was a part of the original Marco Shores DRI. Fiddler's Creek (hereafter referred as the Project) is that portion of the original development known as Marco Shores Unit 30.

The purpose of this Traffic Impact Statement is to provide the traffic analysis in support of the connection permit to the Project's two access points onto US 41. This traffic study has been prepared consistent with the Florida DOT Traffic Impact Statement Guidelines.

Development Parameters

The original DRI development order and the detailed traffic assessments evaluated and approved a total of 9,110 dwelling units. The Project's originally approved development parameters are summarized below.

Original Development Parameters ⁽¹⁾

<u>Land Use</u>	<u>Size</u>
Residential	
Single-Family ⁽²⁾	629 d.u.
Multifamily ⁽²⁾	<u>8,481 d.u.</u>
	9,110 d.u.
Business/Commercial	383,988 sq. ft.
Golf	36 holes

Footnotes:

- (1) General parameters used for traffic impact calculations.
- (2) The DRI application reported 629 single-family units, including 300 townhouse units, which were calculated in the application as single-family. The Regional Planning Council Staff Assessment used 234 single-family units and 8,876 multifamily units for their traffic impact assessment.

Originally approved for 9,100 dwelling units and approximately 384,000 square feet of business/commercial, Fiddler's Creek is now approved for a total of 6,000 dwelling units and approximately 325,000 square feet of business/commercial, as a result of a series of changes approved by the Collier County Board of County Commissioners. Those changes also added land along SR 951 and land to the east along US 41, added additional golf, and provided an additional access point onto US 41 as a part of the eastern expansion.

The currently approved land use parameters are summarized below.

Currently Approved Development Parameters

<u>Land Use</u>	<u>Parameters</u>
Residential	
Single-Family	3,000 d.u.
Multifamily	<u>3,000 d.u.</u> 6,000 d.u.
Business/Commercial	325,000 sq. ft.
Recreation	
Golf	90 holes

Buildout of Fiddler's Creek is anticipated in the year 2010.

Project Access

The Project will have three entrances onto SR 951 and two entrances onto US 41. The Project's main entrance onto US 41 is located approximately two miles east of SR 951. This entrance was established as part of the original Marco Shores DRI and, due to the limited frontage along US 41, was always located in the same approximate location. However, based on the access management standards for this section of US 41, this entrance will now be relocated to the east, approximately 680 feet, and will be aligned with the Naples Reserve Boulevard/US 41 intersection.

The eastern most Project Entrance onto US 41 was not an original access point but added as part of the most recent Notice of Proposed Change. It is a secondary entrance, generally aligned with Greenway Road.

Existing Traffic Conditions

Existing and planned access points along US 41 from Manatee Road (which is approximately 2400 feet west of Naples Reserve Boulevard) to Greenway Road are schematically shown in Exhibit 2. The Fiddler's Creek driveways onto US 41 do not exist under current conditions.

Intersection turning movement counts were conducted, for both AM and PM peak hours, at the various existing driveways and intersections on US 41 between SR 951 and Greenway Road in March, 2005. These turning movement counts were adjusted, based on the adjustment factors from the Florida DOT Traffic Information database, to reflect the peak hour, peak season

conditions. The resultant existing (2005) intersection turning movement counts are summarized in Exhibits 3a and 3b for AM and PM peak hours, respectively. The detailed traffic counts are provided as part of Appendix A.

Future Background Traffic

Future background traffic, coincident with the Project buildout, was derived by applying the growth rates, derived from the Florida DOT historic traffic count information, to the existing intersection turning movement counts and then adding traffic associated with the area developments including Winding Cypress, Naples Reserve and Reflection Lakes. The future background traffic volumes include the following.

1. Historic growth based on growth rates derived from the historic traffic counts on US 41 and obtained from the Florida DOT traffic counts database. The Florida DOT Traffic Trends spreadsheet was used in forecasting the future (2010) background traffic conditions. This information is included as part of Appendix B.
2. Buildout traffic volumes from the traffic study titled Winding Cypress PUD Amendment Traffic Impact Statement and dated December 28, 2005. Excerpts from this traffic study are included as part of Appendix C.
3. Buildout traffic volumes from the traffic study titled Traffic Assessment Reflection Lakes Build-out and dated April 2003. A copy of this traffic study is provided as part of Appendix D.
4. Buildout traffic volumes from the traffic study titled Naples Reserve Golf Club Traffic Impact Analysis and dated January 2000. A copy of this traffic study is provided as part of Appendix E. Minor adjustments to the Naples Reserve project volumes were made to account for internal capture of clubhouse trips. A more detailed explanation of the adjustment is also included in Appendix E.

Adding the adjacent area development traffic to the projected background traffic based on the historic growth rates results in an over estimate of the future traffic since some of the area developments are already included in the historic growth rate. However, no adjustments were made to account for the background development that was already included as part of the historic growth rate.

The projected future (2010) total background traffic volumes, coincident with the Project buildout, are presented in Exhibits 4a and 4b for AM and PM peak hours, respectively.

Future Roadway Network

US 41 is a two-lane undivided roadway east of SR 951. The Collier County MPO has recently adopted its 2030 Long Range Transportation Plan (LRTP) to include improvements to US 41 in the Collier County MPO 2030 LRTP - Financially Feasible Plan (Appendix F). These improvements are as follows:

- Six-lane widening of US 41 from SR 951 to Greenway Boulevard.
- Four-lane widening of US 41 from Greenway Boulevard to CR 92.

The current Florida DOT Five Year Work Program 2006 – 2011 (Tentative) identifies the following improvements for US 41 in the current Five Year Work Program (Appendix G).

- PD&E study from SR 951 to CR 92 - on going
- Preliminary Engineering for future capacity from SR 951 to Greenway – Fiscal Year 2009

In addition, a consortium of property owners has been working together to address the US 41 capacity issues and accelerate the widening of US 41 east of Collier Boulevard (SR 951). This consortium of property owners is proposing to design, permit and construct a six-lane US 41 from SR 951 to Naples Reserve Boulevard with an appropriate transition east of Naples Reserve Boulevard (Appendix H).

Based on all of the above, six-lane US 41 was used to represent the future conditions on US 41 from SR 951 to Naples Reserve Boulevard.

Project Trip Generation

Fiddler's Creek (Project) volumes at the study intersections were derived from the previous traffic studies. These studies provide an overview of Fiddler's Creek, the Project's trip generation estimates, and the trip assignment to the US 41 Entrances. These traffic studies include the following.

- Fiddler's Creek DRI Notice of Proposed Change Traffic Study, dated April 26, 2000.
- Fiddler's Creek US 41/Fiddler's Creek Parkway Driveway Study, dated December 6, 1999.

Copies of the above referenced traffic studies are included as part of Appendix I.

Based on the above, the project trip generation estimates that were used in this study are provided in Exhibit 5, project trip distribution and assignment is provided in Exhibit 6 and the

resultant project trips at the driveways are presented in Exhibit 7a and Exhibit 7b for AM and PM peak hours, respectively.

ITE Trip Generation estimates were used to establish the Project's AM peak trip generation as a percentage of PM peak hour trip generation. These percentages were applied to the PM peak hour trip generation estimates of the approved DRI Notice of Proposed Change traffic. A summary of the methodology and the corresponding trip generation calculations are provided as part of Appendix J.

As shown in Exhibit 6, approximately 50% of the Project trips are anticipated to use the US 41 entrances to access the Project. The remaining 50% of the trips will use the three access points on SR 951.

Since the US 41/Fiddlers Creek Parkway/Naples Reserve Boulevard intersection is the main entrance onto US 41, approximately 38% of the Project traffic is anticipated to use this intersection. The remaining 12% trips will use the East Entrance, which is a secondary entrance onto US 41.

There are heavy eastbound to southbound right-turn volumes and northbound to westbound left-turn volumes at these intersections. This is due to the proximity of the entrance to the US 41/SR 951 intersection and the orientation of the trips to and from the north and west, beyond the intersection of US 41/SR 951 intersection. A modest 5% of the trips are anticipated to be to and from the east on US 41.

Future Traffic Conditions

The Project traffic volumes were added to the forecasted background traffic volumes to obtain the future (2010) total traffic volumes. The future (2010) intersection turning movement volumes at the Project Entrances onto US 41 are presented in Exhibit 8a and Exhibit 8b for AM and PM peak hours, respectively.

Intersection capacity analyses were performed consistent with the methodologies of the 2000 Highway Capacity Manual (HCM) and using the Highway Capacity Software (HCS). Intersection capacity analyses for future (2010) total traffic conditions, with the Project, are summarized below.

Intersection Capacity Analysis – Future (2010) Traffic Conditions
Peak Hour, Peak Season

<u>Intersection</u>	<u>Level of Service</u>	
	<u>AM Peak</u>	<u>PM Peak</u>
US 41/Fiddler's Creek Parkway	D ⁽¹⁾	C ⁽¹⁾
US 41/East Entrance	C ⁽¹⁾	C ⁽¹⁾

Footnotes:

(1) Turn lane improvements and signalize, if and when warranted.

Complete intersection capacity analysis worksheets from the HCS output are provided as part Appendix K.

As shown from the above, the study area intersections operate at or better than the adopted level of service standard, with the recommended improvements.

Recommended Improvements

Based on the future (2010) traffic conditions, the following intersection improvements are recommended at the Project Entrances onto US 41.

Recommended Improvements

<u>Intersection</u>	<u>Improvement</u>
US 41/Fiddler's Creek Parkway/ Naples Reserve Boulevard	Eastbound Right Turn Lane Westbound Left Turn Lane Northbound Dual Left Turn Lanes Northbound Thru/Right Turn Lane Signalize, If and When Warranted
US 41/East Entrance	Eastbound Right Turn Lane Westbound Left Turn Lane Northbound Dual Left Turn Lane Northbound Thru/Right Turn Lane Signalize, If and When Warranted

Access Management

US 41 from Rattlesnake Hammock Road (CR 864 west of SR 951) to Joseph Lane (west of Greenway Road) is classified by the Florida DOT as Access Class 3. US 41 east of Joseph Lane

is classified as Access Class 4. The minimum separation standards for these classifications are summarized below.

<u>Access Class</u>	<u>Access Classification</u> ⁽¹⁾			
	<u>Minimum Separation Distance (feet)</u> ⁽²⁾			
	<u>Connection</u>	<u>Directional</u>	<u>Full</u>	<u>Signal</u>
Access Class 3	660	1,320	2,640	2,640
Access Class 4	660	N/A	N/A	2,640

Footnotes:

(1) Per the Florida DOT Access Management Classification System and Standards (Chapter 14-97).

(2) Values represent separation standards for roadways with speeds greater than 45 mph.

The above two access classifications are essentially the same except for Access Class 3 represents a restrictive median such as curbs, grass or other barriers and Access Class 4 represents non-restrictive medians, allowing turns across at any point.

The approximate distances between the Project Entrances on US 41 and the adjacent driveways/intersections are schematically shown on Exhibit 9.

As shown in Exhibit 9, the US 41/Fiddler's Creek Parkway/Naples Reserve Boulevard intersection is approximately 2,450 feet east of Manatee Road, which is a signalized intersection. This is just 190 feet short of the Florida DOT access management criteria.

A signal is recommended at this intersection based on the following.

1. This intersection is very close to meeting the Florida DOT access management standards for a full median opening. In fact, it is within 7% of the criteria.
2. The Manatee Road signal operates only during the peak hours of School operation and, therefore, it does not constitute a full signal. If it is not considered a full signal, the signal at Fiddler's Creek Parkway/Naples Reserve Boulevard meets the access management standards.
3. There are no signals located on US 41 east of Manatee Road and east of the US 41/Fiddler's Creek Parkway/Naples Reserve Boulevard intersection.
4. This intersection combines access points and aligns access points at one common location. It will serve as the main entrance to major developments on both sides of US 41, including Fiddler's Creek, Naples Reserve Golf Club, and Reflection Lakes.
5. Fiddler's Creek is approved for 6,000 dwelling units and approximately 325,000 square feet commercial uses. Fiddler's Creek has limited frontage onto US 41. The Fiddler's Creek Parkway intersection will be the development's main access onto US 41.

6. Since the vast majority of the Fiddler's Creek traffic is to and from the west, there will be a heavy northbound to westbound left-turn movement at this intersection, during both AM and PM peak hours. These movements will be extremely difficult to achieve without signalization. An unsignalized condition is not desirable from an operational standpoint and the resultant u-turns at the median opening to the east is not desirable.

Under future conditions, the US 41/Fiddler's Creek Parkway/Naples Reserve Boulevard intersection satisfies the Florida DOT access management criteria if the Manatee Road signal does not constitute a full signal. If it is considered to be a full signal, the US 41/Fiddler's Creek Parkway/Naples Reserve Boulevard signal is just 7% short of full compliance with the access management standards.

The Fiddler's Creek East Entrance meets all the access management criteria for a connection separation and the signal separation standard.

Turn Lanes and Queue Analysis

The queue lengths at the Project Entrance were calculated based on the methodologies from the Florida DOT Plan Preparation Manual. The queue calculations are presented in Exhibit 10 and summarized below.

Queue Calculations Summary

<u>Intersection</u>	<u>Movement</u>	<u>Estimated Queue Length</u> ⁽¹⁾	<u>Recommended Storage</u> ⁽²⁾
US 41 / Fiddler's Creek Parkway ⁽³⁾	EBR	N/A ⁽⁴⁾	N/A ⁽⁵⁾
	WBL	108 feet	125 feet
	NBL ⁽⁶⁾	429 feet	450 feet
	NBR	92 feet	100 feet
US 41/East Entrance ⁽³⁾	EBR	342 feet	350 feet
	WBL	92 feet	100 feet
	NBL ⁽⁶⁾	121 feet	125 feet
	NBR	67 feet	75 feet

Footnotes:

- (1) Represents critical queue length (higher of the AM and PM peak hours, please refer to Exhibit 10).
- (2) Storage only, does not include deceleration and transition distances. Queue length rounded up to the next multiple of 25.
- (3) Signalized condition. Queue estimation based on the Florida DOT Plans Preparation Manual.
- (4) Free-flow condition under channeled right-turn movement (no stop condition). Queue not applicable.
- (5) Turn lane consists of deceleration and transition distances (per the Florida DOT Index #301) only.
- (6) Northbound dual left-turn lanes.