

*Traffic Analysis Close-Out Report*

**Hammock Dunes DRI  
Flagler County, Florida**

*Prepared for:*

Admiral Corporation

*Prepared by:*

Kimley-Horn and Associates, Inc.  
8657 Baypine Road, Suite 300  
Jacksonville, Florida 32256  
FBPE No. CA 00000696

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December 2011

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Ian M. Rairden, P.E.  
Florida License Number: 69224  
Date: \_\_\_\_\_

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## Introduction

Admiral Corporation (“Admiral” or “Applicant”) is the master developer of the Hammock Dunes Development of Regional Impact (DRI). The Hammock Dunes DRI was approved in 1984 for the development of up to 6,670 dwelling units on approximately 2,200 acres in Flagler County, Florida (see Figure 1 – Location Map). Since that time, several modifications to the Development Order (DO) have been approved. As of today, the project is entitled for a maximum of 3,800 dwelling units on approximately 2,200 acres. As of the date of this report, approximately 2,054 dwelling units have been completed and 18 are under construction.

Admiral is seeking approval of an Essentially Built-Out Agreement (EBOA) with Flagler County. Earlier this year, Admiral submitted an application for approval of the EBOA. In its review of the application, Flagler County requested that a Close-Out Traffic Report be prepared to document the existing and anticipated Build-Out traffic conditions associated with the unsatisfied/untriggered traffic requirements contained in the approved Development Order (including all amendments). Specifically, Flagler County staff requested that the following roadway links and intersections be studied:

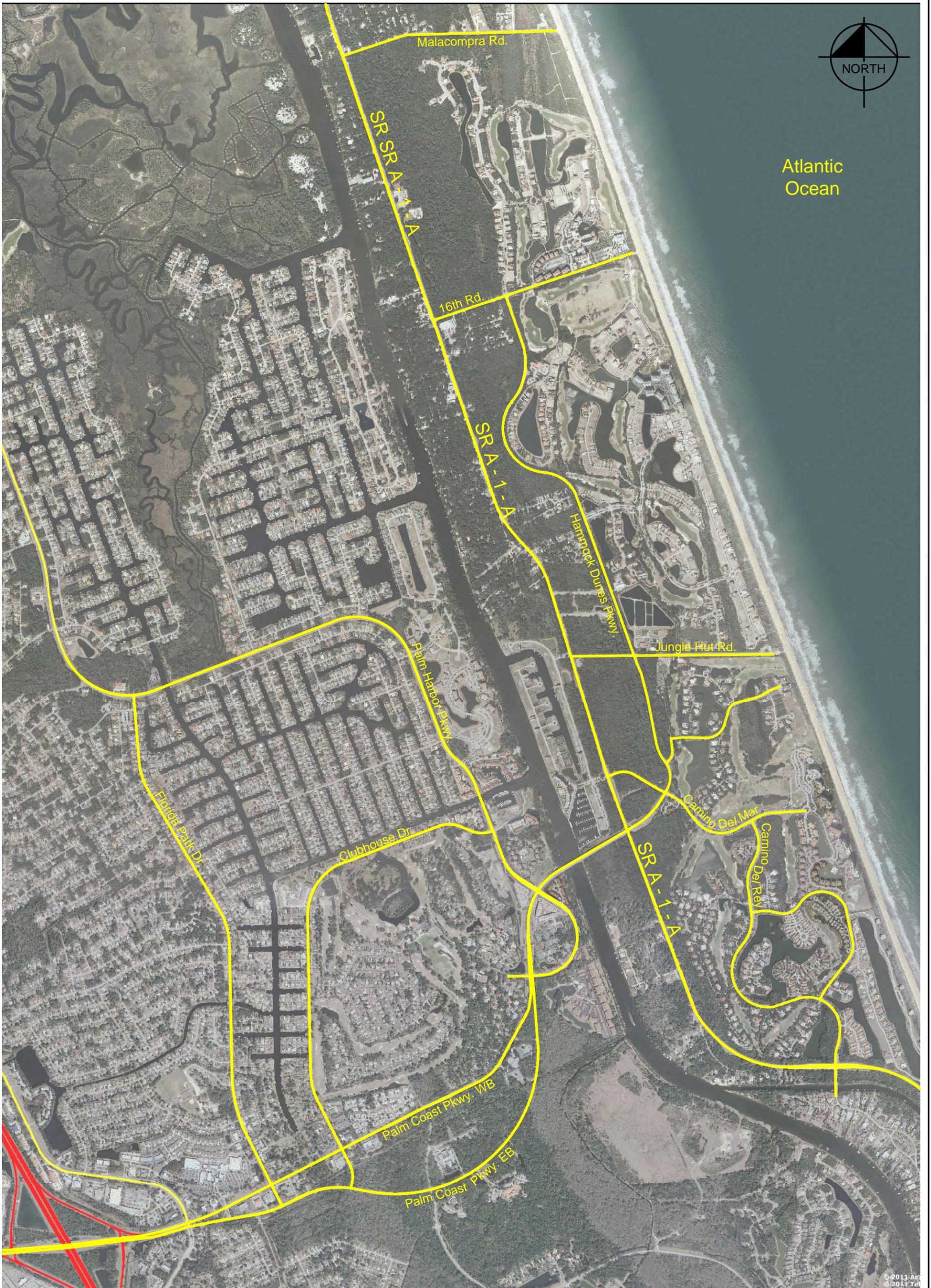
### Study Roadway Links:

- A) Palm Harbor Parkway (from Clubhouse Drive to Florida Park Drive)
- B) Hammock Dunes Parkway Intracoastal Waterway Bridge

### Study Intersections:

- A) Palm Coast Parkway/Palm Harbor Parkway/Palm Harbor Drive
- B) Hammock Dunes Parkway/Camino Del Mar Parkway/SR A1A Connector
- C) SR A1A/Camino Del Mar Parkway (aka SR A1A Connector)
- D) SR A1A/Jungle Hut Road
- E) SR A1A/16<sup>th</sup> Road

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by Admiral to perform the traffic analyses requested by Flagler County. As agreed to with County staff, the Close-Out traffic analyses were performed to evaluate the existing (2011) and Build-Out conditions for the roadways and intersections identified above. The existing analysis considers the 2,054 completed dwelling units currently within the DRI. The Build-Out analysis includes these existing units, the units under construction, the vacant platted lots, 128 WCI condominium units, and 561 units that were the subject of Northshore’s 2009 NOPC (the “Northshore Units”). For comparison purposes, the build-out traffic analysis was performed with and



Atlantic Ocean

**HAMMOCK DUNES**  
**DRI**  
 PREPARED FOR  
**ADMIRAL CORPORATION**  
 PALM COAST FLORIDA

**LOCATION MAP**

KHA PROJECT PROJ #	LICENSED PROFESSIONAL
DATE DEC. 2011	IAN M. RAIRDEN, P.E.
SCALE AS SHOWN	FLORIDA LICENSE NUMBER 69224
DESIGNED BY NAT	DATE: _____
DRAWN BY NAT	
CHECKED BY IMR	



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SHEET NUMBER  
**FIG. 1**

without the 561 Northshore Units. The following section summarizes the residential unit count and non-residential development within the DRI.

KHA has previously performed two Level of Service (LOS) Analyses for the Hammock Dunes Parkway Intracoastal Waterway (ICWW) Bridge. The first analysis was conducted in May of 2009 and the second was conducted in October of 2011. Both of these analyses concluded that the bridge was operating at LOS A at the time of the studies. For reference purposes, both of these studies have been included in this report as Attachments A and B, respectively.

## Development Summary

The Hammock Dunes DRI is a resort community consisting primarily of single-family and condominium residential units. The development also contains ancillary recreational amenities and a small amount of office and retail development. Table 1 summarizes the completed (existing) and future development planned within the project. The data contained in the table was compiled by Mr. Bob Dickinson with Dickinson Consulting, Inc. in the Hammock Dunes DRI Build-Out Report dated December 12, 2011.

**TABLE 1  
DEVELOPMENT SUMMARY (2011)**

Development	Completed	Under Const.	Total Approved w/o Northshore	Total Approved w/ Northshore	Units
<b>Residential</b>					<b>DU</b>
Single Family (detached)	847	18	1,726	1,726	DU
Multi-Family (condos)	1,207	0	1,335	1,896	DU
<b>Total Residential</b>	<b>2,054</b>	<b>18</b>	<b>3,061</b>	<b>3,622</b>	<b>DU</b>
<b>Recreation Facilities</b>					
Tennis Park Restroom	160	0	160	160	SF
Golf Course Maintenance Building	20,500	0	20,500	20,500	SF
Permanent Clubhouse	75,000	0	75,000	75,000	SF
Temporary Clubhouse	0	0	0	0	SF
Starters and Restroom Buildings	1,200	0	1,200	1,200	SF
Neighborhood Amenities	11,795	0	11,795	11,795	SF
<b>Total Recreation</b>	<b>108,655</b>	<b>0</b>	<b>108,655</b>	<b>108,655</b>	<b>SF</b>
<b>Commercial</b>					
Parcel B.3 Commercial/Office	25,000	0	25,000	25,000	SF
Permanent Sales Center	5,700	0	5,700	5,700	SF
Gatehouses, tower, portico, wastewater treatment plant	4,930	0	4,930	4,930	SF
Temp. Development Offices	0	0	0	0	SF
Oare Commercial Parcel	0	0	64,000	64,000	SF
<b>Total Commercial</b>	<b>35,630</b>	<b>0</b>	<b>99,630</b>	<b>99,630</b>	<b>SF</b>

As summarized in the table above, the actual maximum unit count anticipated for Build-Out is 3,622 dwelling units. Without the Northshore Units, the actual maximum residential Build-Out is reduced to 3,061 dwelling units. With the exception of the Oare commercial parcel, no additional non-residential development, beyond what exists today, is planned within the DRI. Based on input from County staff, the Oare commercial parcel is anticipated to be comprised of approximately 11,800 square feet (s.f.) of quality restaurant, 20,200 s.f. of specialty retail, and 32,000 s.f. of general office, for a total of approximately 64,000 s.f. of development.

### **Existing Roadway and Intersection Facilities**

The two study roadway links (Palm Harbor Parkway, from Clubhouse Drive to Florida Park Drive, and Hammock Dunes Intracoastal Waterway Bridge) are both two-lane undivided roadways. The roadways associated with the five study intersections are also two-lane undivided roadways, except for Palm Coast Parkway, west of Palm Harbor Parkway, which is a four-lane divided roadway. The two-lane roadways associated with the study intersections are SR A1A, Camino Del Mar Parkway, SR A1A Connector, Jungle Hut Road, and 16<sup>th</sup> Road. Of the five study intersections, the Palm Coast Parkway/Palm Harbor Parkway/Palm Harbor Drive intersection is the only one that is currently signalized. The Hammock Dunes Parkway/Camino Del Mar Parkway/SR A1A Connector intersection is controlled by an all-way stop. The remaining three study intersections are two-way stop controlled, with SR A1A being the primary through roadway not having to stop.

### **Data Collection**

Kimley-Horn's traffic count subconsultant conducted a twenty-four hour continuous tube count on the Hammock Dunes Parkway ICWW Bridge on October 4, 2011. Kimley-Horn obtained the most recent count for the study link of Palm Harbor Parkway from the City of Palm Coast on October 10, 2011. This link count was conducted on February 17, 2011. Please see Attachment C for the link count data output sheets. These two link counts were adjusted to annual average daily traffic (AADT) traffic volumes utilizing the most recent Flagler County county-wide seasonal factors and the appropriate axle adjustment factors available from the Florida Department of Transportation (FDOT). Please see Attachment D for the FDOT's seasonal factor and axle correction factor summaries. Table 2 below summarizes the 2011 AADT's and the historical count data (obtained from the prior years' annual reports) for the two study links.

**TABLE 2**  
**HISTORICAL DAILY TRAFFIC VOLUMES**

Roadway	2000	2001	2002	2003	2004	2005	2006	2007	2008	2011
<b>Palm Harbor Parkway</b>										
Club House Drive to Florida Park Dr.					5,478	5,571	6,578	6,270	5,619	4,700
<b>Hammock Dunes Parkway</b>										
ICWW Bridge	4,831	5,338	6,017	7,275	8,306	8,713	9,650	8,954	7,639	7,500

The Dunes Community Development District (CDD) staff provided a summary of the vehicle counts passing through the toll booth on a monthly basis for 2010 and 2011 (see Attachment E). Since the bridge toll is only assessed for eastbound drivers, the Dunes CDD data only provides a summary of eastbound traffic volumes. The October 2011 average monthly eastbound traffic volume was within 125 vehicles, or 3.7 percent, of the eastbound count collected by Kimley-Horn's traffic count subconsultant on October 4<sup>th</sup>. The Dunes CDD count data provides additional verification and assurance that Kimley-Horn's subconsultant's traffic count on the ICWW Bridge is reasonable.

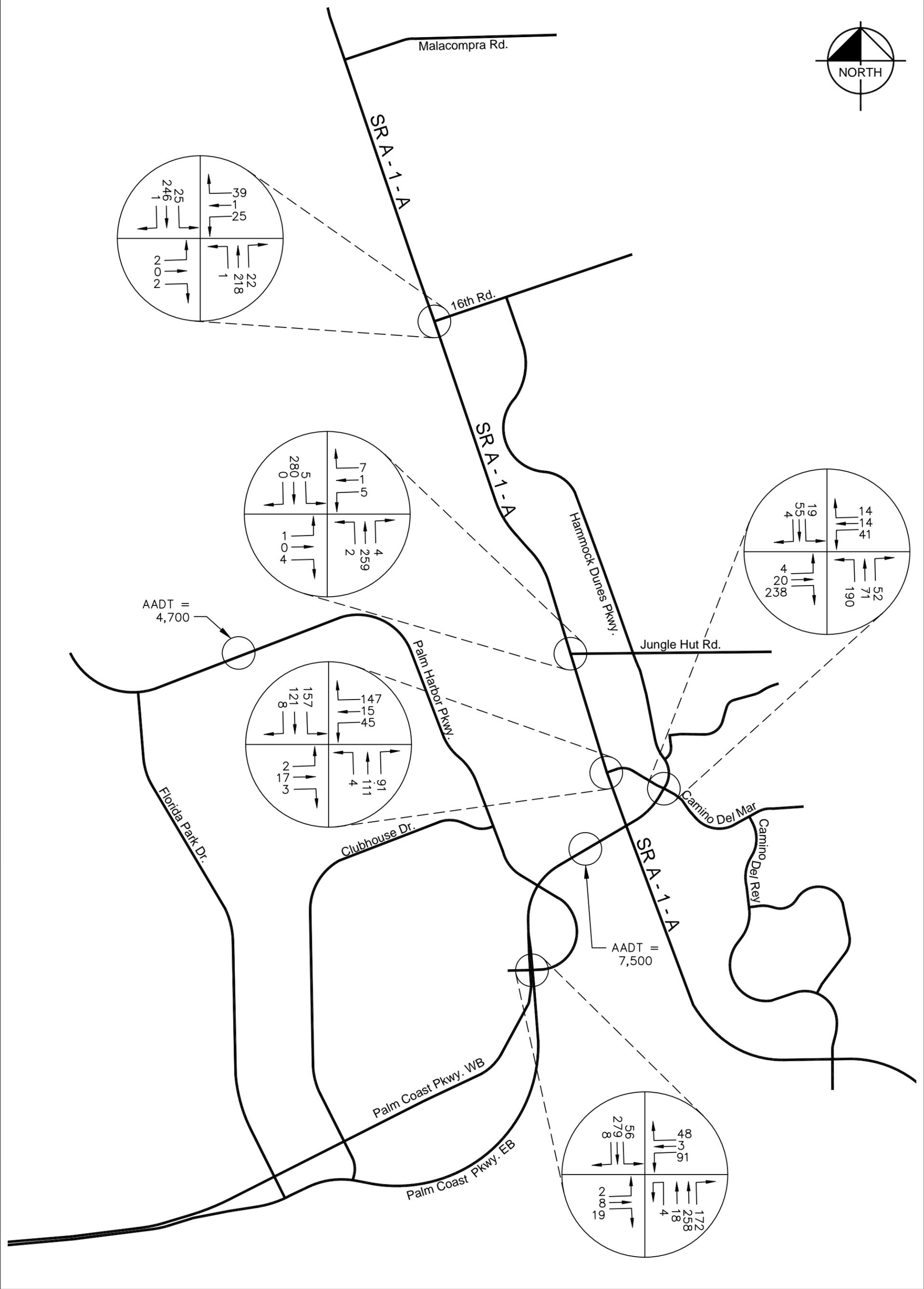
P.M. peak hour turning movement counts were collected at the five study intersections on December 1, 2011. The turning movement count data output sheets are included in Attachment F. The raw turning movement count data was adjusted to peak season utilizing the most recent peak season correction factors (PSCF's) available from the FDOT (see Attachment D). Additionally, the turning movement counts at adjacent intersections that had no driveways or side streets between them were modified to balance the volumes. Figure 2 summarizes the AADT's for the two study links and the peak season turning movement volumes for the five study intersections.

## Analysis

### Trip Generation

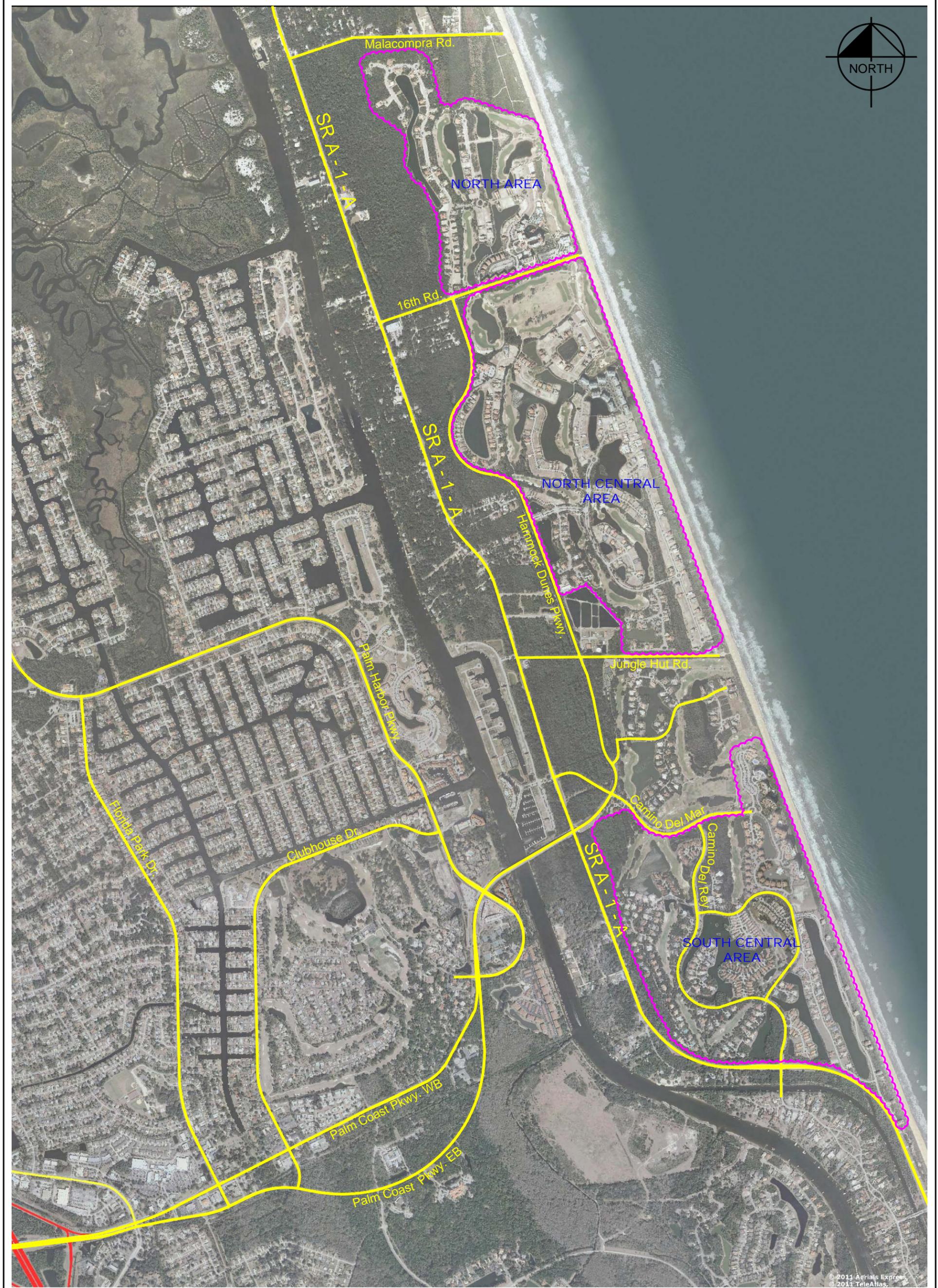
Significant effort was invested in evaluating the existing trip generation characteristics for the development. Given the layout of the DRI's roadway network, three large geographical areas within the development (see Figure 3) were able to be isolated to evaluate the trip generation characteristics within those areas. The three areas are defined as follows:

- A) North Area: All development north of 16<sup>th</sup> Road (east of SR A1A)
- B) North Central Area: Development between 16<sup>th</sup> Road and Camino Del Mar Parkway (east of SR A1A)
- C) South Central Area: Development between Camino Del Mar Parkway and SR A1A (east of SR A1A)



<p><b>HAMMOCK DUNES DRI</b>                  PREPARED FOR  <b>ADMIRAL CORPORATION</b></p>	<p><b>2011 AADT AND TURNING                  MOVEMENT COUNTS</b></p>	<p>KHA PROJECT                  PROJ #</p>	<p>LICENSED PROFESSIONAL</p>	<p><b>Kimley-Horn                  and Associates, Inc.</b></p> <p>© 2011 KIMLEY-HORN AND ASSOCIATES, INC.                  8657 BAYPINE ROAD, SUITE 300, JACKSONVILLE, FL 32256                  PHONE: 904-828-3900 FAX: 904-367-1692                  WWW.KIMLEY-HORN.COM CA 0000696</p>	<p>SHEET NUMBER</p>
		<p>DATE                  DEC. 2011</p> <p>SCALE AS SHOWN</p> <p>DESIGNED BY NAT</p> <p>DRAWN BY NAT</p> <p>CHECKED BY IMR</p>	<p>IAN M. RAIRDEN, P.E.</p> <p>FLORIDA LICENSE NUMBER                  69224</p> <p>DATE: _____</p>		<p><b>FIG. 2</b></p>

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<p><b>HAMMOCK DUNES DRI</b> PREPARED FOR <b>ADMIRAL CORPORATION</b></p>	<p><b>GEOGRAPHICAL AREAS FOR TRIP GENERATION</b></p>	<p>KHA PROJECT PROJ #</p>	<p>LICENSED PROFESSIONAL</p>	 <p><b>Kimley-Horn and Associates, Inc.</b></p>	<p>SHEET NUMBER <b>FIG. 3</b></p>	
		<p>DATE DEC. 2011</p>	<p>IAN M. RAIRDEN, P.E.</p>			
<p>PALM COAST FLORIDA</p>		<p>SCALE AS SHOWN</p>	<p>FLORIDA LICENSE NUMBER 69224</p>	<p>© 2011 KIMLEY-HORN AND ASSOCIATES, INC. 8657 BAYPINE ROAD, SUITE 300, JACKSONVILLE, FL 32256 PHONE: 904-828-3900 FAX: 904-367-1692 WWW.KIMLEY-HORN.COM CA 0000696</p>		
		<p>DESIGNED BY NAT</p>	<p>DATE: _____</p>			
		<p>DRAWN BY NAT</p>				
		<p>CHECKED BY IMR</p>				

The 2008 turning movement count volumes, contained in the 2008 Hammock Dunes DRI Annual Report prepared by Leftwich Consulting Engineers, Inc. (see Attachment F), were analyzed to isolate the trips specifically associated with these three areas. Turning movement counts for project-specific driveways and intersections were not collected in 2011, therefore the 2008 data was utilized. The 2008 project trips were then compared to the completed dwelling units within these three areas in 2008. The number of 2008 dwelling units completed within these three areas was obtained from Mr. Bob Dickinson of Dickinson Consulting, Inc. The following tables summarize the number of dwelling units and associated average p.m. peak hour trip generation per dwelling unit observed. The table also summarizes the in/out split of project traffic computed for the three areas.

**TABLE 3**  
**OBSERVED TRIP GENERATION PER DWELLING UNIT (2008)**

<u>Site</u>	<u>Trip Generation</u>	<u>In/Out Split</u>
North (545 units)	0.273 average p.m. peak hour trips	44%/56%
North Central (476 units)	0.264 average p.m. peak hour trips	45%/55%
<u>South Central (703 units)</u>	<u>0.277 average p.m. peak hour trips</u>	<u>37%/63%</u>
<b>Average (1,724 units)</b>	<b>0.273 average p.m. peak hour trips</b>	<b>42%/58%</b>

For the three isolated areas, containing 1,724 dwelling units or approximately 86 percent of the units completed in 2008, the average observed p.m. peak hour trip generation rate was 0.273 trips per unit. The observed in/out split was 42 percent inbound trips and 58 percent outbound trips. Table 4 was prepared to compare the observed trip generation characteristics summarized in Table 3 to nationally recognized and readily available trip generation data maintained by the Institute of Transportation Engineers (ITE).

**TABLE 4**  
**TRIP GENERATION COMPARISON PER DWELLING UNIT**

<u>Site</u>	<u>Trip Generation</u>	<u>In/Out Split</u>
Subject (see above)	0.273 average p.m. peak hour trips	42%/58%
ITE LUC 210 – Single-Family	1.01 average p.m. peak hour trips	63%/37%
ITE LUC 230 – Condominium	0.52 average p.m. peak hour trips	67%/33%
ITE LUC 260 – Recreational Homes	0.26 average p.m. peak hour trips	41%/59%

As demonstrated by Table 4, ITE Land Use Code (LUC) 260 – Recreational Homes provides the trip generation characteristics most similar to those of the Hammock Dunes DRI. Therefore, the average trip generation rate provided in ITE's *Trip Generation, 8<sup>th</sup> Edition*, for LUC 260 (Recreational Homes) was

utilized to develop the anticipated trip generation potential for the residential dwelling units within the project at Build-Out.

As summarized in Table 1, an existing 25,000 square foot commercial/office building is located at Parcel B.3, in the northeast quadrant of the Hammock Dunes Parkway/Oakview Circle intersection. The location of Parcel B.3 is within the “North Central Area” described above. Therefore, the trip generation associated with the 25,000 square foot commercial/office building is included within the 2008 turning movement counts utilized to determine the average p.m. peak hour trips for the residential portion of the North Central Area. A turning movement count was not conducted at the driveway for Parcel B.3; therefore, the trips associated with the commercial/office building could not be separated from the residential trips for the North Central Area. To provide a conservative analysis, it was assumed that all vehicles utilized for the trip generation calculations by area were residential in nature. Trip generation data contained within ITE’s *Trip Generation, 8<sup>th</sup> Edition* was utilized for estimating Parcel B.3 trips in the Build-Out analysis. Based on information obtained from the Flagler County Property Appraiser, the 25,000 square foot commercial/office building is classified as an office building; therefore, ITE Land Use Code (LUC) 710, General Office Building, was utilized to calculate the build-out trips for Parcel B.3.

The Hammock Dunes DRI is also approved for an additional 64,000 square feet of commercial/office on the “Oare Commercial Parcel.” Based on input from County staff, the Oare commercial parcel is anticipated to be comprised of approximately 11,800 square feet (s.f.) of quality restaurant, 20,200 s.f. of specialty retail, and 32,000 s.f. of general office. The project trip generation calculated for these proposed uses was based upon ITE’s *Trip Generation, 8<sup>th</sup> Edition* utilizing the following LUC’s:

- Quality Restaurant – LUC 931, Quality Restaurant
- Specialty Retail – LUC 814, Specialty Retail Center
- General Office – LUC 710, General Office Building

As mentioned above, the analysis was prepared for two different Build-Out totals: with and without the 561 Northshore Units. Since the 561 units that were the subject of Northshore’s 2009 NOPC (the “Northshore Units”) are not platted, the exact location of these units is not known. For purposes of this analysis, approximately 50 percent of the Northshore Units were assumed to be located in the North Area and the remaining 50 percent of the Northshore Units were assumed to be located in the North Central Area. These “Areas” contain the other Northshore-owned properties; therefore, it was assumed that the 561 Northshore Units would be located in the same general locations.

A summary of the gross daily project trip generation for the existing and Build-Out conditions, with the 561 Northshore Units, is included in Tables 5a and 5b, respectively. A summary of the gross p.m. peak hour project trip generation for the existing and Build-Out conditions, with the 561 Northshore Units, is included in Tables 6a and 6b, respectively. A summary of the gross daily project trip generation for the existing and Build-Out conditions, without the 561 Northshore Units, is included in Tables 7a and 7b, respectively. A summary of the gross p.m. peak hour project trip generation for the existing and Build-Out conditions, without the 561 Northshore Units, is included in Tables 8a and 8b, respectively.

**Table 5a**  
**Existing**  
**Gross Daily Trip End Generation Estimation**

Column Identification --->					A
Land Use	ITE Land Use Code	Size (Number of Units)	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross Daily Trip Ends
Recreational Home	260	2,054	Dwelling Units	$T = 3.16*(X)$	6,491
General Office Building	710	25,000	1,000 s.f. GFA	$T = 11.01*(X)$	275
<b>Total</b>					<b>6,766</b>

**Table 5b**  
**Build-Out - With Northshore Units**  
**Gross Daily Trip End Generation Estimation**

Column Identification --->					A
Land Use	ITE Land Use Code	Size (Number of Units)	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross Daily Trip Ends
Recreational Home	260	3,622	Dwelling Units	$T = 3.16*(X)$	11,446
General Office Building	710	57,000	1,000 s.f. GFA	$T = 11.01*(X)$	628
Specialty Retail Center	814	20,200	1,000 s.f. GLA	$T = 44.32*(X)$	895
Quality Restaurant	931	11,800	1,000 s.f. GLA	$T = 89.95*(X)$	1,061
<b>Total</b>					<b>14,030</b>

Note: ITE's *Trip Generation Handbook, 8th Edition* was used.

**Increase in Gross Daily Trip Ends = 7,264**

**Table 6a**  
**Existing**  
**Gross P.M. Peak Hour Trip End Generation Estimation**

Column Identification --->					A
Land Use	ITE Land Use Code	Size (Number of Units)	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross P.M. Peak Hour Trip Ends
Recreational Home	260	2,054	Dwelling Units	$T = 0.26*(X)$	534
General Office Building	710	25,000	1,000 s.f. GFA	$T = 1.49*(X)$	37
<b>Total</b>					<b>571</b>

**Table 6b**  
**Build-Out - With Northshore Units**  
**Gross P.M. Peak Hour Trip End Generation Estimation**

Column Identification --->					A
Land Use	ITE Land Use Code	Size (Number of Units)	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross P.M. Peak Hour Trip Ends
Recreational Home	260	3,622	Dwelling Units	$T = 0.26*(X)$	942
General Office Building	710	57,000	1,000 s.f. GFA	$T = 1.49*(X)$	85
Specialty Retail Center	814	20,200	1,000 s.f. GLA	$T = 2.71*(X)$	55
Quality Restaurant	931	11,800	1,000 s.f. GLA	$T = 7.49*(X)$	88
<b>Total</b>					<b>1,170</b>

Note: ITEs *Trip Generation Handbook, 8th Edition* was used.

**Increase in Gross P.M. Peak Hour Trip Ends = 599**

**Table 7a**  
**Existing**  
**Gross Daily Trip End Generation Estimation**

Column Identification --->					A
Land Use	ITE Land Use Code	Size (Number of Units)	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross Daily Trip Ends
Recreational Home	260	2,054	Dwelling Units	$T = 3.16*(X)$	6,491
General Office Building	710	25,000	1,000 s.f. GFA	$T = 11.01*(X)$	275
<b>Total</b>					<b>6,766</b>

**Table 7b**  
**Build-Out - Without Northshore Units**  
**Gross Daily Trip End Generation Estimation**

Column Identification --->					A
Land Use	ITE Land Use Code	Size (Number of Units)	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross Daily Trip Ends
Recreational Home	260	3,061	Dwelling Units	$T = 3.16*(X)$	9,673
General Office Building	710	57,000	1,000 s.f. GFA	$T = 11.01*(X)$	628
Specialty Retail Center	814	20,200	1,000 s.f. GLA	$T = 44.32*(X)$	895
Quality Restaurant	931	11,800	1,000 s.f. GLA	$T = 89.95*(X)$	1,061
<b>Total</b>					<b>12,257</b>

Note: ITE's *Trip Generation Handbook, 8th Edition* was used.

**Increase in Gross Daily Trip Ends = 5,491**

**Table 8a**  
**Existing**  
**Gross P.M. Peak Hour Trip End Generation Estimation**

Column Identification --->					A
Land Use	ITE Land Use Code	Size (Number of Units)	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross P.M. Peak Hour Trip Ends
Recreational Home	260	2,054	Dwelling Units	$T = 0.26*(X)$	534
General Office Building	710	25,000	1,000 s.f. GFA	$T = 1.49*(X)$	37
<b>Total</b>					<b>571</b>

**Table 8b**  
**Build-Out - Without Northshore Units**  
**Gross P.M. Peak Hour Trip End Generation Estimation**

Column Identification --->					A
Land Use	ITE Land Use Code	Size (Number of Units)	Independent Variable (Units)	Estimation Method (Rate or Equation)	Gross P.M. Peak Hour Trip Ends
Recreational Home	260	3,061	Dwelling Units	$T = 0.26*(X)$	796
General Office Building	710	57,000	1,000 s.f. GFA	$T = 1.49*(X)$	85
Specialty Retail Center	814	20,200	1,000 s.f. GLA	$T = 2.71*(X)$	55
Quality Restaurant	931	11,800	1,000 s.f. GLA	$T = 7.49*(X)$	88
<b>Total</b>					<b>1,024</b>

Note: ITEs Trip Generation Handbook, 8th Edition was used.

**Increase in Gross P.M. Peak Hour Trip Ends = 453**

## Internal Capture

Internal capture was considered to estimate the anticipated interaction between residential and non-residential uses within the project. To provide a conservative analysis, internal capture was only considered within the “Areas” where the non-residential uses were located (i.e., Parcel B.3 is within the North Central Area and the Oare Commercial Parcel is within the South Central Area). Each of the “Areas” can be isolated from the public roadway network; however, if internal capture were to be considered between adjoining “Areas”, it could not be assured that the “captured” trip would not access the public roadway network. The anticipated internal capture was calculated using the methodologies set forth in ITE’s *Trip Generation Handbook*, 2<sup>nd</sup> edition, dated June 2004.

For the existing conditions (2011) analysis, the daily internal capture between the existing residential and office components of the North Central Area is estimated to be 6 trips. This results in a daily internal capture rate of 0.3 percent within the North Central Area and an overall daily internal capture rate for the entire DRI of 0.1 percent. The corresponding p.m. peak hour internal capture between the existing residential and office components of the North Central Area is 2 trips. This results in a p.m. peak hour internal capture rate of 1.2 percent within the North Central Area and an overall p.m. peak hour internal capture rate for the entire DRI of 0.4 percent.

For the Build-Out analysis, the daily internal capture between the residential and office components of the North Central Area, with the Northshore Units, is estimated to be 6 trips. The daily internal capture between the residential, retail, restaurant, and office components of the South Central Area at Build-Out is estimated to be 622 trips. This results in a daily internal capture rate of 0.2 percent within the North Central Area, a daily internal capture rate of 12.1 percent within the South Central Area, and an overall daily internal capture rate for the entire DRI of 4.5 percent. The corresponding p.m. peak hour internal capture between the residential and office components of the North Central Area, with the Northshore Units, at Build-Out is estimated to be 2 trips. The p.m. peak hour internal capture between the residential, retail, restaurant, and office components of the South Central Area at Build-Out is estimated to be 44 trips. This results in a p.m. peak hour internal capture rate of 0.6 percent within the North Central Area, a p.m. peak hour internal capture rate of 10.4 percent within the South Central Area, and an overall p.m. peak hour internal capture rate for the entire DRI of 3.9 percent.

For the Build-Out analysis, the daily internal capture between the residential and office components of the North Central Area, without the Northshore Units, is estimated to be 6 trips. The daily internal capture between the residential, retail, restaurant, and office components of the South Central Area at Build-Out is

estimated to be 622 trips. This results in a daily internal capture rate of 0.2 percent within the North Central Area, a daily internal capture rate of 12.1 percent within the South Central Area, and an overall daily internal capture rate for the entire DRI of 5.1 percent. The corresponding p.m. peak hour internal capture between the residential and office components of the North Central Area, without the Northshore Units, at Build-Out is estimated to be 2 trips. The p.m. peak hour internal capture between the residential, retail, restaurant, and office components of the South Central Area at Build-Out is estimated to be 44 trips. This results in a p.m. peak hour internal capture rate of 0.8 percent within the North Central Area, a p.m. peak hour internal capture rate of 10.4 percent within the South Central Area, and an overall p.m. peak hour internal capture rate for the entire DRI of 4.5 percent.

See Attachment H for the internal capture worksheets.

## Pass-by Capture

Pass-by capture was considered for the non-residential components of the project. The pass-by capture calculations were based on data contained within ITE's *Trip Generation Handbook*, 2<sup>nd</sup> edition, dated June 2004 (*Trip Generation Handbook*). The *Trip Generation Handbook* does not provide pass-by capture data for the daily analysis period; therefore, to provide a conservative analysis, no pass-by capture trips were calculated or assumed for the daily analysis period.

For the p.m. peak hour, the *Trip Generation Handbook* does not provide data for LUC 710 (General Office Building) or LUC 814 (Specialty Retail Center); however, a pass-by capture rate of 44 percent is provided for LUC 931 (Quality Restaurant). Therefore, to provide a conservative analysis, pass-by capture was only assumed for the quality restaurant use within the Oare Commercial Parcel for the p.m. peak hour analysis.

A summary of the net new daily project trip generation for the existing and Build-Out conditions, with the 561 Northshore Units, is included in Tables 9a and 9b, respectively. A summary of the net new p.m. peak hour project trip generation for the existing and Build-Out conditions, with the 561 Northshore Units, is included in Tables 10a and 10b, respectively. A summary of the net new daily project trip generation for the existing and Build-Out conditions, without the 561 Northshore Units, is included in Tables 11a and 11b, respectively. A summary of the net new p.m. peak hour project trip generation for the existing and Build-Out conditions, without the 561 Northshore Units, is included in Tables 12a and 12b, respectively.

**Table 9a**  
**Existing**  
**Total Net New Daily External Trip Ends**

	<b>A</b>	<b>B</b>	<b>C</b> <b>(A*B)</b>	<b>D</b>	<b>E</b> <b>(C*D)</b>	<b>F</b>	<b>G</b> <b>(E*F)</b>	<b>H</b>	<b>I</b> <b>(E*H)</b>	<b>J</b> <b>(G+I)</b>
ITE Land Use Code	Gross Daily Trip Ends	External Trip Percentage	Daily Net Daily Trip Ends	New Trip Percentage <sup>1</sup>	Total Net New Daily External Trip Ends	Daily External Trip End Distribution				
						Entering		Exiting		Total Trips
						%	Trips	%	Trips	
260	6,491	99.95%	6,488	100.0%	6,488	50%	3,244	50%	3,244	6,488
710	275	98.9%	272	100.0%	272	50%	136	50%	136	272
<b>Totals</b>	<b>6,766</b>		<b>6,760</b>		<b>6,760</b>		<b>3,380</b>		<b>3,380</b>	<b>6,760</b>

**Table 9b**  
**Build-Out - With Northshore Units**  
**Total Net New Daily External Trip Ends**

	<b>A</b>	<b>B</b>	<b>C</b> <b>(A*B)</b>	<b>D</b>	<b>E</b> <b>(C*D)</b>	<b>F</b>	<b>G</b> <b>(E*F)</b>	<b>H</b>	<b>I</b> <b>(E*H)</b>	<b>J</b> <b>(G+I)</b>
ITE Land Use Code	Gross Daily Trip Ends	External Trip Percentage	Daily Net Daily Trip Ends	New Trip Percentage <sup>1</sup>	Total Net New Daily External Trip Ends	Daily External Trip End Distribution				
						Entering		Exiting		Total Trips
						%	Trips	%	Trips	
260	11,446	98.2%	11,244	100.0%	11,244	50%	5,622	50%	5,622	11,244
710	628	88.1%	553	100.0%	553	50%	277	50%	276	553
814	895	81.7%	731	100.0%	731	50%	366	50%	365	731
931	1,061	82.4%	874	100.0%	874	50%	437	50%	437	874
<b>Totals</b>	<b>14,030</b>		<b>13,402</b>		<b>13,402</b>		<b>6,702</b>		<b>6,700</b>	<b>13,402</b>

Note: 1 - Obtained from ITE's report entitled *Trip Generation Handbook, 2nd Edition*.

**Increase in Net New Daily Trip Ends = 6,642**

**Table 10a**  
**Existing**  
**Total Net New P.M. Peak Hour External Trip Ends**

	<b>A</b>	<b>B</b>	<b>C</b> <b>(A*B)</b>	<b>D</b>	<b>E</b> <b>(C*D)</b>	<b>F</b>	<b>G</b> <b>(E*F)</b>	<b>H</b>	<b>I</b> <b>(E*H)</b>	<b>J</b> <b>(G+I)</b>
ITE Land Use Code	Gross P.M. Peak Hour Trip Ends	External Trip Percentage	Daily Net P.M. Peak Hour Trip Ends	New Trip Percentage <sup>1</sup>	Total Net New P.M. Peak Hour External Trip Ends	P.M. Peak Hour External Trip End Distribution				
						Entering		Exiting		Total Trips
						%	Trips	%	Trips	
260	534	99.8%	533	100.0%	533	41%	219	59%	314	533
710	37	97.2%	36	100.0%	36	17%	6	83%	30	36
<b>Totals</b>	<b>571</b>		<b>569</b>		<b>569</b>		<b>225</b>		<b>344</b>	<b>569</b>

**Table 10b**  
**Build-Out - With Northshore Units**  
**Total Net New P.M. Peak Hour External Trip Ends**

	<b>A</b>	<b>B</b>	<b>C</b> <b>(A*B)</b>	<b>D</b>	<b>E</b> <b>(C*D)</b>	<b>F</b>	<b>G</b> <b>(E*F)</b>	<b>H</b>	<b>I</b> <b>(E*H)</b>	<b>J</b> <b>(G+I)</b>
ITE Land Use Code	Gross P.M. Peak Hour Trip Ends	External Trip Percentage	Daily Net P.M. Peak Hour Trip Ends	New Trip Percentage <sup>1</sup>	Total Net New P.M. Peak Hour External Trip Ends	P.M. Peak Hour External Trip End Distribution				
						Entering		Exiting		Total Trips
						%	Trips	%	Trips	
260	942	98.2%	925	100.0%	925	41%	379	59%	546	925
710	85	94.1%	80	100.0%	80	17%	14	83%	66	80
814	55	81.8%	45	100.0%	45	44%	20	56%	25	45
931	88	84.1%	74	56.0%	41	59%	24	41%	17	41
<b>Totals</b>	<b>1,170</b>		<b>1,124</b>		<b>1,091</b>		<b>437</b>		<b>654</b>	<b>1,091</b>

Note: 1 - Obtained from ITE's report entitled *Trip Generation Handbook, 2nd Edition*.

Increase in Net New P.M. Peak Hour Trip Ends = 522

**Table 11a**  
**Existing**  
**Total Net New Daily External Trip Ends**

	<b>A</b>	<b>B</b>	<b>C</b> <b>(A*B)</b>	<b>D</b>	<b>E</b> <b>(C*D)</b>	<b>F</b>	<b>G</b> <b>(E*F)</b>	<b>H</b>	<b>I</b> <b>(E*H)</b>	<b>J</b> <b>(G+I)</b>
ITE Land Use Code	Gross Daily Trip Ends	External Trip Percentage	Daily Net Daily Trip Ends	New Trip Percentage <sup>1</sup>	Total Net New Daily External Trip Ends	Daily External Trip End Distribution				
						Entering		Exiting		Total Trips
						%	Trips	%	Trips	
260	6,491	99.95%	6,488	100.0%	6,488	50%	3,244	50%	3,244	6,488
710	275	98.9%	272	100.0%	272	50%	136	50%	136	272
<b>Totals</b>	<b>6,766</b>		<b>6,760</b>		<b>6,760</b>		<b>3,380</b>		<b>3,380</b>	<b>6,760</b>

**Table 11b**  
**Build-Out - Without Northshore Units**  
**Total Net New Daily External Trip Ends**

	<b>A</b>	<b>B</b>	<b>C</b> <b>(A*B)</b>	<b>D</b>	<b>E</b> <b>(C*D)</b>	<b>F</b>	<b>G</b> <b>(E*F)</b>	<b>H</b>	<b>I</b> <b>(E*H)</b>	<b>J</b> <b>(G+I)</b>
ITE Land Use Code	Gross Daily Trip Ends	External Trip Percentage	Daily Net Daily Trip Ends	New Trip Percentage <sup>1</sup>	Total Net New Daily External Trip Ends	Daily External Trip End Distribution				
						Entering		Exiting		Total Trips
						%	Trips	%	Trips	
260	9,673	97.9%	9,471	100.0%	9,471	50%	4,736	50%	4,735	9,471
710	628	88.1%	553	100.0%	553	50%	277	50%	276	553
814	895	81.7%	731	100.0%	731	50%	366	50%	365	731
931	1,061	82.4%	874	100.0%	874	50%	437	50%	437	874
<b>Totals</b>	<b>12,257</b>		<b>11,629</b>		<b>11,629</b>		<b>5,816</b>		<b>5,813</b>	<b>11,629</b>

Note: 1 - Obtained from ITE's report entitled *Trip Generation Handbook, 2nd Edition*.

**Increase in Net New Daily Trip Ends = 4,869**

**Table 12a**  
**Existing**  
**Total Net New P.M. Peak Hour External Trip Ends**

	<b>A</b>	<b>B</b>	<b>C</b> <b>(A*B)</b>	<b>D</b>	<b>E</b> <b>(C*D)</b>	<b>F</b>	<b>G</b> <b>(E*F)</b>	<b>H</b>	<b>I</b> <b>(E*H)</b>	<b>J</b> <b>(G+I)</b>
ITE Land Use Code	Gross P.M. Peak Hour Trip Ends	External Trip Percentage	Daily Net P.M. Peak Hour Trip Ends	New Trip Percentage <sup>1</sup>	Total Net New P.M. Peak Hour External Trip Ends	P.M. Peak Hour External Trip End Distribution				
						Entering		Exiting		Total Trips
						%	Trips	%	Trips	
260	534	99.8%	533	100.0%	533	41%	219	59%	314	533
710	37	97.3%	36	100.0%	36	17%	6	83%	30	36
<b>Totals</b>	<b>571</b>		<b>569</b>		<b>569</b>		<b>225</b>		<b>344</b>	<b>569</b>

**Table 12b**  
**Build-Out - Without Northshore Units**  
**Total Net New P.M. Peak Hour External Trip Ends**

	<b>A</b>	<b>B</b>	<b>C</b> <b>(A*B)</b>	<b>D</b>	<b>E</b> <b>(C*D)</b>	<b>F</b>	<b>G</b> <b>(E*F)</b>	<b>H</b>	<b>I</b> <b>(E*H)</b>	<b>J</b> <b>(G+I)</b>
ITE Land Use Code	Gross P.M. Peak Hour Trip Ends	External Trip Percentage	Daily Net P.M. Peak Hour Trip Ends	New Trip Percentage <sup>1</sup>	Total Net New P.M. Peak Hour External Trip Ends	P.M. Peak Hour External Trip End Distribution				
						Entering		Exiting		Total Trips
						%	Trips	%	Trips	
260	796	97.9%	779	100.0%	779	41%	319	59%	460	779
710	85	94.1%	80	100.0%	80	17%	14	83%	66	80
814	55	81.8%	45	100.0%	45	44%	20	56%	25	45
931	88	84.1%	74	56.0%	41	59%	24	41%	17	41
<b>Totals</b>	<b>1,024</b>		<b>978</b>		<b>945</b>		<b>377</b>		<b>568</b>	<b>945</b>

Note: 1 - Obtained from ITE's report entitled *Trip Generation Handbook, 2nd Edition*.

**Increase in Net New P.M. Peak Hour Trip Ends = 376**

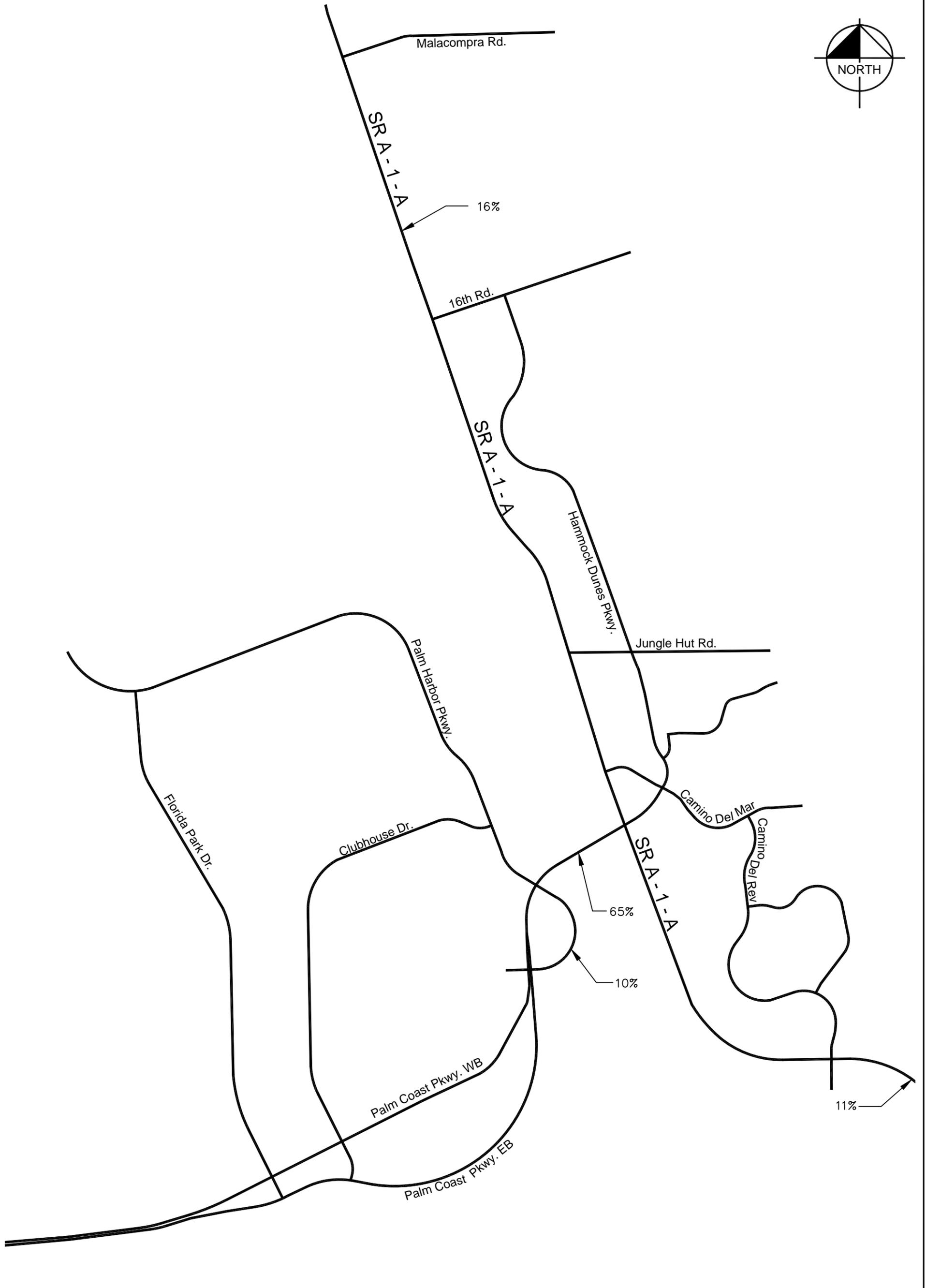
## Project Trip Distribution

The project trip distribution for the remaining development within the DRI was developed utilizing project trip distributions previously developed by Leftwich Consulting Engineers, Inc., and documented in prior annual reports (2006, 2007, and 2008). These documented distributions were supplemented with existing turning movement count data to verify the reasonableness of the distribution and to provide minor “tweaks” where necessary. For the previous annual reports, Leftwich Consulting Engineers, Inc. utilized traffic modeling software to develop a project trip distribution specific to the future units proposed to be constructed within the following 12 to 24 months. The project trip distribution within each annual report was reflective of the location of the units to be constructed (i.e., project trips destined to/originating from the northern portion of the project will have different distribution characteristics than those project trips destined to/originating from the southern portion of the project). Although the Leftwich Consulting Engineers, Inc. project trip distributions varied based on unit location, a generalized project trip distribution by cardinal direction (north, east, south, and west) was determined. This generalized project trip distribution by cardinal direction was adjusted utilizing the turning movement count data collected at the five project study intersections. The resulting project trip distribution, external to the project limits, is as follows:

- SR A1A, north of 16<sup>th</sup> Road – 16%
- SR A1A, south of Mariners Drive – 11%
- Hammock Dunes Parkway, west of Camino del Mar – 65%
- Palm Harbor Parkway, north of Hammock Dunes Parkway – 10%

It should be noted that the external project trip distribution sums to less than 100 percent. The remaining 8 percent is destined for uses within the project limits, but not included within the DRI (i.e., Publix at 16<sup>th</sup> Road, Beach, etc.).

Figure 4 summarizes the project trip distribution.



PALM COAST FLORIDA	HAMMOCK DUNES DRI PREPARED FOR ADMIRAL CORPORATION	PROJECT TRIP DISTRIBUTION	KHA PROJECT PROJ #	LICENSED PROFESSIONAL	 Kimley-Horn and Associates, Inc. <small>© 2011 KIMLEY-HORN AND ASSOCIATES, INC.                  8657 BAYPINE ROAD, SUITE 300, JACKSONVILLE, FL 32256                  PHONE: 904-828-3900 FAX: 904-367-1692                  WWW.KIMLEY-HORN.COM CA 0000696</small>	SHEET NUMBER
			DATE DEC. 2011	IAN M. RAIRDEN, P.E. FLORIDA LICENSE NUMBER 69224		FIG. 4
			SCALE AS SHOWN			
			DESIGNED BY NAT			
			DRAWN BY NAT			
			CHECKED BY IMR	DATE:		

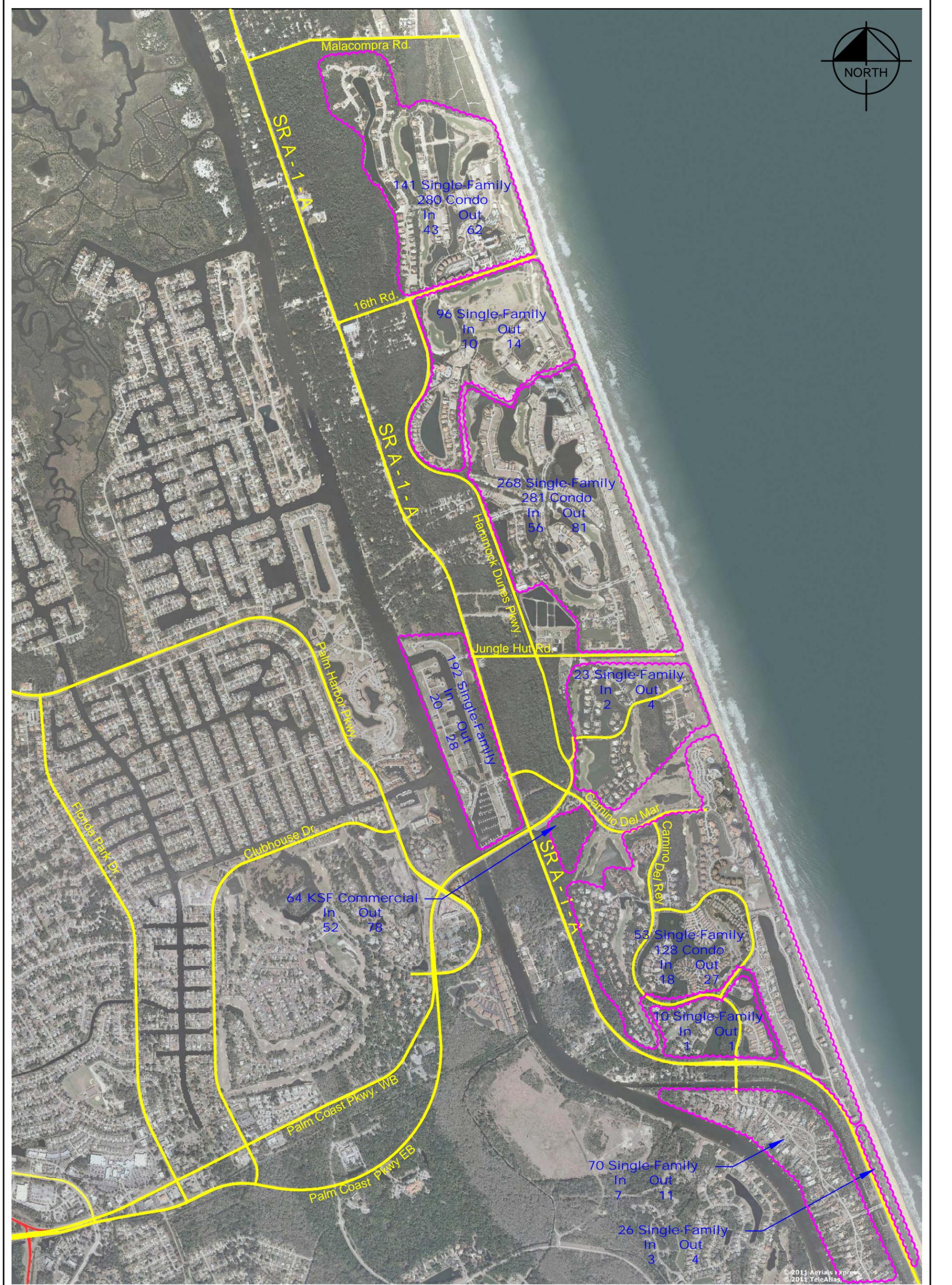
## Project Trip Assignment

The project trip distribution summarized above provides a distribution external to the project limits, which was utilized to determine an assignment of project trips for the two study roadway links. However, the distribution by itself could not be utilized to determine the assignment of project trips to the five study intersections. Therefore, to determine the project trip assignment at the study intersections, the Build-Out development was split into ten separate “micro zones” based on location and proximity to intersections along Hammock Dunes Parkway and SR A1A. The ten “micro zone” locations and future unbuilt development rights assigned to them are as follows:

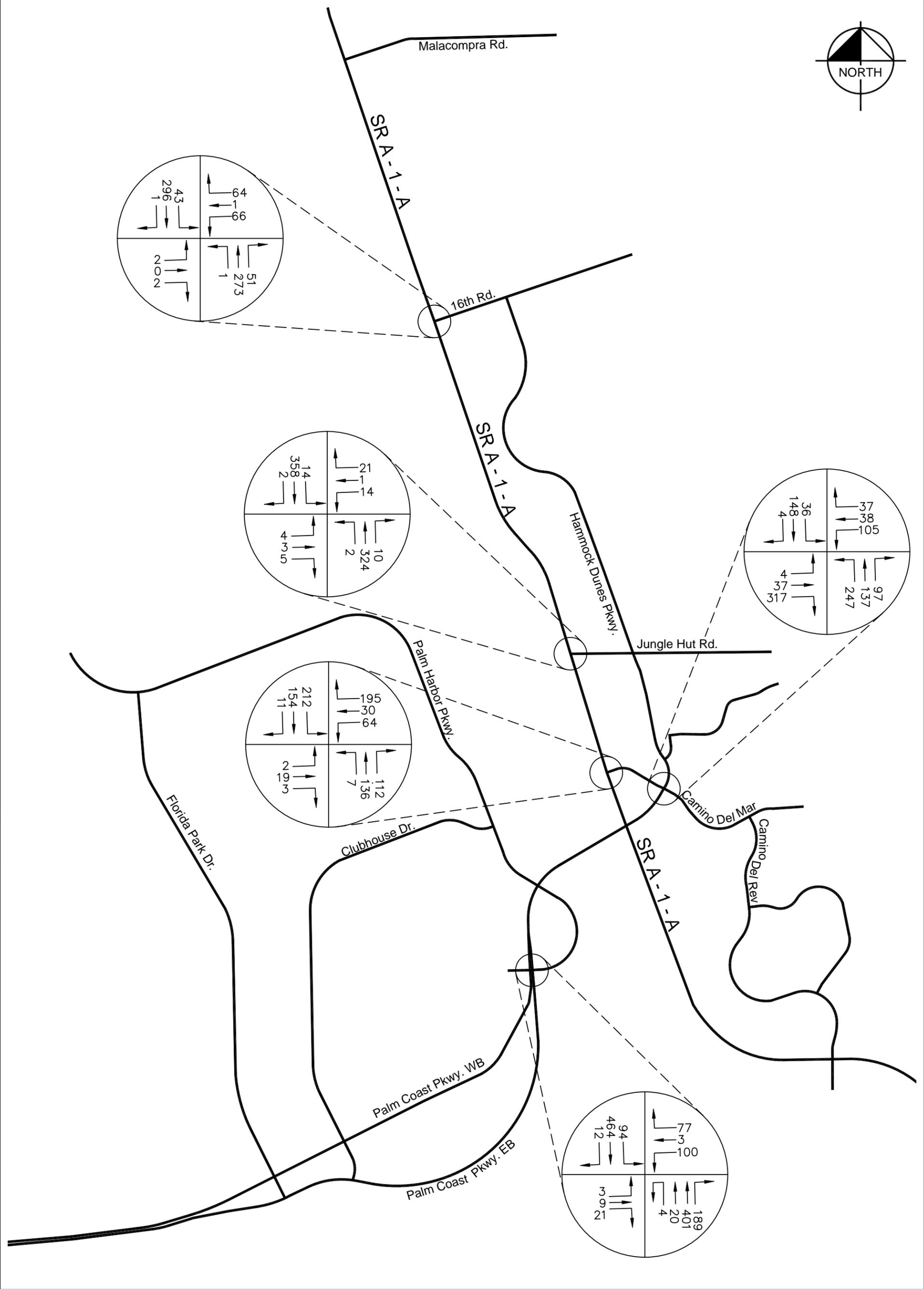
1. North of 16<sup>th</sup> Road – 141 Single-Family Units, 280 Northshore Condominium Units
2. Southeast quadrant of Hammock Dunes Parkway/16<sup>th</sup> Road – 96 Single-Family Units
3. Northeast quadrant of Hammock Dunes Parkway/Jungle Hut Road – 268 Single-Family Units, 281 Northshore Condominium Units
4. Southeast quadrant of Hammock Dunes Parkway/Jungle Hut Road – 23 Single-Family Units
5. Northwest quadrant of SR A1A/Yacht Harbor Drive – 192 Single-Family Units
6. Southeast quadrant of Hammock Dunes Parkway/Camino del Mar (Oare Commercial Parcel) – 32,000 s.f. General Office, 20,200 s.f. Specialty Retail, and 11,800 s.f. Quality Restaurant
7. Along Avenue Royal, Camino del Mar, and Camino del Rey Parkway – 53 Single-Family Units, 128 WCI Condominium Units
8. Camino del Rey Parkway, just north of SR A1A – 10 Single-Family Units
9. East side of SR A1A, south of Camino del Rey Parkway – 26 Single-Family Units
10. Along Island Estates Parkway, south and west of SR A1A – 70 Single-Family

Figure 5 summarizes the “micro zone” locations.

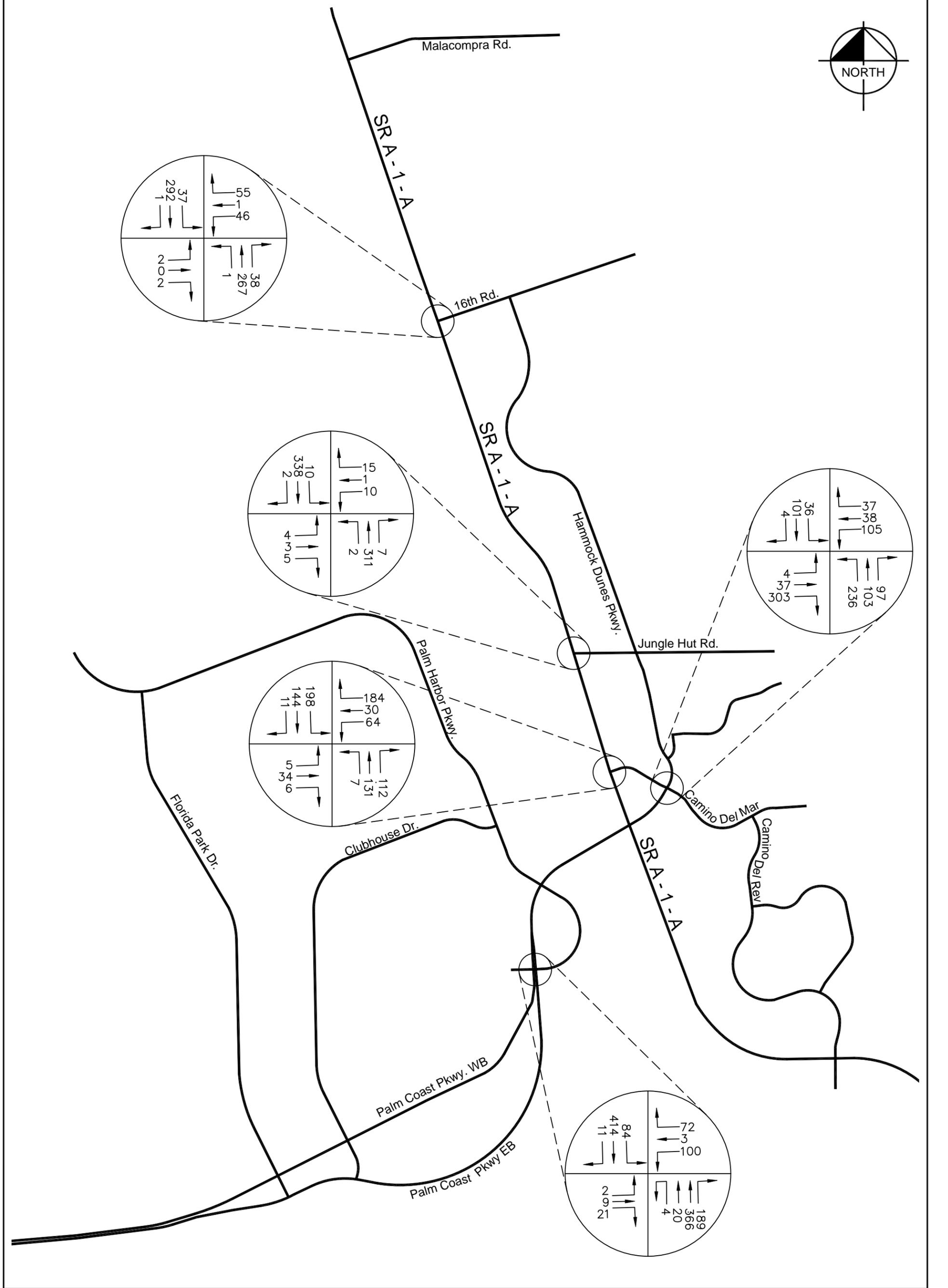
Utilizing the p.m. peak hour turning movement count data collected for each of the five study intersections and adjusted to peak season as a basis, a p.m. peak hour traffic assignment for each “micro zone” was determined reflective of the “micro zone” location. Engineering judgment was utilized to assign project trips through non-study intersections where turning movement count data was not available. Figure 6 summarizes the p.m. peak hour project traffic assignment with the Northshore Units at each of the five study intersections. Figure 7 summarizes the p.m. peak hour project traffic assignment without the Northshore Units at each of the five study intersections. The intersection turning movement volume development sheets for the five study intersections are included in Attachment I.



<p><b>HAMMOCK DUNES DRI</b> PREPARED FOR <b>ADMIRAL CORPORATION</b></p>	<p><b>"MICRO ZONE" LOCATIONS</b></p>	<p>KHA PROJECT PROJ # DATE DEC. 2011 SCALE AS SHOWN DESIGNED BY NAT DRAWN BY NAT CHECKED BY IMR</p>	<p>LICENSED PROFESSIONAL IAN M. RAIRDEN, P.E. FLORIDA LICENSE NUMBER 69224</p>	<p><b>Kimley-Horn and Associates, Inc.</b></p> <p style="font-size: x-small;">© 2011 KIMLEY-HORN AND ASSOCIATES, INC. 8657 BAYPINE ROAD, SUITE 300, JACKSONVILLE, FL 32256 PHONE: 904-828-3900 FAX: 904-367-1692 WWW.KIMLEY-HORN.COM CA 0000696</p>	<p>SHEET NUMBER <b>FIG. 5</b></p>
PALM COAST	FLORIDA				



<p><b>HAMMOCK DUNES DRI</b>                  PREPARED FOR  <b>ADMIRAL CORPORATION</b></p>	<p><b>P.M. PEAK HOUR                  TRAFFIC ASSIGNMENT                  WITH NORTSHORE                  UNITS</b></p>	<p>KHA PROJECT                  PROJ #</p>	<p>LICENSED PROFESSIONAL</p>	<p><b>Kimley-Horn                  and Associates, Inc.</b></p> <p>© 2011 KIMLEY-HORN AND ASSOCIATES, INC.                  8657 BAYPINE ROAD, SUITE 300, JACKSONVILLE, FL 32256                  PHONE: 904-828-3900 FAX: 904-367-1692                  WWW.KIMLEY-HORN.COM CA 0000696</p>	<p>SHEET NUMBER</p>
		<p>DATE                  DEC. 2011</p> <p>SCALE AS SHOWN</p> <p>DESIGNED BY NAT</p> <p>DRAWN BY NAT</p> <p>CHECKED BY IMR</p>	<p>IAN M. RAIRDEN, P.E.</p> <p>FLORIDA LICENSE NUMBER                  69224</p> <p>DATE: _____</p>		<p><b>FIG. 6</b></p>



<p><b>HAMMOCK DUNES DRI</b> PREPARED FOR <b>ADMIRAL CORPORATION</b></p>	<p><b>P.M. PEAK HOUR TRAFFIC ASSIGNMENT WITHOUT NORTSHORE UNITS</b></p>	<p>KHA PROJECT PROJ #</p>	LICENSED PROFESSIONAL	<p><b>Kimley-Horn and Associates, Inc.</b></p> <p>© 2011 KIMLEY-HORN AND ASSOCIATES, INC. 8657 BAYPINE ROAD, SUITE 300, JACKSONVILLE, FL 32256 PHONE: 904-828-3900 FAX: 904-367-1692 WWW.KIMLEY-HORN.COM CA 0000696</p>	<p>SHEET NUMBER <b>FIG. 7</b></p>
		<p>DATE DEC. 2011</p> <p>SCALE AS SHOWN</p> <p>DESIGNED BY NAT</p> <p>DRAWN BY NAT</p> <p>CHECKED BY IMR</p>	<p>IAN M. RAIRDEN, P.E.</p> <p>FLORIDA LICENSE NUMBER 69224</p> <p>DATE: _____</p>		
<p>PALM COAST</p>	<p>FLORIDA</p>				

## Roadway Link Capacity Analysis

The two study roadway links were analyzed to determine the existing operating conditions (2011) as well as the anticipated operating conditions at Build-Out. The two study roadway links were analyzed utilizing two separate methodologies in order to be consistent with the unsatisfied/untriggered traffic requirements. The two-lane Palm Harbor Parkway roadway link has a Development Order AADT trigger of 10,000 vehicles at which time the widening of the roadway to a four-lane section is required. The ICWW Bridge has a Development Order trigger of LOS C at which time the construction of a second bridge span providing for two additional lanes is required. In order to determine if either of the unsatisfied/untriggered roadway improvements would be triggered upon project Build-Out, the baseline existing conditions were determined and then the project trips associated with the remaining undeveloped residential and non-residential uses were then added to the existing traffic volumes to arrive at the future traffic volumes anticipated to be on the study roadway links upon project Build-Out. The Build-Out traffic volumes were compared to the roadway improvement trigger thresholds for each of the two study roadway links to determine if either improvement would be triggered upon project Build-Out.

As summarized in Table 13, the future traffic projections associated with Build-Out of the DRI are not anticipated to trigger either of the two unsatisfied/untriggered roadway improvements associated with the study roadway links. As noted in Table 13, the existing (2011) operating condition for the ICWW Bridge is LOS A. This determination was based on the travel time and delay study conducted for the roadway link on October 4, 2011. To determine the future operating condition on the ICWW Bridge, the FDOT's Quality Level of Service (QLOS) software package entitled ARTPLAN was utilized to calculate detailed LOS thresholds based on the bridge's specific roadway characteristics. In 1999, Leftwich Consulting Engineers, Inc. performed a similar study of the bridge utilizing the QLOS software package. In that study, Leftwich Consulting Engineers, Inc. determined that the LOS B/C threshold on the bridge was approximately 17,700 vehicles based on the QLOS ARTPLAN software. Kimley-Horn conducted a similar evaluation using the QLOS ARTPLAN software and determined that the LOS B/C threshold on the OCWW Bridge is approximately 16,500 daily vehicles (see Attachment J for the ARTPLAN analysis worksheets). In the Build-Out condition with the Northshore Units, the ICWW Bridge is anticipated to operate at LOS B. In the Build-Out condition without the Northshore Units, the ICWW Bridge is anticipated to operate at LOS B.

As noted in Table 13, the study link of Palm Harbor Parkway is expected to carry approximately 5,364 vehicles at project Build-Out with the Northshore Units. This future volume is well below the threshold of 10,000 vehicles contained in DO condition 4.7.

**Table 13**  
**Roadway Link Analysis**

Roadway Link	2011 AADT (Vehicles)	2011 LOS	Project Trip Distribution	Future Project Trips (Vehicles)	Future AADT at Build-out (Vehicles)	Future LOS	Roadway Improvement Trigger	Roadway Improvement Required at Build-out? (Yes/No)
<b>With 561 Northshore Units</b>								
Intracoastal Waterway Bridge	7,500	A <sup>(1)</sup>	65%	4,317	11,817	B <sup>(3)</sup>	LOS C	No
Palm Harbor Parkway - North of Hammock Dunes Parkway	4,700	N/A <sup>(2)</sup>	10%	664	5,364	N/A <sup>(2)</sup>	10,000 vehicles	No
<b>Without 561 Northshore Units</b>								
Intracoastal Waterway Bridge	7,500	A <sup>(1)</sup>	65%	3,165	10,665	B <sup>(3)</sup>	LOS C	No
Palm Harbor Parkway - North of Hammock Dunes Parkway	4,700	N/A <sup>(2)</sup>	10%	487	5,187	N/A <sup>(2)</sup>	10,000 vehicles	No

Notes : (1) - LOS A determined based on Travel Time and Delay Study conducted in October 2011.

(2) - Palm Harbor Parkway roadway improvement trigger is based on AADT, not LOS, therefore LOS was not determined.

(3) - Future LOS B based on a LOS B/C threshold of 16,500 vehicles as determined utilizing FDOT's Quality Level of Service (QLOS) software package entitled ARTPLAN to calculate detailed LOS thresholds based on specific roadway characteristics. See Attachment J for the ARTPLAN output worksheet.

## Intersection Capacity Analysis

Utilizing the existing traffic and future traffic volumes summarized in the intersection volume development sheets (see Attachment I), the five study intersections were analyzed to determine the overall intersection and approach LOS. The intersection analyses were conducted using Trafficware's *Synchro 8.0 (Synchro)* software package, which is based upon the methodologies contained in the *2010 HCM*.

### Existing (2011) Conditions

As previously mentioned, and summarized in the intersection volume development worksheets contained in Attachment I, the existing (2011) raw turning movement count data was adjusted to peak season utilizing the most recent peak season correction factors (PSCF's) available from the FDOT. The peak season turning movement count data was utilized for the analysis. As summarized in Table 14, all five intersections and associated approaches operate at LOS C or better in the existing (2011) condition. The *Synchro* analysis worksheets have been included in Appendix K.

### Future (Build-Out) Conditions – Without Northshore Units

Future (Build-Out) traffic conditions are defined as the expected traffic conditions at Build-Out with the addition of the remaining DRI development traffic, not including the 561 Northshore Units. The future (Build-Out) turning movement count data, which was developed utilizing the "micro zone" specific trip assignment detailed above, is summarized in the intersection volume development worksheets contained in Attachment I. As summarized in Table 14, the signalized Palm Coast Parkway/Palm Harbor Parkway/Palm Harbor Drive intersection is anticipated to operate at LOS C at Build-Out. Additionally, all intersection approaches at the signalized intersection and all three two-way stop controlled intersections are anticipated to operate at LOS C or better. The all-way stop controlled intersection of Hammock Dunes Parkway/Camino del Mar Parkway/SR A1A Connector, however, is anticipated to operate at LOS E, with the northbound approach operating at LOS F and the eastbound approach operating at LOS D. All other approaches are anticipated to operate at LOS C or better. The *Synchro* analysis worksheets have been included in Appendix K.

### Future (Build-Out) Conditions – With Northshore Units

Future (Build-Out) traffic conditions are defined as the expected traffic conditions at Build-Out with the addition of the remaining DRI development traffic, including the 561 Northshore Units. The future (Build-Out) turning movement count data, which was developed utilizing the "micro zone" specific trip

assignment detailed above, is summarized in the intersection volume development worksheets contained in Appendix I. As summarized in Table 14, the signalized Palm Coast Parkway/Palm Harbor Parkway/Palm Harbor Drive intersection is anticipated to operate at LOS C at Build-Out. Additionally, all intersection approaches for the signalized intersection and all three two-way stop controlled intersections are anticipated to operate at LOS C or better. The all-way stop controlled intersection of Hammock Dunes Parkway/Camino del Mar Parkway/SR A1A Connector, however, is anticipated to operate at LOS E, with the northbound approach operating at LOS F and the eastbound approach operating at LOS D. All other approaches are anticipated to operate at LOS C or better. The *Synchro* analysis worksheets have been included in Appendix K.

**Table 14**  
**Summary of Intersection Level of Service**

Intersection	Control Type	Approach	P.M. Peak LOS		
			2011 Existing	Build-Out w/o Nshore	Build-Out w/Nshore
Palm Coast Parkway at Palm Harbor Parkway	Signal	NB	B	B	B
		SB	A	A	A
		EB	C	C	C
		WB	B	B	B
		Overall	B	B	B
Hammock Dunes Parkway at Camino Del Mar Parkway	Four-way Stop	NB	C	F	F
		SB	B	C	C
		EB	B	D	D
		WB	B	B	B
		Overall	C	E	E
SR A1A at Camino Del Mar Parkway (aka A1A Connector)	Two-way Stop	NB	--	--	--
		SB	--	--	--
		EB	C	C	C
		WB	B	C	C
SR A1A at Jungle Hut Road	Two-way Stop	NB	--	--	--
		SB	--	--	--
		EB	B	B	B
		WB	B	B	B
SR A1A at 16th Road	Two-way Stop	NB	--	--	--
		SB	--	--	--
		EB	B	B	B
		WB	B	B	C

## Conclusion

Admiral (Applicant), the master developer of the Hammock Dunes DRI, is seeking approval of an Essentially Built-Out Agreement (EBOA) with Flagler County. To comply with Flagler County's request for a Close-Out Traffic Report, Admiral has retained Kimley-Horn to prepare the Close-Out Traffic Report documenting the existing and anticipated future (Build-Out) traffic conditions associated with the unsatisfied/untriggered traffic requirements contained in the approved Development Order.

The two study roadway links of Palm Harbor Parkway, from Clubhouse Drive to Florida Park Drive, and the ICWW Bridge are not anticipated to trigger the improvement requirements as specified in DO Conditions 4.1.b and 4.7 upon project Build-Out. The five study intersections are anticipated to operate at LOS C or better at project Build-Out except for the Hammock Dunes Parkway/Camino del Mar Parkway/SR A1A intersection. It is anticipated that this intersection will operate at LOS E with the eastbound approach anticipated to operate at LOS F for both the "With Northshore Units" and "Without Northshore Units" scenarios. At such a time when the traffic volumes at this intersection warrant a traffic signal, the installation of a traffic signal in place of the all-way stop control is anticipated to alleviate this intersection deficiency. If signalization is not desired at this intersection, then the installation of a northbound left-turn lane on Hammock Dunes Parkway approach is also anticipated to alleviate this deficiency.

The Applicant requests Flagler County's review and approval of the information contained in this report.