

# TRAFFIC EXHIBIT 1



January 15, 2024

Mr. Ramsey Akel  
Akel Homes  
5300 W. Atlantic Ave, Suite 505  
Delray Beach, FL. 33446

**Re: MPUD Parcel A**

Dear Mr. Akel:

O'Rourke Engineering & Planning is pleased to provide the Traffic Memo associated with the MPUD for Parcel A for the Wilson Groves PUD. As the project is part of an approved DRI with transportation concurrency vesting, the subject of this memo, is trip generation and driveway requirements. Each is discussed herein.

## **Parcel A Description**

The project will consist of 1,180 single family detached homes with access via two driveways, one on Becker Road and one on N/S A. **Attachment A** provides the project layout.

The residential units within Parcel A will be age restricted units. For trip generation purposes, the traffic will be generated treating the residential as traditional single family units, (ITE land use code 210). For informational purposes and for assessing the triggers for widening two lanes to four lanes or more, the age restricted (Land Use Code 251) trip generation may be considered.

## **Trip Generation**

**Table 1** summarizes the trip generation using single family detached trip generation. **Table 2** summarizes the trip generation using age restricted detached rates.

PM peak hour trips are the basis for the trip thresholds within the DRI Development Order. The Development Order condition is found in ATTACHMENT B. As shown, Parcel A generates 1,011 PM peak hour trips using single family trip generation rates. No roadway improvements are triggered. As an age restricted development that actual trip generation would be 304 PM peak hour trips.

## **Driveway Volumes**

**Figure 1** illustrates the project volumes for the roadway network that will be in place when Parcel A is completed. **Figure 2** illustrates the project volumes when the roadway network is built out.

The project assignments are based on the previously reviewed traffic studies for the Wilson Groves Master Plan and Map H.

Based on the volumes the following traffic control and turn lanes are recommended.

**N/S A and Project Driveway**

One Northbound right turn lane and one southbound left turn lane.

One westbound left turn lane and one westbound right turn lane.

**Becker Road and Project Driveway**

One eastbound left turn lane

One westbound right turn lane

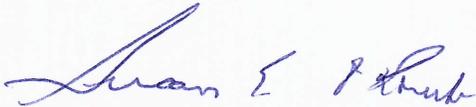
One southbound left turn lane

One southbound right turn lane.

It has been a pleasure working with you. Let me know if you have any questions or comments.

Respectfully submitted,

**O'Rourke Engineering & Planning**



Susan E. O'Rourke, P.E.

President

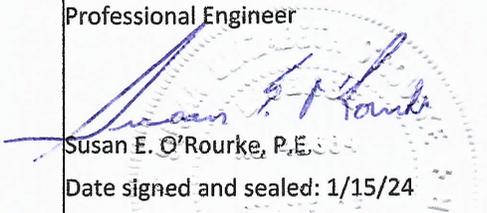
<p>Prepared by: O'Rourke Engineering &amp; Planning Certificate of Authorization: #26869 3725 SE Ocean Boulevard Suite 201 Stuart, Florida 34996 772-781-7918</p>	<p>Professional Engineer  Susan E. O'Rourke, P.E. Date signed and sealed: 1/15/24 License #: 42684</p>
---	--

Table 1a - Trip Generation - Map H - Daily- Proposed - Buildout - TAZ 652 Parcel A

Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Gross Trips		Internalization Trips			Net External Trips			Pass-by Trips			Net New Trips		
					In	Out	In	Out	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
					%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Age Restricted	251	-	DU	$Ln(T) = 0.851 \ln(X) + 2.47$	50%	50%	4,887	4,886	-	-	-	-	-	-	-	-	-	-	-	-
Single-Family Detached Housing	210	1,180	DU	$Ln(T) = 0.92 \ln(X) + 2.68$	50%	50%	4,887	4,886	9,773	-	-	-	-	-	-	-	-	-	-	-
Multi-Family Housing (Mid-Rise)	221	-	DU	$T = 1.58(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Office	710	-	SR	$T = 10.84(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Civic Use	-	-	SR	$T = 54.51(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional Use	-	-	SR	$T = 50.49(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial Park	130	-	SR	$T = 3.37(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Commercial	820	-	SR	$T = 37.01(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Regional Park	417	-	Acres	$T = 4.57(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary School	520	-	Students	$T = 2.27(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Junior High School	522	-	Students	$T = 2.10(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>							<b>4,887</b>	<b>4,886</b>	<b>9,773</b>											

Source: Trip Generation Manual 11th Edition

Table 1b - Trip Generation - Map H - PM Peak Hour

Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Gross Trips		Internalization Trips			Net External Trips			Pass-by Trips			Net New Trips		
					In	Out	In	Out	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
					%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Age Restricted	251	-	DU	$Ln(T) = 0.78 \ln(X) + 0.20$	61%	39%	637	374	-	-	-	-	-	-	-	-	-	-	-	-
Single-Family Detached Housing	210	1,180	DU	$Ln(T) = 0.94 \ln(X) + 0.27$	63%	37%	637	374	1,011	-	-	-	-	-	-	-	-	-	-	-
Multi-Family Housing (Mid-Rise)	221	-	DU	$T = 0.39(X) + 0.34$	61%	39%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Office	710	-	SR	$T = 1.44(X)$	17%	83%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Civic Use	-	-	SR	$T = 5.45(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutional Use	-	-	SR	$T = 3.05(X)$	40%	60%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial Park	130	-	SR	$T = 0.34(X)$	22%	78%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Commercial	820	-	SR	$Ln(T) = 0.72 \ln(X) + 3.02$	48%	52%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Regional Park	417	-	Acres	$T = 0.26(X)$	44%	56%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elementary School	520	-	Students	$T = 0.16(X)$	46%	54%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Junior High School	522	-	Students	$T = 0.15(X)$	48%	52%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>							<b>637</b>	<b>374</b>	<b>1,011</b>											

Source: Trip Generation Manual 11th Edition

Table 2a - Trip Generation - Map H - Daily - Proposed - Buildout - TAZ 652 Parcel A

Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Gross Trips		Internalization Trips		Net External Trips		Pass-by Trips		Net New Trips		
					In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In
Age Restricted	251	1,180	DU	$\ln(T) = 0.85 \ln(X) + 2.47$	50%	50%	2,414	2,414	-	-	2,414	2,414	-	-	2,414	2,414	4,828
Single-Family Detached Housing	210	-	DU	$\ln(T) = 0.92 \ln(X) + 2.68$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
Multi-Family Housing (Mid-Rise)	221	-	DU	$T = 4.54(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
General Office	710	-	SR	$T = 10.84(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
Civic Use	-	-	SR	$T = 54.51(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
Institutional Use	-	-	SR	$T = 30.49(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
Industrial Park	130	-	SR	$T = 3.37(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
General Commercial	820	-	SR	$T = 37.01(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
Regional Park	417	-	Acres	$T = 4.57(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
Elementary School	520	-	Students	$T = 2.27(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
Junior High School	522	-	Students	$T = 2.10(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>							<b>2,414</b>	<b>2,414</b>			<b>2,414</b>	<b>2,414</b>			<b>2,414</b>	<b>2,414</b>	<b>4,828</b>

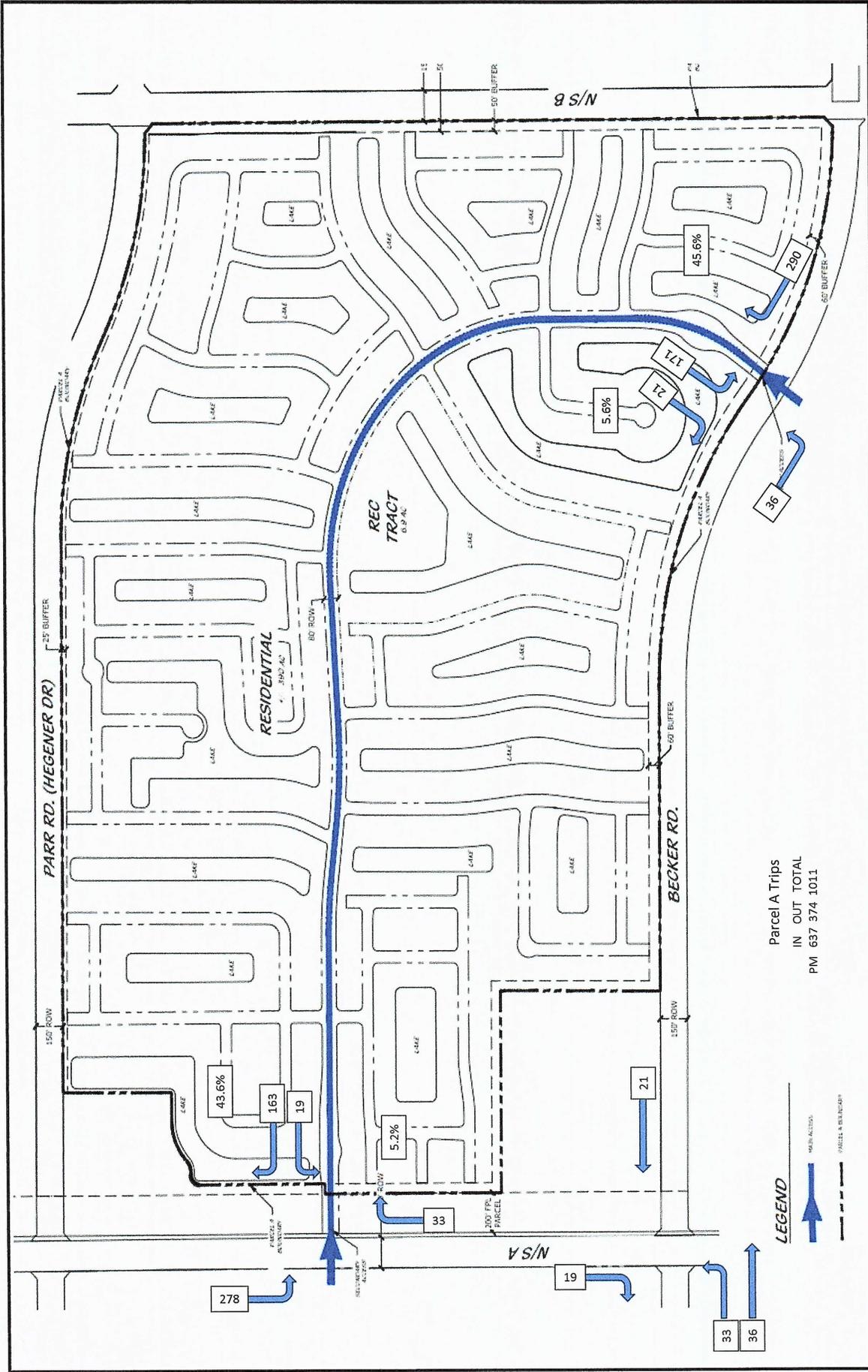
Source: Trip Generation Manual 11th Edition

Table 2b - Trip Generation - Map H - PM Peak Hour

Land Use	ITE Code	Intensity	Units	Trip Generation Rate	Directional Split		Gross Trips		Internalization Trips		Net External Trips		Pass-by Trips		Net New Trips		
					In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
Age Restricted	251	1,180	DU	$\ln(T) = 0.78 \ln(X) + 0.20$	61%	39%	185	119	304	-	185	119	-	-	185	119	304
Single-Family Detached Housing	210	-	DU	$\ln(T) = 0.94 \ln(X) + 0.27$	63%	37%	-	-	-	-	-	-	-	-	-	-	-
Multi-Family Housing (Mid-Rise)	221	-	DU	$T = 0.39(X) + 0.34$	61%	39%	-	-	-	-	-	-	-	-	-	-	-
General Office	710	-	SR	$T = 11.44(X)$	17%	83%	-	-	-	-	-	-	-	-	-	-	-
Civic Use	-	-	SR	$T = 5.45(X)$	50%	50%	-	-	-	-	-	-	-	-	-	-	-
Institutional Use	-	-	SR	$T = 3.05(X)$	40%	60%	-	-	-	-	-	-	-	-	-	-	-
Industrial Park	130	-	SR	$T = 0.34(X)$	22%	78%	-	-	-	-	-	-	-	-	-	-	-
General Commercial	820	-	SR	$\ln(T) = 0.72 \ln(X) + 3.02$	48%	52%	-	-	-	-	-	-	-	-	-	-	-
Regional Park	417	-	Acres	$T = 0.26(X)$	44%	56%	-	-	-	-	-	-	-	-	-	-	-
Elementary School	520	-	Students	$T = 0.16(X)$	46%	54%	-	-	-	-	-	-	-	-	-	-	-
Junior High School	522	-	Students	$T = 0.15(X)$	48%	52%	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>							<b>185</b>	<b>119</b>	<b>304</b>		<b>185</b>	<b>119</b>			<b>185</b>	<b>119</b>	<b>304</b>

Source: Trip Generation Manual 11th Edition





**Figure 2**  
Parcel A Assignment - Buildout Network  
Parcel A IMPUD

**Legend**  
 XX % = Project % Assignment  
 [XX] = PM Peak Hour Directional Volume

**O'ROURKE**  
ENGINEERING & PLANNING  
 3725 S. East Ocean Blvd Suite 201  
 Stuart, FL, 34996

NTS  
 Job Number: \_\_\_\_\_  
 Date: \_\_\_\_\_

**ATTACHMENT A**

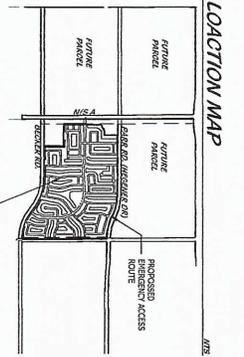
**PARCEL A MPUD**



**LEGEND**

— Main Access

- - - Parcel A Boundary



**PSLUSD # 1-681-00**  
**PSL PROJ# P21-148**  
**MPUD PARCEL A**

0 125 250 500 750 1000  
 Scale: 1" = 250'

North

LOCATION MAP

072



**Colteur & Heating & Cooling**  
 Landscape Architects  
 Environmental Consultants  
 1944 Commerce Lane  
 Suite 1 Florida 33458  
 881.747.2538 - Fax 747.1917  
 www.colteurheating.com  
 LPA IC-0000238

# MPUD PARCEL A

Port St. Lucie, Florida

DESIGNED	DATE
DRAWN	DATE
CHECKED	DATE
APPROVED	DATE
DATE	DATE

SHEET 1 OF 1

**ATTACHMENT B**

**DEVELOPMENT ORDER CONDITION FOR ROADWAY TRIGGERS**

## RESOLUTION 11-R

### EXHIBIT "B"

internal capture and passer-by, if appropriate, to determine net trips generated by the development. The trip generation shall be cumulative and include all previous site plan and residential subdivision plat approvals. Development order conditions shall be evaluated using the trip generation analysis to determine triggering of any transportation conditions.

#### Access Road Improvements

18. No building permits shall be issued for development that generates more than the total net external p.m. peak hour trip threshold or residential units identified in Table 1, whichever comes last, until: 1) contracts have been let for the roadway widening or construction projects identified in Table 1 under "Required Improvement"; 2) a local government development agreement consistent with sections 163.3220 through 163.3243, F.S. has been executed; or 3) the improvement is scheduled in the first three years of the applicable jurisdiction's Capital Improvements Program of FDOT's adopted work program.

**Table 1**

#### Access Road Improvements

<u>Road</u>	<u>From</u>	<u>To</u>	<u>Trip Threshold*</u>	<u>Residential Units</u>	<u>Required Improvement</u>
<u>Phase 1</u>					
<u>Becker Rd</u>	<u>Village Pkwy</u>	<u>N/S B</u>	<u>0</u>	<u>0</u>	<u>2L</u>
<u>Secondary Emergency Access Road between Becker Rd at N/S B and Rangeline Road</u>			<u>0</u>	<u>0</u>	<u>Emergency Access Road</u>
<u>Becker Rd</u>	<u>N/S B</u>	<u>Range Line Rd</u>	<u>2,573</u>	<u>2,200</u>	<u>2L</u>
<u>Phase 2</u>					
<u>Becker Rd</u>	<u>N/S B</u>	<u>Range Line Rd</u>	<u>4,148</u>	<u>3,955</u>	<u>Widen to 4L D</u>

\*Wilson Groves Cumulative Total Net External DRI p.m. Peak Hour Trips

#### Internal Road Improvements

19. No building permits shall be issued for development that generates more than the total net external p.m. peak hour trip threshold or residential units identified in Table 2, whichever comes last, until: 1) contracts have been let for the roadway widening or construction projects identified in Table 2 under "Required Improvement"; 2) a local government development agreement consistent with sections 163.3220 through 163.3243, F.S. has been executed; or 3) the monitoring program included in Condition 15 does not require these improvements; or 4) the improvement is scheduled in the first three years of the applicable jurisdiction's Capital Improvements Program or FDOT's adopted work program.

**RESOLUTION 11-R**

**EXHIBIT "B"**

**Table 2**

**Internal Road Improvements**

<u>Road</u>	<u>From</u>	<u>To</u>	<u>Trip Threshold*</u>	<u>Residential Units</u>	<u>Required Improvement</u>
<u>Phase 1</u>					
<u>N/S A</u>	<u>Becker Rd</u>	<u>E/W 3</u>	<u>2,573</u>	<u>2,200</u>	<u>2L</u>
<u>E/W 3</u>	<u>Rangeline Rd</u>	<u>N/S A</u>	<u>2,573</u>	<u>2,200</u>	<u>2L</u>
<u>E/W 3</u>	<u>N/S A</u>	<u>N/S B</u>	<u>2,573</u>	<u>2,200</u>	<u>2L</u>
<u>Phase 2</u>					
<u>Paar Dr</u>	<u>N/S A</u>	<u>N/S B</u>	<u>4,152</u>	<u>3,960</u>	<u>2L</u>
<u>N/S B</u>	<u>Becker Rd</u>	<u>E/W 3</u>	<u>4,397</u>	<u>4,233</u>	<u>2L</u>
<u>Phase 3</u>					
<u>N/S A</u>	<u>Becker Rd</u>	<u>E/W 3</u>	<u>6,708</u>	<u>6,564</u>	<u>Widen to 4L D</u>
<u>Paar</u>	<u>N/S A</u>	<u>N/S B</u>	<u>7,148</u>	<u>6,821</u>	<u>Widen to 4L D</u>
<u>Paar</u>	<u>Rangeline Rd</u>	<u>N/S A</u>	<u>7,449</u>	<u>6,997</u>	<u>2L</u>

\*Wilson Groves Cumulative Total Net External DRI p.m. Peak Hour Trips

**External Roadways Improvements – West of I-95**

1720. Based on the results of the Western Annexation Traffic Study, no building permits shall be issued for development that generates more than the total net external p.m. peak hour trips indicated in Table 3 or after December 31 of the indicated year in Table 3, 2010 whichever comes last, until: 1) contracts have been let to build the following roadways with the lane geometry presented below; 2) a local government development agreement consistent with sections 163.3220 through 163.3243, F.S. has been executed; 3) the monitoring program included in Condition 15 does not require these improvements; or 4) the improvement is scheduled in the first three years of the City's adopted Capital Improvements Program or FDOT's adopted work program. For improvements constructed by the Developer, surety or other acceptable evidence shall be provided to the satisfaction of the City of Port St. Lucie that sufficient funds will be available to complete the following roadways as shown in Table 3: